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University of Southampton

Faculty of Humanities

Department of Music

**Shifting Ideals of Tone in Grand Pianos (1880-1904)
and their Implications for Performance Practice**

by

Joyce Tang

Thesis for the degree of Doctor of Philosophy

March 2021

University of Southampton

Abstract

Faculty of Humanities

Music

Thesis of the degree of Doctor of Philosophy

Shifting Ideals of Tone in Grand Pianos (1880-1904) and their Implications for Performance Practice

Joyce Tang

Since invention to the present day, the piano has undergone tremendous technological improvement, driven principally by musical tastes but also influenced by societal, economic, and environmental factors. Although late nineteenth-century pianos have been less often studied than their earlier counterparts, this thesis demonstrates that there was significant change in the build, use and reception of the instrument between 1880 and 1904. In the framework of piano development during this period, 'tone' is a subject of particular significance at both an individual and collective level, and invoke ideas transcending beyond social groupings such as age, gender, education, culture, and professions. Scrutiny of how piano tones were shaped and advocated by piano manufacturers, pianists, critics, and other influential bodies can lead to an understanding of musical stylistic preferences and diversity of pianism in the late nineteenth-century; Moreover, ideals of tone relate to notions in the broader fin-de-siècle culture, such as nationalism, industrialisation, and globalisation.

The search for ideals of late nineteenth-century piano tone in this thesis goes further than the inquiry of documentary evidence of musicological and organological research to combining practice-led investigations of extant pianos from the period under consideration. As a pianist, I play on and compare 17 pianos (1870-1910), most of which are from the National Trust collection. Empirical measurements of the instrument and its sound, as well as auto-ethnographical study of my own experience of playing on the pianos a carefully selected repertoire, reveal that a broad range of factors both intrinsic (e.g. action weight) and extrinsic (e.g. repertoire compatibility) can influence one's conception of the 'ideal' tone. Through practical experimentation to uncover subtle nuances of piano tone, I propose new insights into understanding nineteenth-century pianistic styles and performance practice, and offer an instrument-informed interpretation to approach a broad swathe of repertoire.

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List of accompanying materials

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[[Dataset: Shifting Ideals of Tone in Grand Pianos \(1880-1904\) and their Implications on Performance Practice](http://doi.org/10.5258/SOTON/D1745)] <http://doi.org/10.5258/SOTON/D1745>

The dataset contains:

Supporting materials for Chapter Three: Piano Tones in Concert. A spreadsheet titled 'Appendix C_Pops Concerts (Nov 1880-Apr 1901) solo repertoire.xlsx', which detailed dates, pianists, solo repertoire played, and pianos used at the 819 Monday and Saturday popular concerts in St. James' Hall.

Supporting materials for Chapter Four: Piano Tones in Sound. Selected audio recordings (47) on late nineteenth-century pianos; pianist: Joyce Tang.

Research thesis: declaration of authorship

Print name:	JOYCE TANG
-------------	------------

Title of thesis:	Shifting Ideals of Tone in Grand Pianos (1880-1904) and their Implications for Performance Practice
------------------	--

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signature:	JOYCE TANG	Date:	25 March 2021
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Definitions & abbreviations

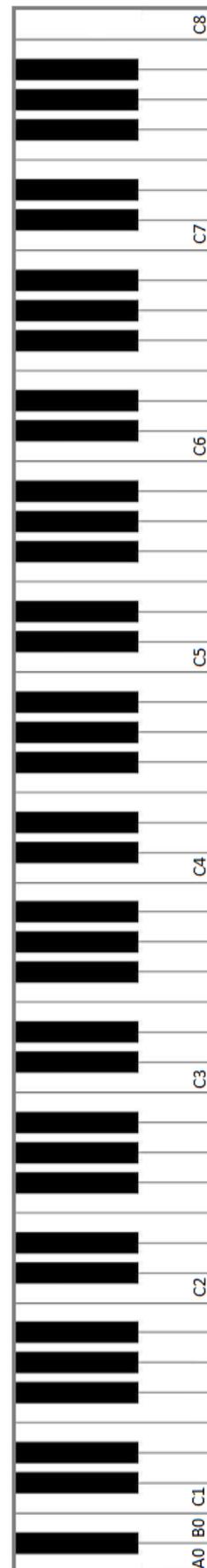
MOMTR – Musical opinion & music trade review

POMTJ – Piano & organ music trade journal

ZFI – Zeitschrift für Instrumentenbau

Pops – Monday and Saturday popular concerts, St. James' Hall

Naming the keys on the pianos (diagram on right)



Introduction

Nature abhors a vacuum and art abhors a halt.
- POMTJ, 1889¹

Since invention to the present day, the piano has undergone tremendous technological improvement, driven principally by musical tastes but also influenced by societal, economic, and environmental factors. In the decades just before 1880s, exciting and pivotal changes took place in Western Europe: the period of the Second Industrial Revolution, which prompted new discoveries, technological advancements, and improved transportation links. Technology also boomed in the United States, with Andrew Carnegie's Bessemer steel plant built in 1872, and Alexander Graham Bell's invention of the telephone in 1876. Pianos being important musical technologies thrived in development under these circumstances, and made leaps and bounds in terms of innovation and design. Despite the claims of pianos having reached 'the end of its tether' in 1889, progress was still happening.² Indeed, there is little to compare regarding the physique of the pianos after the 1880s. Yet, there were changes in **tone**, a word repeatedly used by the piano trade, pianists, and critics in this period. The piano tone was an identity, meaning, and ideal that all were seeking after at this time, to refine and redefine. Piano developments did not come to a halt: it was continued through tone.

There is no coincidence that the discussion of identity through tone was a widely debated theme amongst musical circles in the late-nineteenth century. As summarised by Bruno Nettl, the 1880s marked the time for 'taking on the world and doing the impossible; collecting and utilizing one's own national heritage; and seeing what the world was made of, how one could make use of it, and how it came to be'.³ Pianos 'took on the world', being a pinnacle representation of music, art, and machinery at international exhibitions, on the concert platform, and used by the public as an everyday commodity. Pianos 'collected and utilised one's own heritage', thus their tone differed from make to make, and country to country. The piano sound was changed and moulded by different pianists, which was then critiqued and selected by the public. Piano tone was perceived through two lenses: an intrinsic tone as a by-product of piano makers, and extrinsic influence on tone through other's use, perception, and preconception.

¹ 'The future of piano', *POMTJ*, 7: 78 (January 1889), p. 12. Original source: *New York commercial advertiser*.

² *Ibid.*

³ Bruno Nettl, *Nettl's elephant: on the history of ethnomusicology* (Urbana: University of Illinois Press, 2010), p. 4.

This thesis shows how consideration of both intrinsic and extrinsic tone can together provide a richer insight into their significance of the changes in the build, use and reception of pianos between 1880 and 1904. The primary focus on grand pianos instead of all types of pianos is to concentrate on what makers had done in terms of improvement of tone. Most nineteenth-century householders preferred smaller forms of pianos, such as uprights and cottage pianos, and tone was relegated in consideration, whereas the top three priorities were size, cost, and appearance.⁴ My research is chiefly concerned with sound of the piano: how tone was defined, refined, and redefined. I argue that ideals of piano tone were construed from an array of perspectives at both an individual and collective level, where partialities of culture, heritage, identity, politics, and economical reasons come in to play.

Whilst the evidence for text-based documentary research on piano tone of the late-nineteenth century can be plenty enough, the search for sound in this thesis does not stop there. A practice-led enquiry of existing pianos from the period under consideration is essential, as the pianos not only give validation to the written claims of a wide variety of tones that once existed, but also invites pianists to re-examine performing practices and playing habits. Extant pianos of the late-nineteenth century are nonpareil vessels to teach and provide today's pianists with a toolkit for approaching a broad swathe of repertory. In particular, the pianos are opportune platforms for trialling the often-ignored resource on historically informed practices: practices as written in pedagogical treatises, and un-notated, expressive practices from recordings of late nineteenth-century pianists. Practical experimentations on the pianos, through variances in tempo, articulation, and pedalling amongst many other pianistic techniques, offers the possibility to discover and illuminate for oneself mysteries in scores. It is through the implementation of both documentary evidence of musicological and organological research with practice-led investigations that I offer a new approach to how we can use the study on instruments to navigate our understanding of the trajectory in music and history.

⁴ J. H. Walsh, *A manual of domestic economy: suited to families spending from £100 to £1,000 a year* (London: G. Routledge & Co, 1857), pp. 319–320.

To date, numerous scholars have considered period-appropriate instruments crucial to the study of historically informed practices.⁵ Research into nineteenth-century pianos has been of particular interest to both musicology and performance studies, as pioneered by Malcom Bilson and Robert S. Winter.⁶ Despite such enthusiasm, research into late nineteenth-century pianos is sparse.⁷ Existing publications on the evolution of piano reveal a bias towards the study into instruments from earlier periods.⁸ Many believed that the pinnacle of piano development took place in the earlier half of the nineteenth century, as Arthur Loesser had professed, 'Never before his [Liszt] time [1835-1848] did the instrument soar to such blinding heights of social value, and never since.'⁹ Thus, organological considerations in Historically Informed Practice (HIP) have focussed largely on the relationship between composers and their pianos in the first half of the nineteenth century, such as Beethoven and Streicher, Chopin and his Pleyel, and Liszt and Erard.¹⁰

⁵ The oft cited, Richard Taruskin, *Text & act: essays on music and performance* (New York: Oxford University Press, 1995). Contributions from instrumental studies include David Milsom, *Theory and practice in late nineteenth-century violin performance: an examination of style in performance, 1850-1900* (Aldershot: Ashgate, 2003).

⁶ Malcolm Bilson, 'Late Beethoven and early pianos', *Early music*, 10 (1982), pp. 517–519, and 'Schubert's piano music and the pianos of his time', *Studia Musicologica Academiae Scientiarum Hungaricae*, 22 (1980), pp. 263–71. Robert Winter, 'Orthodoxies, paradoxes, and contradictions: performance practices in nineteenth-century piano music' in R. Larry Todd (ed.) *Nineteenth-century piano music* (New York: Routledge 2004), pp. 16–54. Robert Winter, 'Performing nineteenth-century music on nineteenth-century instruments', *19th-century music*, 1 (1977), pp. 163–175.

⁷ Robert Winter, 'Performing nineteenth-century music on nineteenth-century instruments'. Recent scholars have also acknowledged this gap, Sezi Seskir, 'Review essay: Robert Schumann recording on period pianos in the bicentennial year', *Keyboard perspectives*, 3 (2010), pp. 175–187. Stefania Neonato, 'Period pianos in the recording studio', *Keyboard perspectives*, 6 (2013), pp. 141–153.

⁸ For example, Rosamond E. M. Harding, *The piano-forte: its history traced to the Great Exhibition of 1851* (Old Woking: Gresham Books, 1978). Derek Carew, *The mechanical muse: the piano, pianism, and piano music, c. 1760–1850* (Aldershot: Ashgate, c2007). Derek Carew, *The companion to the mechanical muse: the piano, pianism, and piano music, c. 1760–1850* (Aldershot: Ashgate, c2007). Edward Francis Rimbault, *The pianoforte: its origin, progress and construction with some account of instruments of the same class which preceded it, viz. the clavichord, the virginal, the spinet, the harpsichord, etc., to which is added a selection of interesting specimens of music composed for keyed-stringed instruments* (London: Robert Cocks and Co., 1860).

⁹ Arthur Loesser, *Men, women, and pianos: a social history* (New York: Dover Publications, 1990), p. 368.

¹⁰ A selection of sources are listed here as reference. For Ludwig van Beethoven, 'Late Beethoven and early pianos', *Early music*, 10: 4 (October 1982), pp. 517–519; Tilman Skowronek, 'Beethoven's Erard piano: Its influence on his compositions and on Viennese fortepiano building', *Early music*, 30: 4 (2002), pp. 522–538. For Frederick Chopin, Jean-Jacques Eigeldinger, *Chopin et Pleyel* (Paris: Fayard, 2010); Edmund M. Frederick, 'The "Romantic" sound in four pianos of Chopin's era', *19th-century music*, 3: 2 (1979), pp. 150–153. Florence Gétreau, *Chopin e il suono di Pleyel. Arte e musica nella Parigi romantica (Chopin and the Pleyel Sound: art and music in romantic Paris)* (Briosco (Milano): Villa Medici Giuliani, 2010). For Franz Liszt, Alan Walker and Carey Humphreys, 'Liszt's pianos', *The Musical times*, 119: 1619 (1978), pp. 24–25. Geraldine Keeling, 'Liszt and J. B. Streicher, a Viennese piano maker', *Studia Musicologica Academiae Scientiarum Hungaricae*, 28: 1/4 (1986), pp. 35–46. Nicolas Dufetel, *Liszt e Il Suono di Érard: Arte e Musica Nel Romanticismo Parigino; Liszt and the Érard Sound: Art and Music in Parisian Romanticism; Liszt et le son Érard: Art et Musique Dans Le Romanticisme Parisien* (Briosco (Milano): Villa Medici Giuliani, 2011).

The lack of interest in the investigation of late nineteenth-century pianos could be due to the assumption that piano development has plateaued since Henri Steinway's cross-strung invention in 1859. The works by piano historians, such as Cyril Ehrlich, Edwin M. Good, David S. Groover and Dieter Hildebrandt have suggested otherwise, affirming that piano designs were still innovative and progressing.¹¹ Yet, the majority of these sources have emphasised the social and economic impact of the pianos. As a result, recent subjects of doctoral research have explored notions of price, affordability, and the social status of the piano in the late-nineteenth century: Marie Kent in her thesis exposes the workforce of the London piano industry from 1765-1914; and Sarah Deters in the first chapter of her thesis briefly surveys the British piano trade and economy in the late nineteenth / early twentieth century.¹² Little is known of the ideal tone qualities piano makers had in their minds when fashioning their instrument, and the factors which had contributed to or limited their creations.

Furthermore, the interrogation in the interplay of the pianists' perspectives on piano tone have been largely overlooked. Certainly, Kenneth Hamilton and Charles Timbrell amongst others have made pioneering studies in correlating the different pianistic styles found in the late nineteenth-century to pianos.¹³ However, in too many studies of music, pianos are only investigated as a side trajectory: Maria Metaxaki considers pianos of Debussy's time in her examination of the use of pedalling in Debussy's piano music; and Augustus Arnone considers the pianos used by Brahms in exploring textural writing of Brahms' piano music.¹⁴ The lack of attention on the pianos themselves was also prevalent in sound sources. Historical recordings, in particular, piano rolls, have enacted the playing styles as found in treatises and study-memoirs.¹⁵

¹¹ Cyril Ehrlich, *The piano: a history* (Oxford: Oxford University Press, 1990). Edwin M. Good, *Giraffes, black dragons, and other pianos: a technological history from Cristofori to the modern concert grand* (Stanford, California: Stanford University Press, 1982). David S. Grover, *A history of the piano from 1709 to 1980* (Macclesfield: Omicron Graphics, 1980). Dieter Hildebrandt, *Pianoforte, a social history of the piano* (New York: Braziller, 1988).

¹² Maria. E. Kent, *Exposing the London piano industry workforce (c.1765-1914)* (Ph. D thesis, London Metropolitan University, 2013). Sarah Katherine Deters, *The impact of the Second World War on the British piano industry* (Ph. D thesis, University of Edinburgh, 2017).

¹³ Kenneth Hamilton, *After the golden age: romantic pianism and modern performance* (New York; Oxford: Oxford University Press, 2008). Charles Timbrell, *French pianism: a historical perspective* (Portland, Oregon: Amadeus Press, 1999).

¹⁴ Maria Metaxaki, *Considerations for pedalling Debussy's piano music* (Ph. D thesis, City University London, 2005). Augustus Arnone, *Textural ambiguity in the piano music of Johannes Brahms* (DMA dissertation, Cornell University, 2007).

¹⁵ The traditional form of analysis through aural distinctions is found in the works of Robert Philip and Timothy Day, while current musicologists such as Daniel Leech Wilkinson have explored modern methods of quantitative analysis in the frequency domain. Robert Philip, *Early recordings and musical style: changing tastes in instrumental performance, 1900-50* (Cambridge: Cambridge University Press, 1992); Timothy Day, *A century of recorded music: listening to musical history* (New Haven: Yale University Press, 2002); Daniel Leech-Wilkinson, *The changing sound of music: approaches to studying recorded musical performances* (London: Centre for the History and Analysis of Recorded Music, 2009).

But these did not encapsulate the tone of the pianos despite such examination being emphatically significant: as explained by Neal Peres Da Costa, the difference in sound between one piano to another when playing back the piano rolls could alter the perception of the interpretation.¹⁶ In addition, piano rolls were still in its early experimental stage in the 1880s to 1900s, and the recording conditions were not ideal for the average virtuoso.¹⁷ Piano rolls were often recorded and only played back on American or German pianos, thus disregarding the larger variety of pianos made elsewhere.¹⁸ Despite the asset that these sound archives possess in informing us about late nineteenth-century pianism, they prove of little value for distinguishing between piano tones. Thus, it is only through examining the actual specimens of the past that we can come closer to discovering how pianos sounded.

However, the preservation and care for late nineteenth-century pianos in current days is problematic: they are either too new to feature in specialist instrumental collections, or too old to keep as personal possessions.¹⁹ Moreover, the fact these pianos are aging mean that one day they will become too fragile, and like other historical keyboards on display in museums, become 'no touching or playing' objects. This poses a threat to their survival as objects in playing condition.²⁰ Nonetheless, those who have heard or played these instruments would know of the subtle differences between these pianos compared to modern grands.²¹ The fact that some pianos

¹⁶ Neal Peres da Costa, *Off the record: performing practices in romantic piano playing* (Oxford: Oxford University Press, 2012), p. 38.

¹⁷ The pianola Institute described the system of recording at Perforated Music Company in London as consisting of 'a normal upright piano, connected by rubber tubes to a pneumatic marking machine some six feet away'. Not only was such an experience visually unpleasant, the instrument itself was nowhere near the best kinds available. The pianola institute, 'History of the pianola - music roll manufacture', http://www.pianola.org/history/history_rolls.cfm, consulted on 20 July 2020.

¹⁸ In February 2017, I met Rex Lawson and Denis Hall, the co-editors of the *Pianola journal*, and was presented with their extensive collection of piano-rolls, which included recordings by late-nineteenth and early twentieth century pianist such as Johannes Brahms, Gabriel Fauré, Edward Grieg, and Claude Debussy. The piano rolls were played back on a Steinway grand, and although the recordings were extremely insightful as to how the pianists played, it did little to inform the piano tone.

¹⁹ According to Adrian Steele, a piano technician, a typical restoration, or a rebuild, would cost from £15,000 in the UK. Personal correspondence in March 2019.

²⁰ In combat to pianos dying but still retaining the possibilities of playing on old instruments, piano builders and restorers have tried to provide solutions by building pianos according to earlier standards. An example is seen in the collaboration between Chris Maene and Daniel Barenboim to build a straight-strung piano, <http://www.bbc.co.uk/news/entertainment-arts-32885683>, consulted on 20 March 2017. Another example is Bösendorfer's release of the 280VC in 2017, which has been claimed to be built upon a symbiosis of Bösendorfer's legendary traditional approach, and was well received by pianists Andrés Schiff and Paul Badura-Skoda. Correspondences with Ferdinand Bräu, senior product designer, 7 March 2017.

²¹ Contemporary pianists who have played on late-nineteenth and early-twentieth century pianos include Gwendolyn Mok, 'Interview on Ravel on 1875 Erard piano'. <http://www.gwendolynmok.com/interviews.php#thadcarhart>, consulted on 30 May 2020. CD examples include: Gwendolyn Mok on 1875 Érard, *Ravel revealed* (Msr Classics, 2002). Jos Van Immerseel on 1887 Érard, *Debussy préludes & Images* (Channel Classics, 1992). Elaine Greenfield on 1907 Blüthner, *Debussy preludes, Book 1 & 2* (Centaur Records, 2004).

dating from this period are still in playable condition should provide a sense of urgency for pianists and musicologists to investigate their tones, before they are forever gone.²²

This thesis explores the correlation between ideals of tone for pianos of the late-nineteenth century through four factors: geography (location), culture (nationality), a pianist's training (heritage), and repertoire. I will be asking questions such as

- To what extent did geography, trade policies, and government regimes affect piano makers in their search for piano tones?
- How did the prevailing taste of both amateur and professionals guide the public in their perceptions of piano tones, and how did these differ from one location to another?
- To what extent did the pianists' nationality and training influence their choices of pianos?
- How did the choice of repertoire influence one's ideal of tone?

The perspectives explored in this thesis are only the few amongst the many possibilities, and it is important to acknowledge that perspectives, whether individual or as a group, do change over time, and thus, the 'shifting' ideals of tone. Although the years 1880 to 1904 have been selected as the period under investigation, this snapshot in history does mean that there was a 'set-apart standard' from what was before and after, as opinions could be formed over long periods of time.²³ Therefore, whilst most case studies in this thesis are drawn from these years, some of the evidence used, whether historically written or the pianos surveyed derive from outside this time frame.²⁴

This thesis goes some way to repair the lack of knowledge into piano development of the late-nineteenth century, but more significantly, it will inform and change the way we perceive the diverse ancestry of piano playing styles, which has so often been dictated through pedagogical training and early recordings.

²² In recent years, acoustical engineers have designed computer programmes to make keyboards that can reproduce sounds of different piano types. One example is an Israeli company, <https://soundcloud.com/pianoid-60895661>, correspondence with Giacomo Squicciarini, 21 May 2018.

²³ Just like how the 1880 marked the start of many new things, 1904 also marked the end of things: the last issue of the *Piano, Organ and Music Trades Journal*, the ending of St James' Hall in London, and the year of the St. Louis Exhibition.

²⁴ I included in my sampling of pianos a Bechstein 1906, Broadwood Barless 1908, and a Pleyel 1909. In general, there were no new 'releases' in concert grands from years 1904 to 1910. Thus, although these pianos dated beyond 1904, there were similar models (if not the exact models) of those released before 1904. I.e. Bechstein's models were staged in 3 segments, before 1902, after 1902s, and modern. <https://www.thepianogallery.co.uk/bechstein-pianos-for-sale.php>, consulted on 20 July 2020.

Synopsis of the thesis

This thesis is arranged in two parts depending on the sources used: written archives, and sound archives, the latter of which are my own perspective as a pianist on piano tones through playing late nineteenth-century pianos. The chapters are arranged thematically rather than chronologically, each addressing a research question relating to the ideal of piano tone. As the two parts differ vastly in content and style of presentation, a separate literature review and methodology is provided. Part One consists of three chapters. I address how notions of tradition, transportation, science, nationalism, and global interaction have influenced an individual's as well as a collective response to grand piano tones. Chapter 1 provides an overview of the piano industry, with a focus on firms that have made grand pianos between 1880 and 1904, and the different strategies they adopted in promoting and sustaining their businesses. Parts of the piano which are crucial to tone production are also investigated, as these designs reflected the priorities that firms had in achieving their ideal tone. The ideals of individual parts could conflict with the ideal of the piano as a whole, for example, a German piano could incorporate French parts, and a French piano could have American parts. This chapter addresses the first of the four research questions, which is to identify the extent of correlation between the ideal of piano tones and their geographical, cultural boundaries.

Chapter 2 examines the perception of pianos on a global scale through international exhibitions: how pianos were presented and perceived by critics and amateurs, and how they were judged and awarded by juries and specialists. The agents at play that engage in the discourse of piano tone include juries, exhibition commissioners, musicians, pianists, sales representatives of firms, and reporters. The chapter continues from the first in addressing the research question on correlating tone ideals to geographical and cultural boundaries, whilst also evoking themes of nationality and global interaction in the pursuit of ideal piano tones.

Chapter 3 primarily investigates the preferences of pianists and the opinions of the press through concert reviews. The chapter is grounded on the case study of the Monday and Saturday popular concerts (Pops) at St. James' Hall (1880–1901) to show trends in the pianists' selection of pianos. Correlations are drawn between the profiles of the pianists (such as their nationality and pedagogical influences) to their choosing of pianos. Concert reviews are also used as evidence pointing to the shift in tone preference for the critics, which I argue was largely influenced by the shift in the pianists' tone preferences.

Part Two consists of a standalone chapter, and describes my expedition of playing on 17 pianos dating from 1870 to 1910. In this chapter, I am both the pianist and the researcher; the pianist within me kept an open mind to produce the best tones possible, and the researcher

correlated what I (as a pianist) had felt whilst playing to how the pianos were historically perceived. I explore the relation between the choices of piano to the repertoire being played and reflect on how differences in piano tone can inform performance practice for today's pianists. The reasoning behind my choices (as a pianist) are examined: can a pianist be swayed by internal and external factors? This chapter is set apart from the other chapters in that I seek to understand tone not only through written description but also through sound, both audibly and experientially. My encounters with these historical pianos not only illustrate the mind of a modern-day researcher and pianist, but also suggest the expectations and considerations that one would have had in the nineteenth century in forming opinions about their ideal piano tone.

Part One - Written archives

Locating grand pianos (1880-1904)

This thesis primarily investigates grand piano tone of 1880 to 1904, and the most represented firms from each of the predominant piano-making countries have been listed in [Table 1]. Some brands, such as Bechstein Broadwood, Erard, and Steinway appear more frequently than others in this thesis, as they were the more popular brands used by pianists in late nineteenth-century concert halls [Chapter 3], and there were more surviving copies of pianos available from these brands in the current day [Chapter 4]. Beyond these firms were a large corpus of firms making grand pianos, [Chapters 1 and 2]. Although not all brands are studied in detail, consideration of the whole collection enables us to better see trends and compare designs. This comparison provides an opportunity to trace the reception of the public and press in these two and a half decades.

Table 1: Represented firms from predominant piano-making countries

Nationality	Brands
Austria	Bösendorfer F. Ehrbar Streicher, J.B. & Sohn
Belgium	J. Günther J. Oor
France	Érard (Paris) Pleyel et Cie
Germany¹	Bechstein Blüthner Ibach Sohn Schiedmayer & Söhne
Great Britain	Broadwood & Sons Brinsmead & Sons Collard & Collard
Russia	J. Becker C. M. Schröder
United States	Chickering & Sons Knabes & Company Steinway & Sons

The piano scholarship

A glimpse into Edward E. Swenson's '300 years of piano building: a comprehensive bibliography' is enough to recognise that the piano is the most researched instrument: 2800 bibliographical entries!² Generic encyclopaedias detail the histories and inventions from some celebrated firms.³ Publications by piano historians, Alfred Dolge, Cyril Ehrlich, James Parakilas,

¹ Germany only became a nation after 1870.

² '300 years of piano building: a comprehensive bibliography', compiled by Edward E. Swenson, <https://www.mozartpiano.com/articles/bibliography.php>, consulted on 16 July 2020.

³ *Grove Music Online*, Stanley Sadie (ed.) *The New Grove Dictionary of Music and Musicians*, 20 volumes (London: Macmillan Publishers Limited, 1980), Robert Palmieri (ed.) *The piano, an encyclopedia* (New York: Routledge, 2015), François-Joseph Fétis, *Biographie universelle des musiciens et bibliographie générale de la musique par F. J. Fétis; supplément et complément publiés sous la direction de Arthur Pougin* (Paris:

and David Rowland amongst others provide a narrative of how pianos fit in the social, political, and musical context of this time.⁴ Various piano builders and firms also published articles and books in the late-nineteenth century, e.g. Giacomo Sievers (1868), Julius Blüthner (1872), and Edgar Brinsmead (1879).⁵ Piano firms, such as Broadwood, Bechstein, Blüthner and Steinway invested efforts in retelling their firm's past through academic publications.⁶ Furthermore, there is surviving archival material from piano companies detailing business and sales records, such as the archives of Bechstein, Blüthner, Broadwood, Erard, and Steinway.⁷ The archives were useful to trace the history of individual pianos, but only to that end. These sources suggest that there was serious competition between the piano firms, with Dieter Hildebrandt literally shouting out 'war' in the music room.⁸ Such competition was the groundwork for establishing newer piano

Firmin Didot, 1881). Ernst Pauer, *A dictionary of pianists and composers for pianoforte: with an appendix of manufacturers* (London, New York: Novello, Ewer & Co., 1895).

⁴ Alfred Dolge, *Pianos and their makers: a comprehensive history of the development of the piano from the monochord to the concert grand player piano*, vol. 1 & 2 (Covina: Covina publishing company, 1911). Cyril Ehrlich, *The piano: a history* (Oxford: Clarendon Press, 1990). David Rowland (ed.) *The Cambridge companion to the piano* (Cambridge: Cambridge University Press, 1998). James Parakilas and E. Douglas Bomberger, *Piano roles: three hundred years of life with the piano* (New Haven, London: Yale University Press, 1999).

⁵ Giacomo Ferdinando Sievers, *Il pianoforte guida pratica per costruttori, accordatori, dilettanti e professori di Pianoforti di G. F. Sievers, translated into English by Marco Tiella, S. Giovanni (Persiceto, Bologna: Aspasia, 2000). Originally published as Il pianoforte; guida pratica per costruttori, accordatori / dilettanti e possessori di pianoforti, con 300 disegni parte intercalati nel testo e parte in apposito atlante (Napoli: Stabilimento tipografico Ghio, 1868). Julius Blüthner and Heinrich Gretschel, *Lehrbuch des Pianofortebaues, mit einem erläuternden Nachwort von Jan Grossbach* (Frankfurt am Main: Verlag Erwin Bochinsky, c1992), originally published as *Lehrbuch des Pianofortebaues in seiner Geschichte, Theorie und Technik* (Weimar: B.F. Voigt, 1872). Edgar Brinsmead, *The history of the pianoforte: with an account of the theory of sound & also of the music and musical instruments of the ancients* (London: Novello, Ewer & Co. 1879).*

⁶ Ingbert Blüthner-Haessler and Norbert Benz, *Blüthner: 150 Jahre Pianofortebau* (Leipzig: Leipziger Verlagsgesellschaft, 2003). C. Bechstein Pianofortefabrik Aktiengesellschaft and Berenice Küpper (ed.) *The world of pianos: fascination with an instrument* (Berlin: Nicolai, 2003). Theodore E. Steinway, *Steinway and Sons, people and pianos: a century of service to music: Steinway and sons, 1853-1953* (New York: Steinway & Sons, 1953). Blüthner and Broadwood have also placed a foothold in academia by completing Ph. Ds. Alastair Laurence, *The evolution of the Broadwood grand piano 1785–1998* (Ph. D Thesis, York University, 1998). Ingbert Blüthner-Haessler turned his thesis into a book, Ingbert Blüthner-Haessler, *Von Leipzig nach London: Blüthner und das Pianoforte, ca. 1850-1914* (Stuttgart: Franz Steiner Verlag, 2012).

⁷ The various archives include: the Erard, Pleyel and Gaveau archives, which are digitised online, <https://archivesmusee.philharmoniedeparis.fr/pleyel/archives.html>, consulted on 20 June 2018. The Bechstein archive is located at the Royal College of Music in London, and holds 42 volumes of sales ledgers from late 19th to mid-20th centuries, and a few letters regarding concert booking of the Wigmore Hall after 1905. Blüthner's factory records in Leipzig were destroyed in the fire as a result of fire during the WWII, and Blüthner's in London has records of the individual instruments sold through the London showroom. The most extensive collections are the Broadwood archive, located in the Surrey History Centre, UK, and the Steinway & Sons archive, located in the LaGuardia Community College, New York City, USA. Both these collections, in addition to sales records, have details and drawings of their innovations and patents, as well as some letters of correspondence with musicians.

⁸ Hildebrandt titled his chapter as 'The war in the music room'. Dieter Hildebrandt, *Pianoforte: a social history of the piano* (London: Hutchinson, 1988), pp. 137–152. The large number of piano makers active in the late-nineteenth century is also evident from browsing through the *Card index of instrument makers in*

tone ideals, particularly in grand pianos, and the domino effect of change in the last twenty years of the nineteenth century.

The trade press, which emerged at the commencement of this period, are also extremely valuable sources for this research. To explore all the trade-orientated journals would be too vast a study for a single thesis, thus, two journals are mainly used here: the British *Piano, Organ and Music Trade Journal (1885-1901)* and the German *Zeitschrift für Musikinstrumentenbau (1880-1943)*.⁹ These two journals have been selected for study as they were the most readily accessible at the time of research.¹⁰ In addition to these two, specialist press were found in centres with dynamic piano trade, such as in the United States and France.¹¹ These journals were a platform for the discussion of ideas, encapsulated piano-makers' striving for improvements in tone. The wide range of topics include acoustical studies, mechanical gadgets, opinions of musicians, and the advertising and promotion of piano-related merchandise. Perspectives both nationally and internationally were collated, not only from their own reporters reporting on events happening abroad, but also citing from other musical journals.

The press

Beyond specialist trade press, opinions of piano tone were also found in general music periodicals. As noted by Meirion Hughes, critics in the late-nineteenth century regarded themselves as 'watchmen and watchtower' who felt the need to defend the truest meanings of

the British Library, which recorded the addresses of instrument maker's showroom and factories in London between the years 1840 to 1950. Some examples are listed here: The Bechstein firm was recorded to have set up their initial showroom in 10 Rathbone Place from 1876 to 1883, and after moving to 40 Wigmore Street in 1891, they expanded their territory to include number 36, 38 and 40 Wigmore Street by 1904. Blüthners had established their first showroom in 1881 at 7 Wigmore Street, and by 1904, has acquired number 9, 11, and 13 Wigmore Street, as well as 1A Wimpole Street. Erard showrooms have been in London since 1840s, and between 1880 and 1904 they were mostly at 18 Great Marlborough Street. Steinway & Sons established their showroom in 1877 on 28 Baker Street. From 1878 they moved to 15 Lower Seymour Street, and by 1904 owned both 15 and 17 Lower Seymour Street. Bösendorfer on the other hand did not have their own showroom in London until 1925.

⁹ The *Piano, organ and music trade journal* started as the *Pianoforte dealer's guide* (1882), and later changed titles to *Piano Journal* (1901-1904). The *Zeitschrift für Musikinstrumentbau* (1880-1943) was founded by Paul de Wit in 1880.

¹⁰ The entire hardcopy collection of the *Piano, organ and music trade journal* is available at the British Library, and the *Zeitschrift für Musikinstrumentbau* has been digitised and is available online at the Münchener Digitalisierungszentrum Digitale Bibliothek, <https://www.digitale-sammlungen.de/index.html?c=sammlung&projekt=1153295428&l=de>, consulted on 20 January 2021.

¹¹ In the United States, John Christian Freund founded *The music trade Journal* in 1879. This journal also went through several name changes, *Musical and dramatic times*, *music: A review*, *The music trade piano and organ review*, and *Musical merchandise review*. The majority of the issues from the *Music trade journal* predating 1919 are in microform format, and located in libraries in the United States. In France, the *Chambre Syndicale de la Façture Instrumentale* was formed in 1890 to gather manufacturers and artisans who made instruments. I was not able to find their own press publications from this period.

music.¹² Debates regarding pianos often drew on the critic's own personal experience, whether this was their examining of instruments at exhibitions, or from their participation as audiences at concerts. The press reports of piano tones provided a first-hand insight of the historical and social context of the late-nineteenth century. Thus, their preferences and opinions cannot be ignored, as explained by James H. Johnson, 'the use of critics and journalists is as valid an indicator of the mechanism of change in perception as any.'¹³

Whilst this thesis broadly examines British periodicals, newspapers from other countries were also considered to provide an overview of multi-national perspectives in Chapter 2 (exhibitions). Significant British press includes *Musical opinion and trade review* (1880-1906), *Musical standard* (1862-1912), *Musical times* (1844-1903), *The athenaeum* (1828-1921), *The monthly musical record* (1871-1905), and *The musical world* (1836-1891). Foreign newspapers include *Le monde illustré* (Paris, 1857-1940), *The Argus* (Melbourne, 1846-1957), and *The etude* (New York, 1883-1957). All these journals were in essence forums on which their readers, authors and editors could contest, but overall there were in agreement on ideals expressed in publications belonging to the same nation. Thus, a comparison between periodicals in regards to the ideals of piano tone across nationalities is a theme found in Chapter 1 and 2, while the constitution of Britain's 'ideal piano tone' through concert reviews in British newspapers is found in Chapter 3.

Locating grand pianos: International Exhibitions

The investigation of pianos in nineteenth-century exhibitions has largely escaped the attention of scholars.¹⁴ Undoubtedly, most academics have acknowledged the positive benefits for piano firms that gained exhibition awards.¹⁵ Some have made specific references to pianos at individual exhibitions, such as Kerry Murphy's examination of Berlioz as a judge at the Great Exhibition 1851, and Sarah Kirby's thesis chapter on pianos as a musical object at exhibitions 1880

¹² Meirion Hughes in his book surveys the reception history of English music in the late-nineteenth century through comparisons of press editors in Britain. The newspapers include *Athenaeum*, *Daily telegraph*, *Musical times*, *Morning post*, *Musical world*, and *The times*. Meirion Hughes, *The English musical renaissance and the press, 1850-1914: watchmen of music* (Aldershot: Ashgate, 2002).

¹³ James H Johnson, *Listening in Paris: a cultural history* (Berkeley: University of California Press, 1995), p. 5.

¹⁴ This is also true for the exploitation of music in exhibitions. Notable journal articles include Jann Pasler, 'The utility of musical instruments in the racial and colonial agendas of late nineteenth-century France', *Journal of the Royal Musical Association*, 129: 1 (2004), pp. 24–76. Sandy R. Mazzola, 'Bands and orchestras at the World's Columbian Exposition', *American Music*, 4: 4 (Winter, 1986), pp. 407–424.

¹⁵ Many of the aforementioned piano scholarships have included brief accounts of pianos at exhibition. Two examples are: David Grover, who addressed the importance of gaining awards for the American firms, David S. Grover, *A history of the piano from 1709 to 1980* (Macclesfield: Omicron Graphics, 1980), p. 144; David Wainwright, who discussed the gradual fallout of Broadwood pianos at exhibitions, David Wainwright, *Broadwood by appointment* (London: Quiller, 1982), p. 192, 222–223.

to 1890. Annegret Fauser's work on the 1889 Paris Exposition Universelle only included a few pages detailing the [French] pianos presented at the exhibition, mostly drawing on concert reviews from *le Ménestrel*.¹⁶ Overall, there is a lack of scholarship in the interrogation of the public's perception at the exhibitions, as well as who judged the pianos and by what standards. The findings from ten exhibitions are presented in Chapter 2, and is the first comprehensive exploration of how pianos were being compared across exhibitions. While the scrutiny of piano tone as perceived in a particular exhibition would have also been an interesting a study, comparisons between exhibitions can better highlight the debate of opinions on piano tone, as well as noting the change in perception through the two decades.

A key source for investigating the exhibitions was the official commissioned publications, of which there were two predominant types: official catalogue and official record of awards.¹⁷ The 'official catalogue' contained details on the planning of the exhibition, floorplans, and arrangement of musical programmes, while the 'official record' contained the assessment criteria of awards, juries, and at times, jury reports.¹⁸ Not every exhibition had official records, as it depended on whether the organisers curated such items.¹⁹ 'Official reports' also came from countries other than the host, such as France's version for 1893 Chicago World Fair, and Britain's narration of the 1904 St. Louisiana Purchase Exposition.²⁰ Publications from onlookers at the various exhibitions also contribute as important sources, such as René Corneli at the 1885 Exposition International d'Anvers, and Constant Pierre and Julien Tiersot at the 1889 Paris

¹⁶ Kerry Murphy, 'Berlioz and the piano at the Great Exhibition: the challenge of impartiality', in Barbara L. Kelly and Kerry Murphy (ed.) *Berlioz and Debussy: Sources, Contexts and Legacies: Essays in Honour of François Lesure* (Aldershot: Ashgate, 2007), pp. 67–82. Sarah Kirby, *Exhibiting music: music and international exhibitions in the British Empire, 1870–1890* (Ph. D thesis, University of Melbourne, 2018), pp. 56–105 (Chapter two: the musical object). Annegret Fauser, *Musical encounters at the 1889 Paris World's Fair* (Rochester: University of Rochester Press, 2005), p. 26.

¹⁷ For example, for 1880 Melbourne International Exhibition: *The official catalogue of the exhibits, with introductory notices of the countries exhibiting*, vol. 1 (Melbourne: Mason, Firth & McCutcheon, 1881); *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits* (Melbourne: Mason, Firth & McCutcheon, 1882)

¹⁸ In addition, some exhibitions had separate volumes for official records. At 1889 Paris Exposition Universelle, there was a volume for general reports, a volume for Liberal Arts, and another containing the statistics of awards. Alfred Picard, *Exposition Universelle Internationale de 1889, Rapport général* (Paris: Imprimerie nationale, 1891); Alfred Picard, *Tome Quatrième. Les beaux-arts, l'éducation, l'enseignement, les arts libéraux (Groupes I et II de l'Exposition Universelle de 1889 Exposition Centennale de L'art Français)* (Paris: Imprimerie nationale, 1891); Alfred Picard, *Pièces Annexes, Actes officiels, Tableaux statistiques et financiers* (Paris: Imprimerie nationale, 1891).

¹⁹ No official report could be found for 1883 International Colonial and Export Exhibition at Amsterdam, 1894 Exposition Universelle d'Anvers, and 1904 St. Louisiana Purchase Exposition.

²⁰ 'Rapport de M. J. Thibouville-Lamy, 'Fabricant d'instruments de musique, Commissaire Rapporteur' in *Rapports publiés sous la direction de M. Camille Krantz. Commissaire Général du Gouvernement Français, Comité 38 Instruments de musique* (Paris: Imprimerie Nationale, 1895). *Royal commission for the St. Louis International Exhibition for 1904. Report of His Majesty's commissioners for the International Exhibition, St. Louis, 1904* (London: William Clowes & Sons, printed for His Majesty's stationery office, 1906), p. v.

Exposition Universelle.²¹ Testimonies from exhibiting firms were also compelling evidence, such as the archival collection of the piano manufacturer James Leslie Stephen at the 1885 International Inventions Exhibition in London, which contained correspondences and details on the granting of exhibition space.²² Again, these collections vary from exhibition to exhibition.²³ Beyond official and non-official publications, jury's opinions and reports were at times published in the press, such as Victor Mahillon on the 1883 Amsterdam Exhibition, and Adolf Schiedmayer at the 1894 Antwerp Exposition Universelle.²⁴ These sources provided rich discourse of ideal piano tones between professionals and amateurs, and between people of different nationalities.

Secondary literature about exhibitions, as well as studies on culture and imperialism have further influenced the importance of examining pianos in exhibitions. Several exhibition studies have alluded to ideas of capitalism, imperialism, and globalisation being the driving forces behind the motivation for their establishments. The works of Peter H. Hoffenberg and Paul Young have demonstrated how exhibitions propelled the solidification of the British Empire and its colonies.²⁵ Although this scholarship gave little reference to music, the same principles could be applied to all objects within the exhibitions, including pianos. Such thoughts are subconsciously imbued into the minds of those who planned the exhibitions, juries who commented on the pianos, and critics who defended the prestige of piano firms from their homeland. In addition, the infiltration and monopoly of trade in a thriving market was reiterated from exhibition to exhibition, placing tremendous pressures on native firms in defending their businesses. However, as these platforms became more and more frequent in the last two decades, resistance declined and eventually led to conformity in ideals.

²¹ René Corneli, *Anvers et l'Exposition Universelle de 1885* (Bruxelles: Typographie & Lithographie, 1886). Constant Pierre, *Les Facteurs d'Instruments de Musique, les Luthiers, et la Façure Instrumentale. Précis Historique* (Paris: Sagot, 1893). Julien Tiersot, *Musique pittoresques. Promenades musicale à l'Exposition de 1889* (Paris: Fischbacher, 1889). Alfred Hipkins' entry of 'Pianoforte' in the ninth volume of the *Encyclopaedia Britannica* referred to instruments mostly from his findings at the 1885 Inventions Exhibition.

²² [A collection of miscellaneous printed and MS. material relating to pianofortes. Compiled by J. L. Stephen], British Library, General Reference Collection 07902.b.1/9.

²³ No official reports or catalogue could be traced for 1883 Amsterdam. However, Press reports on the display of pianos at this exhibition have underlined some crucial conflicts in the discussion of piano tone in this period, and thus included for examination.

²⁴ 'Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon', *MOMTR*, 8: 85 (October 1884), pp. 43–45. Adolf Schiedmayer, 'Berich über die Antwerpener Ausstellung an die Mitglieder des Vereins deutscher Pianofortefabrikanten', *ZfI*, 14 (1893/94), pp. 799–800.

²⁵ Peter H. Hoffenberg, *An Empire on display: English, Indian, and Australian exhibitions from the Crystal Palace to the Great War* (Berkeley: University of California Press, 2001). Paul Young, *Globalization and the Great Exhibition: The Victorian new world order* (Basingstoke: Palgrave Macmillan, 2009). Sarah Kirby in the introduction of her thesis has given an extensive survey of the exhibition literature, Sarah Kirby, *Exhibiting music*, pp. 1–20.

Locating grand pianos in 1880-1904: Concert halls

Other than exhibition and piano showrooms, grand pianos were seen on concert platforms, as investigated in Chapter 3. The study into concert programmes, promotion, and reception has been the subject of recent academic interest.²⁶ In particular reference to the transformation of musical tastes through concerts, William Weber observed that mid-nineteenth-century Europe saw an emergence of new types of concerts: ones not only to serve and be appreciated by the elite or the specialist, but aimed at the middle-class.²⁷ The term ‘popular’ was coined to carry both social and aesthetic meanings, and was explicitly used in concert series titles, such as London’s *Monday and Saturday popular concerts*, and Paris’ *Concerts populaires de musique classique*.²⁸ The ‘popular’ notion in concert was conveyed through the programmes being miscellaneous, and performed in less-formal settings, such as music halls and *cafés-concerts*. Thus, I chose as my study the concert programmes of the *Monday and Saturday popular concerts* at St. James’ Hall, as I consider this concert series to epitomise the trends of concerting during this period. Whilst there are other similar concerting styles which also engaged professional musicians, such as *The Crystal Palace Saturday concerts*, and concerts managed by the Society of the Friends of Music in Vienna, the ease of accessibility to the entire collection of *Monday and Saturday popular concerts* (from 1859 to 1904) is the main reason why I have chosen this concert series above others.²⁹ In addition, there was extensive press coverage on this case study, with each concert critiqued by reporters from *Musical standard*, *Musical times*, *The musical world*, amongst many others.³⁰ Concentrating in details of the concerts in this particular series can

²⁶ Bruno Benjamin Bower in his doctoral thesis conducted an in-depth literature review of concert life in nineteenth-century Britain, in which he acknowledged the contributions from Jann Pasler, William Weber, Christina Bashford, and Catherine Dale. Bruno Benjamin Bower, *The Crystal Palace Saturday concerts, 1865–1879: a case study of the nineteenth-century programme note* (Royal College of Music: Ph. D Thesis, 2016), pp. 8–10. Jann Pasler, ‘Concert programs and their narratives as emblems of ideology’ in Jann Pasler (ed.) *Writing through music: essays on music, culture, and politics* (Oxford, New York: Oxford University Press, 2008), pp. 365–416. William Weber, *The great transformation of musical taste: concert programming from Haydn to Brahms* (Cambridge, New York: Cambridge University Press, 2008). Christina Bashford, ‘Educating England: networks of programme-note provision in the nineteenth century’ in Rachel Cowgill and Peter Holman (ed.) *Music in the British provinces, 1690-1914* (Aldershot, Burlington: Ashgate, 2007), pp. 349–376. Catherine Dale, *Music analysis in Britain in the nineteenth and early twentieth centuries* (Aldershot: Ashgate, 2003).

²⁷ Weber, *The great transformation of musical taste*.

²⁸ Ibid. ‘Popular’ was a reoccurring theme in his book, particularly in the later chapters, pp. 208–310.

²⁹ The *Monday and Saturday popular concerts* (from 1859 to 1904) is available in both book and microfilm form at the British Library. *Monday popular concert*. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for... February 7th, 1859 <-March 7, 1904, British Library, Music Collections d. 480.

³⁰ Besides the periodicals, the memoirs of George Bernard Shaw in the three volumes of his *Music in London 1890-94* have been an indispensable source for this thesis. George Bernard Shaw, *Music in London 1890-94*, 3 vols. (London: Constable, 1932).

permit a deeper understanding of the change: in the demographic of the pianists, their preferences of pianos, and the critics' opinions about pianism and pianos.

Naturally, there were other factors in influencing the pianists' preferences of pianos other than the piano tone itself. R. Allen Lott traced the difficulties faced by pianists on tour in America, and the exclusivity of contract with individual piano firms.³¹ Christopher Fifield found correspondence between pianists and concert agents in negotiation, with piano brands often a bargaining chip.³² Nevertheless, the pianists' personal preference in terms of tone derived mostly from their performing habits, thus the need to survey the pianists' training backgrounds. As mentioned earlier, Neal Peres Da Costa, Charles Timbrell, and Kenneth Hamilton have made pioneering studies on the pianism of the late-nineteenth century, along with various others who wrote on the subject of playing styles of individual pianists.³³ Furthermore, the diary accounts and correspondences from pianists, such as Amy Fay, Mark Hambourg, and Franz Liszt have evidenced the link between their pianistic legacy and preference in relation to piano tones.³⁴ The range of playing styles presented in Chapter 3 provides the opportunity to trace ideals and trends across this network, and document how the merging of piano styles resulted in a uniformity of piano tone preference towards the end of the century.

Encompassing the bigger ideas

Beyond the subject-specific sources, there is a significant body of literature highlighting broader notions of mediation theories. Whilst not directly referred to in this thesis, these concepts addressed below are crucial to the analysis of historical perspectives on piano tone.

My work in deconstructing the ideals of piano tone through a multi-perspective approach is closely aligned with both Reception theory and Actor-Network Theory (ANT). Similar to the field of ethnomusicology, reception theory calls researchers to focus on the socio-historical context

³¹ R. Allen Lott, *From Paris to Peoria: how European piano virtuoso's brought classical music to the American heartland* (Oxford: Oxford University Press, 2003).

³² Christopher Fifield, *Ibbs and Tillet: the rise and fall of a musical Empire* (Aldershot, Hampshire: Ashgate, 2005).

³³ Peres Da Costa, *Off the record*. Kenneth Hamilton, *After the golden age: romantic pianism and modern performance* (New York; Oxford: Oxford University Press, 2008). Charles Timbrell, *French pianism: a historical perspective* (Portland, Oregon: Amadeus Press, 1999). Explorations into individual pianists have included Nancy B. Reich, *Clara Schumann, the artist and the woman* (London: Victor Gollanc Ltd., 1985). Joseph Bennett, *Forty years of music, 1865-1905* (London: Methuen, 1908), in which he recounted from his memories the playing of Hans von Bülow and Anton Rubinstein.

³⁴ Amy Fay, *Music-study in Germany: from the home correspondence of Amy Fay / [preface by George Grove]* (London: Macmillan, 1886). Mark Hambourg, *The eighth octave: tones and semi-tones concerning piano-playing, the savage club and myself* (London: Williams and Norgate, 1951). La Mara, *Correspondance entre Franz Liszt et Hans von Bülow* (Leipzig: Breitkopf & Härtel, 1899).

rather than individual responses, as termed by Hans Robert Jauss, the ‘aesthetic of reception’.³⁵ Jim Samson believed that a reception aesthetics ‘highlights the relativity – the perspectival quality – of our analytical knowledge’.³⁶ However, Samson also warns of treating reception studies as a mere collection of neutral opinions; rather, the opinions should raise issues of identity.³⁷ For this thesis, gathering perspectives about piano tone is the foundation of the critical analysis.

As well as considering an individual’s opinion on piano tone, it was important to consider the ‘collective stance’, bracketed by culture, class, society, nation, and institution. Richard Taruskin defined ‘nationalism’ as a general attitude rather than the boundaries of geographical borders, that political movements and cultural identities coalesce into one connected whole.³⁸ Thus, nationalism was the ‘dominant culture’ as dictated through the large body of those in power positions.³⁹ The concept of ‘nations’ and ‘nationalism’ denoted superiority and national pride, and was very much ingrained in the society at large, and influenced all aspects of life, including music.⁴⁰ While this thesis does not specifically engage in arguments relating to politics; the consolidation of the British Empire and its colonies, European geopolitical tensions between France and Germany, and the conflicts arisen from the American Civil War do form important backdrops to the discussions on how pianos were made, promoted, and judged. As time progressed in the late-nineteenth century, national rhetoric became increasingly toxic in the subject of piano tone, especially with pianos being farther and more widely circulated. It is also important to recognise that while the nationalistic motif was a powerful method for advertising and promoting pianos, pianos were also used as a propaganda tool to serve the ‘nationalistic’ movement.⁴¹ In particular, grand pianos, which were the epitome of all piano artisanship, became ‘nationalistic’ objects that carried distinct ‘national’ tones. This was not an ideal understood by

³⁵ Hans Robert Jauss, *Toward an aesthetic of reception*, translated by Timothy Bahti (Minneapolis: University of Minnesota Press, 1982).

³⁶ Jim Samson, ‘Reception’, *Grove music online*, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000040600>, consulted on 6 July 2020.

³⁷ Ibid.

³⁸ Richard Taruskin, ‘Nationalism’, *Grove music online*, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000050846>, consulted on 6 July 2020.

³⁹ Ibid.

⁴⁰ Ibid. In the grove article, Taruskin highlighted many instances where the idea and movement of ‘nationalism’ was an impetus for the growth and spread of music, particularly at the end of the nineteenth century. Other notable scholarships on music and nationalism in the late-nineteenth century include essays in Harry White and Michael Murphy (ed.), *Musical constructions of nationalism: essays on the history and ideology of European musical culture* (Cork: Cork University Press, 2001).

⁴¹ On the subject of how music actively promotes nationalism, Jann Pasler outlines the French-German relations around the formation of the Société Nationale de Musique in 1871, Jann Pasler, *Composing the citizen: music as public utility in third republic France* (California scholarship online, 2012).

piano-makers alone, but an ideal projected by those in the community: of music historians, critics, pianists, government leaders amongst others.

In regards to the power of the institution, Mark Everist has highlighted the authority of nineteenth-century Parisian theatre houses in determining the permissibility of repertoire performances.⁴² Likewise, the same was enacted in many of the ‘institutions’ which framed the ideals of piano tone in the late-nineteenth century, such as in the piano trade, the conformation or contradiction to popular trends; in the concert halls and with impresarios, in permitting the use of piano brands; in the concept of pianism, the constitution of the ideal interpretation through different learnt styles; and in the press, which informed and persuaded public opinion.

Whilst reception studies have traditionally been found in the study of history and social responses to art, Actor Network Theory (ANT) on the other hand could be regarded as another model to better resonate with my own varied assemblage of approaches in identifying the ‘actors’ involved in the expression of ideals of piano tone. ANT pioneer Bruno Latour defined the ‘actor’ as being neither a subject nor object, but rather it is a series of action devoid of any human efforts.⁴³ In defending Latour’s seeming rejection of human agents, Benjamin Piekut summarised ANT as being ‘a methodology that helps us to attenuate normative assumptions about our object of inquiry, to put aside vague or reified concepts such as ‘music’, ‘society’, or even ‘network’.⁴⁴ In this respect, ‘actors’ can be better understood through the term ‘actants’ as it includes both human and non-human involvement. In my own work, ‘actants’ are the stakeholders, which include pianists, juries, piano firms, and critics. ‘Actants’ are also the pianos themselves (including their parts: actions, frames, and soundboard). Finally, ‘actants’ are the concepts of performance space, which include sound acoustics and ambience.

In recent years, ANT has been successfully adopted in anthropological and political science studies, and has been increasingly so in the sphere of musical studies. Research into musical instruments could benefit from ANT-style approaches, as they are after all intertwined in myriad

⁴² Mark Everist, ‘The music of power: Parisian opera and the politics of genre, 1806-1864’, *Journal of the American musicological society*, 67: 3 (Fall 2014), pp. 685–734.

⁴³ ‘An “actor” in ANT is a semiotic definition – an actant –, that is something that acts or to which activity is granted by others. It implies *no* special motivation of *human individual* actors, nor of humans in general. An actant can literally be anything provided it is granted to be the source of an action.’ Bruno Latour, ‘On actor-network theory: a few clarifications’, *Soziale Welte*, 47: 4 (1996), pp. 369–381, quote from p. 373.

⁴⁴ Benjamin Piekut, ‘Actor-network in music history: clarifications and critiques’, *Twentieth-century music*, 11/2 (2014), pp. 191–215. In this article, Piekut advocated for the landmark study of Bruno Latour, and drew parallels between the principles of the actor-network theory to those explicated in the seminal works of contemporary social-theorists, including Georgina Born, Lydia Goehr, Richard Taruskin, and Anna Tsing. Piekut’s comprehensive analysis and review revealed how ANT can be a useful tool to ecologise ideas narratives, groups, and relations in music.

forms of social relations.⁴⁵ Nonetheless, as ANT is still relatively new to musicology, and Georgina Born and Andrew Barry have warned that ANT should not be ‘a ready-made methodology that can be taken off the shelf and applied’, as its danger was the removal of ontology in music altogether, but rather it should be used in conjunction with already-existent mediation theories to propel future research.⁴⁶ Whether it is reception studies or ANT, these approaches share the theory of mediation, that ‘actants’ are both human and nonhuman, thus including pianos, ideals, and philosophy. It is with these thoughts in mind that we proceed in the following pages to discover the varied perspectives on the tone of pianos of the late-nineteenth century.

⁴⁵ Eliot Bates in his investigation of the saz drew on how his research was shaped by the influence of ANT, Eliot Bates, ‘The social life of musical instruments’, *Ethnomusicology*, 56: 3 (Fall 2012), pp. 363–395.

⁴⁶ Georgina Born and Andrew Barry, ‘Music, mediation theories and actor-network theory’, *Contemporary music review*, 37:5-6 (2018), pp. 443–487.

Chapter 1 Piano Tones in Design

It is very difficult, if not impossible to agree upon what constitutes a really beautiful instrumental tone since everyone has a more or less different ideal about it. For this reason, some prefer a sharp, cutting or shrilled tone; others, on the contrary, prefer a full, well-rounded tone.
– Andreas Streicher, 1801¹

The question of whether piano tone is independent of the pianist has long been in discussion since Otto Ruldoph Ortmann's research in 1925.² Ortmann and other scientists claimed that the pianist's touch could do nothing to change the nature of tone on pianos apart from altering the intensity (loudness).³ On the other hand, pedagogies and performances since the rise of piano have demonstrated that tone variations can differ from pianist to pianist. According to Julian Hellaby, 'beautiful tone is not an absolute but is highly contingent, essentially an aesthetic synthesis that is greater than the sum of its parts.'⁴ Neither is one group more correct than the other, as the debate essentially draws out two separate issues. Ortmann et al have focused their research on the intrinsic construction of the instrument in defining tone, while practitioners have been preoccupied with the extrinsic manipulation of tone.

Interestingly, even as far back as the early-nineteenth century, piano makers have always acknowledged the importance of both intrinsic and extrinsic influences on tone. In 1801, piano maker Andreas Streicher highlighted the crucial role of pianists in executing good or bad tone

¹ 'Es ist sehr schwer, wo nich unmöglich, den schönsten Instrument-alton zu bestimmen. Jeder Mensch hat sein eigenes, von einem andern mehr oder weniger verschiedenes Gefühl. Diesem müssen wir es zuschreiben, dass einige nur Scharfe, Schneidende grille; andere hingegen volle, runde, molligte Töne lieben.' Fuller quotes from Andreas Streicher's *Kurze Bergerkungen über das Spielen, Stimmen und Erhalten der Fortepiano* in Richard. A. Fuller, 'Andreas Streicher's notes on the fortepiano: Chapter 2: on tone', *Early music*, 12: 4 (November 1984), pp. 461-470, quote from p. 463.

² Otto Ortmann, *The physical basis of piano touch and tone* (New York: E.P. Dutton, 1925).

³ For more investigation on this subject, see article by Shen Li and Renee Timmers, 'Exploring pianists' embodied concepts of piano timbre: an interview study' in E. Van Dyck (ed.) *Proceedings of the 25th anniversary conference of the European society for the cognitive sciences of music, 31 July–4 August 2017* (Ghent, Belgium), pp. 112–117. Amongst the list, two that had adhered to Ortmann's research include: E. O. Turner, 'Touch and tone-quality: the pianist's illusion', *The musical times*, 80:1153 (1939), pp. 173–176. W. Goebel, R. Bresin, A. Galemba, 'Once again: The perception of piano touch and tone. Can touch audibly change piano sound independently of intensity' in *Proceedings of the international symposium on musical acoustics* (March 2004), pp. 332–335.

⁴ Julian Hellaby, 'Matthay and beautiful piano tone', *Music & practice*, 5 (2018), <https://www.musicandpractice.org/volume-5/beautiful-piano-tone-a-matthay-legacy/>, consulted on 2 March 2020. Hellaby comes from the perspective of exploring pianists' tone since the pioneering work of Tobias Matthay, *The act of touch in all its diversity* (1903). Gilbert Briggs also approached this matter through interviews with pianists, including Clifford Curzon, Kathleen Long, and Moura Lympany. Almost all of those interviewed by Gilbert agreed that pianists can influence the tone of the instrument by varying their styles of playing. Gilbert Arthur Briggs, *Pianos, pianists and sonics* (Bradford: Wharfedale Wireless Works, 1951).

from the instrument.⁵ Streicher mentioned also the influence of external conditions, such as dampness, warmth, atmosphere, and temperature, which can influence the perceived quality of tone. Despite recognising the extrinsic influences, Streicher placed an emphasis on the unchangeable nature of the instrument after it has been built, 'it is the responsibility of the performer to apply carefully what has been said previously about touch, and thus to permit his instrument to speak in the manner that it should.'⁶ Streicher's beliefs continued in the minds of piano makers until the mid-nineteenth century, when pianists were the main inspirations for piano development.

From the mid-nineteenth century, pianists were no longer the only stimulus to piano building, despite still being highly sought after by piano manufacturers. Instead, advances in acoustical studies and technology sped up the process of refining pianos. Publications on acoustical studies, including Hermann von Helmholtz's notable *Sensation of tone* (1862), gave new definitions to tone through understanding how sound vibration travels. Despite many piano firms still relying on their learnt experiences, they could not deny the precision of such studies. In 1888, Siegfried Hansing produced one of the first comprehensive acoustical studies of the piano, *Das pianoforte in seinen akustischen anlagen*. Though Hansing himself was trained as a cabinetmaker and not a scientist, his theories combined the works of Hermann von Helmholtz and John Tyndall. Very quickly, Hansing's work was circulated in the German trade, and translations into English soon followed for publication in Britain and the United States.

The technological revolution in the late-nineteenth century also gave rise to mechanisation and mass production in the piano trade. Advances in machinery allowed for the faster production of pianos, while improved transportation links revolutionised the procurement of raw materials. Since the cost of acquiring machinery was by no means small, it became more profitable to buy ready-made parts and assemble them instead of building from scratch, hence the rise of manufacturers specialising in parts. Manufacture of parts had ranged from iron plates, hammer felts, hammers, actions, piano keys to strings and soundboards, as well as those that had specialised in the pianos' external appearances, such as veneer and polish. Although such practice was common for those making moderately priced pianos, the increased reliance on machinery

⁵ Fuller, 'Andreas Streicher's notes on the fortepiano: Chapter 2: on tone', pp. 461–470.

⁶ The 'previously said' (in chapter one of Streicher's book) was a discussion of mechanics of the Viennese action, and the quality of tone pianists should execute through the correct posturing for the body, arm, hands and fingers, and proper playing devoid of hardness. According to Streicher, his book was meant for amateurs, but Fuller regarded Streicher's artistic expectations to exceed the mere enthusiast. Fuller, 'Andreas Streicher's notes on the fortepiano: Chapter 2: on tone', pp. 463–464.

and good mechanical parts was irresistible even to the superior brands, and thus propelled a narrowing of piano designs.

Not all piano firms in this period had succumbed to mass production. Different countries competed in the production of pianos and developed their own strategies to ensure their successes. Some brands from certain nations fared better than others, partly through strenuous commercialism and protectionism. These factors, combined with increased homogeneity in piano parts, disadvantaged piano manufacturers in Britain and France, and elevated Germany and the United States as the main contenders.

This chapter examines grand pianos that were in production between 1880 and 1904, and the ideals of tone as portrayed through their dismantled parts. In particular, I underline the conflict between the desire to remain unique, and the wish to emulate what was perceived as the best. I argue that even in grand pianos, the achievement of ideals of piano tone was at times limited by the supply of resources available in geographical locales. The chapter firstly surveys the piano trade in four major centres during this period: England, France, Germany, and the United States. The various piano companies differ from one another in their organisational structure, as well as economic strategy. I will also briefly consider piano production in smaller centres, such as in Belgium, Italy, Russia, and Vienna. Following on from this, I examine the important parts of the piano which affect its sound: actions (hammer and touch), dampers and pedal, strings, scaling and striking point, pitch, soundboard, and frames. Measurements I conducted from surviving extant pianos will also be used as evidence to pinpoint the differences in parts between brands. To conclude the chapter, I compare a selection of grand pianos and show that although a piano brand belongs to a certain nationality, its parts did not necessarily originate from its home country. I argue that the homogeneity of design (through copying, mass-production, and sourcing from part-making industries), led to pianos becoming less individualistic, and with less distinctive tonal qualities.

1.1 The Piano industry

The needs of our time has (sic) brought about a division of two very distinct kinds in the manufacturer of instruments... those made to meet the requirements of art, and those made to meet the requirements of trade. These two kinds are suitable to different classes of buyers, and, in spite of competition, the success of the one kind ensures the success of the other.
– Victor Mahillon, 1883⁷

As Victor Mahillon had observed in 1883, the pursuit for the ideal tone in grand pianos was not solely to meet the requirement of art, but also involved a complex network of the trade. Each country has their own systems in piano manufacturing, subject to tradition, resources, industry, policies, and geographical conditions. The availability of resource and method determined how a piano was to be built, and consequently how a piano should sound. Marketing strategies, with considerations of fashion and cost, further propagated ideas as to what an ‘ideal piano’ should be. Each nation advocated for their own pianos; H. D. Cable, president of the Chicago Cottage Organ Company commented in an interview with *Indicator* in 1895: ‘A Frenchman would not be satisfied with a piano that did not have a light tone. The Englishman has his likes also. They would not look on the American instrument in the right light. They would have to be educated up to [the American] standard.’⁸ Accordingly, tone preferences for pianos could be reshaped if there was a change in the trade; for example, if the cost of pianos from a certain country were more affordable, then there would be more pianos imported from that country, and this would gradually establish a preference for that brand’s tone. Piano making was a prosperous market, but also a voracious one.

According to the ninth edition of *encyclopaedia Britannica* (1875-89), the chief centres for pianoforte trade were London, Paris, Dresden, Hamburg, Leipzig, Stuttgart, St. Petersburg, Vienna, Brussels, New York, Boston, and Baltimore.⁹ Cyril Ehrlich’s research revealed that four countries dominated sales figures: Britain, France, Germany, and the United States [Table 2, p. 25].¹⁰ His statistics reveal that by 1890, the United States became the largest manufacturer of pianos in the world, producing 72,000 pianos annually. Between 1870 and 1910, all four nations saw a rise in piano production, but their growth rates differed significantly. The least productive amongst them

⁷ ‘Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon’, *MOMTR*, 8: 85 (October 1884), pp. 43–45.

⁸ ‘American pianos in Europe’, *POMTJ*, 13: 158 (October 1895), pp. 149–150.

⁹ Edgar Brinsmead, *The history of the pianoforte: with an account of the theory of sound and also of the music and musical instruments of the ancient* (London: Simpkin, Marshall, & Co., 1889), p. 143.

¹⁰ Table simplified from Edwin M. Ripin et al. ‘Pianoforte, 9. 1860-1915’ *Grove music online*, <http://www.oxfordmusiconline.com/subscriber/article/grove/music/21631>, consulted on 19 January 2020. The figures originated from Cyril Ehrlich, *The piano: a history* (Oxford: Clarendon Press, 1990).

was France, while Britain tripled its annual production, Germany increased it eightfold, and the United States, fifteenfold.

Despite its large output, hegemony from American firms was still far from complete. Even within their own territory, foreign firms attempted to build pianos according to American standards to retain their positions in America.¹¹ In Australia, German firms overthrew the British in exploiting Britain's own colonial market.¹² France prohibited foreign intrusions through legislation on imports to protect their own. Thus, a closer study of the piano industry in the main centres provides a useful overview of how trade operated, infiltrated, and manipulated the one's expectations of piano tone.

Table 2: Annual piano production numbers (in 1000s) in Britain, France, Germany, and U.S

Years	Britain	France	Germany	U.S
1870	25	21	15	24
1890	50	20	70	72
1910	75	25	120	370

1.1.1 Britain

In 1896, Eduard Hanslick, a famous Viennese music critic, said: 'English nationalism has recently turned to the question of piano manufacture.'¹³ Whilst Hanslick's comment suggests a resurgence of Britain's desire to establish their own foothold in the music industry in the late-nineteenth century, pianofortes had been a social symbol in bourgeois Britain since a century prior.¹⁴ Pleasure and training in the arts formed the centre of a cultural life, which profited musicians and piano makers. Women particularly were drawn to domestic music making, raising demands for more piano literature, e.g., piano reductions from orchestral suites and popular

¹¹ In 1886, Blüthner constructed pianos in the 'American model' upon suggestion from their agents in Boston. H. S. Ruggles, 'European pianos in America', *MOMTR*, 9: 101 (February 1886), p. 246.

¹² Cyril Ehrlich argued that German manufacturers succeeded because they were able to fulfil customers' wants, and supplied pianos to the 'uneducated masses' in the colony for future prosperity. Cyril Ehrlich, *The piano: a history* (Oxford: Clarendon Press, 1990), pp. 86–87.

¹³ Uli Molsen, *Die Geschichte des Klavierspiels in historischen Zitaten: von den Anfängen des Hammerklaviers bis Brahms* (Balingen: Musik-Verlag, 1982), p. 82. Said by Eduard Hanslick, found in E. Hanslick, *Musikalisches Skizzenbuch*.

¹⁴ Cyril Ehrlich, *The music profession in Britain since the eighteenth century, a social history* (Oxford: Clarendon Press, 1985), p.102. For more studies on piano in domestic Britain in the late Eighteenth / early nineteenth century, see Roy Johnston, 'That domestic and long-suffering instrument: the piano boom in nineteenth century Belfast' in Therese Marie Ellsworth and Susan Wollenberg (ed.) *The piano in nineteenth-century British culture: instruments, performers and repertoire* (Aldershot: Hampshire, Burlington: Ashgate, c2007), pp. 13–31. Also see Leon Plantinga, 'The piano and the nineteenth century' in R. Larry Todd (ed.) *Nineteenth-century piano music* (New York: Schirmer Books, 1990), pp. 1–15.

opera tunes fit to be played at home for personal entertainment.¹⁵ Interest in the piano as an instrument in homes also elevated its status in salons and public concert halls, resulting in the rise of piano virtuosis.

The great demand for pianos in Britain throughout the nineteenth century led to a growing number of piano firms. The most reputable amongst the English brands was Broadwood & Sons. The company still survives to the present day with more than 150 years of history. The founder, John Broadwood (1732-1812), officially named the firm 'Broadwood' in 1771 upon the retirement of Burkhardt Tschudi (1702-1773).¹⁶ In 1783, Broadwood began the manufacture of grand pianos. During this time, Jacob Kirkman (1710-1792) was Broadwood's biggest competitor. Though Kirkman earned his reputation from making harpsichords, he like other harpsichord makers in London turned to making pianos in the last quarter of the eighteenth century. Other early makers included émigrés from Germany, Johann Christoph Zumpe (1726-1790), Johannes Pohlmann (*fl* 1767-1793) and Americus Backers (*d* 1778).¹⁷ The French maker, Sebastian Érard (1752-1831), also established his factory in London during the French Revolution, and managed his premises on both sides of the English Channel. Collard & Collard's origin can be traced back to Longman & Broderip in 1767, but the firm's reputation grew only in the nineteenth century upon the input of several distinguished individuals: the pianist Muzio Clementi (1752-1832), the innovations of Frederick William Collard (1772-1860), and the management of Charles Lukey Collard (1807-1891), the last of whom became the sole owner from 1859. The founder of the firm Challen was Thomas Butcher (*fl* 1804-1847) in 1804, and William Challen (*d* 1861) joined in 1816.¹⁸ John Hopkinson (1811-1886) established J. & J. Hopkinson firm first in Leeds in 1836, and in 1846 moved its premises to London. John Brinsmead (1837-1908) started his firm in 1837.

The British piano industry reached its peak around the middle of the nineteenth century. In 1851, piano production in England was estimated to be about 23,000, of which 1,500 were grand pianos.¹⁹ This was by far greater than anywhere else in the world. However, by 1870, the United States had almost caught up with England in terms of the number of pianos manufactured, and

¹⁵ The importance of playing pianos for middle class females was emphasized in the works of Loesser and Parakilas. Arthur Loesser, *Men, women, and pianos: a social history* (New York: Dover Publications, 1990); James Parakilas and E. Douglas Bomberger, *Piano roles: three hundred years of life with the piano* (New Haven, London: Yale University Press, 1999).

¹⁶ John Broadwood worked under Tschudi from 1761, who later became his father-in-law and partner in 1869. Arthur W. J. G. Ord-Hume, 'Broadwood & Sons, John' in Robert Palmieri (ed.) *The piano, an encyclopedia* (Second edition: New York: Routledge, 2015), pp. 57–60.

¹⁷ The wave of German émigrés was a result of the Seven Years' War (1756–1763), as businesses no longer prospered in Saxony, while London was burgeoning in musical life.

¹⁸ William Challen became the sole owner in 1830, and from then the firm was known as Challen.

¹⁹ Ingbert Blüthner-Haessler, *Von Leipzig nach London, Blüthner und das Pianoforte (ca. 1850–1914)* (Stuttgart: Steiner, 2012), p. 46.

France and Germany were not far behind. Production of English pianos continued at a slower rate for the remainder of the century; although Britain was still ahead of France in piano production around 1910, it was already far overtaken by Germany and the United States, [Table 2, p. 25].

By the late-nineteenth century, Britain's foothold in the piano market began to lose its competitive edge due to two factors. Firstly, unlike their transatlantic colleagues who incorporated technology in their piano making, most English firms held attachments to their traditions and patent laws and abstained from making technological discoveries. Secondly, the English kept to labour-intensive work rather than relying on the use of machinery, which slowed down their productivity rates.²⁰ In Germany and the United States, machines reduced the cost of making parts. For English manufacturers, their strategies depended on a large supply network and cheap workforce.²¹ As a result, an increasing number of manufacturers turned to specialise in making piano parts, such as iron plates, hammers, and strings.²² Certain parts, such as the wrest pins, (and eventually, piano actions), were unobtainable domestically. In addition, Britain did not produce any raw materials. This was not so problematic in earlier decades, as Free Trade enabled British firms to acquire imported parts or raw materials at a substantial cost. However, the scheme became less profitable when foreign pianos became more affordable than pianos produced domestically.²³

The predominant threat to the British piano industry did not come so much from America or France, but from Germany.²⁴ In spite of such pressure, a large number of English piano firms were still in operation at the end of the century. In 1887, the *Piano, Organ and Music Trades Journal* recorded there to be one hundred and twenty makers in London alone, though only nine firms made grand pianos: Broadwood, Erard, Collard, Hopkinson, Brinsmead, Kirkman, Pohlman, Wornum, and Muir Smith.²⁵ As the firms were capable of producing grand pianos, they were regarded as elite firms, and tasked with leading the rest of the trade in Britain. From the 1880s, British firms would frequently meet to exchange ideas and enforce regulations, the chair of the meetings being usually a representative from one of the elite firms.²⁶

²⁰ Blüthner-Haessler, *Von Leipzig nach London*, p. 51.

²¹ Erlich, *The piano*, p. 39.

²² Dolge, *Pianos and their makers*, vol. 1, pp. 120–128.

²³ David Wainwright, *The piano makers* (London: Hutchinson & Co. Ltd., 1975), p. 150.

²⁴ Some German firms set up their own distribution houses in London, including Bechstein (London showroom in 1879, Bechstein Hall in 1901), and Blüthner (London showroom in 1896).

²⁵ 'Preconception of names to sound qualities of piano', *POMTJ*, 6: 56 (March 1887), p. 241.

²⁶ One example of their meetings was the 'British musical instrument trades association', held on 19 January 1892, with a cohort of 140 firms. 'Musical instrument trades association', *MOMTR*, 15: 172 (February 1892), p. 204.

The increase reliance on trade meetings to dictate improvements in piano designs resulted in the setting of conventional practices, whilst replacing the tradition methods of acquiring design inspirations through musicians and pianists.²⁷ The majority of British elite firms were regarded to be ‘conservative’, as they had resisted change in piano design and technology, and relied on their own long-standing establishments and patriotic customers.²⁸ Broadwood pianos remained stagnant until almost the end of the century as the leader of the firm Henry Fowler had objected to modernisation.²⁹ It was only after his death in 1893 that the firm proceeded with rescaling Broadwood instruments to longer string lengths for middle and treble octaves, which finally replaced the outdated old scale designs from the 1850s. John Collard also advocated for resistance to change, arguing that the firm was not conservative but that the claims of superior foreign innovations were misleading: ‘It is not true that the leading European manufacturers have all adopted the over-strung system. They do not believe in the over-strung system. They only manufacture over-strung pianos when they are compelled to do so to supply the demand, which is limited’.³⁰ Collard’s remark in 1888 revealed Britain’s strong resistance against over-stringing, which by this time was already a common feature found in foreign firms. Yet, only a decade later, British elite firms including Collard & Collard were all over-stringing their pianos.

John Brinsmead’s practices differed from the rest of the British elite firms. Brinsmead was not popular amongst his English peers, despite foreigners perceiving Brinsmead as progressive amongst the conservative of his English colleagues. Brinsmead generally performed better at exhibitions abroad rather than in his hometown. At the 1885 London Inventions Exhibition, the German press *ZFI* thought that Brinsmead deserved more than just a silver medal, as they were awarded the same rank as Chappell & Co, the pianos of which the *ZFI* reviewer believed produced ‘far outdated’ tone.³¹ However, it is questionable how good of a brand Brinsmead was, as Cyril Ehrlich thought Brinsmead was no more than a ‘medium-class manufacturer’.³² The large

²⁷ As criticised by Cyril Ehrlich, the British elite firms had neglected the ‘close relationships with musicians and craftsmen, which their predecessors had carefully nurtured’. Ehrlich, *The piano*, p. 43.

²⁸ For this reason, a number of them ceased business towards the end of the era; Kirkman in 1896, and Wornum in 1900. Pohlmann had already its termination in 1881, and Collard was sold to Chappell in 1929. Rosamond, E. M. Harding, *The piano-forte: its history traced to the Great Exhibition of 1851* (Old Woking, Surrey: Gresham, 1977), appendix G, p. 425. Arthur W. J. G. Ord-Hume, ‘Kirkman, Jacob, and family’ in Palmieri (ed.) *The piano*, pp. 211–212. Arthur W. J. G. Ord-Hume, ‘Pohlmann, Johannes’ in Palmieri (ed.) *The piano*, pp. 304–305.

²⁹ Alastair Laurence, *The Broadwood Barless piano, a history* (Skipton: Pioneer Press, 2004), p. 16.

³⁰ ‘Trade jottings & notes’, *MOMTR*, 11: 126 (March 1888), pp. 276–277.

³¹ ‘At least look at renowned instruments in England, the sound effect according to German terms is far outdated by our powerful German and American concert grand pianos.’ The original in German: ‘Immerhin in England renommierten Instrumente betrachten, deren Klangwirkung nach deutschen Begriffen von unseren mächtigen deutschen und amerikanischen Concert Flügeln weit **überholt ist.**’ ‘Die Internationale Erfindung- und Musik-Ausstellung in London 1885’, *ZFI*, 5 (1884/85), pp. 349–350.

³² Ehrlich, *The piano*, pp. 148–149.

proportion of reviews about Brinsmead pianos were a product of the firm's own self-aggrandisement, for example, Edgar Brinsmead's *History of Pianoforte* (1879), in which he presented his company in a transfiguring light, and acknowledged only Steinways as their equals. In advertisements, as seen in *The school music review* (1895), Brinsmead boldly promoted their pianos as 'the perfection of tone, touch, and durability', whereas most British firms were modest in their advertising efforts.³³ In fact, Brinsmead was involved in a scandal in 1892, the firm being accused of engaging an advertising agent who was paid around £16,000 from 1880 to 1887 to manipulate the press.³⁴

1.1.2 France

The period of most success for the French piano industry was in the first half of the nineteenth century. Prior to 1770, most pianos heard in Paris were English imports. Sebastian Érard (1752-1831), France's highly esteemed piano-maker, built his first grand in 1796 after his return to Paris from London. The most acclaimed patent of Erard's was the repetition grand action with double escapement in 1821, which became the prototype of actions found in today's pianos. A number of French piano virtuosi preferred Erard pianos, namely Franz Liszt and Sigismond Thalberg. In 1831, the firm was passed onto Sebastian's nephew, Pierre Érard (1794-1855). Following Pierre's death, his widow continued the business, before passing it onto Amédée Blondel and his nephew (the Count de Franqueville). In 1890, Erard ceased trading in their London branch at Great Portland Street.

Ignaz Pleyel (1757-1831), the second biggest piano-maker in France, and likely the only rival to Erard, began his firm in 1807. Pleyel was a trained musician and composer and undertook apprenticeship at Broadwood during his time in London. His son, Camille Pleyel (1792-1855) joined the factory in 1824. In the first half of the nineteenth century, Pleyel pianos were preferred by the pianists Frederic Kalkbrenner and Frederic Chopin. After 1850, the company was taken over by Auguste Wolff, and the construction of instruments was modernized, but production procedures relied mostly on craftsmanship. Gustave Lyon (1857-1936), an acoustician, joined the company in 1887. According to Frederic Ehrbar, Lyon upturned Pleyel pianos to 'modernity'.³⁵ It was only after 1890 that Pleyel updated their machines and limited their models to building only

³³ See Appendix A: Advertisements for examples of piano firm advertisements.

³⁴ Ehrlich, *The piano*, pp. 148–149. Original source: 'The Brinsmead advertising case', *London and provincial music trades' review* (15 February 1892), pp. 25–33, the article which was continued in the proceeding issue: 'The Brinsmead advertising case', *London and provincial music trades' review* (15 March 1892), p. 18.

³⁵ 'Amtlicher Bericht des österreichisch-ungarischen General-Commissariates über die Musikinstrumente auf der Pariser Weltausstellung 1900', *ZfI*, 21 (1900/01), pp. 802–803.

grand pianos. The double grand piano (two facing grand pianos in one case) was one of the new kinds of instruments manufactured under Lyon's directions.

Other leading French firms of the nineteenth century included Pape (founded in 1815), Herz (founded in 1825 with Klepfer, and became solely Herz in 1851), Boisselot & Fils (1831), Kriegelstein (1831), A. Bord (1843), and Gaveau (1847).³⁶ With the exception of Boisselot, all the above firms were located in Paris, and were amongst the 180 piano firms recorded in the year 1847. Gaveau became the third largest piano firm in France but achieved their standing through making upright pianos. Their success, as Ehrlich observed, relied on commercial schemes rather than the instruments' own intrinsic qualities. In 1904, Gaveau had promised Arthur Rubinstein for his Paris debut a piano as good as Bechstein, as Rubinstein had thought Erard's action was offset by 'tinny' sound, and Pleyel's tone was lovely but inadequate for a modern concert hall. In the end, the pianist was unsatisfied and felt 'handicapped' by the Gaveau's inadequate power and lack of sparkle.³⁷

Fewer French piano firms were established after 1870, as export numbers declined in the latter half of the nineteenth century. Markets abroad, such as in England and Australia, succumbed to German makers.³⁸ Ehrlich observed that Erard sold at most 78,000 pianos between 1870 to 1914, while Bechstein sold about 106,000, and Blüthner, 85,000.³⁹ Experiencing the same fate as Britain, the regression of French piano production after 1850 was primarily due to three factors: their negligence of machinery; their aversion to innovation; and their disinclination to adopt new sales strategies. The majority of France's innovation took place before 1850, e.g. Erard's double escapement action (1821), Pleyel's cast-iron frame (1825), Bord's *capo tasto* (1843), Boisselot's sostenuto pedal (1844), and Herz-Erard double escapement grand action (1850). Erard, the vanguard of conservatism, believed that pianos had reached perfection by the 1840s, and apart from 'superficial improvements, no further change was desirable'.⁴⁰

³⁶ The listed companies were owned and founded by Jean-Henri Pape (1780-1875), Jean-Baptiste-Louis Boisselot (1782-1847), Jean Georges Kriegelstein (1790-1865), Antoine-Jean Denis Bord (1814-1888), and Joseph Gabriel Gaveau (b1847). By the late-nineteenth century, these firms were managed under their descendants: Xavier Boisselot managed the firm until his death in 1893; Charles Kriegelstein oversaw the firm from 1858, and his son Georges Kriegelstein continued production until 1922. No descendants of Antoine Bord took over the company after his death, but the firm was taken over by Pleyel in 1934. In 1893, Joseph Gaveau passed the company to his sons, Gabriel and Étienne Gaveau. Charles Timbrell, 'France – Piano Industry' in Palmieri (ed.) *The piano*, pp. 143–144.

³⁷ Ehrlich, *The piano*, p. 122. Original source in A. Rubinstein, *My young years* (London: Jonathan Cape, 1973), pp. 128–134.

³⁸ Blüthner-Haessler, *Von Leipzig nach London*, p. 58.

³⁹ Ehrlich, *The piano*, p. 111.

⁴⁰ Ehrlich, *The piano*, p. 112. Original source in *Le monde musical* (30 August 1894).

One of the main reasons for firms to stay 'conservative' was the consideration of the economy, i.e. the running cost of their business. The leading British and French firms around 1880 were longer in establishment than those in Germany and the United States, and a change to facilities and machines would be very costly.⁴¹ The French piano industry also had tighter restrictions on trade strategies, as all piano firms were under the umbrella organisation of *Chambre syndicale à instrumente de musique*.⁴² French firms were insouciant about exhibiting abroad, and showed little interest in foreign ingenuity, a predisposition felt by both juries and contestants at exhibitions in the late nineteenth century. Furthermore, as observed by German onlookers, British and French firms were at times too modest when it came to advertising, as they thought it would undermine prestige.⁴³ With the exception of Erard, local advertising mostly comprised of advertisements from minor firms. In addition, there was no agency system in France: if a buyer wanted a piano, and no showroom was in close proximity, he could not instruct an exclusive representative to make the order, but instead had to go to the dealer and see what pianos were available. The absence of purchasing agents had devitalised the trade economy, as it removed the element of wholesale both nationally and internationally.⁴⁴ This contrasted with the unapologetic and bold attitude shown by the American and German firms, who would place large placards next to their pianos in recitals at concerts and exhibition events, and invested in advertising in newspapers both local and abroad.⁴⁵

Although French piano exports declined in numbers, the French firms' monopoly of the national market remained steadfast. The French piano industry was protected by their state and society. High import duties suppressed the infiltration of foreign firms. In public concerts, only French instruments could be used. Most eminent manufacturers, including Erard, Herz, Pape, and Pleyel, hosted musical events in their salons to promote their own brands.⁴⁶ French-branded

⁴¹ David Wainwright, *Broadwood by appointment* (London: Quiller, 1982), pp. 188–190.

⁴² In 1853, two separate organisations had been established in Paris, the 'Chambre Syndicale of Manufacturers of Piano' and 'Chambre Syndicale of Manufacturers of Musical instruments'. These two merged as one to form the 'Chambre Syndicale of manufacturers of musical instruments' in 1889, being firstly presided by J. Thibouville-Lamy until 1896 and continued by Gustave Lyon into the twentieth century. Dolge, *Pianos and their makers*, vol. 2, p. 405.

⁴³ Blüthner-Haessler, *Von Leipzig nach London*, p. 60.

⁴⁴ 'The Paris piano trade viewed through American spectacles', *MOMTR*, 15: 180 (September 1892), pp. 779–780. Original report from *The Musical Courier*.

⁴⁵ One frequent cited example is Hans von Bülow's slightly comical overthrow of Chickering's placard at his concert in Baltimore, and exclaiming: 'I am not a travelling advertisement!' R. Allen Lott, *From Paris to Peoria: how European piano virtuosos brought classical music to the American heartland* (Oxford: Oxford University Press, 2003), pp. 257–258. Further advertising strategies are discussed in Chapter 2 Piano Tones on Exhibit, and Chapter 3 Piano Tones in Concert.

⁴⁶ Pleyel in the rue Rochechouart, Erard in the rue du Mail, and Herz in the rues de la Victoire. Florence Gétéreau, *Chopin e il suono di Pleyel. Arte e musica nella Parigi romantica (Chopin and the Pleyel sound: art and music in romantic Paris)* (Briosco (Milano): Villa Medici Giuliani, 2010), p. 49. According to Loesser, Pleyel

pianos were also the sole types of piano in the Paris Conservatoire. Although French pianos were imposed on native musicians, French brands fell out of favour with most foreign musicians by the turn of the century. Ignacy Jan Paderewski (1860–1940), a Polish pianist who once claimed that Erard had made the world’s finest pianos, had this to say after playing an American Steinway: ‘A real master of Erard can make it sing, but a Steinway is always singing, no matter who plays it.’⁴⁷ Even French composers, such as Claude Debussy, turned his liking towards German brands, and acquired his own Blüthner to be shipped from Jersey in 1904.⁴⁸

1.1.3 Germany

As observed by Sonja Petersen, the success of the German piano industry had proliferated from the middle of the nineteenth century.⁴⁹ The prevailing reasons for its success was in its willingness and ability to adapt to the latest technology, the continual promotion of catalogues nationally and internationally, and the backing of prestigious German musicians. Prior to the formation of the German piano industry, pianofortes in Germany were made either in England or France. The English firms exported fewer pianos compared to the French, despite the French pianos selling at a higher price.⁵⁰ In 1794, Rudolph Ibach Sohn founded the first piano factory in Barmen. Other early German makers included W. Ritmüller in Gottingen (1795), Ernst Rosenkranz in Dresden (1797), Schiedmayer in Stuttgart (1809), and Heinrich Steinweg in Seesen (1835).⁵¹

According to Wainwright’s account, more than 200 piano factories had started in Germany between 1850 and 1890.⁵² Production of German pianos, which was fewer than 15,000 in 1870,

Hall held about 300 persons, with an additional fifty on popular demand. Erard’s and Herz’ Halls could accommodate 400 each. Loesser, *Men, women and pianos*, p. 378.

⁴⁷ Quote found in Ehrlich, *The piano*, p. 114. However, Paderewski was still using Erard pianos for his concerts in Europe after his American tour.

⁴⁸ Debussy’s Blüthner is currently at the Musée Labenche in Brieve-la-Gaillarde, France. For more on how Debussy acquired the piano, and the speculative theories as to whether or not Debussy did get the piano during his stay in Jersey in 1904, please see Diane Enget Moore, ‘Debussy’s Blüthner grand piano’, <http://www.litart.co.uk/bluthner.htm>, consulted 19 March 2020.

⁴⁹ Sonja Petersen, ‘Piano manufacturing between craft and industry: advertising and image cultivation of early 20th century German piano production’, *Icon*, 17 (2011), pp. 12–30.

⁵⁰ Ehrlich, *The piano*, p. 46.

⁵¹ The Schiedmayer family has had a longstanding reputation for making clavichords, harpsichords, and pianos since eighteenth-century Bavaria. Johann Lorenz Schiedmayer (1786-1860) co-founded the firm, and then called ‘Dieudonné & Schiedmayer’. In 1845, Schiedmayer became the sole owner, and the firm became Schiedmayer & Söhne when two of his sons (Adolf and Hermann) joined as partners. His two other sons, Julius (1822-1878) and Paul (1829-1890) formed their own factory in 1853, naming their firm J. & P. Schiedmayer. In 1860, the name J. & P. Schiedmayer was changed to Schiedmayer Pianofortefabrik. Heinrich Steinweg, also known as Henry Steinway, founded Steinway in New York. Martha Novak Clinkscale, ‘Schiedmayer’ in Palmieri (ed.) *The piano*, p. 345.

⁵² Wainwright, *The piano makers*, p. 122.

had risen to 70,000 by 1890.⁵³ The initial centres of piano production were in Leipzig, Dresden, and Stuttgart, and later expanded to Zeitz and Berlin. Beyond these areas, pianos were rarely available: in 1873, Amy Fay complained that there were no pianos in Weimar, and had to go to Erfurt and Leipzig to find a piano: ‘even that was sent to me only after much persuasion’.⁵⁴

The two most prestigious German firms were founded in 1853; Bechstein in Berlin and Blüthner in Leipzig. The founder of Bechstein was Friedrich Wilhelm Carl Bechstein (1826-1900). Prior to the firm’s establishment, Carl worked as an apprentice at the Perau firm in Hausvogteiplatz in 1848, and for Kriegelstein and Pape in Paris from 1849 to 1852.⁵⁵ Bechstein’s intention was to build the truly modern piano, upon witnessing the breaking of strings in an Erard piano at Franz Liszt’s concert in Berlin, 1856.⁵⁶ The company’s first success was marked a year later by Hans von Bülow’s performance of Liszt’s B minor Sonata. Hans von Bülow (1830-1894) became the most faithful Bechstein artist; his vision was to ‘service [Bechstein] in establishing a reputation throughout Germany’.⁵⁷ Aside from his American tours, Bülow used mainly Bechstein pianos sent for his concerts, in Amsterdam, Britain, Italy, Vienna, and Russia. The firm held close associations with German music and musicians. In 1892, at the opening of Bechstein-Saal in Berlin, the inaugurated concert featured distinguished musicians of this time, including Bülow, Johannes Brahms, Joseph Joachim, and Anton Rubinstein.⁵⁸

Julius Blüthner (1824-1910), the founder of Blüthner, worked formerly as a cabinetmaker and apprentice to Hölling and Spangenburg in Zeitz. It was believed that Julius tested every Blüthner himself, a task that was passed in later years onto his sons Max, Robert, and Bruno.⁵⁹ In Blüthner’s earlier years, only grand pianos were made.⁶⁰ The recommendations from musicians enhanced the value of Blüthner pianos. Their first piano sold was to a piano professor from Leipzig University, who quickly promoted the brand amongst his circle.⁶¹ Ignaz Moscheles and Alfred Jaëll

⁵³ Ehrlich, *The piano*, p. 221.

⁵⁴ Amy Fay recounts her memories as a student in Germany. Amy Fay, *Music-study in Germany: from the home correspondence of Amy Fay / [preface by George Grove]* (London: Macmillan, 1886), p. 206.

⁵⁵ C. Bechstein built establishments with many artists during his time at Perau’s workshop. C. Bechstein Pianofortefabrik Aktiengesellschaft and Berenice Küpper (ed.) *The world of pianos: fascination with an instrument* (Berlin: Nicolai, 2003), p. 100.

⁵⁶ *Ibid*, p. 104.

⁵⁷ Dieter Hildenbradt, *Pianoforte: social history of the piano*, introduction by Anthony Burgess, translated by Harriet Goodman (London: Hutchinson, 1988), p. 141. Original quote in Richard du Moulin Eckart, *Hans von Bülow, Neue Briefe* (München: Drei Masken Verlag, 1927), p. 30.

⁵⁸ Sayuri Hatano, ‘Bechstein-Saal: a lost chamber music hall in Berlin’, *Journal of musicological research*, 36: 3 (2017), pp. 234–251.

⁵⁹ Bruno Blüthner gained experience working under Chickering in America.

⁶⁰ It was not until 1863 that Blüthner started making upright pianos.

⁶¹ Ingbert Blüthner-Haessler, *Blüthner: 150 Jahre Pianofortebau (Edition company histories)* (Leipzig: Leipziger Verlagsgesellschaft, 2003), p. 27.

played Blüthner pianos at the *Tonkünstler-Versammlung* (Musicians Assembly) of 1859.⁶²

Blüthner's concert hall in Leipzig opened in 1868, where many pianists held their debuts, including Alexander Siloti, a pupil of Liszt and later a teacher of Rachmaninov.⁶³ Julius Blüthner supplied pianos to the Leipzig Conservatoire to make young artists familiar with the brand.⁶⁴ Blüthner was also the purveyor to several royal houses, particularly between the years 1880 and 1910.⁶⁵ Blüthner's most famed invention was the aliquot scaling patented in 1872.⁶⁶ In addition to his active participation and winning glories in world exhibitions, Blüthner had press privileges. In the 1860s, Franz Brendel, the editor for *Neue Zeitschrift für Musik*, was especially fond of Blüthner pianos. In 1872, Blüthner published a manual and history of piano making, which became an important source for piano building, as there was yet no systematic training as a piano builder in Germany.⁶⁷ In the 1880s, Blüthner's former employee, Oskar Shysters, became one of the editors for *Zeitschrift für Instrumentenbau*.

In addition to Bechstein and Blüthner, a handful of German piano firms also made grand pianos: Ibach Sohn (founded in 1794), Kaps (1858), Lipp & Son (founded in 1831), Carl Mand (founded in 1835), Schiedmayer Pianofabrik, and Schiedmayer & Sons amongst others.⁶⁸ The large corpus called for associations, for instance, the Association of Piano Manufacturers in Leipzig from 1893, presided by Adolf Schiedmayer.⁶⁹ Some firms achieved publicity through supplying pianos to famous musicians, such as Richard Wagner's Ibach grand piano, and Percy Grainger's upright Kaps.⁷⁰ In return, the firms received testimonials, such as praise from Wagner for receiving the Ibach piano: 'you have certainly hit, in choosing from your excellent instruments, that which is

⁶² The organisers, Franz Liszt and Franz Brendel, met for the purpose to establish an 'Allgemeiner Deutscher Musikverein' (General German music association) in formulating principles of the 'New German school of music'. The association began in 1861, and devised both lectures and musical works for the *Tonkünstler-Versammlung*. Blüthner-Haessler, *Von Leipzig nach London*, p. 121.

⁶³ Both Liszt and Siloti, and later Rachmaninov, appreciated the Blüthner instruments and put forward their testimonies.

⁶⁴ 'Personal und Geschäftsnotizen', *ZfI*, 5 (1884/85), p. 287.

⁶⁵ Including the Emperor of Austria, Russia, and King of Denmark, Greece, Hungary, and Romania. A longer list can be found in Blüthner-Haessler, *Von Leipzig nach London*, p. 218.

⁶⁶ More detail on the Blüthner's aliquot can be found later in this chapter under 1.2.3 Strings.

⁶⁷ Official centres of training for piano builders began as late as 1936 in Germany. Blüthner-Haessler, *von Leipzig nach London*, p. 131.

⁶⁸ The above mentioned companies were owned and managed respectively by Rudolf Ibach (1843-1892), Ernest Kaps (1826-1887), Richard & John Lipp, Carl Mand (1811-1892), and for Schiedmayer, see earlier in the chapter under footnote 51.

⁶⁹ Dolge, *pianos and their makers*, vol. 2, p. 408. Alfred Dolge also included in his list the Church Organ Builders (1895), Musical Instrument makers (1897), and Piano Dealers (1899).

⁷⁰ The Ibach grand belonging to Wagner is housed in the Richard-Wagner-Museum, Bayreuth. Grainger's Kaps upright is at the Museum collection, University of Melbourne.

most suitable for me. My musical frame of mind is now thoroughly mild, and disinclined to whatever is shrill'.⁷¹

Compared to other nations during this period, the German piano industry succeeded in building their international profiles. Firms achieved recognition through world exhibitions, both through exhibiting pianos, and having their chief executives on the jury panel.⁷² Following their successes in international exhibitions, German firms outstripped the British in the Australian market and the French in Dutch territories.⁷³ As Paul de Wit observed in 1900, Germany, from a small industry had by then become one of the most important and world-renowned piano-making nations, outputting about 80,000 instruments annually.⁷⁴ Of the large number of pianos manufactured, only half were sold domestically, while the other half were exported. One of the first German firms to have pianos exported overseas was Rönisch; their pianos were sent to Southern Africa, California, Mexico, Australia, the East Indies, and all the English colonies.⁷⁵ The German piano industry also benefited from the annexed territories during this epoch, such as Cameroon, where Ibach had sent pianos.⁷⁶

1.1.4 United States

The critical role that the American piano industry played in the history of the piano, according to Craig H. Roell, was in pioneering business strategies.⁷⁷ Until the late 1820s, the majority of instruments sold in the United States were still being imported from abroad. However, this was not sustainable, as European pianos were not made to withstand the extremes of weather that plagued in most parts of the country.⁷⁸ One of the foremost American pianoforte

⁷¹ The piano, which I believe is the same as the one currently at the Richard-Wagner-Museum, was sent to Wagner by Ibach in 1883. The piano had a particularly mellow tone. 'Musical notes', *The monthly Musical Record*, 13:147 (March 1883), p. 72.

⁷² The relevance of exhibitions, which had accelerated the exchanging process of the 'ideal tone' in a global context, is analysed in detail in Chapter Two.

⁷³ For more discussion on how Germany obtained success in international markets through exhibitions, please see Chapter 2 Piano Tones on Exhibit.

⁷⁴ Paul de Wit, *International Exposition 1900 Paris official catalogue, exhibition of the German Empire* (Berlin: Imperial Commission, 1900), pp 150-153.

⁷⁵ <http://www.roenisch-pianos.de/en/about-roenisch.html>, consulted on 2 October 2019.

⁷⁶ 'Trade jottings & notes', *MOMTR*, 8: 94 (July 1885), p. 514. From 1884 to 1916, Kamerun was an African colony of the German empire.

⁷⁷ Craig H. Roell, 'United States – piano industry' in Palmieri (ed.) *The piano*, pp. 423–427, quote in p. 423.

⁷⁸ 'With the exception of our extreme Southern States and a portion of the pacific Coast, we have a climate showing great extremes of heat and cold, and dampness and dryness. Our winters are characterized by sudden changes of temperature, sometimes reaching (in our northern cities, east and west) a point below twenty-five degrees below zero (Fahrenheit). In summer, the mercury frequently climbs above one hundred in the shade in the same cities. The spring and autumn months are very wet, and the summer invariably dry, so that after the middle of July our lawns are everywhere burned up.' H. S. Ruggles, 'European pianos in America', *MOMTR*, 9: 101 (February 1886), p. 246.

makers was Jonas Chickering (1798–1853). Early productions were slow and sparse: Boston's Franklin Music Manufacturer averaged two pianos per week in 1819. Chickering raised the production numbers significantly, which resulted in his eventual monopoly of the United States market by the mid-nineteenth century, so much so that in 1852, approximately one in every nine pianos of the 9,000 pianos produced nationwide was manufactured by Chickering's Boston-based firm. One of Chickering's key designs was the complete cast-iron frame, which he patented in his grand (no. 3238) in 1843. The cast-iron frame was not only cost efficient, but offered a practical, long-term solution to problems of stability in the American climate.

The German revolutions of 1848 to 1849 caused an influx of German piano manufacturers and musicians to migrate to the United States.⁷⁹ One of the most distinguished piano manufacturer was Henri Steinweg (Henry Steinway), who founded Steinway in 1853.⁸⁰ From its establishment, the company was quick in building its reputation. Within a decade, Steinway became only second to Chickering & Sons in the United States, and gradually surpassed it to take first place at the end of the century. Steinway thrived in innovation and design from the 1850s to 1880s: the number of patents by Theodore Steinway (Henry Steinway's son) alone was around forty.⁸¹ Amongst Steinway's patents, the three most known and widely adopted were: 1) the cross-stringing in grands patented by Henry Steinway in 1859, 2) the *Duplex Scale* by his son Theodore Steinway in 1872, and 3) the *Sostenuto Pedal* in 1874.

While Theodore Steinway led the design aspects of production, his brother, William managed the business. William was preoccupied with politics and charities: he acquired land and property in Astoria, New York, started a tramline and a ferry, and was a co-founder of the district gas company.⁸² His wide associations went as far as being a friend to Grover Cleveland, hence a Steinway piano bestowed to the President upon his marriage.⁸³ The Steinway brothers also remained in contact with leading musicians in Europe, thus were able to persuade them to make American tours. Arthur Rubinstein was one of the pianists who held exclusive contracts with Steinway for his American tour in 1872. Not only was the firm committed in sending pianos for

⁷⁹ 'It may be conceded to the Americans that without the German element the American pianoforte industry would never have attained its present high position. The Teuton representatives of this art indeed, were those who helped to secure respect for the German name in this country. Names like Steinway, Knabe, Weber, Decker, Gabler, Stieff, & c., are honourably known throughout the whole Union.' 'Mr. Dolge on the music trade of the United States', *MOMTR*, 4: 46 (July 1881), pp. 375–376.

⁸⁰ The name Steinway & Sons only came later when Henry's sons had joined the business.

⁸¹ Edwin M. Good, 'Steinway & Sons' in Palmieri (ed.) *The piano*, pp. 377–381.

⁸² Wainwright, *The piano makers*, p. 98.

⁸³ Steinway has gifted pianos to the White House from time to time. The most famous is the Steinway grand piano with gilt American eagle supports, presented to the White House in 1938. 'The White House museum', <http://www.whitehousemuseum.org/furnishings/piano.htm>, consulted on 11 December 2020.

pianists on tour, but tuners were also provided in their entourages.⁸⁴ Outside of America, Steinway was able to profit from the European market due to the branching out of the Hamburg Steinway factory in 1880. This factory assembled parts supplied from Astoria, so pianos could be exported to Europe at a cheaper cost. Edwin Good observed that the products from Hamburg were only subtly different from New York Steinway, the Hamburg Steinway being smoother and less brilliant in sound.⁸⁵ In 1890, Steinway received its first Royal Warrant, and sales to royal patrons were boosted, including to Queen Victoria, and to the Prince and Princess of Wales.

Besides Steinway and Chickering, other American brands emerged in the late-nineteenth century, though their success were limited, being of national rather than international influence. The manufacturing of pianos in the United States was initially confined to four cities: New York, Boston, Baltimore, and Philadelphia. It then expanded to include Chicago and other larger cities.⁸⁶ The pianos of Knabes & Company (founded 1839) in New York were commonly seen on concert platforms. In 1889, Hans von Bülow exclusively used Knabes pianos in his North American tour, and in 1891, Knabes hosted Tchaikovsky in his concert in Carnegie Hall New York and Baltimore.⁸⁷ The Weber Piano Company (founded in 1852) thrived in Chicago from the 1880s, having its own showrooms and concert halls.⁸⁸ Mason & Hamlin (founded in 1854) of Boston, built their success on organ making, and only started making pianos in 1883. Mason & Hamlin's innovations revolved around improving tuning stability, but the high costs in maintenance gained them the title of 'the costliest piano in the world'.⁸⁹ For this reason, one of their key designs, a stringing system, was discontinued in 1905. Kimball (founded in 1857), like Mason & Hamlin, having built their reputation through organ production, started making pianos in 1888. Kimball pianos came under the influence of Steinway and Bechstein because the company's two key technicians, Guricke and Peter Tapper, were respectively ex-employees of Steinway and trained at the Bechstein factory.⁹⁰ However, Kimball's philosophy was to sell pianos at an aggressively lower price, forgoing the pursuit of innovation in grand pianos.

Preferences in pianos differed amongst the states. According to H. S. Ruggles, Chickering & Sons was the most popular brand in 1883: 'in the Southern Atlantic States, the pianos of William

⁸⁴ 'Sending tuners out with a concert', *POMTJ*, 7: 92 (March 1890), p. 246.

⁸⁵ Good, 'Steinway & Sons', p. 379.

⁸⁶ William Steinway, 'American instruments', *MOMTR*, 19: 225 (June 1896), pp. 625–626.

⁸⁷ Philip Jamison III, 'Knabe & company' in Palmieri (ed) *The piano*, pp. 212–213.

⁸⁸ Edward E. Swenson, 'Weber piano company' in Palmieri (ed) *The piano*, pp. 445–446.

⁸⁹ James Howard Richard, 'Mason & Hamlin' in Palmieri (ed.) *The piano*, pp. 234–235.

⁹⁰ Guricke's first name is not known in any of the sources. James Howard Richards, 'Kimball piano and organ company' in Palmieri (ed.) *The piano*, pp. 208–210. Van Allen Bradley, *Music for the millions: the Kimball piano and organ story* (Chicago: H. Regnery co., 1957), p. 108.

Knabe are greatly esteemed... New York is the seat of the chief trade in Steinway pianos.⁹¹ In addition to Knabe, French pianos, such as those of Erard and Pleyel were favourable in the Southern States, since this region had relatively stable climates.⁹² American pianos were built to withstand tougher conditions. As raised by John Sullivan Dwight, a friend of Chickering, the Americans liked to have higher temperature set in their homes compared to the Europeans. Because of this, European pianos, particularly those from England or France, suffered from warm and dry atmospheres, since the wooden parts dried too quickly.⁹³ Therefore, American pianos were stronger built than the Europeans, and consequently the American tone was 'solid' with little 'sweetness':

In this country we prefer solidity of tone, still preserving its sweetness, to mere daintiness. This is in a great measure compelled by our climate, for we have to build the instrument so much more substantially.⁹⁴

1.1.5 Other centres

Alongside the large centres of concentrated piano making in the late-nineteenth century, the piano industry can be found in many other parts of the world.⁹⁵ In the last two decades of this period, the cosmopolitan display of pianos at exhibitions showed the enthusiasm of the trade [Table 3, p. 39], and at the same time, pianos embodied a cultural identity from their country of origin.⁹⁶ An example is the piano of William Ezold at the Sydney International Exhibition in 1879, where his pianoforte was titled 'a colonial-made pianoforte' in the *Illustrated Sydney News*.⁹⁷ Ezold's piano was hailed an 'evidence of progress in one of the fine arts within the colony'.⁹⁸ Where the resource allowed, the same practice for illuminating identity can be noticed in other cities which developed pianos attuned to its own tastes. Although not having a matching global influence as the firms in the four monopolist areas, firms from smaller sites sourced pianos to

⁹¹ Mr. Ruggles admitted that his opinion and knowledge was not based on research, 'as I have always resided in Massachusetts, my knowledge on the subject beyond the New England States is largely a matter of hearsay and general report.' H.S. Ruggles, 'The Steinway pianos: a reply', *MOMTR*, 6:72 (September 1883), p. 524.

⁹² 'Mr. Dolge on the pianoforte trade of America', *MOMTR*, 4: 43 (April 1881), p. 260.

⁹³ Edwin M. Good, *Giraffes, black dragons, and other pianos: a technological history from Cristofori to the modern concert grand* (Palo Alto: Stanford University Press, 1982), p. 190.

⁹⁴ 'The aesthetics of the piano case', *POMTJ*, 17: 213 (May 1900), p. 708.

⁹⁵ The European diversity was seen earlier at the International Exhibition of Vienna in 1873, with instruments from Belgium, Holland, Switzerland, Sweden, Norway, Denmark, Italy, and Spain. Ehrlich, *The piano*, p. 63.

⁹⁶ For more discussion on how the piano can viewed as a national object, please see 2.2.3 Pianos as unspoken objects.

⁹⁷ Kirby, *Exhibiting music: music and international exhibitions in the British Empire, 1870–1890* (Ph. D thesis, University of Melbourne, 2018), pp. 80–81, original source in 'A colonial-made pianoforte – Mr. Ezold's exhibit in the New South Wales gallery', *Illustrated Sydney news* (20 December 1879), p. 5.

⁹⁸ 'Sydney international exhibition', *Sydney morning herald* (15 October 1879), p. 3.

their communities, and made their own efforts to expand within their network. Amongst the better businesses were those from Belgium, Holland, Russia, and Vienna.

Table 3: Examples of piano firms at international exhibitions 1880 to 1904

Selected piano firms	Nationality
Berden & Cie J. Oor J. Günther	Belgium
Newcombe & Co. A. A. Barthelmes Dominion Organ and Piano Co.	Canada
Koch & Korselt	Czech Republic
Hals Brodrene Jenson Sören J. Emil Felumb	Denmark
A. Thék K. Dehmal	Hungary
M. J. Lieshout Van Kieshout & Zoon	Holland
G. Mola Antonino Mauro Brizzi et Nicolai Volpi & Co	Italy
Nippon Musical Instrument Manufacturing Company	Japan
Waner & Levien suces	Mexico
Milner & Thompson	New Zealand
J. Thoresen Brödener Hals	Norway
Ernesto-Victor Wagner	Portugal
Becker Schröder Diederich Lichtenthal Mühlbach	Russia
B. Cateura Brusco Guarro e hijos Paul Izabal	Spain
Rordorf et Cie J. Trost et Cie, Bieger, Rindlisbacher Hüni und Hübert	Switzerland

1.1.5.1 Amsterdam (Holland), Brussels (Belgium)

Piano firms from these two nations gained recognition through hosting exhibitions; for Belgium, the 1885 and 1894 Antwerp exhibitions, and for Holland, the 1883 exhibition in Amsterdam. Despite such efforts, their pianos were mostly used in local and nearby regions. Even their most distinguished brands were perceived as being only ‘average’.⁹⁹ The two most known Belgium firms were J. Oor and J. Günther.¹⁰⁰ Pianos of Günther were characterised by their powerful tone, while the pianos of J. Oor were thought to be weaker but gentler in tone.¹⁰¹ The production in Holland was less than in Belgium, and Dutch grand pianos were a rarity. Both Belgium and Dutch firms incorporated the use of foreign mechanisms; French and German piano actions tended to be used in Belgium-made pianos, while Dutch pianos mostly featured English actions.¹⁰²

⁹⁹ Pianos Esther, La plus ancienne maison de pianos de Wallonie, Agence Rönisch, *J’Oor et Lucien Oor, Manufactures de pianos fondées à Bruxelles*, http://www.pianosesther.be/Lucien_Oor.htm, consulted on 23 November 2019.

¹⁰⁰ Jean-Baptiste Oor (1846-1940) founded his factory in 1871, and Jacques-Noël Günther (1822–1868) founded his firm around 1845. Malou Haine and Nicolas Meeùs, *Dictionnaire des facteurs d’instruments de musique en Wallonie à Bruxelles du 9e siècle à nos jours* (Liège: Pierre Mardaga, 1986), pp. 314–316. Martha Novak Clinkscale, *Makers of the piano: 1820-1860* (Oxford: Oxford University Press, 1999), p. 165.

¹⁰¹ ‘Die Claviere auf der Colonial-Ausstellung in Amsterdam, Originalbericht von unserem Special-Berichterstatter, Nachdruck verboten’, *ZFI*, 4 (1883/84), pp. 5–6.

¹⁰² F. J. Hen, ‘Low countries – Piano industry’ in Palmieri (ed.) *The piano*, p. 227.

1.1.5.2 St. Petersburg (Russia)

Saint Petersburg was the main centre for piano making in Russia in the late-nineteenth century, where the firms Becker, Schröder, Diederich, Lichtenthal, and Mühlbach were founded.¹⁰³ One of the earliest makers was Freidrich Diederichs (1779-1846), who started his firm in 1810; from 1878, the firm was known as 'R. & A. Diederich Brothers'. Early forms of Diederich pianos resembled the Viennese pianos of the Streicher family, but their later products were both crossed-strung and straight-strung to appeal to varying tastes. Diederich pianos were regarded as less prominent compared to Becker and Schröder.¹⁰⁴ Schröder (Schroeder) was founded by Johann Friedrich Schröder (1785-1852) in 1818 and their business thrived for a hundred years. His son, Carl Michael Schröder, who succeeded, learnt his craft from his father and later worked for Pape, Henry Herz, and Erard. Becker was founded in 1841 by Jacob Davidovich Becker (1811-1879), and was the first to introduce the Erard repetition action to Russia in 1865. Becker was Anton Rubinstein's most preferred European brand. Rubinstein's Becker piano, which was built especially to commemorate the fiftieth anniversary of the pianist's career, was showcased at the 1893 Chicago World's fair [Figure 1].



Figure 1: The Rubinstein Memorial Piano manufactured by J. Becker¹⁰⁵

¹⁰³ Lichtenthal's firm began in 1840, but his business gradually declined from his death in 1854 to the end of the period. Mühlbach concentrated on producing 'miniature grands' ('mignon'). Lichtenthal and Mühlbach were lesser known for grand piano making. Moscow also saw several piano firms, such as R. Besekirsky (c 1830), L. Stürzwage (1842), A. Eberg (1852) and Meybom (1865). Excepting A. Eberg, whose pianos were exhibited at 1893 Chicago World's fair and 1900 Paris Exposition Universelle, the other names were mostly unheard of in other predominant piano-making centres during the late nineteenth century. Sergei A. Rytsarev, 'Russia – Piano industry' in Palmieri (ed.) *The piano*, pp. 334–336.

¹⁰⁴ At the 1894 Antwerp exhibition, Adolf Schiedmayer praised the tone of Becker and Schröder pianos as being rich. A similar remark of 'full and resonant tone' from Schröder's pianos was expressed by a British specialist who examined the instrument at Antwerp. In 'The Antwerp Exposition, by one who has seen it', *POMTJ*, 12: 145 (September 1894), pp. 139–140.

¹⁰⁵ Frank D. Abbott., *Musical instruments at the World's Columbian Exposition* (Chicago: Presto Co., 1895), p. 188.

1.1.5.3 Vienna (Austria)

Vienna, like Paris and London, was a city of significant historical importance for piano making and remained a predominant centre in the second half of the nineteenth century. Its exporting network had diminished from the middle of the century, but Viennese piano firms kept their businesses within Vienna. Being conservative like the English and the French, the Viennese firms were reluctant to mechanise and remained reliant on traditional artisanship. Nevertheless, the progress of time and innovation placed pressure on Viennese piano makers to comply with the standards found in other Western-European countries.

The three most important Viennese firms in the second half of the nineteenth century were J.B. Streicher & Sohn, Ludwig Bösendorfer, and Friedrich Ehrbar. In the early-nineteenth century, the Streicher business began with the marriage of Anna Maria (Nannette) Stein (1769-1833) and Johann Andreas Streicher (1761-1833); the firm was passed down two generations before its liquidation in 1896.¹⁰⁶ It was accredited to Streicher that the perfection of Viennese action was obtained, while having also experimented with Anglo-German and English actions in the mid-1830s. Distinguished musicians such as Ludwig van Beethoven, Clara Wieck, Felix Mendelssohn, and Johannes Brahms preferred Streicher pianos. The last to inherit the firm in 1857 was Emil Streicher (1836-1916), who studied the designs of Steinway in 1862 and presented his own models with over-stringing and cast-iron frames. But it was Ehrbar who was the first amongst the Viennese to adopt the American system of the single cast-iron frame.¹⁰⁷ Friedrich Konrad Ehrbar (1827-1905) acquired ownership of the firm from Eduard Seuffert (1819-1855) in 1857. Ehrbar was thought to be an innovative piano builder: by the late-nineteenth century, Ehrbar's grand pianos rivalled Bösendorfer's, the two being the most popular in and out of Vienna. Bösendorfer started in 1828 under Ignaz Bösendorfer (1784-1859), and upon his death, his son Ludwig (1836-1919) succeeded the firm for the remainder of the period.¹⁰⁸ Ludwig Bösendorfer sided with the 'conservative' makers, and although condemned Steinway's design novelties, had nevertheless resorted to popular trends.¹⁰⁹

¹⁰⁶ Camilla Cai, 'Streicher Family' in Palmieri (ed.) *The piano*, pp. 384–385.

¹⁰⁷ Edward E. Swenson, 'Ehrbar Klavierfabrik' in Palmieri (ed.) *The piano*, p. 119.

¹⁰⁸ Frederic Schoettler, 'Bösendorfer' in Palmieri (ed.) *The piano*, pp. 52–53.

¹⁰⁹ Bösendorfer's inventions are examined later in the chapter under stringing and keyboard compass. For a detailed examination of Ludwig Bösendorfer's innovations, and the aesthetic ideals behind his inventions, see, Leon Bostein, *Music and its public: habits of listening and the crisis of musical modernism in Vienna, 1870-1914*, vol. 1 (reprint from microfilm of author's Ph. D. thesis, Harvard University, 1985; Ann Arbor: U.M.I., 1996), pp. 591–593.

1.1.6 A comparison between the suppliers of piano parts

In addition to the piano firms, there were also many suppliers of piano parts, their roles being crucial in propelling the uniformity of pianos towards the end of the nineteenth century. Before the 1830s, pianos were built entirely by piano makers. As builders became specialised and renowned for the patent of certain piano parts, businesses in the manufacturing of parts began to emerge. These part-making factories served piano builders and firms and helped reduce the production cost.¹¹⁰ Initially, factories survived mostly on local businesses, although some managed to achieve international recognition. The most effective way piano builders assessed the quality of the parts was through world exhibitions. An example of this can be seen through the string making business: from the 1850s, the firm Moritz Pöhlmann of Nuremberg was famed for their production of piano wire.¹¹¹

Factories with long-standing reputations dominated the production of certain specialist parts. This pattern was seen in hammer felts. The first hammer felts manufacturer was the Whitehead Brothers of Manchester in England in the 1840s. Other firms, such as Billon and Fortin of Paris, Weickert of Leipzig in Germany, and Naish of Wilton, England, followed suit in the 1850s.¹¹² The first efforts in the United States of felt manufacturing began around 1868 by Chappuis, a Frenchman, but was quickly suppressed by another Leipzig felt manufacturer, who bought out Chappuis.¹¹³ Alfred Dolge (U.S.) began his factories in 1871, and upon receiving high awards in world exhibitions, gained popularity amongst the leading firms of America at first, and then the rest of Europe.

Another example of factories being whittled down is seen in the business of action making. The oldest firm was Brooks of London in 1810. Then there was L. Isermann of Hamburg in 1842, Jean Schwander in 1844, Lexow of Berlin in 1854, and Keller of Stuttgart in 1857. Action making was also founded in America through F. W. Frickinger in 1837 and George W. Seaverns in Cambridgeport in 1851.¹¹⁴ Amongst them, three formed a cartel, Isermann, Brooks, and Herrburger-Schwander; Isermann had supplied to Bechstein until the 1890s.¹¹⁵ Herrburger-Schwander, who later merged with T. Brooks in 1920s, supplied parts to Erard, Pleyel, and the company also

¹¹⁰ David S. Grover, *A history of the piano from 1709 to 1980* (Macclesfield: Omicron Graphics, 1980), p. 153.

¹¹¹ Good, *Giraffes, black dragons, and other pianos*, p. 217. Alfred Dolge named Pöhlmann's successes at Exhibitions of 1867 Paris, 1873 Vienna, 1876 Philadelphia, and 1893 Chicago. Dolge, *Pianos and their makers*, vol. 1, pp. 125–126.

¹¹² Dolge, *Pianos and their makers*, vol. 1, p. 121.

¹¹³ Mr. Dolge on the music trade of the United States', *MOMTR*, 4: 44 (May 1881), p. 298.

¹¹⁴ Dolge, *Pianos and their makers*, vol. 1, pp. 126–127.

¹¹⁵ Notes of Andrew Garrett on 1884 Bechstein [serial number 16277] in Belton house, off-site storage.

exported in larger numbers to England and Germany.¹¹⁶ It was through the excellence of manufacturers of piano parts that pianos became more and more standardised towards the end of the nineteenth century.

1.2 Piano parts which contribute to tone

In the following section, I survey the parts of the pianos that shape the piano's tone. I compare how one element differs from another design, stating advantages and disadvantages, and how piano builders selected the parts to achieve their ideal tone. The predominant reason why I segregated this section from the previous section (nations of Piano Industry) was that the various piano brands did not necessarily use parts which were made in their own countries, e.g., the action of Bechstein pianos were made by the French-action factory, Herrburger-Schwander. It is the ingenuity behind each piano part that firms sought, and their careful selecting in the combination of parts which led to difference (or similarities) of piano tone.

1.2.1 Action

In his lecture in 1894 on celebrated composers of clavecin and pianoforte, Ernst Pauer argued that the original cause of the differing schools was in the distinction of pianos themselves: 'Clementi used the English, Mozart used the Viennese pianoforte.'¹¹⁷ Pauer explained that the depth of English hammers was greater than the Viennese hammers, and thus allowed a production of a more sonorous tone. The tone decay on the Viennese pianos was shorter as the action was light, therefore a delicate pressure was needed to embed the keys. This facile mechanism resulted in the rather extraordinary expression, 'to breathe upon the keys'; an expression which applied to the playing of most distinguished disciples of the Vienna school, Johann Nepomuk Hummel (1778-1837) and Carl Czerny (1791-1857).

The development of action building was further complicated and sophisticated after Mozart and Clementi's time.¹¹⁸ In 1868, Sievers listed forty actions for keyboard instruments in his Atlas, which he had compiled after examining pianos at the 1867 Paris Exhibition.¹¹⁹ Despite there being so many variances of piano actions, Julius Blüthner summarised that there were essentially only

¹¹⁶ Good, 'pianoforte' in Palmieri (ed.) *The piano*, p. 292.

¹¹⁷ 'Some celebrated firms founded by musicians', *MOMTR*, 18: 205 (1 October 1894), p. 45.

¹¹⁸ The relevance of this discussion lies in the fact that where pianists obtained their training played a predominant role in influencing their ideals of tone, which is exploited in fuller details in Chapter 3.

¹¹⁹ G. F. Sievers, *Il pianoforte guida pratica per costruttori, accordatori, dilettanti e professori di Pianoforti di G. F. Sievers*, translated into English by Marco Tiella (San Giovanni in Persiceto (Bologna): Aspasia, 2000), pp. 113–138.

two types, the German and the English.¹²⁰ Blüthner explained that the term ‘English’ was not commonly used because the majority of modifications to English mechanics had been of continental origin. The German action, also named *Prellmechanik*, became known as the ‘Viennese action’ as the mechanism had survived longer in the Viennese piano-building tradition.¹²¹

The English grand action, also known as the *Échappement Anglais*, was principally used in Broadwood pianos.¹²² In the early-nineteenth century, this system, which enabled components to grow in proportion to the size of the pianos, was popular amongst piano firms, including Pleyel, and firms in Northern Germany. The action did not consist of many mechanical contrivances, [Figure 2, p. 47]. The device was thought to render the truthful intention of the player, allowing pianists to have an ‘ample scope for the individuality and personality’.¹²³ The sensation of playing, as Christopher Nobbs explained, was that players could be aware of the sequence of engagement, acceleration and release with each key descent. The more complex the action, although being highly responsive, the more difficult it was to control the dynamics and tone.¹²⁴ After the hammer reflexes from the strings, and the key remains depressed, the back of the hammerhead cushions into a check-pad, preventing rupture during forceful playing.

One of the reasons for the decline use of the English grand action, as Sievers observed in 1868, was that the action had worked best when it was new, but the gap between the hopper and notch would widen over time, thus the contact came loose.¹²⁵ Even Broadwood & Sons grew tired

¹²⁰ Julius Blüthner and Heinrich Gretschel, *Lehrbuch des Pianofortebaues* (Facsimile Edition from 1872; Frankfurt am Main: Verlag Erwin Bochinsky, 1992), p. 152.

¹²¹ Gottfried Silbermann was accredited as the founder of the ‘German Action’, and his patented action believed to be a counterfeit of Bartolomeo Cristofori’s. In 1748–1749, Stein learnt his trade from working for Johann Andreas Silbermann, who was the nephew and pupil of Gottfried Silbermann. Stein’s modification to the *Prellmechanik* was through adding individual escapements, and subsequent German and Viennese makers carried on from Stein’s traditions until as late as the early twentieth century. Edwin M. Ripin et al., ‘Pianoforte’, *Grove music online*.

¹²² Americus Backer was the creditor for this invention, though the device was not introduced until after his death in 1776 by Robert Stodart, and later to John Broadwood. Piano actions in the late-eighteenth century had to incorporate the concept of ‘escapement’, which is a sequence of the mechanism which allows the hammer to fall back to rest after striking the string, instead of remaining in contact. Piano makers ever since have tried to diminish the rate of hammer coming to rest and re-striking again, hence the developments of ‘double escapement’ and repetition action. Benjamin Vogel, ‘Actions’ in Palmieri (ed.) *The piano*, pp. 11–20.

¹²³ ‘John Broadwood and Sons’, *Musical standard*, 39: 1369 (25 October 1890), pp. 335–336.

¹²⁴ Christopher Nobbs, ‘A comparison of the piano actions of Broadwood, Pleyel and Erard’ in Alec Cobbe (ed.) *Chopin’s swansong: the Paris and London pianos of his last performances now in the Cobbe collection* (London: The Chopin society & The Cobbe collection trust, 2010), pp.38–44.

¹²⁵ Sievers, *Il pianoforte*, p. 113. A possible remedy was experimented with by Broadwood with the appendage of an L-shaped wire in the affected area, (Siever had named this the ‘Spur’) but was discontinued in 1847.

of the English action, and finally abandoned it in 1893.¹²⁶ Other English makers, such as Collard, sought the use of English grand action in their pianos. Collard & Collard grands used a variant of the English action, with the hopper reversed and added components for better repetition [Figure 3, p. 47]. An example of this action was found on the 1870 Collard at Arlington Court, UK, an extant piano I examined for part two of the thesis. Later Collards, such as the 1905 model I saw at Beningbrough Hall, UK, turned to using an adaptation of Herz-Erard styles. The examples of Broadwood and Collard were amongst the many found that had started with English actions but later used alternative style. This was a reminder that ideals in design ingenuity were continually assessed and reshaped through time.

Most grand pianos of the late-nineteenth century adopted the Herz-Erard double-escapement action, or similar mechanisms, though several others, such as Blüthner, Bösendorfer, and Streicher, developed differing systems.¹²⁷ Erard's double escapement action, which was patented in 1821, became the precursor of the modern grand action [Figure 4, p. 47]. Erard's system stemmed from the English grand actions but added intermediate levers to allow for greater speed and reliable repetition of single notes.¹²⁸ Erard was proud of this patent and persisted with it throughout the century. Even as late as 1882, Erard had regarded its system a success as it had enabled the hammer to be 'at all times under the control of the key, so that the smallest impulse given to the key is necessarily attended with a corresponding impulse of the hammer upon the string.'¹²⁹

As observed by Sievers in 1867, not all piano makers appreciated the complexity of the Erard action: 'pianists used to this kind of action have difficulty in playing instruments with other kinds of action.'¹³⁰ Hence, makers sought to simplify the Erard action. The pianist Henry Herz (1803-1888) added the 'Herz-spring' (*Repetierfeder*). His patent, the *Herz-Erard double repetition action*, won recognition at the 1855 Paris Exposition Universelle, and became the prototype for late-nineteenth century makers. In 1865, Steinway & Sons introduced their version of the double-

¹²⁶ Christopher Nobbs in conversation with Alastair Laurence, the current director of Broadwood & Sons. Nobbs, 'A comparison of the piano actions', p. 42. In 1896, Broadwood & Sons had used the American piano actions manufactured by Wessell, Nickel & Gross. 'Messrs. Broadwood & Sons', *POMTJ*, 14: 161 (January 1896), p. 197.

¹²⁷ Good, 'Pianoforte' in Palmieri (ed.) *The piano*, pp. 288–293. Germany was accustomed to obtaining piano actions from France, *POMTJ*, 4: 32 (March 1885), p. 20.

¹²⁸ Sebastian Erard introduced this idea as early as in 1808 through his patent *mécanisme à étrier*, but it was his refined patent in 1821 which called for attention amongst pianoforte makers. Edwin M. Ripin et al. 'Pianoforte', *Grove music online*. The relevance of this discussion lies in the virtuoso playing and compositions which prevailed through most of the nineteenth century. This will be discussed in further detail when I examine pianists and schools of piano playing in Chapter 3 Piano Tones in Concert.

¹²⁹ 'The house of Erard', *MOMTR*, 6: 62 (November 1882), p. 79.

¹³⁰ Sievers, *Il pianoforte*, p. 120.

escapement action based on the Herz-Erard.¹³¹ Steinway's modification had a different attack than those felt on Herz' pianos. According to Siever, the difference in Steinway's was the repositioning of the shank, which had previously been on the counter-lever for Erard's and Herz' models [Figure 5, p. 47]. Thus, stability of the main pivot was improved, and the noise caused by the falling of the hammer onto the check was substantially lessened. Steinway further added metal into the action in 1869, the *Tubular Metallic Action frame*, and in 1875, introduced the capstan screw, which eased regulation and servicing of the action. As late as 1895, Herrburger-Schwander's improvements to the grand action continued to delve into the 'spring' insertion of the Herz-Erard.¹³² In Herrburger-Schwander's updated version, the 'spring' was prolonged so that in addition to advantages of regulation and noise-control issues, elasticity and delicacy of touch were improved.¹³³

Another form of the double escapement action was *Kriegelstein's double échappement*, patented in 1844.¹³⁴ Kriegelstein claimed that his version of double escapement was less complicated and quieter than Erard's, while enabling an increase in repetition speed. Edwin Good admitted that Kriegelstein had simplified the construction, but found the repetition to be not as rapid compared to Erard's.¹³⁵ Blüthner's patent action, devised in 1856, was based on principles from Kriegelstein and the English action.¹³⁶ Like Kriegelstein, Blüthner's simple mechanism was less prone to failure, and much lighter and smoother than other brands of a similar era, but had a disadvantage in that repetition was somewhat slower. In Blüthner's patented action, instead of the roller, which is the starting point of the pusher in the Erard mechanism, the handle is pierced at the point of attack and the hole is garnished with drape.¹³⁷ Similar to Edwin Good's observation on the Kriegelstein, I find that Blüthner's action was particularly light and allowed for extremely fast scale and arpeggio playing, but not as rapid as Erard in the repeated notes.¹³⁸

Compared to the English designs, the German or Viennese action (*Prellmechanik*), had hammers connected to the key and pointing towards the player. The positioning of the hammer

¹³¹ <https://www.steinway.com/piano-action#6359518f-1b5e-4dbc-ae50-b9bf74037ef9>, consulted on 4 October 2019.

¹³² 'Herrburger's improvements in grand actions', *POMTJ*, 13: 153 (May 1895), p. 66.

¹³³ 'Round the table', *POMTJ*, 15: 173 (January 1897), p. 8.

¹³⁴ Jean-Georges Kriegelstein (1801-1865). Anne Beetem Acker, 'Kriegelstein' *Grove music online*, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-4002294377>, consulted on 20 October 2019.

¹³⁵ Good, *Giraffes, black dragons and other pianos*, p. 210.

¹³⁶ Ingbert Blüthner-Haessler and Norbert Benz, *Blüthner: 150 Jahre Pianofortebau* (Leipzig: Leipziger Verlagsgesellschaft, 2003), p. 47.

¹³⁷ In the 1920s, Blüthner's patent action gave way to the 'roller' action, conforming to Erard's concept, which was by then the common standard found in pianos.

¹³⁸ For more of the author's discussion on playing different surviving pianos, see Chapter Four.

Despite its diminishing production, the *Prellmechanik* was still cherished by composers, notably Johannes Brahms.¹⁴⁵ Clara Schumann's Grotrian-Steinweg had this action installed too, though the rest of the piano incorporated features which were non-Germanic. The available options offered by Viennese firms revealed to their audiences that there was a difference amongst the actions, and that Viennese firms were capable of presenting variety. On the other hand, such an assortment may be able to better highlight the 'Viennese' identity in pianos, a labelled national pride that could have called for loyalty amongst its people and musicians.

1.2.1.1 Hammers

Of the many contrivances of an action, the hammer has the greatest impact. The subtle differences of tone depend on the material and weight of the hammer, as well as its displacement from the string. In general, small hammerheads result in a dry and thin tone, and conversely, large and heavy hammerheads result in a sound too brilliant and piercing.¹⁴⁶ The thickness of the hammerhead mostly depended on the layering of hammer felts. Blüthner's hammers and felts were lighter and thinner than those of Bechstein and Steinway.¹⁴⁷ Blüthner's hammers were one of the key factors which contributed to their lightness of tone.¹⁴⁸ American firms mostly followed the practice of Alfred Dolge by covering their hammers with a single, thick layer of felt instead of multiple layers, while Erard, as late as 1894 were still covering hammer felts individually three times by hand before an outer cover was applied.¹⁴⁹ By 1870, most firms, such as Pleyel were using felt covering as the top layer.¹⁵⁰ Leather was still utilised, but mostly exclusively by the Viennese firms.¹⁵¹

A heavier hammer implied a harder action, and vice versa, but if its displacement to the strings was to be shortened, the result would differ. A comparison of this distinction can be seen in the *Pianoforte dealers guide* in 1882. Hammers on the pianos of Rafael Joseffy travelled only about one and a half inches at each stroke of the key, while on Rubinstein's and Bülow's, the

¹⁴⁵ Edwin M. Ripin et al., 'Pianoforte', *Grove music online*. Original source: Joseph, *Versuch einer Geschichte des Clavierbaues* (Vienna, 1853).

¹⁴⁶ According to Helmholtz, heavier and softer hammers were used in the lower end, and lighter and harder for the upper octaves. Hermann von Helmholtz, *On the sensation of tone as a physiological basis for the theory of music*, translation by Alexander J. Ellis (London: Longmans, Green & Co., 1885), p. 79.

¹⁴⁷ Dominic Gill, *The book of the piano* (Oxford: Phaidon Press, 1981), p. 245.

¹⁴⁸ Good, *Giraffe, black dragons, and other pianos*, p. 210.

¹⁴⁹ David Rowland, 'The piano since c. 1825' in David Rowland (ed.) *The Cambridge companion to the piano*, (Cambridge: Cambridge University Press, 1998), p. 45.

¹⁵⁰ Gill, *The book of the piano*, p.125.

¹⁵¹ Blüthner & Gretschel, *Lehrbuch des Pianofortebaues*, pp. 169–170.

distance was approximately two inches. Therefore, the pianos of the latter had greater breadth or volume of tone, as there was greater acceleration.¹⁵²

1.2.1.2 Touch

In addition to affecting the tone, the action plays a decisive role in the touch, which is the responsiveness of piano keys to a pianist's fingers. It is undeniable that pianists had their own preferences of touch. An example of this is seen in 1882, when Hans von Bülow refused to play a Bösendorfer during his encounter with Rubinstein in Vienna. In the press report, Schmidt explained Bülow's reason for refusing due to the differences in touch. Schmidt tested the weight required to press the keys to their lowest point and found that Rubinstein's piano required an average weight of 88 grams, while Bülow's needed an average of 105 grams. Despite Rubinstein's piano requiring a lighter touch, the keys sank 25 per cent deeper than Bülow's. The factors of both weight and height implied that the pianos placed equal demands on the physical powers of the pianists, but the touch per se felt different. The Rubinstein/Bülow example revealed that touch is both an internal factor (of the action) and an external adjustment (in relation to the outer case). Touch was how manufacturers designed pianos in accordance with pianists' habits to gain control, therefore achieving their ideal sound. This interlinked with pedagogical traditions as well as compositional performance directions, ideas which are discussed in Chapters 3 and 4.

1.2.1.3 Dampers & pedals

No uniformity was found in the shape, size, weight, and displacement of the dampers.¹⁵³ A few examples of dampers have been included in [Table 4, p. 50]. Erard employed an underdamping system, driven by springs to subdue tone from below. Erard preferred underdamping as it provided a practical solution to arrange the dampers to prevent collision with tension bars. In comparison, overdamping was used by the majority of firms. According to Robert Winter, Pleyel's over-dampers were extremely light and narrow, so that even in passages without the sustain pedal, a residue of sound could be heard.¹⁵⁴ Dampers were wide and short on the Broadwood 1881 and Collard & Collard 1870, but dampers of later Broadwoods and Collards were

¹⁵² The article primarily talked about Mr. Baermann, who was a pianist of Joseffy's school. Baermann's piano was regulated to travel only one inch, half an inch less than Joseffy. His tone was described as 'a little broader and more manly'. 'Joseffy - Baermann', *Pianoforte dealers guide* (March 1882), p. 21.

¹⁵³ Evident from my own examination of the range of pianos dating this period: Blüthner 1901 (59974) at Wimpole Hall; Blüthner 1892 (37404) at Gunby Hall, Broadwood 1881 (21558) at Calke Abbey, Collard & Collard 1870 (91550) at Arlington Court.

¹⁵⁴ Robert S. Winter, "Orthodoxies, paradoxes, and contradictions: performance practices in nineteenth-century piano music" in R. Larry Todd (ed.) *Nineteenth-century piano music* (New York: Routledge, 2004), pp.16–54, in particular, p. 28.

of a similar size to those found on Steinways and modern grand pianos. Steinway dampers were wider and slightly shorter than those found on the Pleyel 1898.

Most pianos of this era had only two pedals. Steinway introduced the middle, ‘sostenuto’ pedal in their grands in 1874, but this invention had existed in square pianos of Boisselot et Fils at the Paris Exposition in 1844. The middle pedal soon became fashionable in the American grand pianos, but not widely adopted in Europe.

Table 4: Comparison of dampers as found on surviving pianos

	
<p>Erard 1896 (74405): Erard's under-damping</p>	<p>Pleyel 1909 (145996): Light and narrow dampers</p>
	
<p>Collard & Collard 1870 (91550): Wide and short dampers</p>	<p>Collard & Collard 1905 (170660): Similar to the dampers found on modern pianos, the length being not as long as the Pleyel 1909</p>

1.2.2 Striking points

In 1896, Alfred J. Hipkins (1826-1903) declared: ‘The division of the string where the hammer strikes is of great importance with respect to tone and its excursion or carrying power.’¹⁵⁵ In the same breath, Hipkins acknowledged that this guide was in fact ‘difficult in practice’.¹⁵⁶ The essence of the striking point is in the establishment of nodal points of the string, which causes selective muting of the partial tones. The higher the ratio, the more the emission of overtones.

¹⁵⁵ Alfred J. Hipkins, *A description and history of the pianoforte* (London: Novello, Ewer & Co, 1896), p. 39.

¹⁵⁶ *Ibid.*

Bass and treble ends vary in striking points. The optimum, as Hipkins recommended, was to strike at one-eighth partial for the middle and lower divisions of scale, and one-ninth in the upper to achieve a sustained ringing tone. Hipkins' assertion is derived from authorities, both his own and from the research of the acoustician Hermann von Helmholtz (1821-1894).¹⁵⁷ Helmholtz's advice to piano makers was to allow hammers to strike at one-seventh to one-ninth of the length of the string.¹⁵⁸

Unlike Helmholtz and successive acousticians who arrived at the numbers through calculation, Hipkins confessed that his selection was based on 'attempts to meet the requirements of artistically trained ears and from technical experiences'.¹⁵⁹ According to Hipkins, the problem with lowering the ratio was the lack of string support as striking points became too distant from the wrest-plank bridge. Hipkins described this type of tone as reedy and 'sounding too much like the chalumeau of a clarinet'.¹⁶⁰ The decision to include the seventh harmonic and strike at one-eighth was so that a 'silvery ring' could bring out a certain roundness and richness in quality.¹⁶¹ This was also expressed in the research of Rosamond Harding: 'As the striking point approaches the end of the string, a prominence is given to the upper partial tones at expense of the lower ones, and it is owing to this that the treble hammers are sometimes made to strike almost against the bridge to obtain greater brilliancy of tone.'¹⁶² Both Harding and Hipkins preferred a higher striking ratio as their perceived ideal was for a brilliant, rich, and round tone.

Despite the two theoretical frameworks provided, Hipkins through experience and Helmholtz through research, there were still disparities found in pianos. As reported by the British press *POMTJ* in 1891, Steinway pianos were tuning to one-eighth the striking distance, while European pianos tended to favour striking at around one-ninth, where the sound was noticeably duller or unpleasant in resonance.¹⁶³ This generalisation was still not sufficient to provide a full picture of the variety of striking-points. In Robert S. Winter's examination of Paderewski's Steinway 1892 at the Smithsonian Institution, the striking point was approximately 1/8.5 for the first four octaves, with a steady climb to just above 1/10 between C5 and C6, dropping a little past C7 before

¹⁵⁷ Hipkins showed great devotion to the history and development of the pianoforte. In his twenties, he was already tasked with tuning pianos for Chopin's concert in London. For almost sixty years, Hipkins toiled for Broadwood & Sons. In the 1880s, Hipkins had frequently organised events for displaying historical keyboards, whilst keeping updated with the progress of piano development.

¹⁵⁸ Helmholtz, *On the sensation of tone*, p. 77.

¹⁵⁹ Hipkins, *A description and history of the pianoforte*, p. 39.

¹⁶⁰ *Ibid.*

¹⁶¹ 'The action of the hammer on the piano string', *POMTJ*, 7: 98 (September 1890), pp. 355–356.

¹⁶² Harding, *The piano-forte*, p. 183.

¹⁶³ 'The action of the hammer on the piano string.' *POMTJ*, 7: 98 (September 1890), pp. 355–356.

climbing steeply past 1/12 for the last half-octave.¹⁶⁴ Although the first five octaves of Paderewski's Steinway were in line with the Hipkins/Helmholtz theory, the last three octaves of the Steinway went beyond Hipkins/Helmholtz's suggested parameters. Similar trends can be noticed on an Erard of 1870 at Lyme Park, where the last octave diverged from the 1/9 acutely, reaching 1/19 at the treble end.¹⁶⁵ On two other Erards (1853 and 1869), the striking points exceeded 1/11 at the extreme treble end.¹⁶⁶ However, it is worth noting that 1/11 and 1/19 is only a hammer's width apart, the Erard 1870 struck at 3cm of the 57cm-length A7 string, while the Erard 1869 struck at 5cm of the same string-length.

Winter concluded that a higher striking ratio in the bass meant a more brilliant and penetrating tone. This was also true for the pianos I have examined. In the lower ends of the register before the C2, the Broadwood 1881 and Erard 1870 were at approximately one ninth, and the Bechstein 1892 and Steinway 1892 were nearer at one-eighth. Blüthner 1892, and two Collard & Collard pianos (1870 & 1905) had striking points between one-seventh and one-eighth. Pianos with lower striking points had less prominent bass, and the decay of the low-end notes was faster than pianos with higher ratios. As per Hipkins' comment, piano builders relied on their ears to adjust the striking ratios according to their experience. Even today, changes to striking points through regulation of hammers continue to be a task performed by technicians.

1.2.3 Strings

By the late-nineteenth century, there was little disagreement regarding the use of string material. As the British press *POMTJ* deduced in 1889, tone emitted from steel was clearer and more piercing compared to tone emitted from any other metal. Although steel had its advantages over brass for producing a more powerful tone, it was not the best material for emitting more soft or soothing tones.¹⁶⁷ Therefore, most string wires found in grand pianos had a plain steel inner core; bass strings were usually wound in copper or brass. Copper was more commonly used, but brass-wires produced a finer brilliance of tone.¹⁶⁸ *POMTJ* also reported the use of gold-plated

¹⁶⁴ Robert S. Winter, 'Striking it rich: the significance of striking points in the evolution of the romantic piano', *The journal of musicology*, 6: 3 (Summer 1988), pp. 267–292, in particular, p. 288.

¹⁶⁵ Erard 1870 (12294) at Lyme Park, UK, measurements conducted by Andrew Garrett, calculations by the author of this thesis.

¹⁶⁶ Erard 1869 (11746) at Calke Abbey, UK, measurements conducted by Andrew Garrett, calculations by the author of this thesis. Erard 1853 (24596) is at the Paris Conservatoire, and measured by Robert Winter in his article, 'Striking it rich', pp. 286–287.

¹⁶⁷ 'Something about the soundboard and varnish of the pianoforte', *POMTJ*, 7: 82 (May 1889), p. 82.

¹⁶⁸ *Pianoforte dealers' guide* (October 1882), p. 235.

strings in some tropical countries, but these were not successful enough to warrant general adoption.¹⁶⁹

The prevailing debate about stringing was in its arrangement. Traditionally, all strings in a grand piano were arranged in longitudinal direction. This method was the so-called ‘straight-stringing’ and upheld the advantage of enabling an even timbre of the voices transcending the registers. With the demand through the nineteenth century for a growing tone, the increase of string lengths and substance placed immense tension on the frame.¹⁷⁰ The increase of string lengths and thickness in a limited space eventually led to the adoption of cross-stringing, which was introduced in grand pianos of Steinway & Sons in 1859.¹⁷¹ In the cross-strung system, bass strings are made to overlap on top of other strings to form a fan-like shape. Crossed strings extend the soundboard-bridges by moving them closer to the centre of the soundboard itself, thus setting greater portions of the soundboard into vibratory action and increasing the volume and sustaining power. Some believed that this system had allowed for an elongation of bass strings, but in fact over-strung strings on grand pianos were of similar length to those found on straight-strung pianos.¹⁷²

One of the main arguments against the use of cross stringing was the belief that strings lying on top of each other might merge their vibrations, thus causing a blending of tone.¹⁷³ The assumption of ‘blurriness’ in sound was refuted by Julius Blüthner, as he explained that the main shortcomings may be at the crossing point, but if the bridges were to be moved too close to the edges of the soundboard, tone would weaken accordingly.¹⁷⁴ Another belief amongst the pianoforte builders was that a greater evenness of tone could be achieved in a cross-strung piano, as the inclined position of the (lower) strings against the direction of the hammer-stroke would give suppleness and round off the hammer attack. In straight-strung pianos, the direction of the strings lies in the plane of the hammer's movement, and so the softening of tone could only be

¹⁶⁹ ‘The pianomaker’, *POMTJ*, 16: 191 (July 1898), p. 91.

¹⁷⁰ In 1867, Pöhlmann was regarded as one of the superior string makers, and his products saw a near 50% increase in tensile strength from those found in 1841. Moriz Pöhlmann (1823-1902), Nuremberg Germany. Pöhlmann’s research into string wires have significantly influenced the string wires of today’s piano. Arthur W. J. G. Ord-Hume, ‘Pohmann, Johannes’ in Palmieri (ed.) *The piano*, p. 297. Good, *Giraffes, black dragons and other pianos*, p. 217.

¹⁷¹ The idea itself has been trialled in clavichords of the sixteenth and seventeenth centuries, and in square pianos by Parisian firms, as in Jean Henri Pape in 1820s.

¹⁷² Robert S. Winter, ‘Orthodoxies, paradoxes, and contradictions’, pp. 37–38.

¹⁷³ *Ibid.* Winter’s research outlined that the clarity of individual tones, particularly for the bass notes, could be better achieved in a straight-strung grand, although the notes had lesser sustaining power than those crossed. In my conversations with Christopher Nobbs in November 2018, he pointed out that the ‘clarity’ dispute should pinpoint to the tenor range of the piano, not the bass. Through my own playing on period pianos, analysed in Chapter 4, I agree with what Christopher Nobbs.

¹⁷⁴ Blüthner & Gretschel, *Lehrbuch des Pianofortebaues*, p. 151.

approached at the expense of the duration of the sound, resulting in a forcing of unpleasant metallic twang.

Despite the multiple viewpoints presented to support the differing systems, most firms agreed that straight-strung pianos sounded more harmonious than cross-strung pianos.¹⁷⁵ At the time of writing his book in the early 1870s, Julius Blüthner conceived that the straight-strung system was the more superior due to its musically softer tone and greater uniformity of tone.¹⁷⁶ By the 1880s, over-stringing was widely adopted, but some firms remained sceptical. Hipkins (from Broadwood) was one of those in the campaign against over-stringing. Hipkins' primary objection was that the system had caused an imbalance of tone due to the increased thickness and weight of bass strings 'like the modern pedal organs, [they] bear no just relation to that part of the keyboard where the part writing lies'.¹⁷⁷

1.2.3.1 Scaling – Sympathetic vibration

The main preoccupation of pianoforte builders in the late-nineteenth century was increasing the resonance in their pianos. Many firms including Steinway, Blüthner, and Bösendorfer used different scaling systems. Theodore Steinway, himself already a qualified engineer, sought advice from Hermann von Helmholtz regarding the theory of overtones.¹⁷⁸ The duplex scale, patented in 1872, was a product which resulted from the exchange of ideas.¹⁷⁹ In his system, an iron bar, 'capo tasto' was made to intersect with strings to divide them into two portions, one part which would vibrate from being struck by the hammer, and the other to vibrate sympathetically. Through calculation, the length of the non-sounding part of the strings needed to vibrate at a certain frequency partial of the string's fundamental note, which would then add further fullness to tone.¹⁸⁰

A similar vibrational theory is found in Blüthner's Aliquot system, also patented in 1872. The Aliquot referred to a fourth string strung above three others for notes in the upper three octaves, a string is not struck but which vibrates in sympathy with the struck strings. The aliquot string has its own damper, which works in conjunction with the other three, therefore it is at its

¹⁷⁵ Sievers, *Il pianoforte*, pp. 50–51.

¹⁷⁶ Blüthner & Gretschel, *Lehrbuch des Pianofortebaues*, p. 152.

¹⁷⁷ 'Review of Mr. A. J. Hipkins' fourteen-page article in the nineteenth volume of the Encyclopaedia Britannica in Dramatic Review', *Musical standard*, 29: 1097 (8 August 1885), p. 90.

¹⁷⁸ Wainwright, *The piano makers*, p. 97

¹⁷⁹ Grover, *A history of piano*, p. 143.

¹⁸⁰ The non-speaking part of the duplex scale, according to Wainwright and Grover, is presumed the length which overhangs from the bridge to the hitch-pin. Good argued that Steinway's innovation referred to a front-duplex scaling, which is the part between the tuning pin and agraffe. Good, *Giraffes, black dragons, and other pianos*, p. 197.

full potential when the damper pedal is raised. The result was to strengthen and enrich partials to even out the quality throughout the range of the piano, so the hard quality of higher notes is smoothed over, and a mellow clarity of tone was heightened by the presence of upper overtones.¹⁸¹

Although Bösendorfer disapproved of Steinway's duplex scale, the idea of enhancing sound through non-struck strings was nonetheless pursued in Bösendorfer's 'Imperial' grand.¹⁸² Bösendorfer's string design resonated with Blüthner's aliquot. In the 'Imperial', the compass was extended on both ends. In the extreme bass, additional notes reached down to C0, whereas most pianos had only gone down to the A0 (97 keys instead of 88). Extra strings without keys or hammers to strike them were also found in the extreme treble. These additional notes were not meant to be played, and as this was a confusion for pianists, Bösendorfer painted the keys black and covered them with a flap.¹⁸³ Bösendorfer's design was to enact sympathetic vibration to invoke resonance, thus lengthening and adding richness to tone.

Despite their differing methods, the concept of sonority and sustained tone was realised in all three systems (Bösendorfer, Blüthner, and Steinway). In 1892, some in the trade had speculated the possibility of combining the three systems to achieve something greater than any previously attained.¹⁸⁴ This was never attempted by any piano maker, perhaps owing to the difficulty in retaining the tension of too many additional strings.

1.2.3.2 Pitch

Despite piano makers having their own preferences with regards to pitch, A=439 was the standard in the late 1880s.¹⁸⁵ In 1880, Alex J. Ellis conducted research concerning the musical pitches used in concert venues from London and abroad.¹⁸⁶ Ellis' research revealed a widespread calibration of pitch, i.e. A=454.7 from Broadwood & Sons (1874); A=457.2 from Steinway & Sons (1879); A=456.1 from Streicher (1859).¹⁸⁷ These readings were a dramatic rise from the mid-century, where lower pitches of around A=435 were used in the opera houses in France, Britain

¹⁸¹ Good, *Giraffes, black dragons and other pianos*, p. 210.

¹⁸² <http://www.bosendorferimperial.com/>, consulted on 5 October 2019. The 'Imperial' was not released until 1900, but its prototype had been built since 1892.

¹⁸³ Mark Hambourg, *The eighth octave: tones and semi-tones concerning piano-playing, the savage club and myself* (London: Williams & Norgate, 1951), p. 12. Hambourg observed that Bösendorfer had made these enormous pianos in want of a depth of tone.

¹⁸⁴ 'Foreign trade notes', *MOMTR*, 15: 179 (August 1892), p. 552.

¹⁸⁵ 'Uniform musical pitch', *Musical times*, 40: 678 (1 August 1899), p. 555.

¹⁸⁶ Under 'On the history of Musical pitch' in *MOMTR*, starting October 1880, an article per month until November 1881. Same title in *Musical standards*, starting March 1880, averaged two articles per month until December 1881. Selected extracts also in *Musical times and singing class circular*.

¹⁸⁷ Alex. J. Ellis, 'On the history of musical pitch', *Musical standard*, 21: 893 (10 September 1881), p. 171.

and Germany.¹⁸⁸ The call for uniformity of pitch was an effort to resolve the aggravation of musicians having to adjust to the different pitches. Foreign pianists visiting London had to adapt to the higher English concert pitch than on the Continent, which they had been accustomed to hearing. This was recounted in Clara's Schumann's experience: 'the heaviness and high pitch of the instrument [a Broadwood] is causing me trouble again.'¹⁸⁹ Moreover, the differences in pitch caused havoc for pianists playing in piano concertos with the orchestra. Such was the case for Karl-Heinrich Barth in 1880, as observed by a critic: 'Unfortunately the pianoforte, by Bechstein, was sensibly lower in pitch than the orchestra, greatly to the detriment of the performance'.¹⁹⁰ In addition, concert halls usually stocked two pianos of different brands which would have been serviced by the firm's own tuners, and therefore the pianos would have differing standards of pitch, likely incompatible with each other.

Some makers had to make significant sacrifices to adjust to new measures of pitch, i.e. the drop in pitch was over a quarter tone from the English 'Philharmonic' to the 'Continental'. Makers like the London branch of Bechstein issued advice to their regular tuning customers to take great care over 'unsettling the strings' and 'altering the tension of the iron frame', which 'must be done gradually'.¹⁹¹ Alastair Laurence observed that pitch changing on a Broadwood grand was comparatively easier than on a Bechstein, as Broadwood have thicker, heavier and more rigid soundboards, thus supporting a higher string tension (down bearing pressure) on the bridge. Despite the hassle, the makers gradually conformed. As William T. Miller summed up, it was the time to sacrifice 'personal feelings and interest for the sake of the good of the whole'.¹⁹²

1.2.4 Soundboard

Piano makers of this period believed that although the soundboard cannot create tone, it augmented the volume and influenced the character of the tone.¹⁹³ Therefore, the soundboard did not have as significant an impact on shaping tone as the elements previously discussed (strings, scale, and the striking point of the hammer). Just how much of an influence acoustically

¹⁸⁸ The lower pitch meant less strain on the singers' voices. Ellis, Alex. J., 'On the History of Musical Pitch', *MOMTR*, 4: 45 (June 1881), p. 315. The pitch was around A = 435, which was less of a strain for singers.

¹⁸⁹ Clara's letter is quoted in Dieter Hildebrandt, *Pianoforte: a social history of the piano* (London: Hutchinson, 1985), p. 144. The date of the letter is unknown, but the clues from pianists and pianos she had mentioned suggested that the likely years would have been between 1875 and 1885.

¹⁹⁰ 'The Week', *The athenaeum*, 2746 (12 June 1880), pp. 770-771 Beethoven's concerto in E flat.

¹⁹¹ Alastair Laurence, *The evolution of the Broadwood grand piano 1785-1998* (Ph. D Thesis, University of York, 1998), pp. 271-272.

¹⁹² William T. Miller, 'America's opinion of the pitch question', *MOMTR*, 8: 90 (1 March 1885), p. 273.

¹⁹³ In the period between late-1800s and 1930s, the school of thought on soundboard thickness was the 'resonant wood' theory. Other theories are discussed in Nicholas Gravagne, 'Soundboard' in Palmieri (ed.) *The piano*, pp. 363-367.

the soundboard plays on the tone was little known even to the makers themselves. Hansing went as far as experimenting with a soundboard made of a number of small separate panels, though no conclusions scientifically were drawn then as to the best way of arranging or constructing a soundboard.¹⁹⁴ Hansing's investigation did allude to the length of fibre being a determining factor when selecting the best stiffness and vibration of the wood. One of the ways that the soundboard can enhance qualities of tone was through the thickness of the wood. Manufacturers believed that soundboards should be stiffer in the treble area than in the bass, therefore being thinner in the bass end.

In most premium pianos, Swiss Pine was the choice of wood for soundboards, however the high price demanded for this material largely restricted its use.¹⁹⁵ Although named Swiss Pine, it was doubtful that the wood ever came from Switzerland, as it was imported from parts of Bohemia. When supply became exhausted, firms resorted to fir trees in the Austro-Hungarian region. American Pine was used prior to Swiss Pine, but the latter was more favourable due to its harder, firmer substance, therefore producing finer vibrational qualities. Only a few reputable makers, particularly the British makers, made their soundboards from spruce.¹⁹⁶ Steinway also commonly used spruce soundboards, although they were continually experimenting with other materials. In 1891, Steinway experimented with using aluminium soundboards on two grand pianos and found that these were deficient in quality in terms of defining the typical Steinway tone.¹⁹⁷

The piano trade speculated that the grain direction in the soundboard affected the tone: 'when the grain of the soundboard was made to run vertically [parallel] with the string, the tone was a trifle thin.'¹⁹⁸ The prevailing cause was that the belly tone and string tone did not align with one another. If the grain of the soundboard belly ran parallel to the strings, the tone could be harsh, hard, and piercing. However, a differing tone would result if the grain ran diagonally to the strings. My examination of surviving pianos confirmed that there were differences in the grain direction of the soundboard. Soundboard grains parallel to the spine were found in French pianos, as on the Erard 1870, [Table 5].¹⁹⁹ This pattern was rotated perpendicularly on Collard & Collard

¹⁹⁴ 'Sidelights on sound-board manufacture', *POMTJ*, 17: 231 (November 1901), pp. 1131–1134, in particular, p. 1133.

¹⁹⁵ 'The sounding-board, a practical article for practical men', *POMTJ*, 15: 180 (September 1897), p. 147.

¹⁹⁶ *POMTJ*, 8: 124 (November 1892), p. 193.

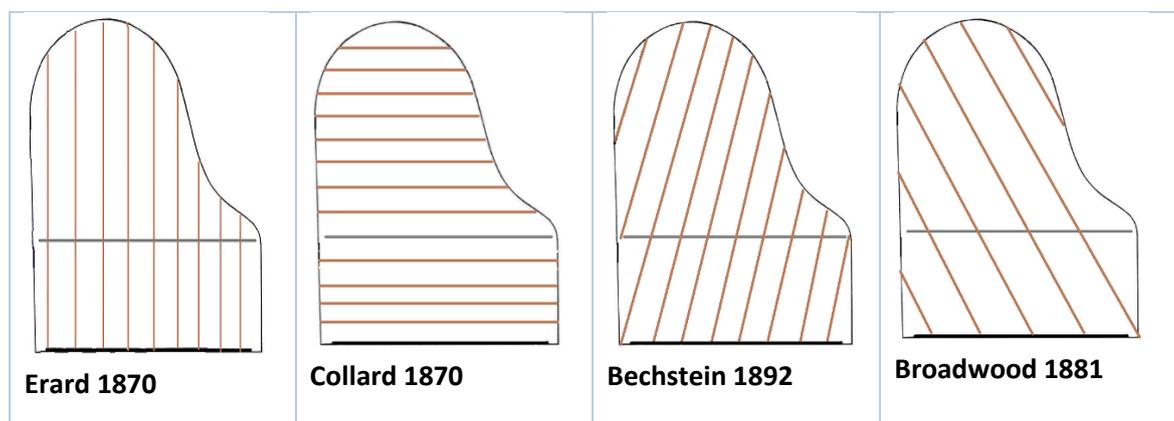
¹⁹⁷ *POMTJ*, 8: 111 (October 1891), p. 192.

¹⁹⁸ 'Something about the soundboard and varnish of the pianoforte', *POMTJ*, 9: 118 (May 1889), p. 82.

¹⁹⁹ The Erard 1870 at Lyme Park. Also true for the Erard 1869 at Calke Abbey and the Bord 1885 (63732), previously at Arlington Court, currently being stored offsite.

1870, where the soundboard grains ran parallel to the belly-rail, [Table 5].²⁰⁰ The Collard & Collard 1870 was typically English, as English manufacturers favoured having the belly wood run at right angles with the ends, while the American and continental firms sought alternative solutions.²⁰¹ Collard & Collard's later designs did not continue in the British fashion, but changed the grain direction to run diagonally from belly-rail corner to a point just off the junction between spine and tail.²⁰² This mimicked the configurations found on German brands, such as the Bechstein 1892, where the soundboard grain direction predominantly sloped away from the player's left, [Table 5].²⁰³ Broadwood pianos, by contrast, had soundboard grain which angled away from the player's right, [Table 5].²⁰⁴

Table 5: Soundboard grain directions on surviving pianos



Other methods of increasing the vibrations within the soundboards were sought through external reinforcements. Brinsmead turned to the Cremona School of violinmakers to improve the sonorous quality of sound, and created the 'Cremona' soundboard. This was a soundboard attached onto a separate rim of wood instead of a whole board being fastened to the outer wooden case, which meant that a purity and volume of tone could be attained.²⁰⁵ Brinsmead claimed that 'every stroke delivered upon the keyboard produces a mellow and truly musical sound, absolutely free from harsh or dry metallic or wooden quality.'²⁰⁶ The American firm Baldwin Piano Company developed a similar patent with their 'acoustic rim'.²⁰⁷ Their method was to insert long slips of maple, which were glued together at the back end of the piano. Baldwin claimed that the acoustic rim was a conducting circle, reinforcing the power and beauty of tone

²⁰⁰ The Collard & Collard 1870 at Arlington Court. The same pattern was found on the Collard & Collard 1872 (96832) at Knightshaye Court, and the Hopkinson 1862 (6827) at Wightwick Manor.

²⁰¹ 'Something about the soundboard and varnish of the pianoforte', *POMTJ*, 9: 118 (May 1889), p. 82.

²⁰² An example is the Collard & Collard 1905 (170660) at Beningbrough Hall.

²⁰³ The Bechstein 1892 (28936) at Wightwick Manor.

²⁰⁴ The Broadwood 1881 (21558) at Calke Abbey.

²⁰⁵ Edgar Brinsmead, *The history of the pianoforte*, pp. 168–169.

²⁰⁶ *Ibid*, p. 175.

²⁰⁷ Dolge, *Pianos and their makers*, vol. 1, p. 64.

by ‘gathering up’ vibrations started at any part of the soundboard, and redistributing them to the remainder of the board.²⁰⁸ Steinway’s composite soundboard bridge, patented in 1880, had alternate layers of hard and soft wood to allow the vibration to circulate in a larger area of the soundboard. In 1901, *POMTJ* suggested that a rib-less double soundboard would provide a purer and singing quality tone, where two layers of wood were firmly glued together, grains opposed, one running from treble to bass, and the other from bass to treble.²⁰⁹ Yet, no example of the rib-less double soundboard was found in my research. In general, there was no consensus amongst firms on what the best soundboard was; it was not until the mid-1930s that Steinway & Sons started to conduct a series of experiments to discover the limitations of the soundboard.

1.2.5 Frames

In the early-nineteenth century, frames, or plates were originally just metal bars intended to give structural integrity to the piano to support string tension. The development of frames allowed for greater resistance of string tension, which allowed for thicker strings and resulted in a larger sound. Chickering devised the first cast-iron frame in 1843, but it was not a common practice amongst piano makers until it was promoted in Steinways. At the Vienna Exhibition of 1873, over two thirds of the pianos used imitations of the cast-iron frame.²¹⁰ Steinway further developed the acoustical properties of frames. His Cupola iron frame, patented in 1874, was designed to limit the diffusion of resonance from the soundboard.²¹¹

According to *POMTJ*, cast-iron frames were the heaviest types of frames. Their density, firmness and stability were essential for a ‘singing sustained belly-like quality of tone in the treble’.²¹² By comparison, other frames that were light and thinner produced sounds of a ‘brick and trowel’ quality.²¹³ Siegfried Hansing commented that German piano makers used American cast-iron frames as they thought these were superior to all others in quality and artistic construction.²¹⁴ Despite compliance with the American standard, German frames were noticeably

²⁰⁸ ‘Sidelights on sound-board manufacture’, pp. 1131–1134.

²⁰⁹ *Ibid.*

²¹⁰ Cynthia A. Hoover, ‘The Steinways and their pianos in the nineteenth century’, *American musical instrument society journal*, 7 (1981), pp. 47–64. Quote from p. 60.

²¹¹ The frame’s curvature enabled a longer bridge contact with the soundboard, thus more vibrational energy is transmitted. Good, *Giraffes, black dragons, and other pianos*, p. 197.

²¹² ‘The weight of the iron-frame in a piano and how it affects the tone’, *POMTJ*, 7: 85 (August 1889), pp. 131–132.

²¹³ *Ibid.*

²¹⁴ Grover, *A history of the piano*, p 146.

lighter.²¹⁵ A reliance on cast-iron frames not only remedied string tension problems, but stabilised tuning. Previously, the instability of tuning was a result of wrest pins (tuning pins) being embedded in wood. In 1884, Brinsmead provided a solution of inserting wrest pins into a metal flange onto the cast frame.²¹⁶ Brinsmead thought this was an ingenious design, but others did not seem to follow his footsteps.

Conservative makers strongly opposed the use of metal in frames. Until as late as 1888, it was argued that the use of iron in the construction of the pianoforte had the tendency to destroy musical tone, as too much metal interrupts the transmission of sound through the wood vibrations.²¹⁷ Many European makers preferred composite forged metal frames. Composite frames were thinner, and were not always made out of brass; in some cases, they were zinc coloured to look like brass and nickel.²¹⁸ Composite frames were found in Erard grand pianos until the 1870s, and in Broadwood until 1895, when their 'Iron Grand' was released.²¹⁹ Composite frames worked in conjunction with straight-strung pianos, and metallic bars were inserted to share the load of string tension. David S. Grover believed that pianos with composite frames were best suited for performances by Mendelssohn, Chopin, and others who composed for them, as the resultant avoidance of over-stringing imparted specific tonal qualities.²²⁰

Composite frames still provided no solution to the removal of iron bars.²²¹ According to Alastair Laurence, metallic bars disrupt the uniformity of string length, tension, and layout within the stringing scale, thus affecting the tone.²²² Bars widened the gaps between strings, which would have resulted in an impaired sound, lessening the sustaining power. In addition, the tension difference between strings on either side would have resulted in an audible 'bump' in the tone, therefore affecting its gradation. So Broadwood tried to use a combination of cast and wrought iron to remove some tension bars, which resulted in a 'more or less inimical to carrying and equality of tone.'²²³ Henry John Tschudi Broadwood was keen to remove tension bars, and from 1888 to 1914, introduced the 'Barless grand', which had replaced the cast iron with rolled

²¹⁵ In Steinway uprights, the average frame weighed nearly 2 cwt (hundredweight). Blüthner's and Bechstein's weighed about 1¾ cwt, and the English brands had ranged from 1 to 1¾ cwt. 'The weight of the iron-frame in a piano and how it affects the tone', pp. 131–132.

²¹⁶ Wainwright, *The piano makers*, p. 110.

²¹⁷ 'Influence of metal on tone', *POMTJ*, 6: 67 (February 1888), p. 421.

²¹⁸ *Ibid.* If the plate was to come loose, vibrations inside the piano would become out of control.

²¹⁹ Grover, *A history of the piano*, p. 145. The 1870 Erard at Lyme Park had a composite iron frame, and the 1896 Erard at Kingston Lacy had a cast-iron frame.

²²⁰ Grover, *A history of the piano*, p. 158.

²²¹ Composite frames were found on the Erard 1870 (12294, London series) at Lyme Park and Erard 1896 (74405, Paris series) at Kingston Lacy. The former had six metallic bars, and the latter only had three.

²²² Alastair Laurence, *The Broadwood Barless piano*, p. 22.

²²³ *Pianoforte dealers' guide* (October 1882), p. 235.

boiler steel.²²⁴ Earlier types of 'Barless' date from 1888 to 1893, and were made from a single large sheet of pressed steel. Later types built from 1895 to 1914 were made of cast steel, and fitted onto over-strung rather than straight-strung pianos.²²⁵

A firm that used wrought-iron instead of cast-iron frames was Pleyel, Wolff & Co.²²⁶ The difference between cast iron and wrought iron is the process of manufacturing; for cast iron, the iron is melted before being poured into a mould to cool, while in wrought iron, the iron is heated before being shaped by tools. The advantage of wrought-iron plates was that strings were attached onto the soundboard instead of pulling directly against the soundboard, thus the tone in the bass register can be preserved for much longer.²²⁷

Makers also sought other adjustments to the frame to increase sonority of tone. In 1885, Brinsmead placed a metal frame and bracings in front of the soundboard instead of behind, and used wrest-plank and bracings of solid metal instead of wood.²²⁸ Erard introduced a resonator in 1895, which was a detachable perforated metal-plate suspended underneath the soundboard.²²⁹ The effect of the resonator was to enrich tone through increasing the power of lower harmonics, and as claimed by the *Musical times* in 1896, was to be 'a great value to worn instruments and those of hard quality, and it is not impossible that the invention marks a new era in the development of the pianoforte'.²³⁰ Ernst Kaps 'Reflectophon' was of similar concept to Erard's, the difference being that it was made of wood and designed for upright pianos.²³¹ Although these designs were short lived, they were evidence pointing to the ideals that late-nineteenth-century firms had in augmenting tone through piano frames.

²²⁴ Wainwright, *The piano makers*, p. 111.

²²⁵ 'A. J. Hipkins on the history of the pianoforte', *The musical world*, 59: 17 (23 April 1881), pp. 257–258.

²²⁶ *POMTJ*, 4: 31 (February 1885), p. 2.

²²⁷ 'The destruction of tone', *POMTJ*, 15: 180 (September 1887), pp. 340–341.

²²⁸ Brinsmead, *The history of the pianoforte*, pp. 168–169.

²²⁹ This invention was heavily advertised in journals when first released and used in concert halls. However, it was discontinued after three years. Holes on surviving Erard pianos suggest the locations of the resonator, however I have not been able to find an existing copy with the resonator attached.

²³⁰ 'The new pianoforte resonator', *The Musical times*, 37: 642 (1 August 1896), p. 535.

²³¹ <http://www.pianohistory.info/edwardian.html>, consulted on 18 November 2019.

1.3 A comparison of the amalgamation of piano parts in different brands

Careful selection of parts, such as the action, type and length of string, striking points, frame, and sounding board, were needed to obviate unsympathetic quality of tone. The selection of parts rested on the advocates of two systems – ‘one demanding power and volume, and the other asking merely for delicacy of touch and a small singing tone of refined quality.’²³² This was a decision crucial for firms to make to satisfy public demands. For the Viennese makers, as practiced by Streicher and Bösendorfer, the solution was to offer a buffet of selections. The different standards would have meant that there were vast differences in tone amongst their own pianos.²³³ This offering may have temporarily propelled sales within local markets, but at the expense of the brand’s reputation for a uniqueness of tone, which their precursors had worked hard to build. It also represented a wavering in the company’s own ideal of tone.

Firms being swayed by current trends and taste in their pursuit of the ideal tone was a recurring theme for many during this period, though their perspective differed as to what was the ‘trend’ and ‘taste’. One interpretation was the effect of technological advancements. Collard & Collard completely transformed the designs of their pianos, as evident when comparing one dated from 1870 and another from 1905.²³⁴ Starting with the actions, the Collard 1870 had a variant of the English grand action, while the latter had a variant of Herz-Erard type.²³⁵ The frame of the earlier had composite iron frame, and the latter single-cast frame. The stringing of the Collard 1870 was straight-strung, but over-strung in the Collard 1905. The soundboard, previously grained parallel to the belly rail, was grained diagonally. Broadwood likewise made drastic advancements in their piano parts. Comparing one dating 1881 with another of 1908, apart from the soundboard grain direction being the same, the action was changed from the English grand variant to a Herrburger-Schwander import, the frame from composite iron to *Barless*, and strings from

²³² ‘The Paris piano trade viewed through American spectacles’, *MOMTR*, 15: 180 (1 September 1892), pp. 779–780.

²³³ Many investigations on late-nineteenth-century Viennese pianos, particularly through studies of Brahms, have referred to Viennese brands with Viennese elements, but did not refer to how artists / musicians thought about Viennese brands with non-Viennese designs. Augustus Arnone, ‘Textural ambiguity in the piano music of Johannes Brahms’ (DMA, Cornell University, 2007). Styra Avins, ‘Performing Brahms’s Music: Clues from His Letters’ in Michael Musgrave and Bernard D. Sherman (ed.) *Performing Brahms: early evidence of performance style* (Cambridge, New York: Cambridge University Press, 2003), pp. 11–47. George S. Bozarth and Stephen H. Brady, ‘The pianos of Johannes Brahms’ in Walter Frisch (ed.) *Brahms and his world* (Princeton University Press, 1990), pp. 49–64.

²³⁴ Collard & Collard 1870 at Arlington Court and Collard & Collard 1905 at Beningbrough Hall.

²³⁵ To be precise, the action found in the Collard 1870 was in fact a variant of the repetition action which James Stewart of Collards first patented in 1841.

straight-strung to cross-strung.²³⁶ The Broadwood 1908 also had striking ratios similar to the Steinway 1892.²³⁷

Both transformations would have imposed a threat to the British piano industry. Although English firms retained manufacturing in Britain, components were mostly imported abroad.²³⁸ The growing reliance on imported parts was a worry expressed by the *POMTJ* in 1894, that upon an inspection of an English piano, its soundboard was an import from America, the keys came from France and other countries, and steel wires, wrest-pins, and bridge pins were all foreign made.²³⁹ The fact that the pianos of two significant British brands (Broadwood and Collard & Collard) had mostly foreign parts, meant that nothing was made in England.

Yet, there were firms that remained unwavering in their design concepts during this period. Comparisons between three Erards (1870, 1896, and 1901) revealed almost no change in piano parts: all had Erard double-escapement repetition action, under-dampers; felt-covered hammers, composite-iron frame, and grain parallel to the spine.²⁴⁰ The only key difference was an attachment of a resonator on the 1901 Erard.²⁴¹ Every part echoed the Erard tradition, but by the end of the nineteenth century, their practice was viewed as old fashioned by other piano makers, and thus Erard innovations were facing extinction. Steinway pianos also had designs which were composed entirely of in-house parts. In two of the extant Steinway pianos I examined, both contained inscriptions of their popular inventions: foundry steel casting, tubular metallic action frame, over-strung, duplex Scale, and repetition action.²⁴² Yet, the only 'new' patent after the 1880s was Steinway's 'New Scale Orchestral Grand Pianoforte' in 1895, as introduced at the Saturday popular concerts in St. James' Hall.²⁴³ Not much was said about this piano apart from the increase of tone, presumably, the change was only the slight lengthening of the piano body, and the uniformed Philharmonic pitch. Other European makers copied many of Steinway's elements, except for the middle pedal, which was generally not adopted.

²³⁶ Broadwood 1881 at Calke Abbey, and Broadwood 1908 (49610) at Coughton Court.

²³⁷ Winter, 'Striking it rich', p. 288. Winter revealed that the striking point on the Steinway was retained at around 8.5 ratio for the first four octaves, and the same conclusion can be drawn for the 1908 Broadwood. The average ratio for the 1881 Broadwood for the same registers was around 9.0.

²³⁸ 'What is an English Piano', *POMTJ*, 8: 104 (March 1891), pp. 50–51. Also William G. Thomas' response in 'Correspondence to what is an English piano', *POMTJ*, 8: 106 (May 1891), p. 85.

²³⁹ 'Foreign works in English pianofortes', *POMTJ*, 12:115 (November 1894), p. 174.

²⁴⁰ Erard 1870 at Lyme Park, Erard 1896 at Kingston Lacey, and Erard (80479, Paris series) at Berrington Hall.

²⁴¹ As recorded in the Erard archives, 'Piano à queue No.00 Style Louis XVI Acajou moucheté vernis orné de bronze doré. Mécanique à levier.' This device was not found when the author visited.

https://archivesmusee.philharmoniedeparis.fr/exploitation/Infodoc/digitalcollections/viewerpopup.aspx?eid=E_2009_5_76_P0001, consulted on 13 June 2019.

²⁴² Steinway 1889 (68647) at Stourhead and Steinway 1905 (114649) at Polesden Lacey.

²⁴³ 'Music Gossips', *The athenaeum*, 3557 (28 December 1895), pp. 909–910.

Most late-nineteenth-century piano firms still used their signature patents. All Blüthner pianos used the Blüthner's patent action, and some featured the aliquot stringing.²⁴⁴ Blüthner mimicked Steinway in cross-stringing and cast iron frames, but Blüthner having lighter hammers and lower striking points meant that their 'gentle and melodious tone' was distinct from Steinway's 'vigorous, metallic sound'.²⁴⁵ Bechstein was similar to Steinway in that it was cross-stringed and had a cast-iron frame. However, Bechstein did not use the duplex scale or Steinway's repetition action, but instead used a repetition action supplied by Herrburger-Schwander. A survey of three Bechstein pianos (1892, 1903, and 1906) revealed that Bechstein's hammers were less dense, and their piano case was not as thick or rigid as those found in Steinway's pianos.²⁴⁶ The grain direction of the soundboard in a Bechstein, sloping away from the player's left, was also typically German. In essence, Bechstein pianos had infused American, French, and German elements, but did not have any Bechstein-specific patents. Yet, the Bechstein tone was often regarded as quintessentially 'German', most likely because the Bülow School had actively promoted Bechstein pianos.²⁴⁷

1.4 Summary

As seen throughout this chapter, whether piano manufacturing firms conformed to using industrialisation methods in piano production, or relied on technological advancements, the pursuit of tone was still an important factor in the decision-making process. Pianos of the study period were developed under the mobility of trade and the available intermix of ready-made parts, but development should not be understood as a streamlined process towards perfection, but rather as a series of considered compromises. Changes in piano designs were therefore a response to the changing ideal of tone perception, as dictated by the leaders of the firms, and the leading firms in their constituencies. These responses were contingent on the trade strategies implemented. For Britain, which welcomed the residence of foreign piano makers and musicians, the piano firms tried to retain their 'Britishness' when confronted with a cosmopolitan soundscape. In France, enforced regulations secured the business of native firms in their home

²⁴⁴ Blüthner's roller action only started in 1920, and commonly found in their pianos after 1926, <https://www.robertspianos.com/top-makes-of-piano/bluthner-pianos/bluthner-grand-pianos/>, consulted 11 December 2020.

²⁴⁵ Blüthner-Haessler & Benz, *Blüthner: 150 Jahre Pianofortebau*, p. 64. Original quote taken from *Neue Zeitschrift für Musik*, which detailed the conversation from musicians at the 1864 General Meeting at Karlsruhe.

²⁴⁶ Bechstein 1892 (28936) at Wightwick Manor, UK; Bechstein 1903 (63532) at Mottisfont Abbey, UK; Bechstein 1906 (80489) at Upton House, UK.

²⁴⁷ 'Bechstein instruments are preferred by the Bülow school due to their responsive touch, which faithfully reflects the performer's finest nuances.' Blüthner-Haessler & Benz, *Blüthner: 150 Jahre Pianofortebau*, p. 64.

market, therefore French firms only needed to carry on the tradition of the 'French' tone. Germany's strategy was to expand their markets wherever possible to achieve worldwide recognition, and therefore actively participated in world exhibitions and incessantly promoted their pianos through pianists. American firms, for which the primary motive was to build sturdier pianos to withstand extreme climatic conditions, leaned on mechanisation to produce what was effective and efficient. Thus we have discourses of tone that changed according to nationally differentiated concepts of tone: the Americans preferred the 'hard shrilled'; the Germans, 'a heroic quality'; the English, 'full and round'; and the French, 'delicate and translucent, but sometimes thin'.²⁴⁸

Aside from the four major nations in the piano industry, others around the world, such as Belgium and Holland, were also making pianos to suit local taste, but struggled to elevate their instruments onto the international platform. Viennese firms, which had made a significant presence in earlier decades of the nineteenth century, withdrew from most global competition and were known mostly within Vienna at the turn of the twentieth century. The Russian piano industry was yet to be firmly established and looked mostly to German firms for direction.

All piano firms made best efforts to achieve their ideal tone through careful selecting from a diminishing availability of parts: from the action to suit particular schools of playing; the striking point of the hammer to the string to determine tone qualities; the placement and scaling of strings, in achieving evenness and resonance in tone; and the soundboard and frame, to augment the tone qualities. Once firms made the pianos and imparted their tone ideals, it was up to others, such as pianists, musicians, critics, and the public to form their opinions about it. Yet, their perception of tone could differ from the original intention of the designer, as factors of nationalism, institution, and notions of superiority were in play. These themes continued to resurface as more and more people involved themselves in the discussion, as can be seen in subsequent chapters in this thesis.

²⁴⁸ Grover, *A history of the piano*, p. 171.

Chapter 2 Piano Tones on Exhibit

Tone [twenty years ago] was not such a momentous question as it has since become. Among the now existing varieties of tone, we find the metallic tone, the soft and sympathetic tone, and also a tone, known to the trade as the “full, potty tone”.
– POMTJ, 1887¹

The Great Exhibition of 1851, as summarised by Jeffrey Auerbach, was a ‘continuous contest between adherents of different ideas about what constitutes national identity’.² Although it was not the first ever exhibition, most scholars agree that it was the most influential. The Great Exhibition was such a success that further exhibitions began to take place in cities worldwide: 1867 Paris, 1873 Vienna, 1876 Philadelphia, and 1879 Sydney. From the 1880s through to the end of the century, exhibitions became an annual event. Exhibitions celebrated human innovations. It was a podium utilised by all piano firms. The accumulation of pianos seen at exhibitions was far greater and varied than any showrooms across the globe. Exhibitions gave stature to the piano industry as a whole, enlarging both nationally and internationally the importance of the piano manufacturing trade.

Peter Hoffenberg saw exhibitions as allowing for ‘interactive and participatory’ experiences on a wider trajectory than those daily seen.³ Exhibitions therefore were a snapshot of society. Pianos were objects both interactive and participatory, as ‘everybody appreciated them more or less... almost everybody believes that he is, or might be with very little trouble, able to play them.’⁴ However, the role in which the piano was made to manifest at exhibitions was more than just providing entertainment for visitors, or for the commercial interest of the trade. This was because any object displayed at exhibitions became part of the Exhibition ethos embodying a national significance, as said by John MacKenzie: ‘the great exhibitions which from the 1880s came to be dominated by the imperial theme offer the most striking examples of both conscious and unconscious approaches to imperial propaganda.’⁵

This chapter interrogates the exchange of piano tone ideals at International Exhibitions from 1880 to 1904, and the multiple ways in which groups engaged with the discourses. In

¹ ‘The value of the names on pianofortes’, *POMTJ*, 6: 56 (March 1887), pp. 241–242.

² Jeffrey Auerbach, *The Great Exhibition of 1851: a nation on display* (New Haven: Yale University Press, c1999), p. 165.

³ Peter H. Hoffenberg, *An Empire on display: English, Indian, and Australian exhibitions from the Crystal Palace to the Great War* (Berkeley: University of California Press, 2001), p. xiv.

⁴ E. L. T., ‘Music at the Inventions Exhibitions’, *Musical world*, 63: 23 (6 June 1885), p. 349.

⁵ John M. MacKenzie, *Propaganda and Empire: the manipulation of British public opinion, 1880–1960* (Manchester: Manchester University Press, 1984), p. 97.

particular, I approach my study through investigating how professional tastes - the exhibition commissioners, juries, and reporters - guided the public's taste in choosing pianos. I argue that the Exhibition propaganda, from the allocation of juries and judicial system to the positioning and exposure of the pianos, created narratives which differed from exhibition to exhibition. Following a brief description of the exhibitions examined, this chapter is divided into four sections. First, I explore the range of pianos in exhibit as put forward by piano firms, and the reasons for and against partaking in exhibitions. Second, I consider the exhibitions' floorplan and exposure, drawing highlights to cultural identity and national prejudice through the placement of pianos. Their location and displaying conditions either enhanced or hindered the way visitors saw and heard the instrument. Thirdly, I scrutinise the diverse judicial systems through the selection of juries, awarding schemes, and results. In the final section of this chapter, I evaluate professional reports of juries and press, which were often in conflict. These reports not only affected how pianos were judged and perceived at the time, but also narrated the piano history we know today. I conclude with evidence from the World Fair of 1904 St. Louis, which in many aspects, differed from other exhibitions examined, and revealed that there was at last agreement and conformity in the prospect of piano tone.

2.1 Exhibitions

The ten exhibitions examined are listed in [Table 6, p. 69], two in Melbourne, one in London, one in Amsterdam, two in Paris, two in Brussels, and two in the United States (Chicago and St. Louis). For clarity, exhibitions are referred to throughout the chapter by their start year and city. Exhibitions in general lasted for approximately six months. The purpose of the current selection is to begin unravelling the rich discourse of global perspectives on piano tone, and although the list of exhibitions during this period is much more comprehensive than those being examined, musical instruments were not always presented.⁶ Exhibitions held in Germany were omitted as foreign brands mostly abstained from competing in this region.⁷ However, German firms were active participants in exhibitions throughout the two decades.

⁶ For a comprehensive list of expositions, see John E. Findling, *Encyclopedia of world's fairs and expositions* (Jefferson, N.C.: McFarland, 2008).

⁷ One notable German exposition during this period was the Great Industrial Exposition of Berlin 1896, *Große Berliner Gewerbeausstellung*. An examination of the catalogue and prize list showed that there were no foreign brands. 'Zu den Prämiirungen auf der Berliner Gewerbe-Ausstellung 1896', *ZFI*, 17 (1896/97), p. 58. 'Auszelehnungen an Berliner Musikinstrumenten-Industrielle', *ZFI*, 17 (1896/97), p. 322.

Table 6: Selected exhibitions (1880-1904)⁸

Exhibition	Date	Size (ha)	Visitors (1000s)	Category	Class
1880 Melbourne International Exhibition, Australia	1 October 1880 – 30 April 1881	21	1,459	II. Education and Instruction, Apparatus and Processes of the Liberal Arts	13. Musical Instruments
1883 Amsterdam International Colonial and Export Exhibition, Netherlands ⁹	1 May 1883 – 31 October 1883	62	1,439	N/A	33. Musical Instruments
1885 Antwerp Exposition Universelle, Belgium	2 May 1885 – 2 November 1885	54.3	3,500	I. Éducation et Enseignement - Matériel et Procédés des Arts Libéraux	8e. Instruments à cordes, à clavier: pianos etc.
1885 London Inventions Exhibition, England	4 May 1885 – 9 November 1885			II. Music. Group 32: Instruments and Appliances constructed or in use since 1800	169. Pianofortes
1888 Melbourne Centennial International Exhibition, Australia	1 August 1888 – 31 January 1889	35	2,200	II. Education and Instruction, Apparatus and Processes of the Liberal Arts	13. Musical Instruments (Organs, Harmoniums and Pianos)
1889 Paris Exposition Universelle, France	6 May 1889 – 6 November 1889	228	32,350	Matériel et Procédés des Arts Libéraux	13. Instruments de Musique
1893 Chicago World's Columbian Exposition, U. S.	1 May 1893 – 30 October 1893	686	27,529	I. Liberal Arts	Group 158; Class 930. Pianos and Organs.
1894 Antwerp Exposition Universelle, Belgium	5 May 1894 – 5 November 1894	86.5	3,000	IV. Industries d'art	13. Musique (instruments, etc.).
1900 Paris Exposition Universelle, France	15 April 1900 – 12 November 1900	553	50,861	III - Instruments et Procédés Généraux des Lettres, des Sciences et des Arts	17. Instruments de Musique
1904 St. Louis purchase International Exposition, U. S.	30 April 1904 – 1 December 1904	1,272	19,695	Department of Liberal Arts. 21. Musical Instruments	90: Stringed Instruments with keyboard: Pianos & etc.

⁸ The figures for the size of the exhibition and number of attendances are drawn from the appendix to Greenhalgh's book. 1885 London was not included in his study, as he focused on Exhibitions which were considered 'International'. Paul Greenhalgh, *Ephemeral vistas: a history of the Expositions Universelle, great exhibitions and world's fairs, 1851-1939* (Manchester: Manchester University Press, c1988).

⁹ The category for musical instruments in 1883 Amsterdam was unknown due to the lack of official report or exhibition catalogue. Other sources also gave no accounts of the category, but only that musical instruments belonged to Class 33. 'Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon', *MOMTR*, 8: 85 (October 1884), p. 43.

Exhibitions generally grew in occupying space if the event were to repeat in the same city. Both 1888 Melbourne and 1894 Antwerp had 50 percent more space than their previous iteration, and at the 1900 Paris, the area was more than double than at 1889 Paris. An increase of space did not always encourage an increase in attendance, as evident from 1894 Antwerp, the number of visitors decreased by 500,000 compared with 1885 Antwerp. The reason for this drop may have been the close proximity in date of the 1894 Antwerp to the 1893 Chicago, and for cost-related reasons, it was more favourable for exhibitors to prepare for the bigger rather than the smaller events. Such was the case with the International Exposition of Barcelona 1888, that despite the exposition being Spain's first, there were no pianos from America or Britain, as firms had reserved their energies for the 1889 Paris. Other example of large space yet fewer attendees was seen for the exhibitions in the United States (1893 Chicago & 1904 St. Louis), as both the Paris exhibitions had attracted more visitors. This implied that larger exposure in Paris was much expected than exhibitions in other locales, placing Paris at the centre for inter-cultural exchange.

2.1.1 The hierarchy of exhibitions

Exhibition organisers included commissioners and committees, who were responsible for the planning and execution of each exhibition. Members of the Exhibition organisation were prominent figures in various fields, an assembly of 'judges, pastoralists, manufacturers, scientists, and elected government officers'.¹⁰ Commissioners were usually local members, 'cultural bureaucrats', and chosen usually due to their political or aristocratic links.¹¹ The committee consisted of representatives from exhibiting countries, who assisted in the organisation of exhibits and managed the petition on behalf of their nationality, as well as being responsible for conveying 'culture' and 'society' through the arrangement of displays.¹² In addition to the organisational team, there was also an extensive list of patrons, (usually royalty), fulfilling roles of president and honorary vice-presidents.

The categorising of exhibited objects fell under the responsibilities of the commissioners and committees. All objects had to belong to categories, then class. For most exhibitions in this period, musical instruments belonged to 'Education', objects broadly conceived as either scientific or philosophical within the Liberal Arts. This has not always been the trajectory, as instruments were once classified as 'machinery' at the 1851 Great Exhibition, and as an 'industrial art' at 1894

¹⁰ Ibid. p. 42.

¹¹ Peter Hoffenberg, *An Empire on display*, pp. 34–35. Kirby identified the members as mostly belonging to museum curators, scholars, and recognised experts. Sarah Kirby, *Exhibiting music: music and international exhibitions in the British Empire, 1870–1890* (Ph. D thesis, University of Melbourne, 2018), p. 8.

¹² Hoffenberg, *An Empire on display*, p. 36.

Antwerp.¹³ The ambiguity in classifying musical instruments was due to the fact that they could potentially qualify for several categories, machinery, manufacturing, and fine arts: ‘Machinery’ due to the fact that despite pianos being good sound producers, they were essentially raw materials being turned into consumer goods; ‘Manufacturing’ as pianos were objects made from processing raw materials; Fine arts as the pianos’ exterior were often ornately decorated.¹⁴ In exhibitions post 1880, there was a shift in pianos belonging predominantly in the ‘liberal arts’, therefore highlighting the nature of ‘art’ and ‘music’ in instruments. This elevated its purpose beyond mere mechanised products, and contribute to a focus on tone characteristics, as seen later in this chapter under 2.3.5 Official reports.

2.2 Exhibitors

The selection of exhibited instruments often went beyond the control of commissioners and their committees to a wider network of agencies, from as broad as political regimens and overseas administration, to an individual firm. A noticeable difference between piano exhibitors in exhibitions post 1880 to those prior was the decline of contribution from long-standing firms.¹⁵ Only Blüthner, Erard, and Pleyel competed in prizes for three of the ten exhibitions examined. Austrian brands such as Streicher were completely absent throughout, and while Broadwood made a few appearances, it only did so out of special invitation. Regardless, there were still a substantial number of grand pianos from eminent firms on display at each exhibition.

The number of piano exhibitors at any exhibition can only be an estimate, as it was not always made explicit in catalogues, and press reports gave differing accounts. At 1883 Amsterdam, the number according to *Voltaire* was 53 German exhibitors with 115 cottage and 91 grand pianos, and 11 French exhibitors with 31 cottage and 11 grand pianos.¹⁶ This was roughly in agreement with François Soufleto’s account of no less than 55 German exhibitors represented by

¹³ Lyon Playfair (1818-1898) developed the taxonomy of class at the 1851 Great Exhibition, a model commonly used in proceeding exhibitions. Playfair’s success of classification derived from his gathered response and evaluation from manufacturers. Steve Edwards, ‘The accumulation of knowledge or, William Whewell’s Eye’ in Louis Purbrick (ed.) *The Great Exhibition of 1851* (Manchester University Press, 2001), pp. 26–52, in particular, pp. 35–36.

¹⁴ Bethan Evie Smith, *The pianoforte at the Great Exhibition of 1851: investigating cultural value* (Ph. D thesis, Goldsmiths, University of London, 2017), pp. 89–90.

¹⁵ The trend of less participation from ‘leading firms’ was noticed as early as 1887 by *POMTJ*, their claim based on evidence from several past exhibitions. ‘The value of the names on pianofortes’, *POMTJ*, 6: 56 (March 1887), p. 242.

¹⁶ ‘A French view of the pianoforte at the Amsterdam Exhibition’, *MOMTR*, 7: 76 (January 1884), pp. 184–185. Cross-posted in ‘Die französischen und deutschen Pianos auf der Ausstellung zu Amsterdam’, *ZFI*, 4 (1883/84), pp. 403–404.

some 200 instruments.¹⁷ Victor Mahillon reported many fewer numbers of German pianos, but the French numbers were the same as those stated in *Voltaire*, '[Germany] exhibited no less than a hundred and forty-three pianos... [France] with eleven makers with forty-one instruments.'¹⁸ Another example of the discrepancy in the number of pianos exhibited can be found at 1885 Antwerp: René Corneli counted 18 German piano firms, but the German press *ZFI* mentioned 25.¹⁹ Despite the discrepancies, exhibitions generally had large quantities of pianos: at 1885 London, the count reached almost a hundred firms.²⁰ At 1893 Chicago, the number of exhibitors from the United States alone totalled 58, with 50 grand pianos and 264 upright pianos.²¹ These figures testify to the keen interest piano firms had in participating in exhibitions during the late-nineteenth century.

The main motivation for piano firms to partake in exhibitions was public exposure. Exhibition platforms enabled firms to showcase, for six months, to an expansive audience. Trading was common, and most pianos had their price clearly marked; at 1883 Amsterdam, the price of a J. Oor piano (Belgium brand) was 7500 marks.²² Business began as soon as exhibitions started.²³ One of the most successful sales at 1885 Antwerp was conducted by the German firm of Knake bros, whose pianos could only be acquired through lottery due to their popular demand.²⁴ Some exhibition-pianos were built for export only.²⁵

In addition to selling the exhibition products, business relations were sought while firms trialled the success of their pianos in unfamiliar territories. These plans, if successfully implemented, brought significant changes to the monopolisation of the piano market in the area. Noticeable changes occurred in Melbourne and Antwerp. Prior to 1880, the states of Victoria received pianos mainly from English suppliers. However, the proactive participation from German firms in both 1879 Sydney and 1880 Melbourne was such a success that their pianos quickly rose

¹⁷ 'Pianos & harmoniums at the Amsterdam Exhibition. Report by M. Soufleto to the Association of Pianoforte Makers in Paris', *MOMTR*, 7:77 (February 1884), pp. 231–232.

¹⁸ 'Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon', *MOMTR*, 8: 85 (October 1884), pp. 43–45.

¹⁹ René Corneli, *Anvers et l'Exposition Universelle de 1885* (Bruxelles: Typographie & Lithographie, 1886), p. 335. 'Liste der in Antwerpen ausstellenden deutschen Pianofortefabrikanten', *ZFI*, 5 (1884/85), p. 212.

²⁰ 'Music at the Inventions exhibitions. Manufacturer's Exhibits', *The athenaeum*, 2999 (18 April 1885), p. 513.

²¹ Frank D. Abbott, *Musical instruments at the World's Columbian Exposition* (Chicago: Presto Co., 1895), p. 30.

²² 'Hier und dort auf der Colonial-Ausstellung in Amsterdam, Musikalische Instrumente', *ZFI*, 3 (1882/83), pp. 354–355.

²³ At 1888 Melbourne, sales commenced within a week of the opening ceremony. 'Von der Weltausstellung zu Melbourne', *ZFI*, 9 (1888/89), p. 22.

²⁴ Corneli, *Anvers et l'Exposition Universelle de 1885*, p. 335.

²⁵ For example, pianos of Schiedmayer & Söhne and L. Römhildt at the 1885 Antwerp. Corneli, *Anvers et l'Exposition Universelle de 1885*, p. 335.

in popularity. British firms on the other hand were less enthusiastic about participating due to their belief that colonial exhibition medals were not 'worth the cost of obtaining it'.²⁶ Thus, in 1888 Melbourne, when the market had blossomed in favour of Germany, the British press accused their manufacturers of a lack of effort in sales and losing command in their own trade.²⁷ Similarly, at 1885 Antwerp, German firms quickly secured business arrangements in the area, and lost their incentive to exhibit at 1894 Antwerp, as it was unlikely for them to make any new business connections.²⁸ German firms wanted to expand their businesses to the rest of Belgium, which they could have achieved without the extra expense of exhibiting at the exhibition. By contrast, French firms saw the 1894 Antwerp as an opportunity to regain their lost position in Belgium. This was reflected through the highest number of exhibition awards in the piano category as distributed to each country; in 1885 Antwerp, Germany took the lead, but in 1894 Antwerp, it was France.

Of all nations, Germany was the most proactive in bringing pianos to foreign exhibitions during this period, despite the odds against success. The French market, as the Germans acknowledged at 1900 Paris, was the most menacing:

The French market is absolutely zero for our industry, and we need not spend all that money on it, but the exhibition is likely to lure all the civilized nations of the world in their most affluent elements to the French metropolis, as they did the last time, and that is a moment and a reclamation which should not be underestimated.²⁹

The efforts of German firms at exhibitions were not only acts of self-promotion; their government provided financial support to aid piano firms regarding exhibition matters. At 1893 Chicago, both the Imperial German and Prussian government donated a generous amount (\$1 mil and \$120,000 respectively) towards the expenses of transportation, equipment, installation, and administration.³⁰ On the other hand, the French officials placed much more restrictions on their manufacturers. French piano manufacturers rarely took part without the consent of the *Chambre Syndicale of manufacturers of musical instruments*.³¹ The main preoccupation of French participation was to show that the French industries still lived, since there were scarcely any real benefits or recompense for their expense and trouble. Daniel Mayer, the head of Erard, gave a

²⁶ 'The Melbourne Exhibits', *London and provincial music trade review* (15 December 1880), p. 11.

²⁷ 'Pianos at the Melbourne Exhibition', *MOMTR*, 12: 138 (March 1889), p. 293.

²⁸ German firms were eventually persuaded by their local representatives to make appearances. 'Die deutschen Musikinstrumente auf der Weltausstellung von Antwerpen', *ZFI*, 14 (1893/94), p. 776.

²⁹ 'Der französische Markt ist für unsere Industrie zwar gleich Null und hierfür brauchen wir uns nicht in Unkosten zu stecken, aber die Ausstellung dürfte, wie beim letzten Male, alle civilisirten Nationen der Welt in ihren kaufkräftigsten Elementen nach der französischen Metropole hinlocken, und das ist ein Moment und ein Reclamemittel, das gar nicht unterschätzt werden soll.' 'Eine Kollektivausstellung deutscher Klaviere In Paris im Jahre 1900', *ZFI*, 17 (1896/97), p. 714.

³⁰ Abbott, *Musical instruments*, p. 191.

³¹ Abbott, *Musical instruments*, p. 216.

reason for the firm's absence at the 1893 Chicago: there was 'little chance of securing sales of French-made instruments in America'.³²

The risks in exhibiting abroad could be both costly and hazardous. In the 1890s, the export duty charged for British pianos in America was particularly high, and as a result, English firms were represented poorly at 1893 Chicago.³³ Damage to products, especially during shipping, was also inevitable; at 1883 Amsterdam, Diederichs' concert grand was accidentally damaged, so its sounding qualities were seriously affected.³⁴ Kaps also had one of their bigger concert grands damaged on route to the exhibition, having fallen and cracked the frame.³⁵ As well as taking transportation precautions, extreme weather conditions could also be involved in the destruction of instruments. Most pianos built in Continental Europe did not need to take consideration climatic conditions unless their pianos were intentionally built for export.³⁶ Varying climate deteriorated tone and prevented instruments from sounding at their best:

We have seen that the French pianos sent to Chicago, although they had not been manufactured to withstand great climatological variations, have borne victoriously through temperature changes ranging from zero to 40 degrees of heat, and rendered more sensitive still by the violent currents of air reigning in the galleries to which the instruments of this kind are not ordinarily exposed.³⁷

2.2.1 Allotment of space

The distribution of space for displaying objects within an exhibition was one of the deciding factors which either encouraged or discouraged a piano firm from making an appearance. At most exhibitions, the nation's representatives ruled over an individual's application for space. The overall space allotted to each nationality was decided by the exhibition commissioners.

³² Daniel Mayer, 'Chicago exhibition matters', *MOMTR*, 16: 186 (May 1893), p. 491.

³³ Despite the lack of British pianos, there was a good British presence in the exhibition as a whole. Justin Browne, 'Extract from the New York Musical Courier', *POMTJ*, 10: 135 (November 1893), p. 168.

³⁴ 'Amsterdam exhibition, 1883, report of the jury on musical instruments by Victor Mahillon', *MOMTR*, 8: 85 (October 1884), p. 44. The German press reported the tone of this instrument used to be strong and pleasant, in the bass, evenness and a surprising fullness. 'Die Claviere auf der Colonial-Ausstellung on Amsterdam', *ZFI*, 4 (1883/84), pp. 49–50.

³⁵ The piano was still showcased at the exhibition but was inaccessible to the reporters during their time there. 'Die Claviere auf der Colonial-Ausstellung von Amsterdam', *ZFI*, 4 (1883/84), pp. 5–6.

³⁶ The small walnut grand of the Schiedmayer & Sohne at 1883 Amsterdam was built with additional screws so that the individual parts cannot be dispersed in a tropical climate. 'Die Claviere auf der Colonial-Ausstellung on Amsterdam', *ZFI*, 4 (1883/84), pp. 5–6.

³⁷ 'Nous avons pu constater que les pianos français envoyés à Chicago, bien qu'ils n'eussent pas été fabriqués en vue de résister à de grandes variations climatologiques, ont supporté victorieusement des changements de température allant de 0 à 40 degrés de chaleur, rendus plus sensibles encore par les violents courants d'air régnant dans les galeries et auxquels les instruments de ce genre ne sont pas ordinairement exposés.' J. Thibouville-Lamy, *Exposition internationale de Chicago en 1893. Rapports publiés sous la direction de M. Camille Krantz. Comité 38. Instruments de musique* (Paris: Imprimerie Nationale, 1894), p. 20.

Supposedly, the total space apportioned to each nation was determined by the number of exhibitors belonging to the same nationality. However, allocations were often a matter of controversy, as was the case at 1885 Antwerp. Germany, with its approximately 50 exhibitors, had only been able to reserve 5,000 square meters, while France, with fewer exhibitors, acquired 10,000 square meters.³⁸ A greater area would warrant a larger variety of stock, which would have immediately conveyed to the public a sense of being more superior to those which occupied lesser space. The allotment was not only a nation-against-nation rivalry, but also between firms belonging to the same nationality. At 1885 Antwerp, the biggest allocation of space in the German hall went to Lipp, Rich & Sohn, who was granted a space of 24 square meters. Schiedmayer Pianofortefabrik had only half the area of Lipp's, and Ibach, one sixth. [Figure 6, p. 76].³⁹

As space was a limiting factor, the lack of space was often used as an excuse to disqualify unwanted attendances. First, commissioners could have pre-selected who should be at the exhibition, e.g., at 1885 London, if a firm was declined permission because their pianos were not good enough, they could not complain.⁴⁰ Second, as at 1893 Chicago, the 'lack of space' was used as an excuse for withdrawal by over 20 Eastern American manufactures, including Knabe & Co., Steinway & Sons, and Weber Piano Company, but the main cause was more likely to be a political demonstration. Third, firms may have been unwilling to participate, as at 1885 London, the boycott by some leading manufacturers, that in spite of being invited had turned down the invitation, as the space was 'insufficient to display their goods to advantage'.⁴¹

At 1885 London, many foreign exhibitors received just enough space to showcase one to three pianofortes. English firms on the other hand had space to display twenty or more pianos, and had occupied multiple areas in various parts of the building.⁴² Amongst the foreign firms that received better conditions, such as Steinway & Sons, their allocations were still 10 or 15 square feet less than second-class rated English firms.⁴³ The examples from this exhibition revealed one of the advantages that firms had if exhibiting on their home territory, and this advantage was also true for other exhibitions examined.

³⁸ In addition, German companies already in Antwerp had to guarantee 80,000 francs to rent a space. 'Die Weltausstellung in Antwerpen', *ZFI*, 5 (1884/85), pp. 67, 69.

³⁹ Knake bros did not partake in the competition for awards.

⁴⁰ 'Die South Kensington-Ausstellung', *ZFI*, 5 (1884/85), p. 156, 158.

⁴¹ The list of makers did not include Erard, Bechstein, Chickering, or Kaps. 'Music at the Inventions exhibition I. Manufacturer's exhibits', *The athenaeum*, 2999 (18 April 1885), p. 513.

⁴² 'The international Inventions Exhibition, 1885. Special description of the exhibits in the music division', *POMTJ*, 4: 34 (May 1885), pp. 55–62.

⁴³ 'Die Internationale Erfindung- und Musik-Ausstellung in London 1885', *ZFI*, 5 (1884/85), p. 328, 330.

Liste der in Antwerpen ausstellenden deutschen Pianofortefabrikanten.			Quadr.-Meter.
Neupert, J. C.	Bamberg	1 Piano	—,90.
Kracht, Hermann	Berlin	1 Piano	1,05.
Dambach, Wilh.	Stuttgart	Piano	1,15.
Trau, Gebr.	Heidelberg	1 do.	1,15.
Mahr, Jos.	Aachen	1 do.	1,15.
Burger, Herm.	Bayreuth	3 Harmoniums	2,21.
Weischenberg, W.	Düsseldorf	1 Piano	2,40.
Compagnie Concordia	Berlin	Pianos	3,20.
Ecke, Carl	Berlin	2 Pianos	3,50.
Marx, Carl	Dresden	Flügel & Piano	3,50.
Ibach, Gust. Adolf	Barmen	1 Piano	4,—.
Deesz, Jules	St. Johann-Saarbrück.	3 do.	4,50.
Mörs, L. & Co.	Berlin	3 do.	4,50.
Kuhse, J.	Dresden	1 do.	4,75.
Adam, F.	Crefeld	Pianos	5,—.
Frati & Co.	Berlin	2 Drehpianos	5,—.
Römhildt, L.	Weimar	2 Pianos	6,—.
Weidenslaufer, Th.	Berlin	4 do.	7,50.
Adam, Gerh.	Wesel	4 do.	7,50.
Mann, Th. & Co.	Bielefeld	4 do.	10,58.
Schiedmayer & Söhne	Stuttgart	Flügel & Pianos	10,95.
Schiedmayer Pianof.	Stuttgart	Pa. Harm. & Flüg.	12,—.
Mand, Carl	Coblenz	Flügel & Pianos	15,—.
Knake, Gebr.	Münster	Pianos	21,—.
Lipp, Rich. & Sohn	Stuttgart	Pianos	24,—.

Figure 6: Space occupied by German piano firms at 1885 Antwerp⁴⁴

2.2.2 Location

The placement of objects within exhibitions had a significant impact on their exposure. The centre was no doubt unmissable for any gallery visitors, and it was not surprising that the central space was largely reserved for exhibits belonging to the country hosting the exhibition, or their allies. At 1894 Antwerp, France adjoined Belgium in occupying the central rooms, while both English and German exhibits occupied the inner side rooms.⁴⁵ Official guided maps also navigated routes which favoured their homeland. *Massina's Popular Guide* for 1880 Melbourne suggested that visitors should approach the exhibition from the main southern entrance, where products from Great Britain and its colonies were situated.⁴⁶ Inner or side rooms were unfavourable, and national reporters were quick to reproach this disadvantage; at 1883 Amsterdam, the French

⁴⁴ 'Liste der in Antwerpen ausstellenden deutschen Pianofortefabrikanten', *ZfI*, 5 (1884/85), p. 212.

⁴⁵ See Appendix B: Exposition portfolio, floorplan, 1894 Antwerp.

⁴⁶ See Appendix B: Exposition portfolio, floorplan, 1880 Melbourne.

complained about their instruments being located in a side gallery.⁴⁷ The national tensions played out in the exhibition space were no doubt related to the wider nationalistic trends. The French treatment of the German entries in Paris 1900, for example, could signify a symbolic rejection of the German invasion of France in 1870. In the aftermath of the Franco-Prussian war, nationalistic bodies, such as the *Société Nationale de Musique* were founded to advocate French art, and to guard against foreign monopoly in the French market.⁴⁸ German reporters were most furious about the placement of their instruments at 1900 Paris:

The German section for musical instruments can be found by climbing up the large staircase behind the French music desk and then going to the right, at the back of the gallery, but somewhat hidden and hard to find... The place is much too small. Directly under the German division, on the ground floor, were the American displays. This place is in every respect much better than that of the German division, and the participation is also greater... The Russian courts are across them to the left, theirs is also a very large place.⁴⁹

At 1893 Chicago, it was not possible to accommodate the great number of pianos in the Manufacturers and Liberal Arts building, so the French instruments had to be placed in a separate building: the building of electrics. It was only at 1885 London that pianos were seen together 'stretching down the centre of the gallery' at the Royal Albert Hall.⁵⁰ When combined with other exhibits, the quantity of instrument exhibits could still be problematic, as at 1888 Melbourne, where German pianos were so large in number that the visitors upon entering the German court had thought it was a piano room.⁵¹ Despite this, pianos were a magnet for visitors, whether placed together or separately. At 1889 Paris, the *Galerie Desaix* was one of the most visited sections of the Exposition as well as one of the noisiest ones.⁵² For this reason, commissioners

⁴⁷ 'Die Claviere auf der Colonial-Ausstellung on Amsterdam, Originalbericht von unserem Special-Berichterstatter, Nachdruck verboten', *ZFI*, 4 (1883/84), pp. 37–38. See Appendix B: Exposition Portfolio, floorplan, 1883 Amsterdam.

⁴⁸ The *Société Nationale de Musique* was founded in 1871 by Romain Bussine and Camille Saint-Saëns, and the motto of the organisation was 'Ars gallica', the literal translation being 'a French Art'.

⁴⁹ 'Die deutsche Abtheilung für musikalische Instrumente findet man, wenn man die große Treppe hinter der französischen Musik-abtheilung emporsteigt und dann nach rechts geht, hinten auf der Galerie, allerdings etwas sehr versteckt und schwer zu finden...der Platz viel zu klein... Direkt unter der deutschen Abtheilung befindet sich im Parterre die amerikanische Musikausstellung. Dieser Platz ist in jeder Hinsicht viel besser, als jener der deutschen Abtheilung, die Betheiligung ist auch eine größere... Geht man von hier die Halle quer durch nach links, so findet man die russische Musikabtheilung, die am weitesten fertig ist, einen sehr großen Platz...' Th. Mannborg wrote from Paris, 26 April 1900. 'Eindrücke eines deutschen Instrumenten-Fabrikanten von der Pariser Weltausstellung', *ZFI*, 20 (1899/1900), p. 644. See Appendix B: Exposition portfolio, floorplan, 1900 Paris.

⁵⁰ 'Music at the Inventions Exhibition, 1885', *Art journal*, 8: 92 (May 1885), p. 154. 'Music at South Kensington', *The Musical times*, 26: 508 (1 June 1885), p. 317.

⁵¹ 'In the piano saloon', *Horsham Times* (Friday 14 September 1888), p. 1. German pianos totalled 31 grands and 144 other types and were all placed in a hall at the centre of the court. Exceptions were the Mignon pianos of Nicholson & Co., two of which were found at the entrance to the German Court from the Avenue of Nations. 'The Melbourne Exhibition', *MOMTR*, 12: 134 (November 1888), p. 85.

⁵² 'Une des sections les plus fréquentées de l'Exposition comme aussi l'une des plus pittoresques et des plus bruyantes.' 'A travers l'Exposition', *Le Monde illustré*, 33 (1889), p. 263.

usually allocated prime locations for pianos. At 1885 Antwerp, Schröder pianos were placed in the centre of the Russian court, [Figure 7].⁵³ At 1894 Antwerp, Erard and Pleyel were placed on large pavilions in the French court, unmissable for anyone entering the room.⁵⁴ Some exhibitions permitted visitors to play the pianos. At 1888 Melbourne, daily trials of the pianos took place in the German Hall, and seats were provided to accommodate the attendees as it was often crowded.⁵⁵ At 1894 Antwerp, German exhibitors did not devise a routine timetable of piano playing, so the place was full of noise and unpleasant sounds. The French exhibitors dealt with this issue more systematically, it was possible to try an instrument provided no one was engaged doing the same at the adjoining stand.⁵⁶



Figure 7: Exhibits of Schröder at 1885 Antwerp⁵⁷

Having a prime location could attract visitors to view the instrument exhibits, but nearby exhibits could detract the focus of musical instruments, especially impacting the sound and tone qualities of pianos. At 1880 Melbourne, the musical platform was stationed at a place within the building where there was constant noise of a 'moving throng'.⁵⁸ At 1883 Amsterdam, pianos of

⁵³ Corneli, *Anvers et l'Exposition Universelle de 1885*, p. 270.

⁵⁴ 'The Antwerp Exposition, by one who has seen it', *POMTJ*, 12: 145 (September 1894), pp. 138–140.

⁵⁵ *Official record of the Centennial International Exhibition, Melbourne, 1888-1889* (Melbourne: Sands & McDougall, 1890), p. 214.

⁵⁶ 'Die deutschen Musikinstrumente auf der Weltausstellung von Antwerpen', *ZFI*, 14 (1893/94), p. 776.

⁵⁷ Corneli, *Anvers et l'Exposition Universelle de 1885*, p. 272.

⁵⁸ 'Madame Carlotta Tasca gave a recital on the Brinsmead grand piano, stationed this time on the music platform in front of the organ. It is to be borne in mind that in this part of the building the noise of a moving throng is a constant distraction.' 'Exhibition notes', *The Argus* (5 November 1880), p. 6.

the German brands E. Kaps, J. Blüthner, and Schiedmayer & Sons were placed amongst ironworks and rolling mills.⁵⁹ The noise made by these machines was so disruptive, that 'it has happened twice that before the Kaps grand was performed upon the pianist had to close the door because of the incessant noise of the sewing machines in the immediate vicinity.'⁶⁰ Firms were often meticulous about good and bad acoustics, and competition was in place amongst firms from the same country. For German exhibits at 1894 Antwerp, a higher rent could secure a space outside in the Great Hall, a place of more favourable arrangements and acoustics.⁶¹ Ultimately, it was the representatives of each nation who were responsible for arranging the vicinity of objects, but they should not be entirely blamed for the bad sound acoustics, as sound environment also relied on the construction of the building itself. At 1900 Paris, the detraction in sound acoustics of the German court was due to its iron roof, which looked neither pleasant nor rainproof.⁶² The acoustical conditions in the German hall was considered the 'worst possible':

Think of the big hall with fabric curtains and flags, with a roar, like in a big factory, without any intermediate wall, all a room. It's just like playing an instrument on the road. Surely one can say that no musical person was present at this division!⁶³

In addition to sound acoustics, temperature and humidity could alter the sensation of tone and cause damage to the instruments. Most exhibitions did take into consideration the environmental conditions and ended before winter. However, the end of the six-month period could be chaotic. One report from October 1883 detailed the temperature at Amsterdam being extremely 'humid, wet and cold', and despite the space being 'barren and deserted' and instruments 'suffering without assumption', the King of Holland and the exhibition committee chose to remain hostile to the situation, and proceeded with the exhibition.⁶⁴ Humidity reading within the same building could also differ from room to room. At 1883 Amsterdam, dampness was prominent in the side gallery where French pianos were placed, thus pianos needed to be carefully covered to prevent damage.⁶⁵ French pianos also suffered at 1893 Chicago, where they

⁵⁹ 'Ein mustergiltiger Katalog', *ZF*, 3 (1882/83), p. 369.

⁶⁰ 'Die Claviere auf der Colonial-Ausstellung on Amsterdam, Originalbericht von unserem Special-Berichterstatter, Nachdruck verboten', *ZFI*, 4 (1883/84), pp. 5–6.

⁶¹ 'Die deutschen Musikinstrumente auf der Weltausstellung von Antwerpen', *ZFI*, 14 (1893/94), p. 766.

⁶² 'Die Musikinstrumente auf der Pariser Weltausstellung (Fortsetzung)', *ZFI*, 20 (1899/1900), pp. 842–844.

⁶³ 'Man denke sich die grofse Halle mit Stoffvorhängen und Fahnen, dazu ein Getöse, wie in einer grofsen Fabrik, ohne irgendwelche Zwischenwand, alles ein Raum. Es ist also gerade so, als wenn man ein Instrument auf dor Strafse spielte. Sicher kann man annehmen, dafs bei dieser Eintheilung kein musikalischer Mensch zugegen war!' Th. Mannborg wrote from Paris, 26 April 1900. 'Eindrücke eines deutschen Instrumenten-Fabrikanten von der Pariser Weltausstellung', *ZFI*, 20 (1899/1900), p. 644.

⁶⁴ 'Vermischtes: Von der Amsterdamer Ausstellung', *ZFI*, 4 (1883/84), p. 19.

⁶⁵ 'Die Claviere auf der Colonial-Ausstellung on Amsterdam', *ZFI*, 4 (1883/84), pp. 37–38.

were rained on because of a faulty roof.⁶⁶ German pianos at 1893 Chicago on the other hand were placed in ‘scorching heat’, which were neither good for the pianos, nor for attracting visitors.⁶⁷

On the other hand, the placement of pianos at other exhibitions could encapsulate its commodity as perceived back at home. At 1880 Melbourne, pianofortes in the British courts were positioned near furniture and carpets to highlight a domestic environment: ‘Pianos form as much – in fact, a part – of the make-up of every well-appointed house.’⁶⁸ Pianos in the Italian courts did not come across as house-hold items, as they were placed alongside military weapons.⁶⁹ In the French court, pianofortes were regarded as pieces of artwork, as they immediately adjoined the display of silversmiths’ works.⁷⁰ This delicacy contrasted with the mood evoked from the German courts, where instruments were placed in proximity to toys.⁷¹ Swiss exhibits, although having only occupied a tiny fraction of the space, also arranged the presentation of pianofortes in the same playful manner as those in the German courts:

Wood-carvings, albums, chalets, rings, salad knives and forks, fans, paper-knives, little flower vases, brackets, frames, writing books, watch cases & etc, typography, typographical map of Switzerland, railways. lantern, with a large collection of slides, amongst which were specimens of botanical and natural history objects, mathematical instruments; and J. Trost and Co had three very excellent pianos, which were now and then played upon by a girl in a pretty Swiss costume.⁷²

The perception brought forth by placing other objects in proximity to pianos could evoke its tone qualities. The arrangement made at 1880 Melbourne was no coincidence, as at 1885 Antwerp, musical instruments in the French galleries also immediately followed the displays of jewellery.⁷³ The traits of jewellery, such as ‘delicate’, ‘silvery’, ‘light’, and ‘purity’ were words used in description of French pianos.⁷⁴ Decoration surrounding the space also added to defining the

⁶⁶ ‘Frankreichs Ausstellung von Musikinstrumenten auf der Welt-Ausstellung von Chicago. Von unserem amerikanischen Spezial-Berichterstatte’, *ZfI*, 14 (1893/94), p. 103, C. von Hartmann wrote this article when he was in Chicago, on 24 October 1893.

⁶⁷ ‘Ueber die unseren deutschen Ausstellern in Chicago’, *ZfI*, 13 (1892/93), pp. 772–773. Original report found in the American journal, the Chicago-based ‘Presto’.

⁶⁸ Melbourne International Exhibition (1880-1881: Melbourne, Vic.), *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits* (Melbourne: Mason, Firth & McCutcheon, 1882), p. cxxxi. In Britain, the domestic use of the piano had increased in exponential growth throughout the nineteenth century. David Rowland, ‘The piano since c. 1825’ in David Rowland (ed.) *The Cambridge companion to the piano* (Cambridge: Cambridge University Press, 1998), p. 49.

⁶⁹ Melbourne International Exhibition (1880), *Official record*, p. cxx.

⁷⁰ Melbourne International Exhibition (1880), *Official record*, pp. cvii–cviii.

⁷¹ Melbourne International Exhibition (1880), *Official record*, pp. cxv–cxvi.

⁷² Melbourne International Exhibition (1880), *Official record*, p. cxxvi.

⁷³ Corneli, *Anvers et l’Exposition Universelle de 1885*, p. 354.

⁷⁴ In the jury reports of 1885 Antwerp, ‘Almost all the French manufacturers are distinguished by a delicate and light touch, but they seem to seek rather the side of the delicacy than that of the power.’ Original quote, ‘Fast alle französischen Fabrikanten zeichnen sich durch eine zarte, gefällige Spielart aus; es scheint ihnen aber mehr um die Delicatesse als um die Kraft des Tones zu thun zu sein.’ ‘Die Musikinstrumente auf

tone of pianos. At 1885 Antwerp, the decoration in the Belgium court had paintings and old tapestries to surround the spaces. René Corneli recalled this having an effect on the J. Günther grand piano, that ‘when the piano opens, it is as if a stream of caressing harmonies escapes around this poetic evocation.’⁷⁵ Striking décor was also seen in the German hall at 1888 Melbourne, where there was an impressive arch with rich draperies, colossal busts of Emperor Wilhelm I and King Friedrich, ornamental vases, artworks, and a panel with the landscape of the Rhine.⁷⁶ The grandeur imposed by this surrounding would no doubt have imbued in visitors a sound that was ‘superior in tone’; thus even a semi-grand Blüthner could emit tones that were full and rich.⁷⁷

2.2.3 Pianos as unspoken objects

Ornamentation on pianos themselves can further evoke an unspoken ‘sound’ to visitors. Although recitals and demonstrations did take place, a visitor’s encountering with musical instruments could be silent as physical contacts with exhibited objects were at times prohibited. Pianos in exhibit were even roped away, as seen at 1885 London and 1894 Antwerp. Selections of images to show how courts or allotments looked like at exhibitions are provided over the next few pages [Figure 8, p. 82 to Figure 13, p. 84]. Unless audiences happened to visit during times of demonstrations or recitals, they would have also missed the opportunity to hear what pianos sounded like and were left to envisage the sound through their imaginations. George Bernard Shaw complained about not being able to play and only view the instrumental displays at 1885 London:

No less satisfactory exhibition can be conceived than a collection of musical instruments surmounted by notices that visitors are requested not to touch... you cannot hear the sound, apart from which it is the most senseless object extant; and your personal independence is irritated by the feeling that what prevents you from satisfying your curiosity by force of arms is not your conscience, but the proximity of a suspicious policeman, who is so tired of seeing apparently sane men wasting their time over second-hand fiddles and pianofortes, that he would probably rather arrest you than not, if only you would give him a pretext for the capture.⁷⁸

der Ausstellung von Antwerpen’, *ZfI*, 6 (1885/86), pp. 13–14. Liszt thought that Pleyel pianos have silvery and somewhat veiled sonority. In Jean-Jacques Eigeldinger, *Chopin et Pleyel* (Paris: Fayard, 2001), p. 166.

⁷⁵ ‘Quand le piano s’ouvre, il semble qu’on flot d’harmonies caressante s’échappe autour de cette poétique évocation.’ Corneli, *Anvers et l’Exposition Universelle de 1885*, p. 371.

⁷⁶ ‘Von der Weltausstellung zu Melbourne’, *ZfI*, 9 (1888/89), p. 22.

⁷⁷ *Ibid.*

⁷⁸ George Bernard Shaw, ‘Musical instruments at the Inventions Exhibition’, *Magazine of music*, 2: 17 (August 1885), p. 111.



Figure 8: French court, Great Hall at 1880 Melbourne⁷⁹



Figure 9: German court, temporary annex at 1880 Melbourne⁸⁰

⁷⁹ Museums Victoria Collections <https://collections.museumvictoria.com.au/items/1563175>, consulted on 10 April 2020. Photograph taken by British photographer Francis Frith (1822–1898).

⁸⁰ Museums Victoria Collections <https://collections.museumvictoria.com.au/items/1563125>, consulted on 10 April 2020. Photograph believed to be taken by Ludovico Hart, one of sixty-one photographs in the album '1880 Melbourne International Exhibition', presented to Thomas B. Hill.

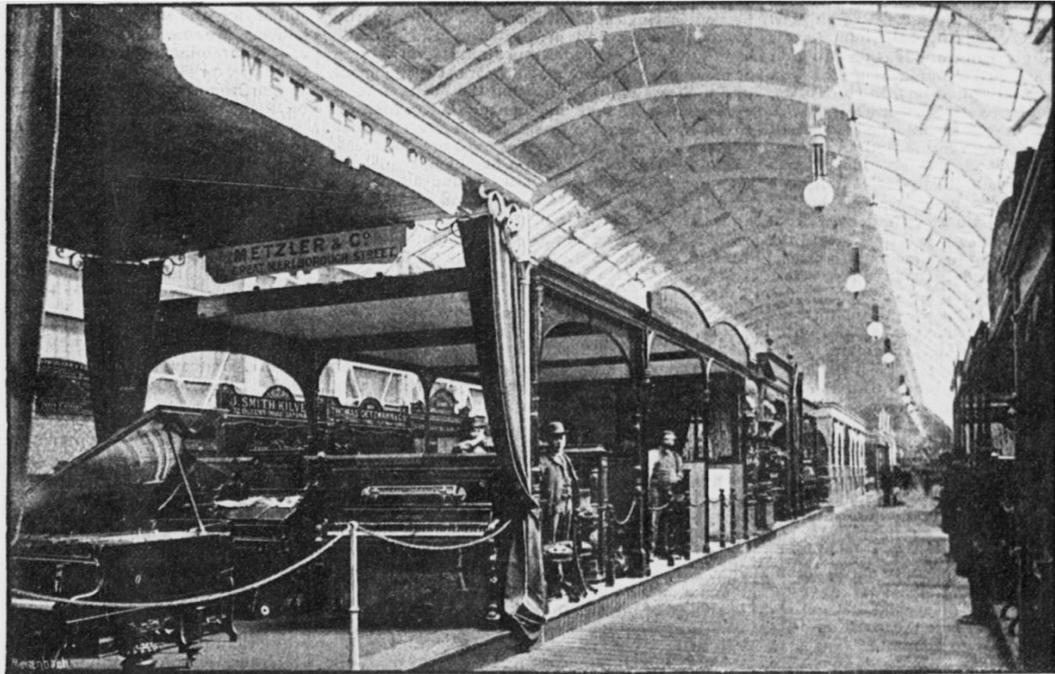


Figure 10: Pianos being roped off at 1885 London, and attendants on standby⁸¹



Figure 11: Römhildt-Weimar Pianofortefabrik A.G. at 1884 Antwerp⁸²

⁸¹ 'Musical exhibits at the Inventions Exhibition', *MOMTR*, 8: 94 (June 1885), p. 461.

⁸² 'Von der Antwerpener Weltausstellung', *ZfI*, 14 (1893/94), p. 882.

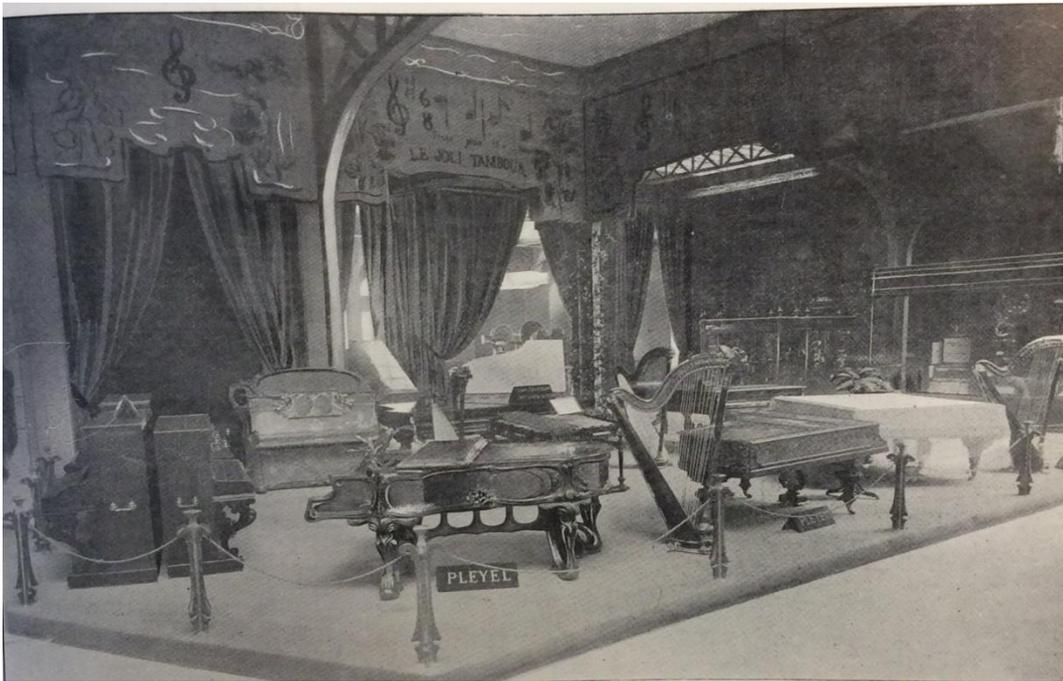


Figure 12: Pleyel, Wolff, Lyon & Co. at 1900 Paris

© British Library Board (General Reference Collection LOU.LON 782 [1900])⁸³



Figure 13: J. Becker at 1900 Paris

© British Library Board (General Reference Collection LOU.LON 782 [1900])⁸⁴

⁸³ 'Musical instruments at the Paris Exhibition, 1900', (an additional publication on the Paris Exhibition in the Autumn Trade number), *POMTJ*, 17: 218 (October 1900), p. 17.

⁸⁴ *Ibid*, p. 25.

Musical instruments left un-sounded, as uttered through Shaw's remark, are detached from their actual functionality. Sound through imagination could be enriched through examining the pianos' technical parts, but this was a futile act for most except for specialists. To compensate for the lost sound, pianos in exhibitions, particularly grand pianos, appeared in lavish external forms, and were intended as objects that were not only to be played but also objects to be seen. Thus, the array of extravagance in the pianos' exterior at exhibitions could be extremely diverse, as evident from the selection present at 1900 Paris, [Table 7, below].

Table 7: Examples of descriptions of pianos at 1900 Paris

Selected firms	Brief descriptions on the exhibited pianos ⁸⁵
A. Bord & Cie., Paris	'The most beautiful of the grands is in the style of Louis XV, in ivory and gold lacquer, with paintings in the Watteau style.'
Focké & Sons, Paris	'In Louis XV Style, in gilt, richly painted with flowers and figures. A novelty consisted of paintings under the lid (which showed when lifted) of four lines of clefs, the notes being of flowers.'
Pleyel, Wolff, Lyon & Co., Paris	'A magnificent Louis XV grand in satin wood, with superb Vernis Martin decoration. The most beautiful is the grand in Empire style, a beautiful mahogany case, with bronze gilt ornamentation, the design and execution of which are most chaste.'
Ehrbar, Vienna	'The Louis XV concert grand, which is perhaps the <i>pièce de résistance</i> , is an instrument of high class in quality of tone and beauty of its decoration: it is in a white and gold lacquered case, and very richly carved; the back leg is surmounted with a carved Cupid, and the lid beautifully painted with Cupids surrounding a medallion of Mozart.'
Blüthner, Leipzig	'Grand in beautiful rosewood case, appliqued with gilt, bronze, and marquetry in modern style; the iron frame is ornamented and gilt. An upright in red mahogany. Given the name ' <i>English Style</i> ', but any observer would have no difficulty in adding ' <i>Made in Germany</i> '.'
Schiedmayer Pianoforte Factory, Stuttgart	'Strong case, beautiful lid and legs, splendid taste in ornamentation. It is not overdone with heavy decoration, but with subdued tones, well-formed ornaments in all its parts. Made of mahogany; the entire surface covered with inlaid work in metal, mother of pearl, and coloured wood. Lots of colours flowers decoration.'
Hals Brodrene, Christiania	'Three grands: a concert grand in rosewood case, with a fine, powerful tone; a semi-drawing-room grand in Italian walnut, beautifully carved in <i>Norwegian</i> style; and a quarter-grand in a black case.'
Becker, St. Petersburg	'Richly carved case of pear tree wood and maple in the <i>Russian</i> style, with Louis XV. Ornaments; it is a model of luxurious decoration.'
Diederich Bros, St. Petersburg	'Renaissance style, polished in rosewood case, on the sides marble plaques are let in on mahogany frames, and there are also ornamentations in gilt bronze; it has a bronze iron frame with nickel roses.'

⁸⁵ Descriptions extracted from 'Musical instruments at the Paris Exhibition, 1900', *POMTJ*, pp. 1–28.

The ideal of tone in grand pianos portrayed through such adornments was an elevation of social status and cultural identity. Karen Yuen described this trend as a social norm for the middle and upper classes, ‘an elaborate instrument with its distance from necessity... served the purpose of social distinction... those with the most economic capital could afford to ignore the gross functionality of the instrument in favour of its purely visual qualities’.⁸⁶ At exhibitions, these pianos stood at the pinnacle not only as possessions of the privileged, but also as national treasures. Pianos were imprints of their nationalistic styles, as found on the Norwegian brand Hals Brodrene and Russian brand Becker, [Table 7, p. 85]. Louis XV style was commonly adopted amongst the French brands, [Figure 14], but seldom found in the descriptions of German pianos, despite the shared use of marquetry and mother of pearl, [Figure 15, p. 87]. Pianos were labelled according to their national identity, and when imposed with another trait, became questionable to spectators. This was the case with a Blüthner upright at 1900 Paris being named ‘English Style’, despite being obviously ‘made in Germany’.⁸⁷

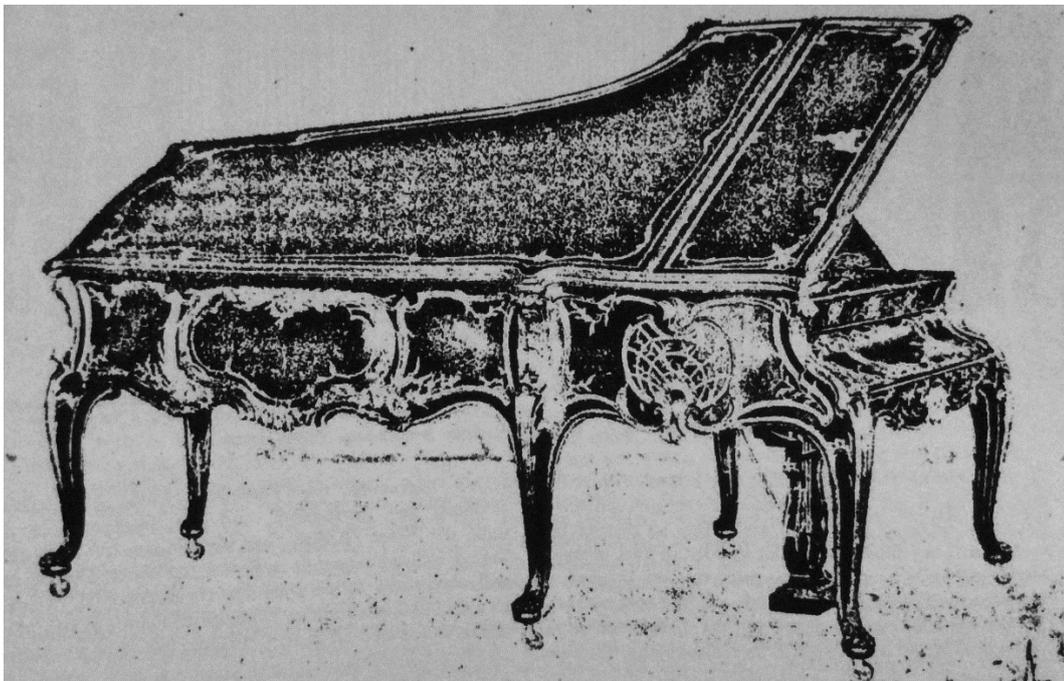


Figure 14: Erard grand in Louis XV Style at 1900 Paris

© British Library Board (General Reference Collection LOU.LON 782 [1900])⁸⁸

⁸⁶ Karen Yuen, ‘Fashioning elite identities: Dante Gabriel Rossetti, Edward Burne-Jones, and musical instruments as symbolic goods’, *Music in art*, 39: 1&2 (2014), pp. 145–158, in particular, p. 147.

⁸⁷ ‘Musical instruments at the Paris Exhibition, 1900’, *POMTJ*, 17: 218 (October 1900), p. 22.

⁸⁸ ‘Musical instruments at the Paris Exhibition, 1900’, p. 10.

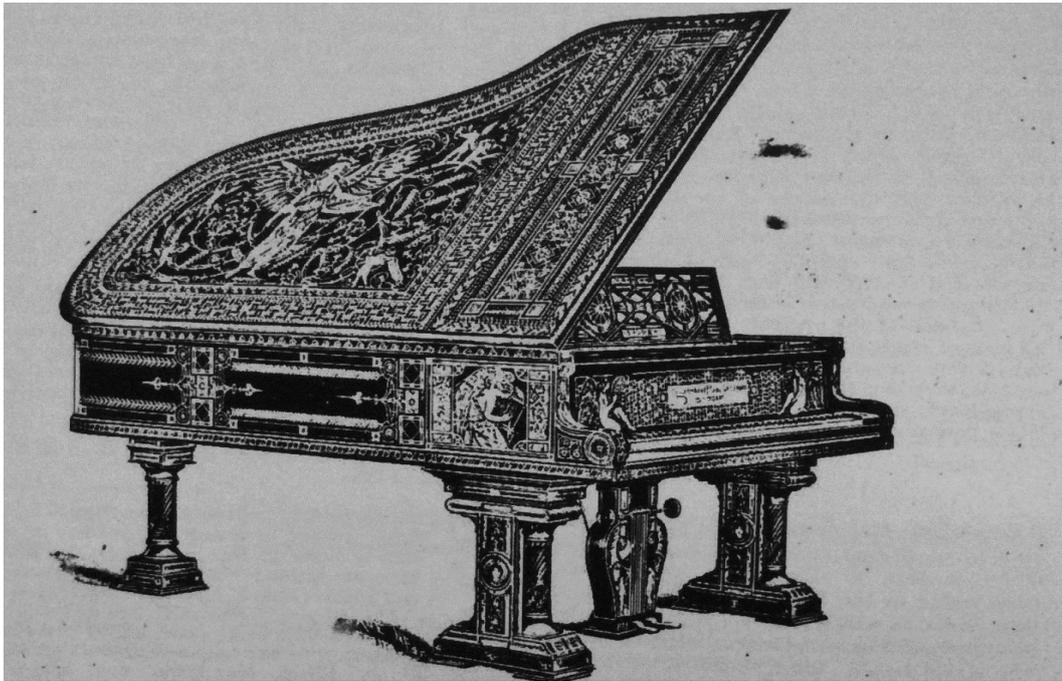


Figure 15: The Schiedmayer grand at 1900 Paris
 © British Library Board (General Reference Collection LOU.LON 782 [1900])⁸⁹

2.2.4 Recitals & demonstrations

There were plenty of opportunities to hear pianos being played at exhibitions. At every exhibition, music recitals were integrated into the exhibition experience, and thus complimentary for the exhibition attendees. Recitals were of considerable attraction and cost the commissioners no extra to run, since the coordination of the recitals was organised by firms or their agents. At 1880 Melbourne, the hours for pianoforte recitals were fixed daily between 3 to 6 pm in the afternoon.⁹⁰ Concert programmes were posted from time to time in *The Argus*, a typical week of recitals is shown on [Table 8, p. 91]. Two trends can be identified in the running of recitals. Firstly, concerts were being performed within proximity to where exhibits were situated and programmed at successive intervals rather than simultaneously. This could have been out of courtesy rather than obligation, as at one occurrence, a pianoforte recital in the Belgian court had interfered with the Quartet playing in the German court.⁹¹ At its peak, the turnover for concerts could be every half-hour, and up to six concerts could be arranged per day. This totalled to several hundred recitals across the six-month period, the total number excluding the spontaneous recitals

⁸⁹ Ibid, p. 22.

⁹⁰ Exhibition notes', *The Argus* (1 January 1881), p. 5.

⁹¹ 'There should be a better time arrangement of the musical performances between the German and the Belgian courts than there was yesterday, the sound of the pianoforte in the Belgian court having greatly interfered with the beauty of the Beethoven Quartet which was played in the German court.' 'Exhibition notes', *The Argus* (February 1881), p. 6.

that occurred from time to time.⁹² Professional musicians were hired by firms to perform on exhibited pianos, but there were no apparent exclusive links between firms and pianists; Carlotta Tasca played on pianos in British, French, and German courts, while Alice Charbonnet played on pianos by Erard and Pleyel.

Not all firms saw recitals as befitting businesses at exhibitions. The most enthusiastic were the French and Russian exhibitors. At 1883 Amsterdam, French and Belgian exhibitors engaged pianists to play on their instruments, but nothing was done in the Germany courts in this respect.⁹³ At 1885 Antwerp, Schiedmayer Pianofortefabrik was the only German firm proactive in hiring pianists.⁹⁴ It was at 1888 Melbourne where German exhibitors took more initiative in programming recitals, totalling to about three to four times a week.⁹⁵ However, the programming of recitals at some exhibitions was not within the powers of the exhibitors. At 1889 Paris, the majority of recitals were given on Erard and Pleyel pianos, which occurred mostly in the evenings featuring local or internationally recognised pianists, such as Cécile Chaminade, Louis Diémer, Raoul Pugno, and Ignacy Jan Paderewski.⁹⁶

At some exhibitions, such as the 1889 Paris, 1893 Chicago, and 1900 Paris, concert halls were built within the exhibition site. The predominant reason for these concert hall additions was that acoustical properties of exhibition halls were not the most ideal for attesting the instruments to their potentials. Chaos could further result if no regulations were in place for the trialling of instruments, as at 1889 Paris, where a babel of sound lasted each day from two to five in the afternoon.⁹⁷ At 1885 London, a strict system in the organisation of recitals was adopted. The demonstration of exhibited instruments at individual stands could only take place on Saturday, and only a 'simple trial' was permitted, 'nothing of the nature of the performance of a piece will be allowed, and any playing whatever is liable to be stopped'.⁹⁸ Recitals could only be conducted in the music room, which was located at the end of the gallery.⁹⁹ The room could accommodate

⁹² I.e. Miss Matthias gave a concert on the campo Bros piano at 2 pm. 'Exhibition notes', *The Argus* (4 November 1880), p. 6.

⁹³ 'Die Colonial-Ausstellung von Amsterdam', *ZFI*, 3 (1882/83), p. 321.

⁹⁴ 'Antwerper Ausstellung', *ZFI*, 5 (1884/85), p. 390.

⁹⁵ Kirby, *Exhibiting music*, p. 92.

⁹⁶ Annegret Fauser, *Musical encounters at the 1889 Paris World's Fair* (Rochester: University of Rochester Press, 2005), p. 26.

⁹⁷ 'A French view of the Paris Exhibition, translated from *Le monde musical*', *MOMTR*, 12: 143 (August 1889), p. 547.

⁹⁸ This rule was not as strict as it seems, as there were numerous additional recitals throughout the exhibition.

⁹⁹ 'The International Inventions Exhibition, 1885. Special description of the exhibits in the music division', *POMTJ*, 4.34 (May 1885), pp. 55–62.

400 people, and had a platform sufficiently large for two concert grands.¹⁰⁰ This meant that pianos needed to be ‘wheeled in’, tuned, and wheeled out at every recital.¹⁰¹ Such hassle would have meant less time for concerts, hence the regulation for piano recitals to run from 3 to 4 pm, and from 5 to 6 pm. So, although there were more piano makers present in 1885 London than 1880 Melbourne, and the selection of performers in London far greater, the number of recitals, 175 in total over six months, was less than the estimated number of recitals at 1880 Melbourne, as shown in [Table 9, p. 92].

Piano exhibitors wanting to showcase their pianos in recitals at 1885 London needed to obtain prior approval from the music superintendent. Whilst there were no restrictions on the number of times one could apply for recitals, it was evident that British firms dominated in the recitals. Three of the four brands with highest number of recitals were British brands: Brinsmead & Sons (16 performances), J. & J. Hopkinson (11), and Broadwood & Sons (10). Amongst the foreign brands, pianos of Pleyel, Wolff & Co. were used in 14 recitals, and Ibach & Sons in 9 recitals. Other superior foreign brands, such as Blüthner, Schiedmayer, Schröder, and Steinway & Sons only made 4 appearances. Whether or not the frequency of recitals was at the discretion of the superintendent, the result was auspicious for the British firms, as recitals, especially at exhibitions, were modes of commercialism. This commercialisation was further emphasised at 1885 London by the exclusivity of artists to firms, where no pianist was found to have performed on multiple brands.¹⁰²

Some exhibitions had more than one concert hall. At 1893 Chicago, the number of performance spaces included: a musical hall with an auditorium capable of seating 2,500 people; a choral hall (‘Festive Hall’); assembly halls in various state buildings (notably, the Woman’s building); and a recital hall, designed for use as a jury room, which could also be connected to the main hall by the raising of curtain.¹⁰³ A number of pianos were permanently situated in the music halls. Chickering grands were the most dispersed; two placed in the music hall, one in the choral hall, one in the recital hall, three in the Woman’s building, and many more in the assembly hall at the various State buildings.¹⁰⁴ Steinway and Knabe pianos, although not exhibited, had pianos placed in their respective states buildings.¹⁰⁵ Other concerts were given at different sites across

¹⁰⁰ ‘Music at the Inventions Exhibition, 1885’, *Art journal*, 8: 92 (May 1885), pp. 154–155. In the paper works sent to exhibitors, the concert room was to hold 600 people. *A collection of miscellaneous printed and MS. Material relating to pianofortes. Compiled by J. L. Stephen*, British Library, General Reference Collection 07902.b.1/9.

¹⁰¹ ‘Music at South Kensington’, *Musical times*, 26: 508 (1 June 1885), pp. 317–318.

¹⁰² *Ibid.*

¹⁰³ Abbott, *Musical instruments*, p. 26.

¹⁰⁴ *Ibid.*, p. 59.

¹⁰⁵ *Ibid.*, p. 35.

the Exhibition, and as claimed by Frank Abbott, ‘almost all of the pianos represented were heard’.¹⁰⁶

As previously mentioned, piano agents sought ways to sale pianos at the exhibitions, and advertising methods were very much blatant. Yet these sales went beyond the rivalry between firms; it was another demonstration of inter-nations contest. There was often suspicion about disadvantaging foreign contenders, as at 1900 Paris, German reporters complained on behalf of the German piano firms about their prohibited from setting up podiums when these were seen in use by the French and Russian firms, and French exhibitors had the exclusive use of the concert hall.¹⁰⁷ Although Germans back in Germany could read of these rantings, it is unclear whether the public in France, or even the exhibition attendees were aware of this discrimination. Most visitors at 1900 Paris were unlikely to have heard a German piano being played, which may have led to a misinformed opinion regarding German pianos.

2.2.4.1 Pianos as heard & played

The public heard pianos mostly through the hands of pianists at demonstration recitals. Since the main intention of recitals at exhibitions was the advertising of instruments, individuality of a pianists’ playing became a slogan of tone traits. At 1889 Paris, Victor Wilder’s review of Paderewski’s concert had evaluated the piano rather than the pianist:

The other night, the virtuoso Paderewski let us hear the beautiful Erard, which is placed in the gallery of honour. It is a marvellous instrument which obeys the fingers, or better, the thoughts of the artist, with the docility of an intelligent being. This new piano joins to the exquisite softness of the old ones the vigorous sonority demanded by the large concert halls; but what surprised and charmed me above all was the sweet and transparent timbre, so to speak, of the upper octave, where until now one has always heard the dry clattering of wood.¹⁰⁸

There are similarities between reviews of exhibition concerts and those given in the concert halls. In the context of exhibitions, concerts were an avenue for piano firms to further promote and sell their pianos. In-depth discussion of concert reviews are found in the next chapter, Chapter 3: Piano Tones in Concert.

¹⁰⁶ Ibid, p. 35.

¹⁰⁷ ‘Amtlicher Bericht des österreichisch-ungarischen General-Commissariates über die Musikinstrumente auf der Pariser Weltausstellung 1900’, *ZfI*, 21 (1900/01), pp. 779–780.

¹⁰⁸ ‘L’autre soir, le virtuose Paderewski nous a fait entendre le beau piano Érard, qui se trouve placé dans la galerie d’honneur. C’est un instrument merveilleux, obéissant avec la docilité d’un être intelligent, aux doigts, ou, pour mieux dire, à la pensée de l’artiste. Ce nouveau piano joint à l’exquise douceur des anciens, la sonorité vigoureuse exigée par les grandes salles de concerts; mais, ce qui m’a surprise surtout et charme, c’est le timbre délicieux et transparent, pour ainsi dire, de l’octave supérieure, ou, jusqu’à présent, on entendait toujours le clapotement sec du bois.’ Original in ‘La Musique à l’Exposition’, *Gil Blas* (23 July 1889), p. 2. Quoted and translated in Fauser, *Musical encounters*, p. 27.

Table 8: A week of recitals at 1880 Melbourne¹⁰⁹

Time / Date	Brand	Performer	Programme
3 pm Tue 2 Nov.	Brinsmead (grand)	Carlotta Tasca	Chopin: <i>Ballade in A flat</i> ; Raff: <i>La Fileuse</i> ; Liszt: <i>Faust Valse</i> ; Mendelssohn: <i>Spring Song</i> ; Stephen Heller: <i>Reverie, Dans les Bois</i> ; Plumpton: <i>Hibernian Echoes</i> .
3.30 pm Tue 2 Nov.	Erard (grand)	Alice Charbonnet	Hummel: <i>Allegro maestro</i> ; Weber: <i>Invitation a la Valse</i> ; Ascher: <i>Danse Espagnole</i> ; Chopin: <i>Nocturne in E flat</i> ; Alice Charbonnet: <i>Sparkling Eyes</i> ; Giorza: <i>La Grande Duchesse</i> .
2pm Thu 4 Nov.	Campo Bros (semi-grand)	Miss Matthias	Two sonatas of Mozart; Oury: <i>Souvenir d'Edinburg, a fantasia on themes from 'Oberon'</i> ; Sydney Smith: <i>fantasia 'Traviata'</i> .
3 pm Wed 4 Nov.	Pleyel & Co. (concert grand)	Alice Charbonnet	Ries: <i>'Allegro' movement</i> ; Gollmick: <i>Streamlets Whispers</i> ; Alice Charbonnet arr.: <i>the tenor air 'M'Appari' from Flotow's 'Martha', Quicksilver Galop</i> ; Mendelssohn: <i>Spring Song</i> ; Giorzas arr.: <i>themes from 'La Grande Duchesse'</i> .
3pm Thu 4 Nov.	Philippe Herz (Concert grand)	Henri Kowalski	Chopin: <i>Polonaise in A flat</i> ; L. de Meyer: <i>Pastorale</i> ; Mozart: <i>Paraphrase sur Don Juan'</i> , Kowalski: <i>Danse Tzigane, Les Belles de Melbourne, and Marche Hongroise</i> .
4pm Thu 4 Nov.	Brinsmead (grand)	Carlotta Tasca	Chopin: <i>Fantaisie impromptu in C sharp</i> ; Grieg: <i>Bridal Procession</i> ; Schumann: <i>Romance in B flat minor</i> ; Liszt: <i>the 'Rigoletto' fantasia</i> ; Gottschalk: <i>Pasquinade</i> ; De Sivrai: <i>Blair Athol</i> .
3pm Fri 5 Nov.	Bord (grand)	Carlotta Tasca	Roff: <i>Polka de la Reine</i> ; Schumann: <i>Romance in B flat minor</i> ; Jules Benedict: <i>Erin, Mayer, La Fontaine</i> ; Wollenhaupt: <i>La Gazelle</i> ; Plumpton: <i>Valse de Concert</i> .
3.45 pm Fri 5 Nov.	Ibach (grand), Westermayer (grand);	Carlotta Tasca, Mrs Cutter, Signor Ortori, Julius Herz	Liszt: <i>Fantasia from Faust</i> ; Blumenthal: <i>When we are parted</i> ; Ascher: <i>Danze Negre</i> ; Bazzini: <i>Concerto Militaire</i> ; Ascher (piano duet): <i>William Tell</i> ; Tasca: <i>Wanderer</i> ; Plumpton: <i>fantaisie de concert, Loch Lomond</i> ; Alard: <i>Fantaisie de Concert, La Fille du Regiments</i> ; Reichardt: <i>Love's Request</i> .
5 pm Fri 5 Nov.	Brinsmead (grand)	Carlotta Tasca	Chopin: <i>Ballade in A flat</i> ; Mendelssohn: <i>Spring Song</i> ; Ascher: <i>fantasia on themes from 'La Traviata'</i> ; Schumann: <i>Nouvelette in F major</i> ; Plumpton: <i>Valse de Concert</i> .

¹⁰⁹ A survey of 'Exhibition notes' in *The Argus*, week November 1st to 7th.

Table 9: Pianos used in recitals at 1885 London¹¹⁰

Piano Firms (*firms without grand pianos)	Type of Piano & Number of their usage in recitals	Total number of recitals
Allison & Sons	Grand (2) Cottage Grand (2) Pianoforte (2)	6
Blüthner	Aliquot Grand (1) Grand (1) Pianoforte (2)	4
Brewer & Co.	Upright Grand (1)	1
Böhmer*, H. B.	'Thurmer' Organ-Pianoforte (3)	3
Brinsmead & Sons	Grand (2) Sostenente Grand (13) Concert Grand (1)	16
Broadwood & Sons	Grand (1) Concert Grand (4) Pianoforte (5)	10
Challen & Son	Upright Grand (1)	1
Chappell & Co	Grand (1)	1
Charles McVay	Iron Frame Upright Grand (2)	2
Collard & Collard	Grand (1) Concert Grand (1) Pianoforte (1) Metal Concert Grand (5) Cottage Grand (1)	9
Cramer & Co., J. B	Grand (1)	1
Eavestaff & Co.	Pianoforte (1) Grand (2)	3
Guiliano Ajello	Upright Grand (9)	9
Haake, E.F.*	Pianoforte (1)	1
Hemingway & Thomas	Grand (6) Upright Iron Grand (1)	7
Hundt & Sons	Pianoforte (5)	5
Hopkinson, J. & J.	Grand (11)	11
Ibach & Sons	Grand (4) Concert Grand (5)	9
James L. Stephen	Grand (1) Over-strung Metal-framed Grand (3)	4
Kaim & Son	Grand (3) Pianoforte (2)	5
Kelly & Co.&	Pianoforte (2)	1
Kirkman & Son	Concert Grand (3) Steel Concert Grand (5)	8
London Music Publishing Co.*	Pianoforte (4)	4
Munt Bros.*	Combination Iron-Frame (2)	2
Pleyel, Wolff & Co.	Grand (2) Concert Grand (8) Pedalier (1) Pianoforte (3)	14
Pohlmann & Sons	Grand (3)	3
Rummens*	Pedal Pianoforte (4)	4
Rummens, Henry J.*	Pedal Pianoforte (3)	3
Schiedmayer, J. & P.	Concert Grand (2) Iron Grand (3)	5
Schiedmayer & Sons	Grand (1) Concert Grand (1) Pianoforte (2)	4
Schröder, C. M.	Concert Grand (4)	4
Squire & Longson	Pianoforte (1)	1
Steinway & Sons	Grand (1) Concert Grand (2) Pianoforte (1)	4
Strohmenger & Sons, J.	Iron Frame (1)	1
Venables & Co.*	Grand (4) Upright (2)	6
Zeitter & Winkelmann	Grand (2)	2

¹¹⁰ *The International Inventions Exhibition: daily programme, musical and other arrangements (May 4th - November 9th 1885)* (London: William Clowes, 1885). In Kirby's thesis, her scrutiny of recitals organised at the 1885 London included the dates of performances and performers involved, Kirby, *Exhibiting music*, pp. 86–91.

DAILY PROGRAMME.

WEDNESDAY, SEPTEMBER 30th.

ARRANGEMENTS FOR THE DAY.

AFTERNOON.

	PLACE.	TIME.	PAGE.
ORGAN RECITAL	<i>Central Gallery</i>	11.0 TO 12.0	vi
LESSON ON HIGH CLASS } COOKERY	<i>Lecture Theatre</i>	12.0 " 1.0	
ORGAN RECITAL	<i>Central Gallery</i>	12.0 " 1.0	vi
ORGAN RECITAL	<i>Central Gallery</i>	1.0 " 2.0	vi
LESSON ON PLAIN COOKERY	<i>Lecture Theatre</i>	2.0 " 3.0	
ORGAN RECITAL	<i>Central Gallery</i>	3.0 " 4.0	vii
PIANOFORTE RECITAL	<i>Music Room</i>	3.0 " 4.0	ii
MOUNTED ARTILLERY	<i>Eastern Kiosk</i>	3.0 " 5.0	iv
FOUNTAIN DISPLAY	<i>Gardens</i>		
ORGAN RECITAL	<i>Central Gallery</i>	4.0 " 5.0	vii
VOCALION RECITAL	<i>Siamese Court</i>	4.0 " 5.0	iii
ORGAN RECITAL	<i>Albert Hall</i>	4.0 " 5.0	vi
PIANOFORTE RECITAL	<i>Music Room</i>	5.0 " 6.0	ii
SIAMESE BAND	<i>Albert Hall</i>	5.0 " 6.0	viii
GRENADIER GUARDS	<i>Western Kiosk</i>	5.0 " 6.40	v
ORGAN RECITAL	<i>Central Gallery</i>	6.0 " 7.0	vii
ORGAN RECITAL	{ <i>North Court,</i> <i>South Gallery</i> }	6.0 " 7.0	vii
EVENING.			
MILITARY TATTOO	<i>Gardens</i>	6.40 " 7.0	i
INSTANTANEOUS } ILLUMINATION }	<i>Gardens</i>	7.0	
ORGAN RECITAL	{ <i>South Court,</i> <i>South Gallery</i> }	7.0 " 8.0	vii
ILLUMINATED FOUNTAINS	<i>Gardens</i>	7.0 " 7.30	
ORGAN RECITAL	<i>Albert Hall</i>	7.0 " 8.0	vi
HISTORICAL PIANO- } FORTE RECITAL }	<i>Music Room</i>	7.30 " 8.30	iii
MOUNTED ARTILLERY	<i>Eastern Kiosk</i>	7.30	iv
GRENADIER GUARDS	<i>Western Kiosk</i>	8.0	v
ILLUMINATED FOUNTAINS	<i>Gardens</i>	8.15 " 8.45	
ILLUMINATED FOUNTAINS	<i>Gardens</i>	9.15 " 9.45	

Figure 16: Daily programme at 1885 London¹¹¹

¹¹¹ Collection of J. L. Stephen, unpaginated.

INTERNATIONAL INVENTIONS EXHIBITION,
LONDON, 1885.

I beg to forward to you overleaf, the Regulations concerning Recitals to be given in the Music Room which has been specially constructed for the purpose.

I take this opportunity of drawing your attention to the general Regulations which provides that Instruments cannot be performed upon at exhibitors' stands, except on Saturdays, when freedom in this respect is allowed. A simple trial of an Instrument may be permitted, but nothing of the nature of the performance of a piece will be allowed, and any playing whatever is liable to be stopped should inconvenience be found to arise.

Should you desire to give Recitals in the Music Room, I beg to request you to be good enough to fill up and return to me the annexed Form in the enclosed envelope.

Yours faithfully,

Edward Luntiffe-Dusen
Secretary

Figure 17: Regulations for recitals at 1885 London, part 1
© British Library Board (General Reference Collection 07902.b.1/9)¹¹²

¹¹² Collection of J. L. Stephen, unpaginated.

REGULATIONS FOR RECITALS.

1. Dates and hours for Recitals will be allotted according to priority of application.
2. The hours for Recitals will be from 2.30 to 3.30 p.m., and from 5 to 6 p.m.
3. The Names of proposed performers must be submitted for approval.
4. No voice accompaniments will be permitted.
5. The Instruments to be used at Recitals are to be removed from the stands to the Music Room by the exhibitors, under the direction of the Superintendent at such hours as he may appoint.
6. Only exhibited Instruments may be used for Recitals.
7. Particulars of Recitals, with the names of exhibitors of the instruments, performers, etc., will be published in the daily official Programme and upon the notice boards in the Music Division.



Figure 18: Regulations for recitals at 1885 London, part 2
© British Library Board (General Reference Collection 07902.b.1/9)¹¹³

¹¹³ Collection of J. L. Stephen, unpaginated.

2.3 Judicial bureaucracy

2.3.1 Juries¹¹⁴

The opinions and reports of juries informed the public's taste and knowledge of exhibition artefacts, as remarked by John E. D. Trask on his surveying of the influence of world's fairs on the development of art, 'there was no artist or inventor, who, once obtaining thus a public recognition of his ability, has not found his reputation and his business largely increased.'¹¹⁵ The composite of juries varied from exhibition to exhibition, and although exhibitors could put forward nominees, commissioners had the final verdict. Amongst the juries serving in exhibitions between 1880 and 1904, some had jury experience in multiple exhibitions, such as Victor Mahillon (1883 Amsterdam, 1885 Antwerp, 1889 Paris), V. J. Hlavač (1889 Paris, 1893 Chicago), Thibouville-Lamy (1889 Paris, 1894 Antwerp), Schiedmayer and those affiliated with Schiedmayer (1867 Paris, 1885 Antwerp, 1893 Chicago, 1894 Antwerp), and Pleyel and those affiliated with Pleyel (1883 Amsterdam, 1894 Antwerp, 1900 Paris). All exhibitions had at least one juror member with prior experience in the role. This ensured continuity and some consistency in the judging standards.

Demands in judging etiquette could be reflected through the complaints filed in the press. One of the issues raised regarding impartiality was the jury's own national identity. In Murphy's examination of Berlioz as a juror at the 1851 Great Exhibition, he had to 'maintain his desire to be impartial and objective, and to balance his already formed belief in French superiority in instrument construction with his desire not to offend the British.'¹¹⁶ At 1880 Melbourne, Professor Reuleaux, the representative of Germany, made objections to the fact that the jurors nominated for the exhibition were largely from Great Britain and its colonies.¹¹⁷ His opposition was initially refuted, 'the animosity against Germany, (and) a preference for England and France was so obvious that the decision, which could not be at all doubted in the case of strictly unpartisan colouring, was awaited with tension and a certain anxiety.'¹¹⁸ A change in the jury

¹¹⁴ For a full list of juries for each of the exhibition, see Appendix B: Jury constitution.

¹¹⁵ John E. D. Trask, 'The influence of world's fairs on the development of art', *Art and progress*, 6: 4 (1915), pp. 113–117, quote taken from p. 114.

¹¹⁶ Kerry Murphy, 'Berlioz and the piano at the Great Exhibition: the challenge of impartiality' in Barbara L. Kelly and Kerry Murphy (ed.) *Berlioz and Debussy: sources, contexts and legacies: essays in honour of François Lesure* (Aldershot: Ashgate, 2007), pp. 67–82.

¹¹⁷ 'Exhibition notes: the jury question', *The Argus* (2 November 1880), p. 7.

¹¹⁸ 'Die Animosität gegen Deutschland, ein Bevorzugen England's und Frankreich's trat so offenkundig zu Tage, dass man der Entscheidung, die bei streng unparteilicher Färbung gar nicht zweifelhaft sein konnte, mit Spannung und gewissem Bangen entgegenseh.' 'Die Preisvertheilung auf der Ausstellung zu Melbourne 1881', *ZfI*, 1 (1880/81), pp. 201–202.

composition did occur, although the British and German press presented different explanations.¹¹⁹ According to the British, the commissioners did nothing to change the jury constitution, but the change was due to a resignation. Furthermore, the British press emphasised that, 'it usually was inadvisable to form a jury selected solely by the exhibitors.'¹²⁰ The Germans reported that the change was an informed decision by the executive committee, having 'finally felt obliged to appoint a new board of examiners. It was made up of 10 members whose nationality were categorised as four Englishmen, two Frenchmen, two Germans and two Italians.'¹²¹

The general guideline at most of the exhibitions was that the number of jurors from each nationality should be determined by the number of firms represented from that nation.¹²² Except for 1883 Amsterdam, 1885 Antwerp, and 1894 Antwerp, the majority of the exhibitions had more local firms than foreign firms, and consequently, there was a greater number of local jurors. Of the ten exhibitions examined, the national profile of the jury composition at 1894 Antwerp appeared to be the most proportionally fair, despite not having any British representatives. The jury composition at 1900 Paris was the most diverse in national profile, but over half the members were French.

Protest against the jury's affiliation with exhibiting firms was uncommon; by 1880, exhibitions had enforced the rule that firms associated with jury members needed to abstain from the competition. However, 'association' was difficult to pinpoint; i.e., if the jury member was a pianist, they could well be associated with several brands. An example was found at 1880 Melbourne, where L. Moonen, a piano agent, was accused of having association with several firms in the exhibit.¹²³ Moonen retained his seat as a juror by handing over some of his agencies to a local music dealer, but firms who were still affiliated with Moonen, such as Alexander père et fils had to be disqualified from competing for awards.

¹¹⁹ Comparing the original list of jurors found in the official records and the press articles, the two jurors who replaced L. Michaelis and T. Morant were Sig. K. Stephani and Mr. H. Johnson.

¹²⁰ *MOMTR* identified the cause for Michaelis' replacement was due to his own resignation. 'The Melbourne Exhibition, *MOMTR*, 4: 44 (May 1881), p. 300.

¹²¹ 'Gegen die Kompetenz der anfänglich aufgestellten Jurors hatte man viel einzuwenden, und auf einen Protest, übermittelt durch den englischen Commissar Sir H. Sandford und dem deutschen Vertreter Geheimrath Prof. Reuleaux fühlte sich schliesslich doch das Executiv-Comité veranlasst ein neue Prüfungscommission zu ernennen. Dieselbe wurde aus 10 Mitgliedern zusammengesetzt und zwar bestehend der Nationalität nach aus vier Engländern, zwei Franzosen, zwei Deutschen und zwei Italienern.' 'Die Preisvertheilung auf der Ausstellung zu Melbourne 1881', *ZFI*, 1 (1880/81), pp. 201–202.

¹²² I.e. if an exhibition had 12 French firms, 9 German, 6 English, and 3 American, and if there were 9 jurors, then the ideal composite in the jury would be 4 from France, 3 German, 2 English, and 1 American.

¹²³ 'The Melbourne Exhibition, *MOMTR*, 4: 44 (May 1881), p. 300.

Firms affiliated with jurors could still be awarded *Hors Concours* prizes to recognise their participation in the contest, despite not competing for a rank. This was a title worth gaining, and an advantage to jurors who were already established instrument builders, such as Pleyel and Schiedmayer at 1894 Antwerp. Yet, the privileges of *Hors Concours* could discourage rival brands from entering the same exhibition, as they would need to submit to the authority of the juror, whose judgement might impose negative consequences for their positions in their home countries. According to Friederich Ehrbar, the threat of a rival brand being amidst the jury panel was one of the main reasons for the decline in superior brands at the 1900 Paris exhibition.¹²⁴

Jury members who were instrument specialists were highly sought after in exhibitions post 1880. At 1885 Antwerp, great satisfaction was still universally expressed regarding the jury composition, despite the group being made up almost entirely of musicians.¹²⁵ However, there was an upheaval in London in that same year, as there was only one piano maker amongst the 29 jurors:

Most will agree that it would have been better to have had a jury embodying a larger number of practical men than has been the case. We understand that the jury was supposed to some extent to be nominated by the exhibitors themselves; but, as a matter of fact, the composition of the jury was decided officially. However, the decision as to the awards will not largely affect those makers who deal with the trade, the latter already being able themselves to judge as to quality and prize.¹²⁶

A crucial turning point was at 1893 Chicago, where there was a shift from a musician-dominated panel to one composed of instrument makers, and piano makers made up a third of the jury composition. More and more instrument makers in the jury body were included in exhibitions after 1893 Chicago, to the extent that at 1900 Paris, almost all the jurors were instrument makers.

¹²⁴ 'Many of the first companies from both countries were not represented in the exhibition. We find something similar in all foreign countries, and the uneven participation in the exhibition in this regard may well be due to the fact that business success could not be expected in France for the national reasons already mentioned, but also many first companies for the reason that they did not take part in the exhibition, because every exhibitor had to submit to the jury without exception, the judgment of which, according to the standards of the international competition, might have had unpleasant consequences for his position in his home country.' translated from the original: 'Viele der ersten Firmen beider Staaten nicht vertreten waren. Aehnliches finden wir ja auch bei allen Fremdstaaten, und die in dieser Hinsicht ungleichmäfsige Betheiligung an der Ausstellung mag wohl ihren Grund darin haben, dafs einerseits ein geschäftlicher Erfolg aus den bereits erwähnten nationalen Gründen in Frankreich nicht zu gewärtigen war, andererseits aber auch viele erste Firmen aus dem Grunde sich nicht an der Ausstellung betheiligten, weil sich jeder Aussteller ausnahmslos der Jury unterwerfen mufste, deren Urtheil über manchen, nach dem Mafsstabe des internationalen Wettkampfes, für seine Position in der Heimath vielleicht unangenehme Folgen hätte haben können.' 'Amtlicher Bericht des österreichisch-ungarischen General-Commissariates über die Musikinstrumente auf der Pariser Weltausstellung 1900', *ZFI*, 21 (1900/01), pp. 802–803.

¹²⁵ 'Awards at the Antwerp Exhibition', *POMTJ*, 4: 38 (September 1885), pp. 130–131. 'Prämierungen von Antwerpen', *ZFI*, 5 (1884/85), p. 399.

¹²⁶ 'The Verdict', *MOMTR*, 5: 51 (December 1885), p. 140.

2.3.2 Judicial system

The judicial systems varied from exhibition to exhibition and depended on the classification of musical instruments. As discussed previously, the classification of pianos prior to 1880 was in much debate. At the 1851 Great Exhibition, those outside the music profession with more appropriate knowledge on design and construction judged qualities of the piano other than sound and mechanism. In the same exhibition, there was a two-fold medal system, in which prize medals were awarded by any professional juror, and the council medals by a committee of chairpersons.¹²⁷ As a result, there were too many awards which seemed uncorrelated.¹²⁸ The system of awards was revised at the 1862 Great London Exposition, where the jury composite was elected by the participants of each class rather than by the exhibition organisers, so that the decisions better reflected the appreciation for professional value of the instrument.¹²⁹

Despite having a more professional body of jurors in 1862 London, each juror still had the right to distribute individual prizes. The partiality of the jury's preference and national pride caused a commotion amongst the exhibiting firms, causing the 'Piano War' at both the 1873 Vienna and 1876 Philadelphia.¹³⁰ Participating firms had no confidence in the awarding system, but still valued medals and prizes because public reputation was elevated. In striving for a fairer system, exhibitions post 1880 aimed to be transparent through the process of jury selection, as well as appointing experts to appeal against the juries' decision.

Ranking orders prevailed for most exhibitions from 1880 to 1904. Each firm could only obtain one medal for one type of exhibit.¹³¹ *Hors Concours* were distributed to firms that were affiliated with jury members. These were as esteemed as first-prize winners, which came under different titles [Table 10, p. 100]. The 1894 Antwerp had the highest number of ranking order of awards, six in total.

¹²⁷ *The first report of the commissioners*, pp. 18–22 and pp. 105–106. Prize medals were awarded if the standards were 'of excellence of production or workmanship had been attained' and 'utility, beauty, cheapness, [and] adaptation to particular markets [could be] taken into consideration; council medals were awarded based on 'some important novelty of invention or application'. Minutes of the archives of the Royal Commission for the Exhibition of 1851, 12 May 1851, quoted in John R. Davis, *The Great Exhibition* (Strodd: Sutton, 1999), pp. 162–163.

¹²⁸ As Murphy examined in his article 'Berlioz and the Piano at the Great Exhibition', there was a great commotion against this system of allocating medals during and after the exhibition. Murphy, 'Berlioz and the Piano at the Great Exhibition', p. 69.

¹²⁹ *Medals & honourable mentions awarded by the International juries* (London: George E. Eyre & William Spottiswoode, 1862), pp. iii and vii.

¹³⁰ 'Centennial awards', *Chicago daily tribune* (20 November 1876), p. 8.

¹³¹ 'Supplement to the London Gazette, awards to exhibitors in "Old London"', *London gazette* (4 November 1885), pp. 5074–5077.

Table 10: Types of prize awards

Exhibitions	1	2	3	4	5	6
1880 Melbourne	Hors Concours / First Order of Merit	Second Order				
1883 Amsterdam	Hors Concours / Diplomas of Honour	Gold Medal	Silver Medal			
1885 Antwerp	Hors Concours / Diplomas of Honour	Gold Medal	Silver Medal	Bronze Medal		
1885 London	Hors Concours / Gold Medal	Gold Medal	Silver Medal	Bronze Medal		
1888 Melbourne	First Order of Merit	Second Order	Third Order	Honourable Mentions		
1889 Paris	Hors Concours / Grand Prix	Gold Medal	Silver Medal	Bronze Medal	Honourable Mentions	
1894 Antwerp	Hors Concours / Grand Prix	Diplomas of Honour	Gold Medal	Silver Medal	Bronze Medal	Honourable Mentions
1900 Paris	Hors Concours / Gold Medal	Silver Medal	Bronze Medal			

The official award list published does not show in detail the jurors' scoring system in the classification of awards. At 1880 Melbourne, individual jurors were able to give a maximum of 40 points.¹³² The total points were added from all 10 jurors, and then divided by 10 to round off to the nearest single digit. For grand pianos, 34 points were needed for a first merit award. The influence of the nationality profiles of the jurors was made prevalent through such a point-accumulative system, for example, Erard gained 399 out of 400 jury points, and the one point short was because of Gerlach (German); Gerlach gave Blüthner maximum points, but Blüthner received five points less from Plunket (Australian) and Morant (American), [Figure 19, p. 101].¹³³

A breakaway from the hierarchy of awards was seen at 1893 Chicago, where only one type of award could be obtained. The Chairman Solomon Thatcher had so despised the ranking system that a decree was issued to forbid the use of 'best' in jury reports.¹³⁴ All French exhibitors withdrew from the competition upon their Syndicate's ministerial decision against Thatcher's system. Instead, the French Government appointed judges to make exhaustive examinations, and

¹³² 'Die Preisvertheilung auf der Ausstellung zu Melbourne 1881', *ZFI*, 1 (1880/81), pp. 201–202. 'The Melbourne Exhibition', *London and provincial music trades review* (15 April 1881), pp. 13, 15.

¹³³ L. Moonen, 'The Melbourne Exhibition again', *The London and provincial music trade review* (15 November 1881), p. 5. Moonen argued that juries did act with fairness, and no member had predisposition towards any particular brands. However, the points did not seem to entirely justify each jury's impartiality. The most obvious bias being the two Austro-German jurors, Siede and Gerlach, who gave full points to Blüthner and Kaps.

¹³⁴ 'The Chicago Exhibition', *POMTJ*, 10: 135 (November 1893), p. 179.

based upon their reports, awarded medals accordingly to their own firms.¹³⁵ Thatcher's system not only affected the exhibitors but also the juries. Adolf Schiedmayer was reluctant to take up juror positions, as he thought that there was no longer any value in judging if his judgement were to be overruled and revised.¹³⁶

	Léon Caron (France).	Michaëls (Belgium).	Giammona (Italy).	Siede (Austria).	Moonen (Switzerland).	Plunket (Colonies).	Anderson (Colonies).	Keighly (Great Britain).	Gerlach (Germany).	Morant (United States).	Total number of Points.	Accepted Average.
CONCERT GRANDS.												
Erard, France	40	40	40	40	40	40	40	40	39	40	399	40
Blüthner, Germany.....	40	40	40	40	40	35	40	40	40	35	390	39
Herz (H.), France	36	40	35	36	36	36	37	40	39	40	375	38
Brinsmead, England	35	37	34	36	36	36	39	40	37	40	370	37
Herz (Philip), France	36	38	40	35	39	35	36	34	38	30	361	36
SEMI AND SHORT GRANDS.												
Kaps, Germany	39	39	37	40	38	38	38	38	40	26	373	38
Bord, France.....	36	34	32	37	38	38	38	34	34	30	351	35
Berden, Belgium	35	37	31	34	35	35	35	35	36	32	345	35
Schiedmayer, Germany	35	35	33	35	34	35	35	30	38	30	340	34
Gebauhr, Germany	32	35	28	35	30	35	32	33	35	32	327	33
Thibaut, France	32	33	29	30	28	32	30	32	34	32	312	31
Oeser, Austria	35	32	30	34	24	30	27	30	34	28	304	31
Westermeyer, Germany	31	26	23	30	26	25	26	26	32	28	278	28
Ibach, Germany	27	25	26	28	26	25	27	28	30	26	268	27
Holz, Austria	30	25	24	30	24	25	25	28	27	28	266	27
Seiler, Germany	30	26	22	32	22	22	25	26	30	26	261	26
Hoffmann, Austria	22	33	26	30	22	22	22	27	30	22	256	26

Figure 19: Individual juries' points awarded to each piano firm at 1880 Melbourne

As there was a large number of prizewinners at 1893 Chicago, most exhibitors felt that too many of the same awards deprived them of all of value. Furthermore, this would mean that superior brands were ranked equal to inferior brands.¹³⁷ This would have explained the lack of superior models at this exhibition, that aside from Russian piano firms, none of the exhibitors in the competition were the best emissaries of their countries.

Although the awarding system at 1893 Chicago was a controversy, piano firms did seem to reconsider their perspectives in the awarding systems at exhibitions. Despite the hierarchy of awarding system being still in place at 1900 Paris, the novelty of grading pianos was starting to wear thin; the amount of gold, silver, and bronze medals were distributed in an accommodating manner so that 'almost every American pianoforte exhibitor returned home with proof of the highest grade of merit.'¹³⁸ Whereas obtaining awards was an attracting factor for piano firms to

¹³⁵ See later in the chapter, 1893 Chicago.

¹³⁶ 'Foreign trade notes', *MOMTR*, 16: 191 (August 1893), p. 690.

¹³⁷ 'Foreign trade notes', *MOMTR*, 17: 194 (November 1893), p. 113.

¹³⁸ 'Foreign trade notes', *MOMTR*, 26: 309 (June 1903), p. 715.

participate at exhibitions in the mid-nineteenth century, awards were no longer essential souvenirs by the end of the nineteenth century. An example was Stingl Bros at 1900 Paris, who forfeited their silver medal as they were displeased with such a rank.¹³⁹

2.3.3 Judicial criteria

At 1880 Melbourne, pianos were assessed on four qualities: material and finish, action, tone, and touch. At 1888 Melbourne, a fifth criteria of 'cheapness' was added to this list.¹⁴⁰ These were the five common themes found in reports from both jurors and reporters throughout this period. Although priorities shifted from exhibition to exhibition, touch and tone remained the top two important elements for examination. At 1888 Melbourne, high artistic merits were required for first award. Second award and third award show care in the details of *construction* and *finish*. Honourable mention was awarded to low-priced instruments of fairly-good make and materials. No award was given to those who had paid little or no attention to artistic qualities. Despite the seemingly transparent hierarchy of qualities, the central focus was still on fair price. The jury considered a cheap piano, constructed to meet the requirements of the ordinary consumer, to be entitled to the same award as an expensive instrument, i.e. a Blüthner piano was ranked the same as a Ferdinand Thürmer, a much smaller brand that produced pianos at a low price, but had paled in comparison in terms of its artistic merits.

The only exhibition in which grand pianos were judged separately from cottage pianos was 1880 Melbourne. One of the greatest advantages with this system was that a firm could obtain two awards if they exhibited multiple types of pianos. Furthermore, this system acknowledged the superiority of grand over cottage pianos. Yet, this difference was not explicit for the public, as a piano firm receiving a first award for their cottage pianos would not have needed to specify this fact on their advertisements. In addition, the assessment criteria for both categories were still the same. This meant that it would have been no different to other exhibitions that did not have such distinctions, as first prizes were mostly awarded to firms with grand pianos anyway.

¹³⁹ 'Musical instruments at the Paris Exhibition, 1900', *POMTJ*, 17: 218 (October 1900), p. 21.

¹⁴⁰ Julius Siede, 'Reports of Juries – section 6 and 7, class 13 and 14' in Centennial International Exhibition (1888-1889: Melbourne, Vic.), *Official record of the Centennial International Exhibition, Melbourne, 1888-1889* (Melbourne: Sands & McDougall, 1890), pp. 717–721.

2.3.4 Awards¹⁴¹

Award types were not equivalent across exhibitions. A. Bord (Paris) gained a first award at 1880 Melbourne, silver medals at 1883 Amsterdam and 1885 London, and a gold medal at 1889 Paris. A silver medal was ranked third after *Hors Concours* at 1883 Amsterdam, but a silver medal at 1885 London equated to a gold medal at 1889 Paris as these were both the second rank after *Hors Concours*, [see Table 10, p. 100]. Pianos exhibited in the ‘homeland’ did not necessarily guarantee an elevation of award rank. Brinsmead & Sons gained a diploma of honours at 1883 Amsterdam but downgraded to a silver medal at 1885 London. However, ‘host’ cities did try to promote local non-premium brands. At 1885 London, 21 of 25 awards received by British firms were in the silver and bronze medal category. Other nations geographically far from the host cities still strove to have at least one superior quality piano, as at 1885 London, gold medals were obtained by firms from Russia and the United States.

Throughout the exhibitions, firms from France and Germany gained the most number of awards. Since the exhibitions did not have the same exhibitors, nor the same juries, trends are difficult to ascertain. Despite this, some conclusions can be drawn by comparing exhibitions that took place in the same cities: Melbourne (1880, 1888), Antwerp (1885, 1894), and Paris (1889, 1900).

2.3.4.1 Melbourne (1880, 1888)

For grand pianos at 1880 Melbourne, there were 17 awards across first and second order of merits, [Table 11, p. 104]. Germany received the largest total number of awards, but there was overall a higher quality of French pianos, (four firsts, one *Hors Concours*, and one second). Three Austrian firms received second order of merits, and two *Hors Concours*. At 1888 Melbourne, French and Austrian firms did not exhibit, thus they received no awards, [Table 12, p. 104].¹⁴² Once again, Germany gained the most number of awards, (nine firsts, seven seconds, eight thirds, and seven honourable mentions). United States gained two awards, one first and one second, while Britain, two first awards, two third awards, and one honourable mention.

¹⁴¹ For a full list of awards at each of the exhibition, including names of piano firms and their results of awards, see Appendix B: Exposition portfolio, Exhibition awards for pianofortes in music instruments group.

¹⁴² No sources gave reference to French or Austrian pianos, though other types of musical instruments from France featured at the exhibition.

Table 11: Number of medals awarded for each nationality at 1880 Melbourne

Nationality	Hors Concours	First order of Merit	Second order of Merit	Total
Austria	2	-	3	5
Belgium	-	1	-	1
France	1	4	1	6
Germany	1	3	4	8
Great Britain	-	1	0	1

Table 12: Number of medals awarded to each nationality at 1888 Melbourne

Nationality	First order of Merit	Second order of Merit	Third order of Merit	Honourable Mentions	Total
Austria	-	-	-	-	-
Belgium	-	-	-	-	-
France	-	-	-	-	-
Germany	9	7	8	7	31
Great Britain	2	-	2	1	5
Russia	-	-	-	-	-
U.S.	1	1	-	-	2
Other (New Zealand & Norway)	-	1	-	1	2

2.3.4.2 Antwerp (1885, 1894)

Disparities are noticeable in the two Antwerp exhibitions by comparing groups obtaining the higher ranks (*Hors Concours*, diploma of honours, and gold medals) with those obtaining the lower ranks (silver, bronze, and honourable mentions). At 1885 Antwerp, Germany had 10 firms achieving higher awards, and nine with lower awards, [Table 13, p. 105]. France on the other hand had seven firms in the higher category, and four in the lower. Although there were fewer French firms, France had a greater percentage of higher quality pianos. Likewise, British and Russian firms invested their efforts in exhibiting only better quality pianos. Belgian pianos were mostly in the lower rank (12 out of 14 firms), and all three Austrian firms received silver medals. Coincidentally, at 1880 Melbourne, there were three Austrian piano firms, all also received second order of merits. No pianos from United States were present at Antwerp in either years. Pianos from less popular regions, such as Italy, Switzerland, Holland, and Spain were mostly average in quality, gaining gold or silver medals at both exhibitions. At 1894 Antwerp, France overtook Germany in the number of awards obtained, and retained their overall high quality of pianos, with 11 out of 16 gaining higher ranked awards, [Table 14, p. 105]. Germany also increased the quality of their pianos, with 7 out of 12 gaining higher ranked awards than at 1885 Antwerp. Except for Great Britain, other nations overall gained more pleasing results.¹⁴³

¹⁴³ Only one British piano exhibitor gained an award of a Bronze Medal at 1894 Antwerp.

Table 13: Number of medals awarded to each nationality at 1885 Antwerp

Nationality	Hors Concours	Diplomas of Honour	Gold Medal	Silver Medal	Bronze Medal	Total
Austria	-	-	-	3	-	3
Belgium	-	2	-	6	6	14
France	-	4	3	3	1	11
Germany	1	3	6	5	4	19
Great Britain	-	1	-	-	-	1
Russia	-	1	2	1	-	4
U.S.	-	-	-	-	-	-
Other (Italy & Switzerland)	-	-	2	2	-	4

Table 14: Number of medals awarded to each nationality at 1894 Antwerp

Nationality	Hors Concours	Grand Prix	Diploma of Honours	Gold Medal	Silver Medal	Bronze Medal	Honourabl e Mentions	Total
Austria	-	-	-	1	1	-	-	2
Belgium	-	-	2	1	3	-	-	6
France	3	1	2	5	4	-	1	16
Germany	1	-	1	5	4	1	-	12
Great Britain	-	-	-	-	-	1	-	1
Russia	-	2	-	-	-	-	-	2
U.S.	-	-	-	-	-	-	-	-
Other (Spain & Holland)	-	-	-	-	2	-	-	2

2.3.4.3 Paris (1889, 1900)

Comparing 1889 Paris with 1900 Paris, there was an increase of awards gained by nations other than France. Despite French exhibitors still being the largest group in both exhibitions, the number of French firms gaining awards in 1900 dropped by half that of 1889. The reduced numbers were in the less-premium firms; at 1889 Paris, 80% (37 out of 46) obtained silver/bronze/honourable mention awards, [Table 15, p. 106]. At 1900 Paris, French firms obtaining awards other than *Hors Concours* or gold were only half (11 out of 22) of the total number of awards distributed to France, [Table 16, p. 106]. German firms, absent at 1889 Paris, gained 11 awards at 1900 Paris, making Germany the second highest awarded nation. The standard of Germany's pianos varied, as they had gained awards in each of the awarding categories. Excluding Belgium and Russia, all other nationalities, which included Austria, Great Britain, United States, gained more awards at the latter exhibition.

Table 15: Number of medals awarded to each nationality at 1889 Paris

Nationality	Hors Concours	Grand Prix	Gold Medal	Silver Medal	Bronze Medal	Honourable Mentions	Total
Austria	-	-	-	-	-	-	-
Belgium	-	-	1	2	1	-	4
France	2	2	5	13	16	8	46
Germany	-	-	-	-	-	-	-
Great Britain	-	-	-	1	-	-	1
Russia	1	-	2	1	1	-	5
U.S.	-	-	-	1	-	-	1
Other (Holland, Italy, Norway, Portugal, Spain & Switzerland)	-	-	-	4	5	1	10

Table 16: Number of medals awarded to each nationality at 1900 Paris

Nationality	Hors Concours	Gold Medal	Silver Medal	Bronze Medal	Total
Austria	1	-	2	1	4
Belgium	-	-	1	-	1
France	8	3	9	2	22
Germany	1	3	3	4	11
Great Britain	-	1	-	1	2
Russia	-	2	1	-	3
U.S.	-	1	1	-	2
Other (Canada, Czech Republic, Denmark, Italy, Hungary, Mexico & Spain)	1	4	4	4	13

2.3.5 Official reports

Official reports varied in style and detail. In the plainest form, the 1888 Melbourne enlisted brands under subheadings of awards without highlighting any individual qualities, [Figure 20, p. 107]. At the 1885 London, reports were published in the form of an award list, having only contained descriptions which were vague and overgeneralised, [Figure 21, p. 107]. At 1893 Chicago, individual reports were signed off by jurors, and itemised the qualities found on their pianos, [Figure 22, p. 107]. The most common and elaborate forms of reports were those found for 1880 Melbourne and 1889 Paris, which contained brief descriptions of the pianos on exhibit, highlights of their attributes, and the firm's stature in the piano industry, [Figure 23 and Figure 24, p. 108].

Ferd. Thürner, Meissen, Germany—Overstrung upright pianos. (Producing good pianos at a low price.)
 Behr Bros. & Co., New York, United States—Upright pianos, with patent cylinder top.
 J. & J. Hopkinson, 95 New Bond-street, London—Grand and upright pianos.
 T. Chappel & Co., 50 New Bond-street, London—Upright pianos and harmoniums.
 Gustav Hahnmann, Berlin, Germany—Short grand piano.
 Grotrian, Helfferich, Schulz, Th. Steinweg Nachfolger, Brunswick, Germany—Semi-grand piano.

SECOND ORDER OF MERIT.

Julius Feurich, Leipsic, Germany—Grand and upright pianos.

W. Liedcke, Berlin, Germany—Upright pianos.
 Grotrian, Helfferich, Schulz, Th. Steinweg Nachfolger, Brunswick, Germany—Upright pianos.
 G. Schwechten, Berlin, Germany—Upright grand piano.
 T. Mayer, Munich, Germany—Upright piano.

THIRD ORDER OF MERIT.

Zeitter & Winkelmann, Brunswick, Germany—Grand and upright pianos—Steinway system.
 J. Spencer & Co., London—Upright pianos.
 Wood & Co., 3 Rathbone-place, London—Upright pianos.
 T. G. Vogel & Sohn, Plauen, Germany—Grand and upright pianos.

Figure 20: Example of report at 1888 Melbourne¹⁴⁴

Catalogue Number.	Name of Exhibitor.	Subject of Award.	Award
3597	Bord, A. (France)...	Good and durable workmanship of pianos	S.
3867	Borschitzky, J. F.	New method for teaching music	B.
3722	Boullangier, Charles	Violins, tenor and violoncello	S.
3587	Brewer, S. ...	Good quality of pianos ...	B.
3506	Brindley and Foster	General excellence of organ tone and mechanisms	S.
3589	Brinsmead, John, and Son	Good construction and touch of pianos and improved screw tuning pins	S.
3851	British and Foreign Blind Association	Music writing for the blind	S.
3577	Broadwood, John, and Sons	General excellence of pianos	G.
3759	Bromley, C.	Banioses ...	R.

Figure 21: Example of publication of jury awards at 1885 London¹⁴⁵

EXHIBITOR. Group 158. Class 930.
 M. BIETEPAGE (Firm J. Becker), St. Petersburg, Russia.
Exhibit--Pianos.
 This exhibit deserves an award:
 For tone quality, rich, sonorous, sympathetic and musical. The duration and singing quality are very fine throughout the entire scale.
 For even scale, well balanced: the most powerful strokes fail to reveal any harshness or break.
 For first-class action, very remarkable for its repeating qualities.
 For a touch, commendable for delicacy, elasticity and responsiveness.
 In construction and finish only the best material is used and the cases are artistic in design.
 Approved: K. BUENZ, (Signed)
 President Departmental Committee.
 Approved: JOHN BOYD THACHER,
 Chairman Executive Committee on Awards.

 Individual Judge.

Figure 22: Example of report at 1893 Chicago¹⁴⁶

¹⁴⁴ Siede, 'Reports of Juries – section 6 and 7, class 13 and 14', pp. 717–721.

¹⁴⁵ Supplement to *the London Gazette* (4 November 1885), pp. 5073–5077, example taken from p. 5074.

¹⁴⁶ Abbott, *Musical instruments*, p. 189. Not all reports of firms were included in Abbott's book. The reports that were included were usually followed by the firm's historical accounts.

ERARD.—The concert grand instrument of eight octaves is remarkable for its tone, which is mellow, soft, and powerful at the same time, besides being even or regular; its quickness and elasticity of touch, due to the well-known repetition action, give the performer a most complete command over the instrument, and the keyboard is exceedingly well regulated. French makers have shown great hesitation in adopting metal frames and the overstrung system introduced by the American makers, and although Messrs. Erard have used metal bars in the construction, they have employed the ordinary system of stringing. A duplex scale has been introduced in the treble. The utility of this system of prolonging or doubling the string so as to obtain a greater resonance may be open to discussion, but as American and German makers employ it, Messrs. Erard have, no doubt, introduced it in this piano by way of experiment only. A good player can, however, produce new effects by aid of the third pedal, which commands the *sostenente*. The semi-grand piano, richly ornamented with gilt brass ornaments, as well as the cottage, magnificently decorated with gilt bronze fittings and marble columns, are splendid specimens of the high artistic finish which this firm is able to give to the exterior of their instruments. First award.

Figure 23: Example of report at 1880 Melbourne¹⁴⁷

MAISON PLEYEL, WOLFF et C^{ie}. — M. Lyon, directeur de la maison Pleyel, Wolff et C^{ie}, ancien élève de l'École polytechnique, a dirigé ses recherches dans le domaine scientifique et s'est proposé d'analyser tous les éléments qui concourent à la fabrication des pianos. Il a notamment dressé des tableaux dans lesquels se trouvent mathématiquement déterminés les divers diamètres que doivent avoir les cordes d'un piano, en raison de leur longueur et d'après le plan de l'instrument.

Figure 24: Example of report at 1889 Paris

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Jury reports not only scrutinised individual brands, but also identified the brands according to national profiling. At 1880 Melbourne, two distinctive systems, the American and the French, were mentioned in reference to frames and stringing. This division, which started at 1862 London, remained the central debate until the end of the century. Therefore, despite there being no American pianos in exhibit at the Melbourne exhibition, it was likely that the juries' preconception of the American system was already in place.¹⁴⁹ The American system enabled a more sonorous tone, and such a system was found in the German pianos. The non-American system was distinguished as the French, and those with French preference supposed that 'the vibration is

¹⁴⁷ Melbourne International Exhibition (1880-1881: Melbourne, Vic.), *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits: report of superintendent of juries and awards* (Melbourne: Mason, Firth & McCutcheon, 1882), pp. 46–51.

¹⁴⁸ Alfred Picard, 'Chapitre V. Instruments de musique' in *Exposition Universelle Internationale de 1889 à Paris, Rapport général par M. Alfred Picard: tome quatrième, les beaux-arts, l'éducation, l'enseignement, les arts libéraux (Groupes I et II de l'Exposition Universelle de 1889 Exposition Centennale de l'art Français)* (Paris: Imprimerie Nationale, 1891), p. 484.

¹⁴⁹ Both Chickering & Sons and Steinway & Sons had sent pianos to the 1879 Sydney Exhibition, and their pianos were received with much enthusiasm. *Official record of the Sydney International Exhibition, 1879* (Sydney: Thomas Richards, Government Printer, 1881), p. 429.

greater and the sound travels further in the piano entirely constructed of wood than in that of iron.¹⁵⁰

In addition to framing and stringing, the equality of tone through the registers was used to differentiate the two systems. At 1889 Paris, sonority and equality of tone was the main theme in report of the juror J. Thibouville-Lamy.¹⁵¹ Amongst the French brands, the epitome of the French system was found in the pianos of Erard, ‘the members of the jury were unanimous in recognising in this piano all the qualities that an artist may wish from the point of view of the sound, the distinction and the perfection of the mechanism.’¹⁵² The charming and sympathetic tone in the upper octaves of Erard pianos were also found in Pleyel pianos.¹⁵³ Besides Erard and Pleyel, Thibouville-Lamy mostly found flaws with other French brands. H. Herz’s larger grand possessed good tone in the mid and high ranges, but had feeble bass notes, which resulted in an overall hasty and unequal tone.¹⁵⁴ The A. Bord grand was ‘lacking a bit of breadth’.¹⁵⁵ Focké & Fils’ double soundboard grand was somewhat uneven in tone, but was still sounding powerful.¹⁵⁶

¹⁵⁰ ‘Report of superintendent of juries and awards’ in *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits* (Melbourne: Mason, Firth & McCutcheon, 1882), p. 47.

¹⁵¹ Thibouville-Lamy was tasked with writing the official report for 1889 Paris. J. Thibouville-Lamy, ‘Classe 13, Instruments de musique’ in *Exposition universelle internationale de 1889 à Paris. Rapports du jury international: Groupe II. 2e partie. Matériel et procédés des arts libéraux. Classes 9 à 17* (Paris: Imprimerie nationale, 1891), pp. 471–500, in particular, pp. 477–497. A condensed and translated version was published over two articles in *MOMTR* as ‘M. J. Thibouville-Lamy on musical instruments at the Paris Exhibition. Extracted from ‘the reports of the international jury’, *MOMTR*, 15: 174 (March 1892), pp. 261–262, and *MOMTR*, 15: 175 (April 1892), pp. 321–322.

¹⁵² ‘Le membres du jury ont été unanimes à reconnaître à ce piano toutes les qualités qu’un artiste peut souhaiter au point de vue de la sonorité, de la distinction et de la perfection du mécanisme.’ Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 484. Such qualities also bewildered critics, which included J. Tiersot, E. Monod, and Victor Wilder, the last whom wrote the review to Paderewski’s concert in July, ‘What surprised and charmed me above all was the sweet transparent timbre, so to speak, of the upper octaves, where until now one has always heard the dry clattering of wood.’ Original: ‘Ce qui m’a surpris surtout et charme, c’est le timbre délicieux et transparent, pour ainsi dire, de l’octave supérieure, ou, jusqu’à présent, on entendait toujours le clapotement sec du bois.’ Victor Wilder, ‘La Musique à l’Exposition’, *Gils Blas* (23 July 1889), p. 2. Quoted and translated by Fauser in Fauser, *Musical encounters*, p. 27.

¹⁵³ While the artistic playability and recital demonstrations showed off the superiority of Erard pianos, the juries were intrigued by Lyon’s ingenuity in design through scientific measures in the Pleyel pianos. Three members, Aubin Dumoustier de Frédilly, V. Mahillon, and Ruch, enquired about technical advice relating to the tension, length, and piano strings material.

¹⁵⁴ ‘Une grand piano à queue, très bon au médium et à l’aigu, péchait par des basses un peu faibles’, Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 487.

¹⁵⁵ Les pianos à queue de divers formats avaient une sonorité agréable, mais manquant peut-être un peu d’ampleur; ils étaient d’une grand facilité de jeu et réunissaient un ensemble de qualités satisfaisantes.

¹⁵⁶ ‘The grand pianos of various formats had a pleasant sound, but perhaps lacking a little breadth; they were very easy to play and combined a set of satisfying qualities.’ Original: ‘Le son, quoique inégal, avait dans certaines parties une puissance qui peut être attribuée à la disposition de la table’, Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 487.

At 1889 Paris, Thibouville-Lamy recognised that pianos made outside France had a more sonorous tone. According to his report, grand pianos belonging to the Russian firm Krall & Seidler had an extensive range of sound, which was ‘round, full and sparkly’.¹⁵⁷ Sonority was also praised in the Italian brand Brizzi & Niccolai, although Thibouville-Lamy had thought they were an evident copy of Bechstein’s instruments.¹⁵⁸ In Brinsmead’s grand piano, sonority was achieved in the mid-range, which ‘sang’ particularly well.¹⁵⁹ The grand pianos of the Swiss brands Rordorf had tones which prolonged well, but uneven through the registers.¹⁶⁰ Thibouville-Lamy also expressed disappointments for the A. Weber pianos, that being the sole representative of the American pianoforte industry, it did produce pianos worth the same standard as Steinway and Chickering.¹⁶¹ In a way, Thibouville-Lamy’s evaluation of both French and foreign pianos suggested that he was highly critical of the distinctions of tone.

The distinctions in the ideology of tone equality and sustain between the French, and those outside France, was summarised by Picard:

At the Exposition 1889, the difference between the French school and the American school was still very clear. France is above all looking for the purity of sound, its easy production, its equality in all the extent of the keyboard; one does not wish to hear, even in the *fortes*, the sound of the hammer; in the United States and in various European countries, it is sonority that prevails. This difference is explained, at least to a certain extent, by the greater or lesser extent of the parts where the instruments must take place and be heard. Our factories themselves build a number of pianos from the American system. Iron, which had replaced cast iron, is in turn replaced quite often by steel.¹⁶²

A ‘goût Français’ was also mentioned in Friederich Ehrbar’s jury report for 1900 Paris.¹⁶³ Ehrbar argued in his report that the piano industry, or reception of piano tone within each locale, looked foremost to the tenacity of eminent firms. French pianos, although they had been

¹⁵⁷ ‘Cet instrument est d’un travail très soigné; le son, d’une grand portée, est rond, plein et a de l’éclat’, Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 493.

¹⁵⁸ Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 496.

¹⁵⁹ ‘Une grand piano à queue, dont les sons étaient meilleurs que ceux du précédaitdent, chantait bien au médium’, Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 495.

¹⁶⁰ Le piano à queue a un son d’une belle qualité, d’une émission facile et qui se prolonge bien. Si le toucher était moins lourd et l’égalisation plus parfaite, cet instrument serait bon’, Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 495.

¹⁶¹ Thibouville-Lamy, ‘Classe 13, Instruments de musique’, p. 496.

¹⁶² ‘À l’Exposition de 1889, la différence entre l’école française et l’école américaine était encore très tranchée. La France recherche avant tout la pureté du son, sa production facile, son égalité dans toute l’étendu du clavier; elle ne veut point entendre, même au forte, le bruit du marteau; aux Etats-Unis et dans divers pays d’Europe, c’est la sonorité qui prévaut. Cette différence s’explique, au moins jusqu’à un certain point, par l’entendue plus ou moins grande des pièces ou les instruments doivent prendre place et se faire entendre. Nos facteurs eux-mêmes construisent un certain nombre de pianos du système américain. Le fer, qui s’était substituée à la fonte, est à son tour remplacé assez souvent par l’acier.’ Alfred Picard, ‘Chapitre V. Instruments de musique’ in *Exposition Universelle Internationale de 1889 à Paris, Rapport général par M. Alfred Picard*, p. 500.

¹⁶³ ‘Amtlicher Bericht des österreichisch-ungarischen General-Commissariates über die Musikinstrumente auf der Pariser Weltausstellung 1900’, *ZfI*, 21 (1900/01), pp. 802–803.

pioneers in the epoch of piano developmental stage, were 'left behind'.¹⁶⁴ This lagging behind was for reasons of the patriotism. Younger French firms especially, despite trying to become independent from the influences of the older eminent firms, had suffered during their resistance. Amongst the progressive-minded firms, Ehrbar mentioned Pleyel, Wolff, Lyon & Co., and Kriegelstein & Co., the latter being a 'renegade' received a gold medal only because of the unanimous votes of foreign jurors. Ehrbar observed the same resistance happening in England, which resulted in the decline of many English firms, and the piano construction there being the last line in consideration. On the other hand, the older and eminent firms of Germany and Austria thrived on progressive principles, and America and Russia had no baggage to restrain their experimentalism.

2.3.6 Reports: Jury, delegates, and press

The jury report, whether published in the official exhibition reports, or by account of a single juror in the press, was not always a summary of the generalised opinions from the jury as a whole. At 1894 Antwerp, Adolf Schiedmayer observed that his views on tone characteristics and strength differed considerably to his French colleagues.¹⁶⁵ The claim of his French colleagues was that more sweetness and equality of tone could be obtained in a straight-strung piano. Schiedmayer argued that this quality could also be achieved on well-regulated cross-strung pianos, which had the advantage of power and clearness of tone, 'my fullest conviction is that the over-strung system is the only construction for the future... the only system by which a full and clear sound, such as now demanded, can be developed.'¹⁶⁶ Schiedmayer upheld his opinion on the superiority of German pianos, which he conceived to be at the frontier of progress; and he also praised Russian pianos, in particular, the tone of Becker and Schröder as being rich.¹⁶⁷

In addition to the jury's reports were the accounts of the delegates and the press. Delegates from piano-making associations were sent to exhibitions to survey the market and inspect the latest improvements, and so were the reporters from specialist trade press. Trade

¹⁶⁴ Ibid. 'Vor allem ist Frankreich zurückgeblieben.'

¹⁶⁵ 'Doch gehen nach persönlichen Besprechungen mit den französischen Kollegen unsere Anschauungen über Toncharacter und Tonstärke so wesentlich auseinander, dafs ich mich jeglicher Kritik enthalte.' Adolf Schiedmayer, 'Berich über die Antwerpener Ausstellung an die Miglieder des Vereins deutscher Pianofortefabrikanten', *ZFI*, 14 (1893/94), pp. 799–800.

¹⁶⁶ Adolph Schiedmayer, 'The Antwerp Exhibition and the piano exhibits', *POMTJ*, 12: 145 (September 1894), p. 140.

¹⁶⁷ A similar remark of 'full and resonant tone' from Schröder's pianos was expressed by a British specialist who examined the instrument at Antwerp. In 'The Antwerp Exposition, by one who has seen it', *POMTJ*, 12: 145 (September 1894), pp. 139–140.

press enthused over technical details, and often gave coverage of exhibition news.¹⁶⁸ The opinions found in the trade press reflected the trades' mistrust of the jury panel and their judgements, for example at 1885 London, only two of the 29 were instrument makers, and some did not even have basic technical knowledge of pianos.¹⁶⁹

In the general press, some technical details were provided. For 1885 London, the press was drawn to examining how manufacturers remedied the defect of sustaining tone in pianos.¹⁷⁰ The *Telegraph* identified the pianos of Burling & Burling (Triplex Euphonoid pianoforte) and Thomas Machell (Dulcitone piano), *The globe* wrote on Blüthner's Aliquot, and *ZFI* on the inventions found in grand pianos of Chappell & Co. and Brinsmead & Sons.¹⁷¹ Yet, some press reports did not even describe the technical details of the pianos; both the *MOMTR* and *Musical review* asserted their English pride in the piano industry:

The British piano has made immense strides of late; proof of the fact being seen in greater elegance of form, perfection of mechanism, and beauty of tone; while, as far as the present exhibition goes, there is no reason why they should not maintain their supremacy in the home market.¹⁷²

Press reporters generally made their observations of the exhibits either as viewed or heard. Exhibition representatives were at times discourteous towards the reporters. At 1900 Paris, the *MOMTR* reporters were not allowed to play on any of the pianos, as 'the custodians were either unable or unwilling, and appeared to think that they had discharged their duty to their employers when they had indicated the whereabouts of a trade card or catalogue.'¹⁷³ Delegates sent by

¹⁶⁸ As an example, the German trade press *Zeitschrift für Instrumentenbau* have two categories in their content directory (Inhalts-Verzeichniss) devoted to exhibitions: Exhibition News 'Ausstellungsnachrichten', and Exhibition Awards 'Ausstellungs-Prämiirungen'. These two categories can be found in all the volumes from 1880 to 1904. The press not only reported on the German exhibitions, but also exhibitions that occur throughout the world, including those which were planned for, but did not eventually take place.

¹⁶⁹ A jury at 1885 London spoke of his experience on the panel: 'asked a juror at the sight of piano hammer the exhibitor: "What's that?" When he was told that these were felt-hammers for striking the strings, he said quite naively: "Oh, I did not know that these things form such an important part of the piano" ... Again, another could not understand what the third pedal on a piano should be used for... Such a panel of judges must be completely worthless to any rational-minded person.' Translated from original: 'Fragte doch ein Juror beim Anblicke von Pianohämmern den Aussteller: "Was ist denn das?" Als ihm erwidert wurde, dass sie mit Filz bezogene Hämmer zum Anschlagen der Saiten, da meinte er ganz naiv: "Oh, ich habe gar nicht gewusst, dass diese Dinge einen so wichtigen Theil des Pianos bilden." Wieder ein Anderer konnte gar nicht begreifen, wozu das dritte Pedal an einem Piano dienen sollte... Der Preis, den eine solche Jury vertheilt, muss für jeden vernünftig denkenden Menschen doch völlig werthlos sein.' 'Die musikalische Jury auf der "Invention Exhibition" zu London', *ZFI*, 5 (1884/85), p. 370.

¹⁷⁰ 'Music at the Inventions Exhibition. V', *The athenaeum*, 3016 (15 August 1885), p. 219.

¹⁷¹ 'Music at the Inventions Exhibition', *Daily telegraph* (2 June 1885), p. 3. 'The music exhibition', *The globe* (1 June 1885), p. 3. 'Die Internationale Erfindung- und Musik-Ausstellung in London 1885', *ZFI*, 5 (1884/85), pp. 349–350.

¹⁷² 'The verdict', *MOMTR*, 9: 99 (December 1885), p. 140. 'The general musical exhibits at the Inventions', *The orchestra musical review*, 163 (11 July 1885), p. 173. Quote is in the latter.

¹⁷³ 'Musical exhibits at Paris', *MOMTR*, 23: 276 (September 1900), pp. 855–856.

piano associations had better luck, as J. Thibouville-Lamy experienced at 1893 Chicago: ‘before entering the salons, we must ensure the acquiescence of the owner for permission to carry out a detailed examination which, in some cases, entailed the dismantling of pianos.’¹⁷⁴ Since both delegates and reporters could not always get their ‘hands-on’ to survey the pianos, their reports were often infused with their own sentiments and experiences as a casual visitor.

Therefore, reports between juries, delegates and reporters may not agree with one another, not only because of their differing opinions, but also because of their experiences at the exhibition. The differences in their reportage could be better explained through examining four brief case studies: 1883 Amsterdam, 1885 Antwerp, 1888 Melbourne, and 1893 Chicago.

2.3.6.1 1883 Amsterdam

At 1883 Amsterdam, the reports of the juries, delegates, and press focused on separate matters. The Belgian juror Victor Mahillon was overall positive in his judgement of pianos.¹⁷⁵ Mahillon thought that French manufacturing was the most superior, having ‘lost none of its good qualities’, but was disadvantaged at the exhibition because of small representation. He picked Brinsmead pianos as his favourite, which he had conceded as one of the best in the exhibition. He was also pleased with the Belgian pianos of J. Gunther and J. Oor, the grand piano of the latter being of ‘splendid sound and delicate touch’. German firms, Lipp and Mand were praised for their admirable sound qualities. Mahillon was not fond of the current trend in ‘new school’ of pianos to attain greater volume in sound, which included both pianos growing in size and principles of extra resonance through added strings. His criticism applied mainly to two groups of pianos. First, the size expansion in German cottage pianos, the results achieved being ‘contrary to the effect sought’. Second, Blüthner’s Aliquot, which should not have as much value as others have attributed because ‘it is a serious error to suppose that the sounding properties can be doubled or trebled by doubling or trebling the sources of sound.’¹⁷⁶

¹⁷⁴ ‘Rapport de M. J. Thibouville-Lamy, Fabricant d’instruments de musique, commissaire rapporteur’ in *Rapports publiés sous la direction de M. Camille Krantz, commissaire général du gouvernement Français* (Paris: Imprimerie Nationale, 1895), p. 9.

¹⁷⁵ ‘Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon’, *MOMTR*, 8: 85 (October 1884), pp. 43–45, and pp. 354–355. Another report from a jury member, Ernest Kaps, (the sole German-man on the jury panel), was published in *ZFI*. Kaps did not assess the pianos, but only gave a summary of his role as a jury member and the awarding results. According to Kaps, all communications of the jury discussions, both verbally and written, for all assessments and protocols, were conducted in French. ‘Bericht des Herrn Commerzienrath Ernst Kaps in Dresden, an das Reichskanzleramt au Berlin über seine Thätigkeit als Jurymitglied der Amsterdamer Ausstellung’, *ZFI*, 3 (1882/83), pp. 363–364.

¹⁷⁶ Amsterdam Exhibition, 1883, report of the jury on musical instruments by Victor Mahillon’, pp. 43–45, and pp. 354–355.

Another example is a report written by Soufleto, a representative of the Association of Pianoforte Makers in Paris.¹⁷⁷ At the start of his report, Soufleto revealed that his task was to examine the latest improvements and progress of their (France's) foreign competition, but his inspection of the instruments was not easy due to the 'coldness' of attitude from exhibitors, in particular, the German exhibitors. In Soufleto's opinion, Austrian pianos, (which were present at the 1878 Paris Exhibition but were absent at 1883 Amsterdam), were superior to the best German pianos at the 1883 Amsterdam: 'the tone of German pianos at 1883 Amsterdam was usually dull, muffled, and without pleasantness, while the sound of the Austrian piano was choice and artistic.' He observed that the defect of German pianos was in the bass notes: 'they have a thick, but by no means sonorous, tone, like a big drum indifferently braced up – without being in sympathy with the higher tones.' Soufleto's only preferred German brand was Lipp of Stuttgart. Soufleto did approve the use of iron frames in German pianos, but had regarded other improvements as 'unsatisfactory, useless, and a mere act of visual appeal'.¹⁷⁸ However, German pianos were not the worst in his opinion. American pianos were outdated, and Belgian brands were perceived as copycats of German brands.¹⁷⁹ His thoughts on English pianos, which was solely represented by Brinsmead, had a good mechanism but a slight exaggeration on the tone-volume.¹⁸⁰

Aside from Mahillon and Soufleto, reviews on the pianos at 1883 Amsterdam were found in the French and German press. The German reporters felt under-surveillance by French stewards, as the French were overprotective about plagiarising their ingenuity: 'it sounds a bit strange if the French were afraid that their old systems would still be imitated in any way.'¹⁸¹ The report was published in *ZFI* over several segments, where it was assiduously acclaimed that German pianos were undeniably the best.¹⁸² In their opinions, the French systems were considered stiff and antiquated, while the English, Brinsmead & Sons, had a 'small' grand piano which sounded full and round, but its tone did not match that of German pianos.¹⁸³ The French press *Voltaire* gloated

¹⁷⁷ 'Pianos & harmoniums at the Amsterdam Exhibition', *MOMTR*, 7: 77 (February 1884), pp. 231–232.

¹⁷⁸ On touch, 'the touch at 110 grammes is too unyielding, I think, for this weight would appear excessive to us. The length of the strings is almost always very long, the number is greater than in our pianos.' On the Blüthner-Aliquot, 'the result does not seem to me to be very satisfactory – there is plenty of labour and little gain.' On the soundboard, 'the pianos of Kaps have a double sounding-board under the strings (similar to Blüthner), entirely useless work, serving no good purpose except as an advertisement to the public to give evidence of great perseverance and intelligent.' 'Pianos & harmoniums at the Amsterdam Exhibition', *MOMTR*, 7: 77 (February 1884), pp. 231–232.

¹⁷⁹ *Ibid.* Although there were no Chickering or Steinway pianos present at the exhibition, Soufleto formed his opinion about American pianos from what he had seen outside of the exhibition, and concluded that there was no essential improvements since the 1867 Paris Exhibition.

¹⁸⁰ *Ibid.*

¹⁸¹ 'Die Claviere auf der Colonial-Ausstellung on Amsterdam, Originalbericht von unserem Special-Berichterstatter, Nachdruck verboten', *ZFI*, 4 (1883/84), pp. 37–38.

¹⁸² *Ibid.*, pp. 5–6.

¹⁸³ *Ibid.*, p. 49.

less about French piano firms. Having reviewed the crowning days of French piano firms in the past, (notably at 1867 Paris and 1878 Paris), the French reporter wondered whether French piano firms were now lagging behind German firms:

I can scarcely believe that France is at present able to recover her lost position, but our makers should at least learn this lesson from the present exhibition – no longer to regard the productions of their neighbours with mere curiosity, but rather to study them thoroughly in order to make themselves well acquainted with the causes of their success.¹⁸⁴

2.3.6.2 1885 Antwerp

At 1885 Antwerp, a number of reports related the tone preference of the pianos to the different playing styles of pianists.¹⁸⁵ Camille Saint-Saëns being a member of the Jury showed great respect to German exhibitors, and repeatedly played the pianos of Schiedmayer Pianofortefabrik with much appreciation.¹⁸⁶ At the same exhibition, the reporters of *ZFI* looked particularly at the change in characteristics of pianos in accordance with the pianistic tendencies of nations.¹⁸⁷ They found that touch was an essential requirement. According to their report, German pianists were less attached to the importance of a light touch, and consequently the German makers paid less attention to it. Russian pianists, like Germans, preferred a more powerful tone. This was at times pushed to the extreme, as the pianos of the Russian firm Goetze were ‘somewhat heavy and fatiguing to the pianist.’ Belgian pianists preferred a lighter touch, which French pianos were able to satisfy. Of the French pianos, Erard had particularly a delicate and light touch, which was ideal for French virtuoso who advocated for flexibility; the timbre, full of sonority, was powerful in the bass, but thin in the higher registers.

2.3.6.3 1888 Melbourne

At 1888 Melbourne, both jury and press reports focused on the price of pianos, which was one of the awarding criteria.¹⁸⁸ In his letter to *Le Ménestrel*, the French juror Oscar Comettant commented on how German industries had flooded the exhibition with cheap pianos.¹⁸⁹ Comettant exaggerated in his report that there were over 200 ‘cheap’ German pianos.¹⁹⁰ In his

¹⁸⁴ ‘A French View of the Pianoforte at the Amsterdam Exhibition’, *MOMTR*, 7: 76 (January 1884), pp. 184–185. Cross-posted in ‘Die französischen und deutschen Pianos auf der Ausstellung zu Amsterdam’, *ZFI*, 3 (1882/83), pp. 403–404.

¹⁸⁵ The correlation between the ideals of piano tone to the different playing styles of pianist is one of the main themes in the next chapter, **Chapter 3: Piano Tones in Concert**.

¹⁸⁶ ‘Antwerper Ausstellung’, *ZFI*, 5 (1884/85), p. 390.

¹⁸⁷ ‘Die Musikinstrumente auf der Ausstellung von Antwerpen’, *ZFI*, 6 (1885/86), p. 1.

¹⁸⁸ Siede, ‘Reports of Juries – section 6 and 7, class 13 and 14’, pp. 717–721.

¹⁸⁹ ‘Die Melbourner Ausstellung in französischer Beleuchtung’, *ZFI*, 9 (1888/89), p. 96.

¹⁹⁰ As published in a German catalogue by Otto v. Holten, *ZFI* counted there to be no less than 72 exhibitors displaying 31 grands and 144 pianos. ‘Von der Weltnausstellung zu Melbourne’, *ZFI*, 9 (1888/89) p. 22.

high regard of the French pianos, Comettant felt that the French industry could learn from the Germans not on the constructions of piano, but in the manner of selling products.

The discussion of export and sales continued in the press. *ZFI* pointed out French and Viennese firms had already lost their positions in the export market over the recent years, but was unable to accept this reality.¹⁹¹ Two articles from the British press *MOMTR* considered the affordability of the piano rather than novelty, and targeted buyers who were enthusiasts rather than professionals.¹⁹² Reviewers drew on the suitability of the piano to the acoustics of private salons, such as the pianos of Julius Feurich, which had clear resonant tone suitable to moderate size music rooms, and Albert Fahr, who purposely built medium-priced pianos.

2.3.6.4 1893 Chicago

At 1893 Chicago, J. Thibouville-Lamy, appointed by the French ministerial decision as a member of the jury at the Chicago Exposition, was informed after having arrived in New York that French instruments were pulled out of competition. This decision changed the nature of his mission, which was no longer to examine and compare with a view to giving awards, but to make a general study of the musical instruments. Thibouville-Lamy devoted the majority of his report to comparing American and French pianos.¹⁹³ He outlined that the key distinction was in the process of building, that Americans substituted much of the labour force for mechanical tools.¹⁹⁴ The pianos became larger, and their large appearance was a popular choice of furniture in the United States. According to Thibouville-Lamy, the case of the American pianos were ‘out of proportion’, and the wood was ‘very thick and covered with a greasy varnish’. The interior of the pianos also contained heavy amounts of metal to withstand the weather conditions in America being humid and fluctuating in temperature. Thibouville-Lamy observed that American manufacturers had used modified French manufacturing mechanisms to adapt to the environment. Thibouville-Lamy concluded that American pianos did not have the finesse of touch and equality of tone found on French pianos, which he admitted were limitations unavoidable amidst the corrosive nature of the humid temperature.¹⁹⁵ Thibouville-Lamy once again identified pianists as key stimulants to the difference for the characters of pianos:

¹⁹¹ ‘Die Melbournier Ausstellung in französischer Beleuchtung’, *ZFI*, 9 (1888/89), p. 96.

¹⁹² ‘The Melbourne Exhibition’, *MOMTR*, 13: 146 (November 1889), pp. 84–85. ‘Pianos at the Melbourne Exhibition’, *MOMTR*, 12: 138 (March 1889), pp. 293, 295.

¹⁹³ ‘Rapport de M. J. Thibouville-Lamy, Fabricant d’instruments de musique, Commissaire Rapporteur’ in *Rapports publiés sous la direction de M. Camille Krantz, commissaire général du gouvernement Français* (Paris: Imprimerie Nationale, 1895), pp. 7–23.

¹⁹⁴ ‘Rapport de M. J. Thibouville-Lamy’, p. 10.

¹⁹⁵ ‘Rapport de M. J. Thibouville-Lamy’, p. 11.

The American artist loves the power of sound and it is the first quality he seeks to recognize in an instrument. This tendency is clear from the vigour with which he first attacks the key. So we have seen, in many circumstances, how much the attention of the American artists was struck by the fact that they obtained without effort, on the French pianos, a power of sound that they would have reached only by force on many American instruments.¹⁹⁶

Thibouville-Lamy's assessment did not align with the American accounts. The *New York Musical courier* was severe concerning the tone qualities of French pianos: 'the pianist that can get any wail from these instruments that does not resemble a pig's whistle is entitled to great credit, and the Frenchman should hunt him up (if alive) and present him with the former throne of the Napoleons.'¹⁹⁷ Their rebukes of French pianos could have been due to their own emotional furies, for their fellow men were treated discourteously by the French attendants, and were almost 'arrested' after trialling American pianos. On this occasion, the British press sided with the Americans, but rescued the firms Pleyel and A. Bord from these criticisms.¹⁹⁸

The reporter for the German press *ZfI*, C. von Hartmann, also wrote extensively on French and American pianos at 1893 Chicago.¹⁹⁹ Despite a lack of investigation into German pianos, Hartmann regarded every German piano as a 'work of art', and the influence of its industry emanated throughout the exhibition: 'of the exhibitors, three quarters have German names; Russians are without exception German Russians; and of the French exhibitors, half had German names.'²⁰⁰ Although Hartmann had not made any comparisons between American and German pianos, the account from another German reporter at the exhibition testified that many American pianos were heavier than German pianos.²⁰¹

Hartmann did not think highly of French pianos except for Gaveau and Pleyel, Wolff & Cie. He found their tone was lacking compared with German pianos. Of two of the Pleyel pianos, Hartmann found the tone of the first not 'full and rich', and the second was 'not very full and

¹⁹⁶ 'L'artiste américain aime la puissance du son et c'est la première qualité qu'il cherche à reconnaître dans un instrument. Cette tendance ressort nettement de la vigueur avec laquelle il attaque tout d'abord la touche. Aussi avons-nous pu constater, en maintes circonstances, combien l'attention des artistes américains était frappée par ce fait qu'ils obtenaient sans effort, sur les pianos français, une puissance de son qu'ils n'auraient atteint que par un jeu vigoureux sur beaucoup d'instruments américains.' 'Rapport de M. J. Thibouville-Lamy', p. 20.

¹⁹⁷ 'French exhibits at the world's fair', *POMTJ*, 10: 132 (August 1893), p. 131. Most of the extract had originated from 'French discourtesy' in the *New York Musical courier*.

¹⁹⁸ *Ibid.*

¹⁹⁹ C. Von Hartmann, 'Frankreichs Ausstellung von Musikinstrumenten auf der Welt-Ausstellung von Chicago', *ZfI*, 14 (1893/94), pp. 103–105, and continued in pp. 154–156.

²⁰⁰ 'Von den amerikanischen Ausstellern haben stark drei Viertel deutsche Namen, die Russen sind ohne Ausnahme Deutsch-Russen und selbst in der französischen Piano-Ausstellung haben nahezu die Hälfte der ausstellenden Firmen deutsche Namen.' C. von Hartmann, 'Musikinstrumenten auf der Welt-Ausstellung von Chicago', pp. 156.

²⁰¹ A German's opinion of the late Chicago Exhibition', *MOMTR*, 18: 205 (October 1894), p. 54.

clean in the lower registers'.²⁰² In Gaveau pianos, full tone was 'rarely' found, though Hartmann was pleased with their 'simple, soft, and tasteful' tone. The American pianos, on the other hand, Hartmann had thought were all excellent, and which only few European companies could compete against.

2.4 The 'New' exhibition: 1904 St. Louis

The 1904 St. Louis, in various ways, could be viewed as an exhibition that had a very different set of expectations than those of the previous exhibitions. At 1904 St. Louis, musical instruments, Group 21, belonged to the department of Liberal Arts.²⁰³ Pianos did not have their own class, but shared a class with other stringed instruments with keyboards. There were only 25 piano exhibitors, much fewer than previous exhibitions, despite the 1904 St. Louis exhibition being the largest (site) amongst all the exhibitions examined, [Table 17, p. 119].

The orientation of the grand pianos exhibited at 1904 St. Louis was also distinct from other exhibitions. There was a hall for pianos in the Liberal Arts building, but only cottage and upright pianos (from America, France, and Italy) were found. Grand pianos were mostly located in the pavilion of their respective nations; these included those by Belgium and Japan, and a British grand in the drawing room of Messrs. Waring & Gillow's Pavillion.²⁰⁴ The American grand by Starr piano Co. was placed in the Indiana & Tennessee State building. German grands were dispersed in their German quarters: Blüthner's and Ibach's pianos in the Palace of Varied Industries, a Blüthner grand in the First Story Hall of the German States, Ibach's and Carl Mand's grands in the Baden Concert Hall, and a Schiedmayer near the drinking fountains.²⁰⁵ In this arrangement, grand pianos,

²⁰² Regarding the first Pleyel, Hartmann said: 'As far as the jury is concerned, a large matte-gold grand piano with an almost grandiose painting is one of the most beautiful, if not the most beautiful, piano on exhibit. The tone of the instrument is also good, but not as full and rich as one would expect of such an instrument, as like that found on almost every German grand piano.' Original quote: 'Ein grofser Flügel in Mattgold mit geradezu grofsartiger Malerei ist, was das Gehäuse anbetrifft, unbedingt eins der schönsten, wenn nicht das schönste Piano auf der Ausstellung. Auch der Ton des Instrumentes ist ein guter, aber nicht so voll und klangreich, wie man von einem solchen Instrument erwarten sollte und wie ihn die deutschen Flügel nahezu allesammt besitzen.' Concerning the second piano, Hartmann thought that 'the mechanics of this instrument is also clean, and beautifully crafted, the tone was appealing, although not very full and not pure in the lower registers, which is probably due to piano not being in its best conditions.' Original quote: 'Auch die Mechanik dieses Instrumentes ist eine saubere, schön gearbeitete, der Ton ansprechend, wenn auch nicht sehr voll und in den tieferen Lagen nicht rein, was indessen wohl der mangelhaften Stimmung des Instruments zuzuschreiben ist.' C. von Hartmann, 'Frankreichs Ausstellung von Musikinstrumenten auf der Welt-Ausstellung von Chicago', p. 104.

²⁰³ F. J. V. Skiff, *Official catalogue of exhibitors, Universal Exposition, St. Louis, U.S. A., 1904: Division of exhibits* (Published for the Committee on Press and Publicity by the Official Catalogue Company Inc., 1904).

²⁰⁴ Isidore Spielmann, *St. Louis International Exhibition 1904, the British section* (London: Royal Commission, 1906), p. 309.

²⁰⁵ 'Der amtliche Katalog der Ausstellung des Deutschen Reiches auf der Weltausstellung von St. Louis', *ZfI*, 24 (1903/04), p. 632.

the ‘superior’ of all other types of pianos, were regarded as objects embodying cultural significance and integration rather than a vehicle to judge progress.

Table 17: Piano exhibitors at the 1904 St. Louis Exhibition²⁰⁶

Nationality	Number	Firm
Belgium	1	J. Günther
France	13	L. Burgasser & H. Theilmann L. Chartier L. Coquet fils J. Girard Klein, Henry, Montreuil s. Bois J. Labrousse J. Lary E. Legay Pleyel, Wolff & Cie E. Pruvost Renard & Cahouet E. Vasselin E. Weingartner
Germany	4	J. Blüthner Ibach & Sons Carl Mand Schiedmayer PianoforteFabrik
Italy	1	Antonino Mauro
Japan	1	Nippon Musical Instrument Manufacturing Company
United States	5	Baldwin Piano Co. Clark S. Wood Ellington Pianos Co. Estey Piano Co. Starr Piano Co.

In regards to juries, the elected American juries were mostly experts in instruments.²⁰⁷ Germany’s nominated juror on the other hand was only an imperial consul and not a specialist.²⁰⁸ However, this did not cause an uproar. Likewise, there was a general calmness about the publication of awards in the press, despite the fact that the whole distribution of other exhibition prizes being a gigantic fraud, and judges were accused of bribery.²⁰⁹ *ZFI* received results for German exhibitors ‘from a private source’, as the announcements of the results were either kept extremely low key, or deferred by the commissioners.²¹⁰ Amongst the German exhibitors, Grand Prix was awarded to J. Blüthner, Ibach & Sons, and Schiedmayer Pianofortefabrik.²¹¹ Carl Mand also received a gold medal, but the prize was awarded from group 37, Decoration and Equipment. Pianos also received little press attention worldwide. The *World’s Fair Bulletin*, which was published exclusively for the interest of the exposition, viewed pianos as no different from country to country:

The development of the piano from the earliest days of its history to the present time will be shown by a leading piano manufacturer. Especially will this retrospective exhibit show the evolution of this instrument during the past century.²¹²

²⁰⁶ Skiff, *Official catalogue of exhibitors*, pp. 25–26, 43, 66. ‘Die französische Musikinstrumenten-Industrie auf der Weltausstellung von St. Louis’, *ZFI*, 24 (1903/04), p. 662, source from *Le monde musical*.

²⁰⁷ See Appendix B: Jury Constitution, 1904 St. Louis.

²⁰⁸ Dr. Rieloff, the appointed German juror, was called a *Nichtfachmann*, ‘Das internationale Preisgericht der Weltausstellung in St. Louis’, *ZFI*, 24 (1903/04), p. 1059.

²⁰⁹ ‘Die Weltausstellung von St. Louis’, *ZFI*, 25 (1904/05), p. 610. Rumoured from the *New York Herald*.

²¹⁰ ‘Die Prämiierungen der deutschen Aussteller auf der Weltausstellung von St. Louis’, *ZFI*, 25 (1904/05), p. 103.

²¹¹ At first, Ibach & Sons were not awarded a Grand Prix. Since the firm had not applied for the exhibit space but supplied a piano to Prof. Biling-Karlsruhe for his salon, they could not be considered for the competition of awards. However, the juries were impressed by its musical characteristics and commendable exterior that they were unanimously awarded a Grand Prix. ‘Zu den Prämiierungen der deutschen Musikinstrumenten-Aussteller in St. Louis’, *ZFI*, 25 (1904/05), p. 134.

²¹² *World’s Fair bulletin*, 6: 3 (1904), p. 14.

Piano exhibitors, who had flooded the international exhibitions of the nineteenth century, were almost in short supply at 1904 Louisiana. The difficulty of exhibiting, which had built over many years, was resolved in the simplest way. The lack of interest of the press in surveying pianos at the 1904 St. Louis pointed to a new trajectory for pianos in the twentieth century, no longer were pianos a pursuit of industry, nor a comparison of cultural or artistic merits, but a common object for all.

2.5 Summary

This chapter highlighted two key points in the discourse of piano tone for this period; that piano tone embodied a nationalistic meaning; and that piano tone was described, communicated and experienced through the narrowing opinions of juries, delegates and press. In hindsight, it is evident that any object on display at international exhibitions was a canvas upon which patriotic meanings were projected. By displacing pianos from their intended concert or domestic settings to exhibition platforms, tone ideals based on design and function gave way to prejudices of nationalism. As I have outlined in this chapter, bias was clearly present in all facets of engagements. For instance, the auditioning of pianos for display involved a panel of exhibition bureaucrats, firms, representative agents, overseas administrators, and government officials. Location, space, and performance opportunities were negotiated between commissioners, firms and their representative agencies. Despite an individual firm's best effort to secure favourable exhibition conditions, they had to submit to the authority of the organisers and for some this meant enduring adverse stand placements or neighbouring exhibits.

The diverse disputes between one juror and another, as well as within the press, implied that agreement was close to the impossible. Yet the conversations of those in authority have instilled in their compatriots cultural conscience and imparted tone ideals of the exhibited pianos. These nationalistic profiles and verbal cogency of tone are also found in press reviews of piano recitals, which I come to discuss in the next chapter. There the spotlight is on late-nineteenth century pianists, who were critical agents in conveying piano tone. Through the case study of St. James' Hall London, I examine what pianos were used by which pianists and why. As for exhibitions and the ideal tone of pianos? The jury is still out.

Chapter 3 Piano Tones in Concert

*Rubinstein and most foreign pianists prefer the grand Erard, so famous for its "repetition action". Others assert the merit of Broadwood, mainly on the ground of its durability, a great object to fathers of families, who cannot, like the Abbe Liszt, afford to kill a grand pianoforte every week... The Steinway and the Bechsteins are in high favour with many musicians.*¹
- *Musical Standard*, 1892

In the late- nineteenth century, the choice of pianos for pianists in concert halls was limited. In most parts of Europe and the United States, concert halls only had pianos from the most eminent local brands. In addition, the majority of solo recital and chamber performances took place in private halls built by piano firms, notably, the Salle Erard and Salle Pleyel in Paris, the Bösendorfer-Saal in Vienna, the Bechstein-Saal and Blüthner-Saal in Germany, and the Steinway and Chickering halls in the United States. One can assume that pianos belonging to rival firms would not appear in these privately owned halls.

For concerts in the United States, impresarios mediated between pianists and their sponsoring firms to devise a contract. For 200,000 francs, Anton Rubinstein agreed to play exclusively on Steinways in his America tour (1872 to 1873), retaining only his right to reject any single piano which he did not find suitable.² Hans von Bülow was more vigilant in the choice of piano for his American tour (1875 to 1876), and had refused to decide between Chickering and Steinway until he has auditioned both.³ The contracts not only limited their choice of pianos but also the artists' performing opportunities. Bülow never appeared with a good orchestra in America, as being under contract with Chickering meant that he was unable to perform with Theodore Thomas, who was affiliated with Steinway.

For touring pianists in Europe and Oceania, the choice of pianos was also discussed in correspondence between pianists and agents. At the onset of negotiations, pianists could opt for lower pay if they had a choice of pianos. This was the case with Moriz Rosenthal in 1906 for the arrangement of a potential Australia tour. Rosenthal expressed that he would not mind taking a

¹ 'The modern pianoforte', *Musical standard*, 43: 1477 (19 November 1892), p. 403.

² The contract was signed by Anton Rubinstein, Jacob Grau (his manager), Maurice Grau (Jacob's nephew), and C. F. Theodore Steinway. Rubinstein was paid 200,000 francs for his eight-month tour (\$40,000, which was \$200 per concert, and all expenses paid). R. Allen Lott, *From Paris to Peoria: how European piano virtuoso's brought classical music to the American heartland* (Oxford: Oxford University Press, 2003), pp. 172–174.

³ There are no surviving copies of the official contract between Bernard Ullmann and Hans von Bülow, it was said that Bülow was paid 100,000 francs for his eight-month tour (172 concerts), which was approximately \$20,000 then and more than \$250,000 today. In the end, Bülow chose Chickering, 'I shall not be able to make so much noise on a Chickering as on a Steinway, but the tone is far more noble and distinguished, like those of Erard's.' Lott, *From Paris to Peoria*, pp. 236–237.

pay cut to 800 dollars if he could decide on his own piano, but for the 1,000 dollars he would accept if the piano was a Bechstein, Steinway, Weber, Blüthner or Grötrian.⁴ On the other hand, pianists like Saint-Saëns were more particular about the piano they intended to use regardless of the costs. For his London concert in 1901, Saint-Saëns insisted on having an Erard transported from Paris, the particular one he had played on at the prize award ceremony at the Paris Conservatoire.⁵

The prevailing reason for establishing exclusive contracts was that piano firms saw pianists as advertising agents.⁶ In 1875, *Concordia* raised concerns regarding the controversy of musicians selling their 'skill and prestige to makers of instruments', while the *Pall Mall gazette* argued that there was no harm in pianists choosing firms which paid the most: 'We may be quite sure that neither the eminent pianist nor the intelligent impresario who speculates in his talent and popularity would think, whatever terms might be offered, of accepting a second-rate in lieu of a first-rate piano.'⁷ Pianists also defended their own cause, as Anna Essipoff did when criticised for her choice of pianos: 'As a professional pianist, I assume that I may be allowed more knowledge and better judgment about a piano than the gentleman who reports in your paper. In blaming the piano, he also blames indirectly my taste in selecting the instrument.'⁸

This chapter combines the evidence of concert programmes, promotion, and reception to build arguments for the changing perception in ideals of piano tone, principally, from the perspectives of performing pianists and critics. I begin with a brief survey of the major concert halls in London where pianists were likely to have taken centre-stage. To undergo an extensive investigation into all the piano concerts in London during this time would almost be impossible a study. In order to show trends in piano selection, I chose as my case study the Monday and Saturday popular concerts at St. James's Hall (1880–1901).⁹ I analyse the data on the choice of

⁴ Moriz Rosenthal's letter to John Tillett, probably written in April 1906. Christopher Fifield, *ibbs and Tillett: the rise and fall of a musical Empire* (Aldershot, Hampshire: Ashgate, 2005), p. 67.

⁵ 'Au 2me concert j'ai l'intention de jouer ma Suite pour piano... hier j'ai demandé à la maison Erard de m'envoyer le piano sur lequel j'ai joué à la distribution des prix du Conservatoire.' Letter dating October 30th, 1901. Fifield, *ibbs and Tillett*, p. 7.

⁶ In the United States, large advertising placards were placed on stage next to pianos in concerts, and this was common until the 1920s. Dieter Hildebrandt, *Pianoforte: a social history of the piano*, translated by Harriet Goodman, introduction by Anthony Burgess (New York: George Braziller, 1999), p. 140.

⁷ *Concordia*, 1 (11 December 1875), p. 527. Opposing viewpoint in 'The commerce of music', *Dwight's journal of music*, 35 (13 November 1875), pp. 124–125, sourced from *The Pall Mall gazette*.

⁸ *POMTJ*, 4: 32 (March 1885), p. 22.

⁹ The reasons for my choosing of this case study are explained in detail in Part One – Written archives, under 'locating grand pianos in 1880-1904: Concert Hall'. The Monday and Saturday popular concerts was an archetype of the new-style concert series that were concurrent in other cities which had strong western-classical music culture, such as Paris and Vienna. These concert series elevated smaller ensemble works and promoted solo instrumentalists, and therefore can be regarded as a felicitous trialling ground for instrument makers and touring pianists.

pianos alongside the profiles of pianists to outline reasons for their preference. In particular, I scrutinise the pianists' pedagogical training in relation to the instrument, as the discussion of tone would be incomplete without acknowledgement of how the piano is being played, which itself is based on how one is trained and has subsequently developed their technique. In the third part of this chapter, I draw on concert reviews in the British press to reveal their perceived tone of individual brands. I conclude that the changes in the demographic of pianists, whose playing styles became more internationalised, was the chief influence on the shifting notion of the ideal piano tone in Britain from 1880 to 1904.

3.1 London concerts: halls, concerts, pianists

Towards the end of the nineteenth century, the profusion of piano performances in London, as encapsulated by the critic George Bernard Shaw in 1890, was a dread: 'pianoforte-playing is becoming an accomplishment most hateful to me. Death is better than eighteen recitals per week'.¹⁰ The main concert halls were Crystal Palace (CP), St. James' Hall (SJH), Princes' Hall (PH), and Queen's Hall (QH).¹¹ These sites had a number of subscription concerts, including the Philharmonic Society concerts (CP), the London Symphony concerts (SJH), the Promenade concerts (QH), and series named after prominent musicians (both native and foreign), such as Hallé's Concerts, Richter Concerts, Sarasate concerts, and Joachim's subscription concerts. In addition to subscription concerts, weekly solo and chamber performances also took place, such as the Crystal Palace Concerts (CP), and the Monday and Saturday popular concerts (SJH). Individuals or organisations also added to the number of recitals, some better promoted and reviewed than others.

Beyond the municipal concert halls, performances were held in showrooms and halls owned by piano firms. Showrooms were usually smaller in size, such as those belonging to Blüthner (1896), Bechstein (1879), and Erard (1894), the last whose dimensions measured 51' x 35' x 20'.¹² Although showrooms could not accommodate as big an audience, the hiring costs

¹⁰ George Bernard Shaw, *Music in London 1890-94*, vol. 1 (London: Constable, 1932), p. 18.

¹¹ Crystal Palace (1856-1936). St. James' Hall operated between 1858 and 1905. The Queen's Hall opened in 1893 and replaced St James's Hall when it was demolished in 1905. Princes' Hall was also frequently mentioned in press reviews, and situated in Piccadilly, although I was not able to find additional information regarding the exact dates of the hall. In my findings, reviews for concerts in Princes' Hall ranged from 1883 to 1890, while concert programmes from private collections go as far as 1891. British periodicals and concert programmes archives, <http://www.concertprogrammes.org.uk/>, consulted on 26 October 2018.

¹² Dimensions were 15.5 m x 10.7 m x 6.1 m. 'The Salle Erard', *Musical news*, 7:176 (14 July 1894), p. 32. To give a rough estimation of the size of the audience, the Bechstein room in Wigmore Hall (2020) can be used as a standard of measure. The Bechstein room, being half the size of the Erard showroom, can allow 80 seated. Therefore the Erard showroom could probably accommodate 160 persons for concerts. <https://wigmore-hall.org.uk/about-us/conferences-and-meetingsm>, consulted on 15 February 2020.

were generally more affordable, 'the Salle Erard was an intimate little hall... and was used for recitals when expenses had to be kept low'.¹³ Some piano firms built concert halls in order to allow for a bigger audience, such as the Steinway Hall (1875), the Bechstein Hall (1901), and Erard Concert Hall (1898).¹⁴ The hiring cost, as explained by the concert agent John Tillett in his letter to Moritz Rosenthal in 1906, differed from hall to hall:

We have the Queen's holding close on 3000 people, the Bechstein, with capacity for 600 and the Aeolian, 400 seats. To work a concert well at the Queen's Hall would cost from £90 to £100, and at either the Bechstein or Aeolian say £50. These latter halls are most popular nowadays with recital artists, the Queen's being considered too expensive and large in most cases... I should mention that there is a restriction at the Bechstein Hall, viz that their own piano is used. There has been much talk of late about another hall being built by Steinways, one holding 1500, which would be most popular... should this hall be built, as I hope will be the case, there is to be no restriction over the use of the piano.¹⁵

The organisation of concerts, which included the selection of pianists and programme, was segregated into two categories. For the regular series concerts held in the municipal halls, the overall ordering of programme was devised by the hall managers. Smaller-scale concerts were organised by aristocrats and individuals, where exclusive invitation was needed for entry. For the majority of concerts in both categories, pianists had concert agents who managed their affairs. The foremost concert agent was N. Vert (Narciso Vertigliano), who gained prominence after taking over the Dolby Agency in 1880. Vert was known for being the London manager of Edward Elgar and Hans Richter. His nephew, Pedro Tillett joined in 1887 and took over the company in 1905, and was the concert agent for Josef Hofmann and Moriz Rosenthal.¹⁶ Daniel Mayer, Vert's chief rival, established his concert agency in 1890.¹⁷ Mayer was also the manager of the Erard's showrooms in Great Marlborough Street.

¹³ Fifield, *Ibbs and Tillett*, p. 29.

¹⁴ Erard owned a workshop at 18 Great Marlborough Street since 1794. In 1833, they bought the neighbouring house (no. 17) to alter and rebuild with their existing no. 18. It was not until after 1892 that plans finally pushed forward for a building containing workshops, showroom and a concert hall, the architect being Percy G. Stone, whose office was at no. 16. The initial plan of a holding 770 persons was rejected, but by 1894, a concert room with 300 persons was finished. Along with alterations and obtaining license for the room, performances finally began in 1898. 'Great Marlborough Street Area – No. 18 Great Marlborough Street', in F. H. W. Sheppard (ed.) *Survey of London: volumes 31 and 32, St James Westminster, part 2* (London, 1963), pp. 250-267, available at *British History Online*: <http://www.british-history.ac.uk/survey-london/vols31-2/pt2/pp250-267>, consulted on 15 February 2020.

¹⁵ Letter dating March 14th, 1906. Fifield, *Ibbs and Tillett*, p. 66.

¹⁶ Other pianists under the management of Mr. N. Vert as found in various concert programmes included Max Hambourg, Clotilde Kleeberg, Berthe Marx, Dory Burmeister-Petersen, and Raoul Pugno. Fifield, *Ibbs and Tillett*, p. 2.

¹⁷ A comprehensive list of concert agents in competition with the Ibbs and Tillett firm (which took over from N. Vert) from 1906 to 1908, is detailed in Fifield, *Ibbs and Tillett*, p. 106. These concert agents included: Daniel Mayer: established in January 1890 at Chatham House, George Street, Hanover Square and manger of Erard's piano showrooms in Great Marlborough Street. H. Bernhardt's Philharmonic concert Direction (Regents Street). Schultz-Curtius (Regent Street), Leslie Hibberd (17 Hanover Square), Ethel L. Robinson (7 Wigmore Street), Chappel's (50 Bond Street), E. A. Michell with Phillip Ashbrook (7a Piccadilly Mansions),

These London concert agents usually auditioned pianists and mediated between pianists and sponsors (such as managers of both private and state halls). Vert had in his pool of pianists Anna Essipoff, Fanny Davies, Fanny Frickenhaus, Natalia Janotha, Sophie Menter, Franz Rummel, Wassily Sapellnikoff, and Benno Schönberger.¹⁸ Daniel Mayer was the manager for Ignace Jan Paderewski, Max Pauer, Agnes Bartlett, Leonard Borwick, Ernst Denhof, Eugene Holliday, Natalia Janotha, Benno Schönberger, Leo de Silka, Bernhard Stavenhagen, Margaret Wild, and Agnes Zimmermann.¹⁹ Both Vert and Mayer had obvious preferences for pianos; Vert had a Steinway in his office, and Mayer being the owner of an Erard showroom. Their partiality seemed to have little impact on the pianists they engaged, as evident from the variety of piano brands pianists used in their concerts in London and in England's suburban areas. This was true for those performing at St. James' Hall, as all sorts of brand names, ranging from Brinsmead, Broadwood, Pleyel, and Steinway appeared in concert pamphlets. In principle, pianists performing in the Monday and Saturday popular concerts therefore chose pianos according to their taste, which was greatly influenced by their own playing styles.

3.2 St. James' Hall: Monday and Saturday popular concerts²⁰

The Monday and Saturday popular concerts at St. James' Hall were initiated by the Chappell brothers, Tom and Arthur, in 1859.²¹ At the beginning, there were just Monday popular concerts. From March 1865, Saturday afternoon concerts were added. Arthur Chappell outlined two reasons for these additions. Firstly, engaging overseas musicians for the whole series, as the case with Joseph Joachim, was high in cost, so it was worthwhile (both in saving time and travelling costs) to have them do an additional concert in the same week. Secondly, afternoon performances accommodated those who could not attend the evening concerts, which included business men who could not finish work early on Monday evenings, and young ladies or residents

Hugo Göllitz (119 New Bond Street), L. G. Sharpe (established in December 1900 at 61 Regent Street), T. Arthur Russell Concert Direction (established 1905 at 13 Sackville Street), Carl Junkermann (122 Regent Street), Clairfields Operatic & Concert Direction (1 Langham Place), Lionel Powell, and William Sewell.

¹⁸ 'Art, music, and the drama', *Bow bells: a magazine of general literature and art for family reading*, 10: 118 (4 April 1890), p. 323.

¹⁹ These are only some of the examples from the concert reviews I have found in the British press.

²⁰ Programme and Words of the Monday and Saturday popular concerts at St. James's Hall from February 7th, 1859 to March 7th, 1904. This collection is available at the British Library, London. As the collection is imperfect in parts after 1901, I have decided to focus on season 23 to 43 (November 1880 to April 1901) to secure consistency in data. *Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>*, British Library, Music Collections d.480.

²¹ In 1885, Paul Pry (from *Sunday times*) interviewed (Samuel) Arthur Chappell about the facts and ideas concerning the history of the popular concerts. Paul Pry, 'Another interview', *The musical world*, 63: 5 (31 January 1885), pp. 72–73. A full 13-page account on the establishment of the popular concerts can also be found in the appendix of the 1886/87 (season 29) programmes and notes.

in the suburbs who found it inconvenient going out at night.²² According to Arthur, it was James Davison, the music critic of the *Times*, who suggested that these concerts should be devoted to classical chamber repertoire: 'it has been said that the real dissemination of a wide taste for classical music in this country dates from the start of the 'Pops'. That is true'.²³ The Monday and Saturday popular concerts were generally well attended and reviewed across several press: the *Musical standard*, the *Musical times*, and the *Musical world* amongst others. The Monday and Saturday popular concerts became such an integrated part of London culture that it was referred to as 'Classical Monday Pops' in Gilbert and Sullivan's opera, *The Mikado* (1885).²⁴ The increased popularity gained through the fame of the opera further contributed to the spread of the concerts, which helped in building musical taste in England.

The Monday and Saturday popular concerts (Pops) ran until 1904, each season lasting from late October to late March or early April.²⁵ From 1880 to 1898, there were 41 concerts each year. From 1898, Monday evening concerts were removed during the winter period. A typical programme included a mixture of chamber music, vocal compositions, and solo piano pieces. Arthur Chappell devised the entire run-down of programmes, as he was meticulous about limiting the performance to two hours. For most concerts, a solo pianist was engaged to play both the solo and chamber works, while a piano accompanist was provided for vocal music. Chappell saw this as a breakthrough in concert programming: 'Before the "Pops", the idea of a famous player appearing at the beginning or end of a programme was unheard of. But, thanks to the co-operation only of artists ready to sink their own individuality, such an arrangement became practicable, and thus enabled me to keep the concerts to a length that would be acceptable to the public without tiring them.'²⁶ In my opinion, Chappell's foresight to infuse solo, chamber, and vocal works in the same programme is analogous to highlight videos so popular today, showcasing only the best moments. This would have imparted a certain pressure on performers to consider carefully what they wanted to present on stage: the repertoire, and the piano.

It was the solo pianists who decided on the choice of pianos. The name of the piano brand was included in concert programmes [Figure 25, p. 127]. In cases where there was no piano soloist, as was the case for the Joachim Quartet Series in 1897 and 1899, the piano in use was Chappell & Co, [Figure 26, p. 128].²⁷ In end-of-season concerts from 1889 to 1895, more than one

²² Pry, 'Another interview', p. 73.

²³ Ibid, p. 72.

²⁴ Fifield, *Ibbs and Tillett*, p. 1.

²⁵ From here on, I will abbreviate the Monday and Saturday popular concerts as 'Pops'.

²⁶ 'Concerts', *The musical world* 63: 5 (31 January 1885), p. 73.

²⁷ The Chappell brothers obtained exclusive management of the hall in 1897, and so their pianos were the in-house pianos.

piano soloist took part. As the choice of piano depended on the soloist, there were occasions when these concerts featured two or more brands. This occurred in two concerts, 31 March 1893 and 19 March 1894, when both Steinway and Broadwood pianos were used.

SATURDAY POPULAR CONCERTS.

SATURDAY AFTERNOON, NOVEMBER 28, 1896.

PROGRAMME.

**QUARTET in E flat, Op. 64, No. 2, for two Violins,
Viola, and VioloncelloHAYDN**
Madame SOLDAT,
MM. RIES, GIBSON, and PAUL LUDWIG.

THREE OLD GERMAN SACRED SONGS—

{	a. "Abendlied".....	JOH. SCHULZ, 1790
	b. "Joseph, lieber Joseph mein".....	14th Century
	c. "Ein fröhlichs Gesang"	About 1630

 Mr. PLUNKET GREENE.

FANTASIA in C major, for Pianoforte aloneSCHUMANN
EUGEN D'ALBERT.

PRELUDE AND GAVOTTE from Suite in E major, for Violin...BACH
Madame SOLDAT.

SONGS { a. "Through the Ivory Gate".....C. HUBERT H. PARRY
 b. "To the Rose"C. VILLIERS STANFORD
 Mr. PLUNKET GREENE.

**TRIO in B flat, Op. 97, fo Pianoforte, Violin, and
VioloncelloBEETHOVEN**
Madame SOLDAT,
MM. EUGEN D'ALBERT, and PAUL LUDWIG.
 —:o:—
 Accompanist - - - - - Mr. HENRY BIRD.
 —:o:—

Bechstein's Concert Grand Pianoforte.

Figure 25: Pianist: Eugen d'Albert. Piano: Bechstein concert grand, season 39: 1896/1897
© British Library Board (Music Collections d.480)²⁸

²⁸ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, season 39: 1896/97, concert programmes content page.

SATURDAY POPULAR CONCERTS.

SATURDAY AFTERNOON, APRIL 3rd, 1897,

FIRST APPEARANCE OF THE
JOACHIM QUARTET.

On this occasion the Instrumental part of the Programme
will be selected from the Works of
Beethoven.

PROGRAMME.

QUARTET in B flat, Op. 18, No. 6, for two Violins,
Viola, and Violoncello**BETHOVEN**
MM. JOACHIM, KRUSE, WIRTH, and HAUSMANN.

SONGS { a. "Von ewiger Liebe" }**BRAHMS**
 { b. "Wiegenlied" }
Madame **BLANCHE MARCHESI.**

QUARTET in F minor, Op. 95, for two Violins,
Viola, and Violoncello.....**BETHOVEN**

SONGS { a. "L'Ange et l'Enfant".....**CÉSAR FRANK**
 { b. "Willst du dein Herz mir schenken"**BACH**
Madame **BLANCHE MARCHESI.**

QUARTET in C sharp minor, Op. 131, for two
Violins, Viola, and Violoncello.....**BETHOVEN**

Accompanist **Mr. HENRY BIRD.**

Chappell & Co.'s New Model Grand Pianoforte.

Figure 26: No solo pianist, Chappell & Co new model grand piano, season 39: 1896/1897
© British Library Board (Music Collections d.480)²⁹

3.2.1 Pianos at the Pops: summary of trends

In this section, I provide a summary of the trends of piano selection of the Pops concerts from November 1880 to April 1901 (season 23 to 43). Through evidence from concert reviews, I argue that the underlying reason for the changes in trend was due to the changes in the preferred tone of pianists and the prevailing taste of the British audience. The data can be found in the two tables [Table 18, p. 129 and Table 19, p. 130].

²⁹ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, season 39: 1896/97, concert programmes content page.

Table 18: Concert grand pianos used at the Pops (Seasons 23–43)³⁰

YEAR	BECHSTEIN	BLÜTHNER	BROADWOOD	CHAPPELL	CHICKERING	EMIL ASCHER	ERARD	IBACH	PLEYEL	STEINWAY	TOTAL	MERGED BRANDS	Type of pianos and the season in which they were first introduced
1881	5		35		1						41		Carl Bechstein's (Berlin) Concert Grand Broadwood & Sons Concert Grand Chickering's Grand
1882	2	1	38								41		Blüthner's Concert Grand
1883	5		28			3	5				41		Emil Aschereg's (Dresden) Concert Grand S. & P Erard's Concert Grand
1884			41								41		
1885	6	1	26				9				41	2 in 2	Blüthner's Aliquot Grand Pianoforte Broadwood & Sons Iron Concert Grand
1886			39				2				41		
1887			38				2			1	41		Steinway & Sons' Concert Grand
1888	5		36								41		C. Bechstein's Iron Concert Grand
1889			33							8	41		
1890	2		24						2	13	41		Pleyel, Wolff & Co.'s Concert Grand
1891	7		19				6			9	41		
1892			20				7			14	41		
1893			21				5			16	41	2 in 1	
1894			18				6			18	41	2 in 1	
1895	4		13				1	9		14	41		Rud. Ibach & Sohn's Grand Steinway & Sons' New Orchestral Grand
1896		3	12				4			22	41		S. P Erard's Resonator
1897	6		13	3			13			6	41		Chappell & Co.'s New Model Grand S. & P. Erard's 1897 Patent Resonator Grand (Daniel Meyer Patent)
1898	2	2	15	6			10			6	41		S. & P Erard's Concert Grand
1899	3	1	10	3			3			8	28		Broadwood & Sons Barless Grand Pianoforte
1900	1		14				2			10	27		
1901	10		1	1			8			6	26		
Total	58	8	494	13	1	3	83	9	2	151	819		

Colour keypad for each piano brand	Bechstein	Broadwood	Chickering	Erard	Pleyel
	Blüthner	Chappell	Emil Ascherberg	Ibach	Steinway

³⁰ Each season starts from October/November to March/April, the year that the season ended in has been used, i.e. the data for season 23: November 1880 to April 1881 have been recorded under '1881'. 'Merged brands' refer to concerts where there had been multiple brands, i.e., '2 in 1' means that there were 2 brands in 1 concert. '2 in 2' means that there were 2 brands in 2 concerts.

Table 19: Pianists and pianos at the Pops (Seasons 23–43)³¹

No.	Nationalities (by birth)	Pianists	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	Total	
1	American	Ernest Schelling																			1			1	
2	American (Polish)	Josef Hofmann								2															2
3	Australian	Maggie Okey			1						2	2													5
4	Austrian	Benno Schönberger							3				4	4	1	5	1				2	2	2		24
5	Austrian	Ella Pancera																		2	1				3
6	Austrian	Ignaz Brüll	4																						4
7	Belgian	Arthur de Greef										2		2											4
8	Dutch	Eduard Zeldenrust																			2				2
9	Dutch	Johanna Heymann																					1		1
10	English	Adele Verne																	5	4		4	3		16
11	English	Adelina de Lara											1	1	2			1							5
12	English	Alice Dessauer																		1					1
13	English	Archy Rosenthal																3					1		4
14	English	Dora Schirmacher	3		3																				6
15	English	Emma Barnett		1																					1
16	English	Fanny Davies						8	9	7	11	9	6	7	8	10	8	6	8	7	3	7	1		115
17	English	Fanny Frickenhaus			2	1	1		2	1	1														8
18	English	Frederic Dawson													2						2				4
19	English	Katharine Goodson																	2	1	1	3	1		8
20	English	Leonard Borwick											5	5	12	16	12	11	6		6	3	2		78
21	English	Margaret Wild								1															1
22	English	Mathilde Wurm (Verne)							1	1				1								1			4
23	English	Muriel Elliot																		2					2
24	English	Villiers Stanford										2													2
25	English - Scottish	Frederic Lamond																	1	2					3
26	English (Bratislavian)	Caroline Geisler-Schubert										2													2
27	English (German)	Agnes Zimmermann	3	8	4	8	12	8	6	2	5	4	3	3	4	2	1	2							75
28	English (German)	Charles Hallé		5	7	4	4	6	4	4	4	7	3	4	4	1									57
29	English (German)	Isidor Cohn															2	2					1		5
30	English (German)	Olga Neruda							1																1
31	English (Indian)	Evelyn Suart																					5		5
32	English (Polish)	Alma Haas			2		3					3	5	2	2		2								19
33	English (Russian)	Mark Hambourg																	2						2
34	English (Russian)	Vera Margolies																					2		2
35	French	Clotilde Kleeberg					9	3	2						2			2	4	2		1	2		27
36	French	Gabriel Fauré																	1						1
37	French	Theophile Ysaye																					2		2
38	German	Alfred Reisenauer																6							6
39	German	Bernhard Stavenhagen										2	4												6
40	German	Clara Schumann	11	8		10		6	6	7															48
41	German	Emil Sauer															9								9
42	German	Eugene d'Albert		5															2	2					9
43	German	Karl-Heinrich Barth	1		2		3																		6
44	German	Marie Fromm						2																	2
45	German	Marie Krebs	7	9	6	3																			25
46	German	Sophie Menter			2																				2
47	German (Dutch)	James Kwast							1																1
48	German (English)	Franz Rummel										2													2
49	German (English)	Max Pauer				5	4	5	3	3		2													22
50	Hungarian	Charles Foerster													1										1
51	Hungarian	Ernst von Dohnanyi																			5	3			8
52	Hungarian	Ilona Eibenschütz											6	4	5	6	4	4	5	3	2	2			41
53	Italian	Ernest Consolo															1								1
54	Italian	Ferruccio Busoni																						4	4
55	Norwegian	Agathe Backer Grøndahl											2												2
56	Norwegian	Edvard Grieg								4											2				6
57	Polish	Antoinette Szumowska												6	2										8
58	Polish	Ignacy Jan Paderewski											6	1	1	1						1			10
59	Polish	Josef Sliwinski															3		2	2					7
60	Polish	Natalia Janotha	9	10	11	5			14	6	5		3		2										65
61	Russian	Anna Essipoff (Yesipova)					3				1														4
62	Russian	Senor A. Cor-de-Lass							1																1
63	Russian	Wassily Sapellnikoff																2							2
64	Scandinavian	Johanne Stockmarr																					1		1
65	Spanish	Isaac Albeniz											2												2
66	Ukrainian	Vladimir de Pachmann		3	9		7															3			22

³¹ Each colour in the table represents a piano brand, and the colours correspond to those used in [Table 18, p. 140]. The colour highlighted on names indicates the brand pianists had first used at the Pops.

Over the twenty years, ten piano brands featured: Bechstein, Blüthner, Broadwood & Sons, Chappell & Co., Chickering, Emil Ascherberg, Erard, Ibach, Pleyel, and Steinway. Of the ten brands, only two were British brands, Broadwood & Sons and Chappell and Co., but Broadwood was the only positively chosen, as Chappell was the default piano when no solo pianists were engaged. Despite the multinational mix of pianos, Viennese pianos were omitted. Viennese pianos were also absent in other concert venues across London; in fact, all British press reviews on Viennese firms (such as Bösendorfer and Streicher) came from their correspondences in Vienna. This was strange considering that Viennese pianos were available in London, and since Viennese piano firms had monopolised the concert halls in Vienna, Pops pianists were familiar with using Viennese pianos, such as Hans von Bülow, Mark Hambourg, Josef Hoffman, Fanny Davies, and Ernest Dohnányi, all of whom had performed at the Bösendorfersaal.

There were 819 Pops concerts from 1880 to 1901 [Table 18, p. 129]. Four main trends can be identified; 1) general decline for the use of Broadwood, 2) general increase for the use of Steinways, 3) steady number in those who have chosen Bechstein and Erard, and 4) Blüthner, Chickering, Emil Ascherberg, Ibach, and Pleyel, were only selected by a few pianists. The piano brand most popular at the Pops was Broadwood, which was used for 494 concerts (60.3%). Despite this, there was a clear decline in the use of Broadwood towards the end of the period. In years from 1880 to 1891, Broadwood pianos were used at 77.6% of the concerts, but this had dropped to 37.2% in years between 1892 and 1901. The significance of this decline was an apparent trend on concert platforms throughout London, as observed by G.B. Shaw in 1891:

It is no longer true of the Broadwoods, as it was twelve years ago, that they had fallen so far behind the time [...] The monopoly is now broken down; the full force of the competition of Steinway, Erard, Bechstein, and Pleyel has [...] enormously increased the power of their instruments without sacrificing the artistic individuality and homogeneity of tone.³²

The second most popular brand was Steinway, which was used at 151 concerts (18.4%). From 1880 to 1891, Steinway pianos were only used at 6.9% of the concerts. This percentage rose to 32.6% in concerts between years 1892 and 1901. Despite having such a significant increase, Steinways on the concert platform in London were much delayed, having only started appearing at the Pops from 1887, and being almost absent in other London public venues. Reviews on performance with Steinway pianos outside the Steinway Hall before 1888 were also scarce. This was peculiar considering that Steinway by this time had already established their fame in Europe, having gained recognition for their pianos at the 1862 London and 1867 Paris exhibitions, as well

³² George Bernard Shaw, *Music in London 1890-94*, vol. 1, pp. 137–138. Entry on 25 February 1891.

as opening a Steinway Hall in London in 1875.³³ The only explanation for the lack of Steinway pianos on London concert platforms for most of the 1880s was that pianists still preferred using European brands to American brands.

The most obvious reason for turning pianists away from Steinway pianos prior to 1887 was that the prevailing taste of the time (for pianists and critics) had favoured other manufacturers. Other possible explanations include Steinway's deliberate focus on marketing to singers, such as Steinway's gift of a piano to Adelina Patti.³⁴ Their marketing strategy of attracting singers was evident from the majority of recitals being vocal performance at the Steinway Hall. Additionally, the partiality of Steinway for singers was in their advertisement in the Pops concert programmes in 1887, featuring only testimonies from famous divas. This contrasted with the advertisements of Bechstein, Blüthner, and Erard, which were filled with testimonies from pianists and piano schools.³⁵

The third trend revealed that there was steadiness in the number of Erard and Bechstein at Pops throughout this period. Erards were used in 83 of the 819 concerts (10.1%) and Bechsteins in 58 (7.1%). The prevailing reason for this trend was due to the influx of foreign pianists, as observed by *Musical Standards* in 1892, 'Rubinstein and most foreign pianists prefer the grand Erard... the Bechsteins are in high favour with many musicians.'³⁶ Foreign pianists, as explained in greater depth later in this chapter under Pops pianists, were those who were neither born, nor have taken residence or worked for a significant period in Britain. The preference of foreign pianists for Erard and Bechstein was also shown in the Pops data: of the 66 pianists, 23 (over a third) had used a Bechstein or an Erard for their debut performances, and 18 of them were foreign pianists [Table 19, p. 130]. Piano firms did intervene to increase their appearances at the pops, especially through introducing new products. This could have been the firms' own propaganda in encouraging pianists to promote their newest instruments, or the pianists' willingness to engage with the latest fashion of piano designs in concerts. Both led to the same outcome of a sudden increase in the usage of the brand, but immediate drop in usage in years following. An example of this was Steinway's 'New Scale Orchestral Grand' released in 1895. Presumably, the size of the piano could have been bigger, but the only major difference lay in

³³ The opening of the Hamburg factory in 1880 further enabled the firm to profit from the European market, though this expansion would not have had any immediate effects on concert halls, as the best pianos were still being imported from New York.

³⁴ For Adelina Patti's sojourn in the United States, the Steinways made her a present of a grand piano for the music-room at Craig-y-Nos...; [the tone] unequalled power, breadth, and mellowness; [the touch] incomparably deep, velvety, and delicate'. William Beatty-Kingston, 'Our musical-box', *The theatre: a monthly review of the drama, music and the fine arts*, 6: 31 (July 1882), pp. 33–34.

³⁵ For advertisements, see Appendix A: Advertisements.

³⁶ 'The modern pianoforte', *Musical standard*, 16: 182 (19 November 1892), p. 403.

Steinway's conformation to the standardisation of the Philharmonic pitch. In the Pops season immediately following, 22 pianists used Steinway, the highest number of Steinway used over the two decades. In 1897, the number of pianists using Steinways dropped to only six. The same with the introduction of Erard pianos with resonators in 1896, which resulted in an abrupt peak in Erard-users at the Pops in 1897. By 1898, the novelty of the resonator had worn off. In the following year, only three pianists used Erard.

The fourth trend relate to brands which were infrequently used at the Pops: Blüthner, Chickering, Emil Ascherberg, Ibach & Sohn, and Pleyel. Pianos from these four firms combined occupied only 23 concerts (2.8%). Their infrequent appearances meant that they were generally not popular choices for pianists, and as a result, concert reviews on these brands were scant. One of the main reasons that these firms had lesser appearances at the Pops, or other concert venues in London, was due to their lack of success in expanding their businesses in Britain. Chickering's business in the English market in 1882 was initially successful.³⁷ The business partnership did not last long, and faltered in 1885.³⁸ Although Chickering kept hold of the showroom (then in Bond Street), their pianos were very expensive, and a luxury that most could not afford. News on Chickering in London gradually ceased towards the end of the 1880s, but the firm still thrived in various parts of America. This suggested that Chickering might have eventually abandoned his plans for London to focus on the American market for profitability.³⁹ For similar reasons, Emil Ascherberg steered away from piano making to music publishing. Ascherberg was an uncommon brand for professional pianists in London; one review mentioned a matinee performance of Edward and Laura Rappoldi (1881), and another of John Charles Bond-Andrews in his own drawing room in 1882.⁴⁰ Despite having their own showroom in London, their fame in music

³⁷ 'Trade jottings & notes', *MOMTR*, 6: 63 (December 1882), p. 129.

³⁸ Chickering fell out with their London agent, Messrs. Chappell & Co., after a misunderstanding in 1883. The position was passed to Mr. Hawkins, the London agent for the Smith American Organ Co., and in 1885, Smith and Chickering parted ways. 'From the London correspondence of American art journal (American trade echoes)', *MOMTR*, 8: 88 (January 1885), p. 204.

³⁹ In 1882, the press had already predicted that sales in Europe for American firms could be unprofitable, 'It is all very well to sell pianos in England, but it is almost a matter of impossibility to make a profit on them, for the moment you raise your prices to a point that leaves you a margin, the sale ceases. The Englishmen can get labour and material at so much less than we can, and with the cost of freight and insurance there is nothing to sustain us in the unequal contest but the unquestioned superiority of our instrument. As far as Mr. Chickering's recent visit to Europe is concerned, I am firmly of opinion that if he had spent the money in Chicago that he spent in London, he would have done a wiser and a better thing', 'Trade jottings & notes', *MOMTR*, 6: 63 (December 1882), p. 129.

⁴⁰ Edward Rappoldi and Laura Rappoldi were both renowned artists in Europe, the playing of the latter was highly regarded by Hans von Bülow. 'Matinee musicale', *Musical standard*, 21: 898 (15 October 1881), p. 245. [John Charles] Bond-Andrews was a pupil of Carl Reinecke. His Ascherberg piano was a fine semi-grand, which had produced sonorous effects. 'Mr. Bond-Andrews, J. von Zashow's drawing room concerts at Glendower mansions, S. Kensington', *Musical standard*, 22: 921 (25 March 1882), p. 180.

publishing eventually overtook their fame in pianos.⁴¹ The lack of business would have meant an increased difficulty in accessing the instruments, which would have been an additional hassle for pianists and concert agents to deal with.

Blüthner on the other hand was successful in developing his London branch. Frequent piano recitals were found at the London Blüthner rooms in Kensington Gardens Square in the 1880s. Blüthner's Aliquot grand arrived in the London showrooms in 1884, and both the critics and the public showed much enthusiasm for its premiere in Marie Krebs' recital.⁴² Blüthner also made efforts to advertise at the Pops in the hope of engaging more pianists. Blüthner's advertisement appeared in the Pops' programmes from season 30 (1887/88) to season 32 (1892/93). Prior to 1891, pianists who had used Blüthners at the Pops, Marie Krebs in 1882 and Agnes Zimmermann in 1885, only used Blüthner as a one-off, and played predominantly on other brands. It was possible that Blüthner had directly approached pianists to promote their instruments, for example, Zimmermann, who played the Blüthner Aliquot grand pianoforte in 1885.

It was generally difficult for these minor firms to compete against the more popular firms in persuading pianists to use their pianos in London. A common strategy for these less popular brands was to engage pianists as early as possible in their career. Although there is no written evidence to support this claim, some of the examples I have listed below from the Pops are enough for us to speculate that negotiations were made behind closed doors. In 1883, Vladimir de Pachmann used Ascherberg pianos for his first three occurrences at the Pops. However, Pachmann switched to other brands, and did not return to Ascherberg thereafter. Chickering was only used once by Eugene d'Albert in 1881, when the pianist made four performances that season, and for the other three concerts he used Broadwood pianos. Arthur de Greef used Pleyel pianos two times for his first visits to London in 1890, and like Pachmann and d'Albert, opted for Broadwood for his subsequent visits. Ibach was fortunate to have a loyal customer, Emil Sauer, who gave nine recitals on this brand at the Pops in 1895. Blüthner also found pianists who were willing to devote to their brand near the end of the century, Ella Pancera and Archy Rosenthal.⁴³ Certainly, the choosing of these uncommon brands could have been down to the individual taste of the pianist, as professed by Emil Sauer:

⁴¹E. Ascherberg & Co. of Regent Street, the rising and very successful music publisher', *The musical world*, 63: 33 (15 August 1885), p. 516.

⁴² Marie Krebs's concert was fully attended. The reviewer gave a lengthy description of the Aliquot invention. 'Concert at Blüthner rooms', *Musical standard*, 26: 1022 (1 March 1884), p. 134.

⁴³ Concerts featuring Blüthner pianos include three performances by Archy Rosenthal in 1895, and three performances by Ella Pancera in 1897. Rosenthal switched to using an Erard in 1901.

You ask me by what principle I am guided in my choice of pianos to play upon. The great difficulty is to combine easy touch with fullness and richness of tone. I like Ibach pianos, and am used to them, as I have played on them for the last fourteen years; but really I should like to play on several different pianos, even at the same concert, for different kinds of music.⁴⁴

Emil Sauer did not satisfy his own desires to play on several different pianos for different kinds of music; he only used Ibach pianos despite having presented a variety of programmes in his nine appearances: for his solo show-piece, Sauer played the work of Schubert in one of the concerts, Beethoven in four concerts, and Chopin in four concerts. Sauer was not limited with his choice of pianos in London, as he had access to Steinway pianos for his other concerts in 1883 and 1896.⁴⁵ Thus, although Sauer himself said that he would have liked to play different pianos for different music, in practice, Sauer chose the piano that he was most accustomed and familiar to, just as other pianists had done. This idea of pianists choosing pianos according to what they are most accustomed to is a re-occurring theme in this chapter.

3.2.2 Repertoire at the Pops⁴⁶

The choice of repertoire seemed to have little relation to the pianists' choice of pianos at the Pops. However, this was difficult to conclude from the Pops alone, as the concert programme presented by Pops pianists disregarded a large quantity of their (near) contemporary composers, including Edvard Grieg, Pyotr Ilyich Tchaikovsky, Franz Liszt, and those graduates of the French modern school.⁴⁷ An examination into the solo repertoire at the 819 concerts revealed that the music of Ludwig van Beethoven was a popular choice amongst pianists, having been played in 198 concerts (24.2%). Music of Frederick Chopin and Robert Schumann were the second and third most popular, being played in 170 (20.8%) and 150 (18.3%) concerts respectively. Works from other nineteenth-century Austro-German composers were played a substantial number of times: Felix Mendelssohn, 83 concerts (10.1%); Franz Schubert, 43 concerts (5.3%); Johannes Brahms, 33 concerts (4%); Carl Maria von Weber, 12 concerts (1.5%); Franz Liszt, 12 concerts (1.5%); and Adolf von Henselt, 9 concerts (1.1%). Performance of compositions from the seventeenth and eighteenth centuries were less frequent: Johann Sebastian Bach, 52 concerts (6.3%); Domenico Scarlatti, 25 concerts (3%); and Wolfgang Amadeus Mozart, 11 concerts (1.3%). Works of contemporary composers and non-German composers was in the minority, and generally

⁴⁴ 'Herr Emil Sauer Interviewed', *MOMTR*, 18: 211 (April 1895), p. 438.

⁴⁵ Emil Sauer made his appearance in London as early as 1883. In 1896, 'Dvorak at Queen's Hall', *Musical standard*, 5:117 (28 March 1896) pp. 204–205.

⁴⁶ For details of the solo repertoire at the 819 Pops concerts, see [Appendix C: Pops Concert](#).

⁴⁷ A. M., 'Monday popular concerts', *Musical standard*, 27: 1057 (1 November 1884), p. 256. The accusation made by *The Times* in this article was also a prevalent trend for the remainder of the century.

performed by themselves, or pianists who had direct relations with the composers, (usually pupil-teacher relationships). Except for the compositions of Edvard Grieg, which were played in 16 concerts (2%), compositions of other nationalities were scarcely performed, occupying less than 1% of concerts: Anton Rubinstein, seven concerts; William Sterndale Bennett, five concerts; Ignacy Jan Paderewski, four concerts; and Charles Villiers Stanford, three concerts. Except for the work of Chopin, it was evident that repertoire of the Austro-Germanic school was favoured by all pianists, regardless of their nationalities. English pianists only performed English works, this *The Times* had described as being the most 'cursory'.⁴⁸

3.2.3 Pianists at the Pops

Despite not having directly influenced the choice of repertoire, Chappell did steer its direction by selecting the pianists. Between 1880 and 1901, there were 66 solo pianists at the Pops. Late nineteenth-century pianists did not necessarily stay in one location throughout their career. For this reason, a pianist could have multi-nation profiles: born in one country and lived or worked for a significant period in another. Amongst the 66 pianists, 27 (40.9%) had English nationalities, and 39 (59.1%) had nationalities other than English.⁴⁹ Out of the 27 English-profile pianists, 12 of them had additional nationalities. Of the foreign nationalities, there was Germany (16), Russia (5), France (3), America (2), Australia, Austria, Belgium, Holland, Hungary, Italy, Norway, and Ukraine. According to the *Musical Herald*, 'pianists bearing foreign names and having a Continental reputation are preferred to English artists with an English reputation'.⁵⁰

At the Pops, a pianist's nationality was one of the key factors which influenced their choice in piano brands. From 1880 to 1901: no pianists chose Challen, 27 out of 66 (40.9%) pianists' initial preference were for Broadwood, 13 out of 66 (19.7%) for Erard, 10 out of 66 (15.2%) for Bechstein, 10 out of 66 (15.2%) for Steinway, 2 out of 66 (3%) for Blüthner, and 1 pianist (1.5%) for each of the remaining brands: Chickering, Emil Ascherberg, Ibach, and Pleyel. Broadwood was clearly more successful in holding their influence on English pianists than foreign pianists. In regards to viewing the changes in brands, we could eliminate the 12 pianist that only played in one Pops concert, (4 English pianists and the rest foreign), which brings the numbers down to 23 English and 31 foreign pianists. Of the 23 English pianists, 10 started with Broadwood, and only two of the ten (20%) switched to using Steinway. Of the 31 foreign pianists, 12 started with

⁴⁸ Ibid.

⁴⁹ The English category also included pianists from Scotland.

⁵⁰ 'Death of Mr N. Vert', *The musical herald*, 688 (1 July 1905), p. 200.

Broadwood, and six of the twelve (50%) switched to using Steinway. Therefore, foreign pianists were more than twice as likely to change from using Broadwood compared to English pianists.

Where pianists had studied and whom they studied with had great influence on their choice of piano. The pedagogical background of the pianists who performed at the Pops have been provided in the Appendix C.⁵¹ 21 of the 66 pianists had only studied in one location, or with one teacher, or had only one institutional background, and this category was the most reluctant to change brands. Only 3 of those 21 changed brands: Leonard Borwick and Anna Essipoff from Bechstein to Steinway, and Mathilde Verne from Broadwood to Steinway. This was largely due to the preference of distinguishing musicians and their playing schools: Erard and Pleyel, used in the Paris Conservatoire; Bechstein, favoured by the schools of Hans von Bülow and Anton Rubinstein; Broadwood, favoured by Charles Hallé, Ernst Pauer, Clara Schumann, and their students; and Steinway, pianos which pianists grew accustomed to through giving concert tours in America. One example of such implications can be found through pianists choosing Erard at the Pops: of the 13 that initially used Erard, 11 had the French or Viennese legacy, i.e. having obtained musical training or studied with pianists from these two regions. Further discussion on the different schools of piano playing found by Pops pianists is found in the next section of this chapter.

As pianists adapted to the differing playing styles, so did their preference for piano brands change over time. Excluding the 12 pianists who played only once at the Pops, 22 of 54 (40.7%) used more than one brand. Of the 26 pianists who initially used Broadwood, eight changed brands.⁵² Pianists who changed brands before 1888 picked Bechstein, and pianists who changed brands after 1888 selected Steinways. Of the 13 pianists who started with Erards, three switched to using Steinways. Similarly, four of the ten pianists who started with Bechsteins changed to Steinways after 1888. Of the ten pianists who began with Steinway, two converted to using Bechstein, and one pianist, Frederic Dawson, trialled both Erard and Broadwood in 1898. Most of the pianists who used less popular brands (e.g. Chickering and Emil Ascherberg), and returned to give subsequent performances, first opted for Broadwood, before settling for Bechstein or Erard, and eventually (if they were invited to play often enough), Steinway.

⁵¹ Pianist' pedagogies can found in Appendix C: Pops pianists' background.

⁵² I did not consider Agnes Zimmerman's single usage of the Blüthner in 1885 a 'change' as it was a one-off. The same applies to Marie Krebs, who used Bechstein (1881) and Blüthner (1882) on single occasions.

3.3 Schools of piano playing

This section examines the different schools of piano playing in the late-nineteenth century. It is extremely important to draw a relationship between the schools of piano playing and preferences in tone, as the tone of one piano may suit certain pianists' techniques better than others. Thus, 'schools' represent both national (general teachings in Conservatoire) and individual (disciplines of singular pianists). During this period, there were no pianists from the American Conservatoires, as in the opinion of Anton Rubinstein, American conservatories were inadequate for training professionals.⁵³ In the case of Ernest Schelling, the sole American pianist at the Pops, his first training was at the Academy of Music in Philadelphia (Pennsylvania), and his second was at the Paris Conservatoire. It was not until pianists such as Amy Fay and Ernest Schelling, who returned to America after completing their studies in France, Vienna or Germany, that helped the prosperity of American pianism in the twentieth century.

The wealth in the diversity of piano playing displayed on London concert platforms was clearly a distinction and excitement for both critic and public, as expressed by G.B. Shaw in 1891:

After making my rounds for months past between the exponents of the Madame Schumann training on the one hand, to the Lisztian training on the other, going from Mr. Borwick to Sapellnikoff, and from Miss Eibenschütz to Madame Menter, there is an immense satisfaction in this Rubinstein technique which has the soundness and thoroughness of the one school and the artistic life and power of the other.⁵⁴

The variety of schools present in London as evident from the Pops include: the French school, namely the Paris Conservatoire; the German School, under the establishment of pianists such as Franz Liszt, Karl Tausig, Theodore Kullak, Ludwig Deppe, Hans von Bülow, and Clara Schumann; the English school, as characterised by the English pianists; the Russian school, of Anton Rubinstein and Sophie Menter; and the Viennese school, as represented by Theodor Leschetizsky and Louis Brassin.

3.3.1 The French school

The French school of piano playing placed a strong emphasis on finger work, perfecting the techniques from the wrist and high fingers rather than the upper-body strength. Pianists in the

⁵³ As Rubinstein have criticised, 'you have "conservatoires" of music – in name – without number, but in none of them that I have visited, or heard of, is music treated as a science, demanding long, laborious and constant study and application, you have a multitude of "players," and but a few musicians', Lott, *From Paris to Peoria*, p. 219.

⁵⁴ George Bernard Shaw, *Music in London 1890-94*, vol. 1, p. 184. Entry on 6 May 1891.

nineteenth century belonging to this school were mostly from the Paris Conservatoire (1783).⁵⁵ At first, the Paris Conservatoire had denied foreign applicants, and therefore rejected pianists (who later became distinguished virtuosos) such as Franz Liszt and Louis Moreau Gottschalk. Even as late as 1888, the institution had placed limitations on the number of foreigners to only two in every twelve-student class. For this reason, those authentically possessing the French pianism were native citizens.

According to Charles Timbrell, the chief lineage at the Conservatoire was from Pierre Zimmermann (1785-1853) to Antoine-François Marmontel (1816-1898) to Louis Diémer (1843-1919).⁵⁶ Their methods agreed on the principle of gaining independence of the fingers: rapid, clean, and even. Aside from the Zimmermann-Marmontel-Diémer line, other teachers at the Paris Conservatoire also advocated similar practices, notably Friederich Kalkbrenner (1785-1849), Henri Herz (1803-1888), and Félix le Couppey (1811-1887). Kalkbrenner's fingers were positioned very close to the keys, resulting in his tone being neat and clear. Herz performed predominately his own music, which demonstrated a 'rapid, pearly finger technique, highly developed wrists, and a shallow tone'.⁵⁷ Herz and le Couppey taught a number of distinguished French women pianists, including Marie Jaëll, Berthe Marx-Goldschmidt, Cécile Chaminade, Caroline (Fanny) Montigny-Rémaury, and Sophie Chéné. These women pianists became especially important in the late-nineteenth century in spreading and advocating French pianism, some having stayed as professors in the Conservatoire, while others developed their career as concert pianists.

In addition to those at the Conservatoire, foreign pianists and teachers in Paris during the first half of the nineteenth century also influenced and shaped the nation's training methods. Amongst them, Ignaz Moscheles (1794-1870), Sigismond Thalberg (1812-1871), and Frederic Chopin (1810-1849). Moscheles had a crisp touch, sparse pedalling, and restricted arm movement.⁵⁸ Thalberg was a student of Moscheles and Kalkbrenner, and it was in Thalberg's playing that the term *jeu perlé* (playing like the pearls on a necklace) was first used by French critics in 1836. *Jeu perlé* then became the description distinct to the French style of piano playing.

⁵⁵ The Paris Conservatoire can be traced back to École Royale de Chant (for Opera singers) in 1783. In its early days, there had been classes for both harpsichords and piano playing, but in 1798, all harpsichord teachings had switched to piano teaching. Typically, each professor had twelve students in his class. The Conservatoire's only motive was to yield virtuosos and performers.

⁵⁶ Zimmermann's students included Antoine-François Marmontel, Émile Prudent, Caesar Frank, and Charles-Valentin Alkan. Marmontel's students included: Francis Planté, Louis Diémer. Antonin, Henri Fissot, Victor (Alphonse) Duvernoy, Claude Debussy, George Bizet, Francis Planté, and Louis Diémer. Charles Timbrell, *French pianism: a historical perspective* (Portland, Oregon: Amadeus Press, 1999), pp. 38–40.

⁵⁷ *Ibid*, p. 39.

⁵⁸ Moscheles had mostly taught in London and Leipzig, but his influence in Paris not only included his Parisian students, Élie Delaborde and Marie Pleyel, but also to pianists he came in brief contact with, notably Herz and Thalberg. Timbrell, *French Pianism*, p. 42.

Chopin's method of 'caressing' the keys, a principle being not lifting fingers horizontally away from keys but sliding across them, was much preached by his pupil, George Mathias: 'you should, so to speak, mould the keyboard with a velvet hand and feel the key rather than striking it!'⁵⁹ Chopin's influence on the French school of playing not only consolidated their emphasis on finger dexterity, but also added flexibility and elegance, which pointed to an aesthetic beauty rather than emotion through power. Chopin's students and disciples, George Matthias, Raoul Pugno, Isidor Philipp, and Émile Decombes, were amongst the greatest French virtuosi in the late-nineteenth century.

At the Pops, the French school of playing directly influenced only seven pianists: Isaac Albeniz, Gabriel Fauré, Charles Hallé, Clotilde Kleeberg, Ernest Schelling, Evelyn Suart, and Eduard Zeldenrust. Two were purely French schooled: Kleeberg having obtained her only training from the Paris Conservatoire, and Fauré obtained his training from École Niedermeyer.⁶⁰ Charles Hallé studied under George Osborne, whose teacher was Kalkbrenner. The others (Albeniz, Schelling, Suart, and Zeldenrust) were admitted to the Paris Conservatoire as their second place of study, and all except Zeldenrust, continued learning from other pianists after completing their training in Paris. Therefore, Kleeberg's playing style was the only true French-schooled represented at the Pops.⁶¹ The three reviews on Kleeberg's performances in season 25 of the Pops concert highlighted the same characteristics of the French school of playing: delicate, of *Jeu perlé*, and finesse of touch:

[Pops, Chopin: *Etude in C minor and Ballade in A flat major*] Her touch is clear and expressive; she has many shades of piano, varying from a mezzo to the most delicate pianissimo; but at present her playing is entirely unemotional; she has tact rather than feeling, taste rather than soul, grace rather than power.⁶²

[Pops, Mendelssohn: *Capriccio in E minor*] Her fingers flitting over the keys at such a speed, as to give one the idea of a swarm of swallows darting away with the spirit of the composition.⁶³

[Pops, Schubert: *Moments Musicaux in A flat and C-sharp minor*, Mendelssohn: *Caprice in A minor*] Kleeberg's style is very pretty and graceful. She has a soft, delicate touch, is always delicately correct, and phrases with such distinctness that all the notes are what the French critics call "pearled", or rounded off, in nice separation.⁶⁴

⁵⁹ Eigeldinger, Jean-Jacques, *Chopin as seen by his pupils*, translated by N. Shohet, K. Osostowicz and R. Howat, edited by Roy Howat (Cambridge: Cambridge University Press, 1986), p. 31.

⁶⁰ In addition to the Paris Conservatoires, other independent music schools were established in Paris. The l'École Niedermeyer, founded by Louis Niedermeyer in 1853, had Saint-Saëns as one of their most distinguished piano professors.

⁶¹ During this period, there were other 'pure' French pianists, such as Camille Saint-Saëns and Raoul Pugno, who gave concerts in London (e.g. Queens' Hall and Princes' Hall), but did not perform at the Pops.

⁶² A. M., 'Saturday popular concerts', *Musical standard*, 27: 1059 (15 November 1884), p. 287.

⁶³ Dodinas, 'Saturday popular concerts', *The musical world*, 62: 48 (29 November 1884), p. 749.

⁶⁴ A.M., 'Monday popular concerts', *Musical standard*, 28: 1078 (28 March 1885), p. 196.

3.3.2 Franz Liszt

The French school of playing excluded the prolific pianist Franz Liszt (1811-1886), despite Liszt having spent 24 years of his life in Paris from 1823 to 1847. Liszt's playing was a bravura style, which had opposed the rather composed style of the French school. Charles Rosen observed the distinction between Chopin's and Liszt's playing was that 'the power demanded by Chopin must come for the most part from the forearm and fingers, while with Liszt, the shoulder and back muscles are brought more directly into play.'⁶⁵ Rosen continued to explain the practicality of playing Liszt's compositions through the raising of piano stools, which enabled the whole arm weight (of pianists) to be brought from shoulder over the keys. This was agreed by Alan Davison, who proposed that Liszt was the first pianist 'to systematically use arm-weight, making him one of the first truly "modern" pianists.'⁶⁶

Power was epitomised in the playing styles of the Lisztian school. Although Liszt taught many students from his Parisian years, the 'Liszt legacy' was not advocated to pianists until his later years in Weimar. Apart from power, pupils of Liszt displayed great diversity in their playing styles. The reason for this diversity may have been that hardly any pianists solely studied under Liszt. At the Pops, eight pianists learnt from Liszt after having matured their playing styles. To show comparisons, I am focusing on the reviews of three of Liszt's pupils, Wassily Sapellnikoff, Bernhard Stavenhagen, and Frederick Lamond. According to the critics, Sapellnikoff's playing was the most powerful amongst the three, but his tone was forced. Reviews on Sapellnikoff's performances criticised his use of power, having 'thumped' and 'forced' the tone out of pianos:

[Queen's Hall Philharmonic series, Tchaikovsky: *Piano Concerto in B flat*] This youthful pianistic Hercules thumped. He frequently raised his hands a couple of feet high, bringing them down on the unfortunate keys with the impulse of a steam hammer, of course to the obliteration of the true tone each note on the piano should present, and doubtless to the destruction of the instrument placed at his mercy.⁶⁷

[Bechstein Hall, Queen's Hall, Liszt: *Sonata in B minor*] The Liszt Sonata was interpreted with strength and bravura, but the tone was at times forced, while the technique – somewhat unusual with M. Sapellnikoff – was not always above reproach.⁶⁸

In terms of power, Stavenhagen's playing mediated between Sapellnikoff's and Lamond's. Stavenhagen being in the middle ground had perhaps best captured where Liszt himself had stood, as in 1887, the press introduced Stavenhagen to the British audience as 'one of Franz Liszt's

⁶⁵ Charles Rosen, *Piano notes: The world of the pianist* (London: Penguin, 2004), p. 210.

⁶⁶ Alan Davison, 'Franz Liszt and the development of 19th-century pianism: a re-reading of evidence', *The musical times*, 147:1896 (Autumn 2006), pp. 33–43, in particular, p. 33.

⁶⁷ T.L.S., 'Philharmonic society', *Musical standard*, 36:1291 (27 April 1889), p. 330.

⁶⁸ 'The music', *The athenaeum*, 3894 (14 June 1902), p. 762.

last and favourite pupils'.⁶⁹ Stavenhagen's want of power was most evident through his forcible left hand.⁷⁰ Reviews of Stavenhagen's performances in London often praised his technical and intellectual handling, but like Sapellnikoff, power was always included in the descriptions:

[Crystal Palace Saturday Concerts, Liszt: *Piano Concerto in A*] Stavenhagen is competent to roar like a lion and coo like a dove.⁷¹

[Prince's Hall, Liszt: *Rhapsody in A minor*] Stavenhagen thundered like Jupiter Tonans.⁷²

[Pops, Beethoven: *Sonata in E minor Op. 90*] Stavenhagen had only to sound his trumpet, or, in more exact musical terminology, to strike a few chords upon the grand Bechstein, to be recognized and once more welcomed as an adopted "lion".⁷³

Press reviews from Lamond's performances in London suggested that his playing was gentler than that of Stavenhagen and Sapellnikoff. As well as being a pupil of Liszt, Lamond was also a pupil of Hans von Bülow. Although Lamond still demonstrated power in his playing, his physical exertion never exceeded the capacity of the instrument, as he played from the wrist and not the arm. Besides power, Lamond abstained from excessive speed for virtuosity's sake, which had set him apart from those of the Lisztian school (like Stavenhagen):

St. James' Hall, Bach-Tausig: *Toccata and Fugue*, Brahms: *Rhapsody Op. 79 No. 2*, Schubert: *Wanderer Fantasia Op. 15*] [Lamond] had a beautiful rich tone, faultless technique (from the wrist, not from the arm), and if occasionally lacking in delicacy and finesse, his physical exertions never result in overbearing percussion, he never makes *fff* out of *f*, and abstains from excessive speed for virtuosity's sake like [Stavenhagen].⁷⁴

Lamond's ability to restrain his use of power and virtuosity meant that he received less criticism than Stavenhagen and Sapellnikoff had:

[Bechstein Hall, Beethoven *Sonatas: in B-flat Op. 106, in C minor Op. 111, in A-flat Op. 110, in C Op. 53, in F minor Op. 23*] Power and energy, in fact, are preponderating qualities, and they sometimes appear to be in excess... if his [Lamond's] tone in some forte passages was excessively loud and harsh, the fault may be easily forgiven seeing that it was but an indication of the strong and passionate conception of the player.⁷⁵

⁶⁹ 'Herr Stavenhagen, whose supreme excellence appears thus far to be more in the technical than in the emotional element of his art, is in his true element when interpreting Liszt's music, in which the composer's every intention is brought out in the most perfect manner, and an accumulation of almost superhuman difficulties is overcome with a degree of precision and ease which leaves little or nothing to be desired.'

'Herr Bernhard Stavenhagen's pianoforte recital', *The musical world*, 65: 4 (22 January 1887), p. 59.

⁷⁰ 'Crystal Palace Concerts', *Musical standard*, 36: 1287 (30 March 1889), p. 246. The overpowering in the left hand was also commented in Sophie Menter's playing, Menter being another favourite pupil of Liszt.

'Mdme. Menter's Pianoforte recital', *Musical standard*, 38: 1350 (14 June 1890), p. 552.

⁷¹ Stavenhagen's performance of the concerto [Liszt's second concerto in A] was so remarkable that it had 'modify the opinion of those who have hitherto remained impervious to the intensely passionate and powerful utterances of this strangely fascinating work'. J. B. K., 'Concerts of the month', *MOMTR*, 12: 140 (May 1889), p. 378.

⁷² 'Herr Stavenhagen's Pianoforte recital', *Musical standard*, 36: 1288 (6 April 1889), p. 271.

⁷³ 'Monday popular concerts', *Musical standard*, 40: 1380 (10 January 1891), p. 22.

⁷⁴ 'Frederic Lamond's two pianoforte recitals', *The monthly musical record*, 19: 221 (May 1889), p. 114.

⁷⁵ 'Mr. Frederick Lamond's pianoforte recitals', *Musical standard*, 19:487 (2 May 1903), p. 279.

3.3.3 The German school (Tausig, Kullak, and Deppe)

From the middle of the nineteenth century, more and more foreign pianists flocked to Germany to study with famed pianists and pedagogues. In addition to Franz Liszt in Weimar, there was his student Karl Tausig (1841-1871), as well as Theodor Kullak (1881-1828), Ludwig Deppe (1828-1890), Clara Schumann (1819-1896), and Hans von Bülow (1830-1894). Some of these had teaching posts in the Conservatoires, while some founded their own schools. The three most popular were the Leipzig Conservatoire (founded in 1843), the Stuttgarter Musikschule (1857), and the Hoch Conservatoire in Frankfurt (1878). Six of the Pops pianists completed their training in the music schools of Leipzig with Carl Reinecke, including Ernest Consolo, Fanny Davies, Edvard Grieg, James Kwast, Dora Schirmacher, and Margaret Wild.⁷⁶ Conservatoires founded by pianists included Tausig's Conservatoire (lasting only from 1866 to 1870), Kullak's institute, later known as the Stern Conservatoire (1846), and Kullak's Academy, *Neue Akademie der Tonkunst* (1855). According to Amy Fay, students from all over the world except from France could be found in these German conservatories.⁷⁷

In Tausig's Conservatoire, the progression of technical studies students were made to follow was from Cramer, to Moscheles, then Chopin and Henselt, and finally, Liszt and Rubinstein.⁷⁸ Kullak instructed his students to devote time to Czerny exercises.⁷⁹ Both Tausig and Kullak placed emphasis on finger dexterity and wrist movement in their selection of exercises and etudes, which had differed to the holistic approach of Deppe, who founded his principle based on 'muscular synergy'.⁸⁰ Deppe advised pianists to sit lower and use arm weight and muscle relaxation, as he believed that power should come from the palm of the hand rather than fingers. Deppe became a famous pedagogue in Germany, and published his methods as an article 'Armleiden des Klavierspielers' (1885), and his legacy was succeeded by his student, Elisabeth Caland (1862-1929), who had faithfully taught at the Deppe school in Berlin after his death.⁸¹ Deppe's method

⁷⁶ Another highly sought teacher at the Leipzig Conservatoire was Louis Plaidy (1810-1874), who taught Edvard Grieg at the conservatoire, and also Hans von Bülow.

⁷⁷ Amy Fay, an American pianist, speaks from her own experience of having studied with Tausig, Kullak, and Deppe in Germany from 1867 to 1875. Amy Fay, *Music-study in Germany, from the home correspondence of Amy Fay* (London: McMillan and Co., 1886), p. 21.

⁷⁸ Fay, *Music-study in Germany*, p. 264.

⁷⁹ Ibid. Fay had to practice the exercises from Czerny's *School for Virtuoso Op. 365* for an entire year during her studies with Kullak. Kullak also published his own etudes: his best technique was in the playing of octaves, which he had wrote exhaustively about in his *School of Octave Playing Op. 48*.

⁸⁰ Curt Cacioppo, 'Technic – a survey' in Palmieri (ed.) *The piano*, pp. 395–400, in particular, p. 400.

⁸¹ 'Miss Amy Fay on the Deppe Method', *Etude Magazine* (July 1893), p. 144. Fay also edited and published Deppe exercises in the United States (Chicago).

was also adopted globally, by Tobias Matthay (1858-1945) in England, Marie Jaëll (1846-1925) in France, Attilio Brugnoli (1880-1937) in Italy, and Theodor Leschetizsky (1830-1915) in Austria.⁸²

At the Pops, there was a marked difference in the concert reviews of students of Tausig, Kullak, and Deppe. The playing style of Karl-Heinrich Barth, a student of Tausig, was often described as being scholastic and too formal a style: ‘Barth played the [Bach] “Italian” sonata in a strict or “academical” style. The *Presto giojoso* was delivered with great rapidity but perfect clearness’.⁸³ Student of Kullak, Vladimir de Pachmann, had a ‘fine crisp touch’ but also displayed poetic qualities: ‘exquisite *nuances* and nice gradations of tone’.⁸⁴ As regards to Deppe’s student, Emil Sauer, who had also learnt from Nicolai Rubinstein and Franz Liszt, Sauer’s technique was immaculate, but his interpretation was even more so to be praised by the British critics:

[St. James’ Hall, Beethoven: *Sonata in C minor Op. 111*] Herr Sauer understands and feels its power, yet he never quite lost himself in it – never made us think of him as a great interpreter rather than as an able pianist.⁸⁵

3.3.4 Hans von Bülow

Another sought-after pedagogue was Hans von Bülow, who was a strong advocate for Bechstein pianos. Compared to Clara Schumann, Bülow’s playing had much more facades, but was predominated by vigour; as recounted by Amy Fay, there was no end to the nervousness in his energy: ‘the more he plays, the more interest increases.’⁸⁶ It was because of this musicianship that Bülow eventually ended his career as a pianist in the 1880s and became a conductor: ‘He is too much of a musician to be unconscious of the absolute limits of expression, which, in spite of all improvement in its mechanism his instrument necessarily presents.’⁸⁷ The strive for a greater music expression in piano playing was also evident in pianists who had learnt from Bülow; however, Bülow’s teaching influence was often bypassed in press reviews, e.g. amongst the Pops pianists he had taught, Sophie Menter and Frederic Lamond, they were introduced foremost as pupils of Liszt.⁸⁸

⁸² Fay, *Music-study in Germany*, p. xi.

⁸³ ‘Saturday popular concerts’ and ‘Monday popular concerts’, *Musical standard*, 27: 1058 (8 November 1884), pp. 270–271.

⁸⁴ ‘M. Vladimir de Pachmann’s Chopin recitals’, *Musical standard*, 36: 1296 (1 June 1889), p. 440.

⁸⁵ ‘Emil Sauer’s Piano recital’, *The athenaeum*, 3936 (4 April 1903), p. 443.

⁸⁶ Fay, *Music-study in Germany*, pp. 274–275.

⁸⁷ ‘On why Hans von Bülow became a conductor’, *Musical times*, 23: 468 (February 1882), p. 83.

⁸⁸ ‘Frederic Lamond’s two pianoforte recitals’, *The monthly musical record*, 19: 221 (May 1889), p. 114. The review introduced Frederic Lamond as ‘another pupil of Liszt (and Bülow)’, Bülow’s name in brackets. In Harold C. Schonberg, *The great pianists* (New York: Simon & Schuster, 1987), p. 262, Sophie Menter was Liszt’s favourite female student and acclaimed by the Parisian public as ‘l’incarnation de Liszt’.

3.3.5 Clara Schumann

Clara Schumann's reputation as a touring pianist attracted for herself a great number of pupils, in particular, those from England. Clara learnt from her father, Freidrich Wieck (1785-1873), who preached a loose wrist and relaxation, as opposed to the stiff, high-finger of the Stuttgart school.⁸⁹ Clara Schumann was particularly suited to the interpretation of Bach and Beethoven, 'she has a great deal of fire, and her whole style is grand, finished, perfectly rounded off, solid, and satisfactory – what the Germans call *gediegen*.'⁹⁰ As the *Times* had observed in 1884, pianists of the [Clara] Schumann school were a favourite at the Pops as they surpassed 'all the other musical schools and cliques that divide the Fatherland in its exclusiveness of creed and practice'.⁹¹ This claim can be further supported by reviewing the Pops statistics; the majority of pianists from 1880 to 1888 were pupils of Clara Schumann and the Austro-Germanic schools. Pianists belonging to this school, including the influential Clara Schumann herself, mostly opted for Broadwood pianos.

According to Amy Fay, Clara Schumann's style was described as 'classical', and her pupils advocated her 'classical' style, as found in the review of her student Fanny Davies in 1885: 'her style was classical; the execution exact and elegant; and the touch deliciously liquid'.⁹² Davies' performance at the Pops in 1888 highlighted further her parallels to Schumann's practice, 'Fanny Davies' reading of the sonata (Beethoven Sonata in D major Op. 10 No. 3)... [was] at once clear and vigorous, spirited and emotional, without a trace of self-assertiveness, over-elaboration of details and straining after effect.'⁹³ Another of Clara Schumann's star pupils at the Pops was Leonard Borwick.⁹⁴ Unlike Davies, who studied at the Leipzig Conservatoire before pursuing her studies with Clara Schumann, Borwick only learnt from Clara Schumann at the Hoch Conservatoire.⁹⁵ Review of Borwick's performance in 1890 remarked on his 'close resemblance' to Clara Schumann's playing.⁹⁶ Borwick's firm-established identity as a 'classical' pianist was revered even as late as 1904, 'Mr. Borwick, a gifted pupil of Madame Schumann, fully established a

⁸⁹ Curt Cacioppo, 'Technic – a survey', p. 398.

⁹⁰ Fay, *Music-study in Germany*, p. 274.

⁹¹ *Ibid.*

⁹² A.M., 'Crystal Palace concerts', *Musical standard*, 29:1108 (24 October 1885), p. 255.

⁹³ 'Saturday popular concerts', *Musical standard*, 34: 1225 (21 January 1888), p. 36.

⁹⁴ 'The young English pianist, Leonard Borwick, fully established his reputation as one of Clara Schumann's best pupils by an excellent rendering of her great husband's Concerto in A minor.' 'Philharmonic society', *The monthly musical record*, 20: 234 (June 1890), pp. 136–137.

⁹⁵ Borwick's teacher in Birmingham was Henry R. Bird, but at the age of sixteen, he was admitted to the Hoch Conservatoire, where he studied under Clara Schumann.

⁹⁶ [Saint-Saens G minor concerto] 'There is a remarkable chain of shakes in this last movement that were played with singular beauty of tone and clearness, such perfect and finished shakes are very rarely to be heard. Mr. Borwick's playing closely resembles that of his gifted and classical teacher Mdme Schumann.' 'Crystal Palace concerts', *Musical standard*, 39: 1368 (25 Oct 1890), pp. 336–337.

splendid reputation as a classical pianist... His qualities are patent as a master of *mécanique* and a sympathetic expositor of the most exacting texts.⁹⁷

3.3.6 The English school

Throughout the nineteenth century, the English school of piano playing did not have as unique a style as those found in France, Germany or Vienna. Despite both the Royal Academy and the Royal College having been established in the 1820s and made to compete against Conservatoires throughout Europe, the English institution as a whole prior to the 1880s failed to cater for professional musicians seeking serious training.⁹⁸ Consequently, the English Conservatoires did not attract foreign professional pianists during this period: amongst all the Pops pianists, none had selected the English school as their second place of study.

The primary reason for the absence of a defined English pianism in the nineteenth century was that the majority of distinguished piano teachers at Conservatoires, such as Oscar Beringer (1844-1922), Charles Hallé (1819-1895), and Ernest Pauer (1816-1905), had acquired pianistic skills from abroad.⁹⁹ There were only a few, such as William Sterndale Bennett (1816-1875), who obtained his formal training in England, but even Bennett spent a great amount of time performing and composing in Leipzig. This trend was also noticeable for pianists at the Pops; only two English pianists did not persist with furthering their training abroad: Olga Neruda, with Charles Hallé, and Vera Margolies, at the Royal Academy of Music. Other English Pops pianists, for example, Dora Schirmacher and Archy Rosenthal studied at the Leipzig Conservatoire, Frederick Lamond studied at the Raff Conservatoire in Frankfurt, and Fanny Davies and Leonard Borwick amongst others who studied with Clara Schumann.

It was only from the twentieth century that the English school of piano playing had begun to proliferate: the most significant figure amongst them was Bennett's pupil, Tobias Matthay (1858-1945).¹⁰⁰ Matthay's teaching method was to seek a balance between the differing systems: an appreciation of arm weight whilst remaining relaxed and effortless, and an awareness of finger-touch gradation in both sensitivity and intensity.¹⁰¹ Matthay believed that technique should serve

⁹⁷ A. M., 'Mr. Leonard Borwick's only recital', *Musical standard*, 22:571 (10 December 1904), p. 375.

⁹⁸ David Wright, 'The South Kensington music schools and the development of the British Conservatoire in the late nineteenth century', *Journal of the royal musical association*, 130: 2 (2005), pp. 236–282.

⁹⁹ Beringer studied in Leipzig and Berlin, Pauer studied in Vienna, and Hallé in Germany with Christian Heinrich Rinck.

¹⁰⁰ Julian Hellaby, 'Matthay and beautiful piano tone', *Music & practice*, 5 (2018), <https://www.musicandpractice.org/volume-5/beautiful-piano-tone-a-matthay-legacy/>, consulted on 2 March 2020.

¹⁰¹ Tobias Matthay, *The act of touch in all its diversity* (London: Bosworth & Co. Ltd, 1903).

to fulfil musical purposes, and advocated for an intellectual approach to interpretation. One can say that Matthay's concept in the twentieth century encapsulated the fashion of piano playing found in late-nineteenth-century British pianists: a 'classical' and 'balanced' style, which was not only applicable to Clara Schumann's English pupils, but also found in the reviews of other English pianists such as Oscar Beringer and Max Pauer (son of Ernst Pauer):

[St. James' Hall] Beringer, a "classicist" of some eminence, and a pianist of considerable pretensions, even in these days of fire eating, and acrobatic exhibitions on the grand Erard or Broadwood... excels most in pieces of the milder sort.¹⁰²

[Princes' Hall] He [Max Pauer] has an accurate technique, a well-developed left hand, a forte full without being disagreeable, and never exceeds his force (...) more than is absolutely necessary. In his reading, he tries to enter into the spirit of the composer, and plays without affectation in a straightforward manner, more calculated to please the true artist who can dispense with the usual claptrap tricks of other pianists.¹⁰³

3.3.7 The Russian school

The Russian school of playing, like the style of Franz Liszt, placed an emphasis on power and virtuosity, but lacking in delicacy and intricacy. This was perhaps that the teachers of the Russian school had great admiration for Liszt, that some of their graduates (and teachers), such as Sophie Menter and Emil Sauer were Liszt's pupils. One of the most significant pianists of the Russian school was Anton Rubinstein (1829-1894), who founded the Saint Petersburg Conservatoire (1862) and the Moscow Conservatoire (1866). Rubinstein, like Deppe, Leschetizsky, and Liszt, encouraged muscular relaxation and the use of arm weight to carry hands across the keys. Rubinstein often included his own arrangements (transcriptions) in recitals in London, where he had astonished the public by his full and orchestral-like tone:

These arrangements [Beethoven's *Egmont* Overture, Mendelssohn's *Wedding March*] certainly serve to display Rubinstein's enormous power and wonderful mechanical skill; but orchestral effects cannot be reproduced on the piano, and such pieces, therefore, create astonishment rather than pleasure...¹⁰⁴

¹⁰² 'Mr. Oscar Beringer's pianoforte recital', *Musical standard*, 26: 1025 (22 March 1884), p. 182. Beringer's programme included Bach-Tausig's Toccata and Fugue in D minor, Schumann's Fantasie in C major Op. 17, Rheinberger's Study Op. 113 no. 5, Tausig Study in F-sharp major Op. 1 No. 1, Rubinstein Studies in F major and C major Op. 23 Nos. 1 and 2, Grieg Sonata in E minor Op. 7, Chopin Ballade in G minor Op. 23, Chopin Mazurka in B minor Op. 33 No. 4, Chopin Polonaise in A flat Op. 53, Liszt Venezia é Napoli No. 1, Liszt Gondoliéra No. 3, Liszt Tarantella.

¹⁰³ 'Mr. Max Pauer's pianoforte recitals', *Musical standard*, 32:1182 (26 March 1887), p. 197. Pauer played on a Broadwood grand, and his programme included Handel's Suite in D minor, Scarlatti's Harpsichord lessons in A and D major, Beethoven's Sonata in C minor Op. 111, Weber's Momento capriccioso, Mendelssohn's Prelude and Fugue in E minor, and Chopin's Allegro de Concert Op. 46.

¹⁰⁴ J.S. Shedlock, 'Rubinstein recitals and London musical society', *The academy*, 479 (9 July 1881), p. 39.

According to Harold C. Schonberg, Rubinstein's tone, although had full sonority and 'extraordinary breadth', was too often filled with wrong notes.¹⁰⁵ Rubinstein prescribed no methods to his students, nor demonstrated from the piano, but stressed the mental conception of the piece of music.¹⁰⁶ The individuality of his pupils' playing (Frederick Dawson and Josef Hofmann) was evident at the Pops. Frederick Dawson seemed to have adopted his teacher's precarious mannerism, as his execution was described 'rather rough and noisy'.¹⁰⁷ Josef Hofmann was meticulous in his execution, but was criticised for a lack of sentimentality in his interpretations: 'we distinctly noticed a certain monotony, a lack of soulful insight that a mentally developed artist may alone give'.¹⁰⁸

Anton Rubinstein's brother, Nicolai Rubinstein (1835-1881), although short-lived, also played a key role in establishing the Russian school in its early days. More so than Anton, Nicolai actively promoted the works of his nationalistic music circles and premiered a number of the compositions of Tchaikovsky and Balakirev. Nicolai's pupil Emil Sauer described his teacher's playing style as being similar to Tausig's, but 'warmer and more impulsive'.¹⁰⁹ It was difficult to say that Sauer's playing style reflected entirely of Nicolai's teaching, as Sauer had other influential teachers (Deppe and Liszt).¹¹⁰

Two notable foreign pianists at the piano department of the St. Petersburg Conservatoire was Theodor Leschetizsky and Louis Brassin. Leschetizsky was a founder of the Conservatoire (along with Anton Rubinstein) in 1862 and acted as head of department until he moved back to Vienna in 1878. Louis Brassin took over Leschetitzky's piano class in 1878 and stayed in St. Petersburg until his death in 1884. Although both had taught distinguished pupils during their time at St. Petersburg, the majority of their starred pupils were from their teaching years outside of Russia. Pops pianists that were Leschetitzky's pupils from the Conservatoire included Josef

¹⁰⁵ Schonberg, *The great pianists*, pp. 272–274.

¹⁰⁶ Cacioppo, 'Technic – a survey', p. 399.

¹⁰⁷ 'Musical gossips', *The athenaeum*, 3347 (19 December 1891), p. 841. [Steinway Hall, Beethoven's Sonata in F minor and Schumann's Etudes symphoniques] 'He [Frederick Dawson] has excellent fingers, but his execution is rather rough and noisy.' Dawson gave two concerts at the Pops in January 1893, that despite his 'unquestionable artistic ability', had not made as strong an impression on audience, especially on January 21st: 'Dawson chose for his solo Raff's "Giga con Variazioni" from a Suite in D minor, Op. 91. We do not admire this work, although it supplies ample opportunity for brilliant execution; and the reception was rather cold.' 'The popular concerts', *Musical standard*, 44:1487 (28 January 1893), p. 71.

¹⁰⁸ 'Josef Hofmann', *Musical standard*, 46:19 (12 May 1894), p. 400.

¹⁰⁹ Schonberg, *The great pianists*, p. 279.

¹¹⁰ Mark Hambourg, another Pops pianist, can be traced to Nicolai Rubinstein through his father Michael Hambourg, whom had been Nicolai's pupil. Mark never studied with Rubinstein, but instead studied with Theodor Leschetizky. Amongst Nicolai's more-known students who performed in London was Alexander Siloti (1863-1945), although he did not make his appearance at the Pops. Siloti pursued his studies with Liszt after his trainings with Nicolai and became Liszt's favourite pupil. Siloti taught at the Moscow Conservatoire from 1887 to 1891; his pupils included Alexander Goldenweiser and Sergei Rachmaninoff.

Slivinski and Anna Essipoff, both also pupils of Anton Rubinstein. Brassin's reputable pupil from the Conservatoire was Wassily Sapellnikoff, but Sapellnikoff was more known to the British public as being Sophie Menter's pupil:

At present he [Sapellnikoff] is most remarkable for his amazing command over the keyboard, a quality which he has evidently acquired from his teacher, Mme. Menter. His playing is wanting in charm, though it cannot be denied that it was in many respects of a very high degree of merit. The remarkable effects of crescendo which he produces altogether exceptional; but his touch is at present inclined to be hard and unsympathetic.¹¹¹

3.3.8 The Viennese school

Pops pianists who had studied at the Vienna Conservatoire (founded in 1817) include Charles Foerster, Vladimir de Pachmann and Ignaz Brüll. There were also well-sought-after teachers in Vienna who did not teach at the Conservatoire, such as Anton Door (1833-1919) and Theodore Leschetizsky (1830-1915).¹¹² Leschetizsky was one of the most sought after teachers of the late-nineteenth century. After pupils of Clara Schumann, Leschetizsky's students were the second most frequently featured at the Pops (10 in total), most of whom Leschetizsky had taught after settling in Vienna in 1878, for example, Ignacy Jan Paderewski, Archy Rosenthal, Katherine Goodson, Muriel Elliot, and Evelyn Suart. Despite having the same teacher, no similarities were found amongst these pianists. Leschetizsky himself admitted that it was impossible to have a method suited to all, as no hands were the same.¹¹³

As evident from the British concert reviews, pianists of the Viennese school seemed to have played less aggressively than pianists of the German and Russian schools. One possibility was that Viennese teachers were less preoccupied with virtuosity and power, and more concerned with finger technique, which coincided with the French pianism style. Leschetizsky had high curved fingers, and believed in the development of finger strength in striving for singing tone qualities.¹¹⁴ Leschetizsky's finger practice was probably acquired from his teacher Carl Czerny (1791-1857). Czerny also taught Josef Dachs (1825-1896), and Dachs taught Vladimir de Pachmann, the latter whose technique was described 'wonderfully sure-fingered' at the Pops.¹¹⁵ Yet, it was Paderewski who had the most perfection in his technique and interpretation:

¹¹¹ 'Recent concerts', *Saturday review of politics, literature, science and art*, 69:1806 (7 June 1890), p. 705.

¹¹² Pops pianists who studied with Anton Door included Benno Schönberger and Caroline Geisler-Schubert.

¹¹³ Nevertheless, Leschetizsky's principle pianistic technique was summarised in 1902 by Malwine Bree, 'the groundwork of the Leschetizsky method', a book which was approved by Leschetizsky himself. Cacioppo, 'Technic – a survey', p. 399.

¹¹⁴ Cacioppo, 'Technic – a survey', p. 399.

¹¹⁵ [Bechstein Hall] 'Schumann in G minor was a *tout de vitesse* so far as three of the movements were concerned, but the technique was not always above reproach; as a rule M. de Pachmann is wonderfully sure-fingered.' 'The week', *The athenaeum*, 3981 (13 February 1904), p. 218.

[Queen's Hall] In spite of many defects in his [Paderewski's] playing and in his interpretations he is the only pianist of the day who can be mentioned in the same breath as Rubinstein or Liszt... Paderewski is often too much the virtuoso in his delight in sudden contrasts of force, and his strength is purely nervous and uneven; he has no real force in the sense that Rubinstein had, or, among the moderns, D'Albert and Lamond possess. His finger technique compared with Godowsky's or Pachmann's is primitive. But he has a romance of feeling and clear-cut individuality in which no other living pianist can equal him.¹¹⁶

Another example of the lack of force in the Viennese playing style is evident through the piano playing habits of Brahms, who taught at the Vienna Conservatoire. Brahms never forced the instrument to do more than what it was capable of giving, and his restraint of force was detected from his seating posture at the piano, with a hunched shoulder and arms being almost straight.¹¹⁷ To further preclude the harshness of chords, Brahms practiced the spreading of chords (on un-notated arpeggiation).¹¹⁸ As investigated and shown by Peres Da Costa, the practice of un-notated arpeggiation was frequently adopted by pianists of the nineteenth century, in particular pianists closely associated with Vienna, such as Leschetitzky and Paderewski.¹¹⁹ Yet, un-notated arpeggiation as conceived by the Viennese-schooled pianist was not a convention to be adopted, nor a method solely to mitigate harshness, but a practice to understand how tonal qualities of melodic notes could be heightened, and how textural and structural organisations could be varied.¹²⁰ The regard for sensitivity in expression above technique was much demanded by Brahms to his pupils; as recounted by Florence May:

[Brahms] liked variety of tone and touch, as well as certain elasticity of *tempo*... Brahms, in fact, recognised no such thing as what is sometimes called "neat playing"... Neatness

¹¹⁶ [Queen's Hall, 18 June 1901] 'In the concert room', *The monthly musical record*, 31:367 (1 July 1901), p. 153.

¹¹⁷ Brahms' posture as recounted by C.V. Stanford, 'His attitude at the piano was precisely that in Professor Von Beckerath's sketch. The short legs straight down to the pedals, which they seemed only just to reach, the head thrown back and slightly tilted as if listening to the band rather than to himself, the shoulders hunched up and the arms almost as straight as the legs and well above the keyboard.' Michael Musgrave, *A Brahms reader* (New Haven: Yale University, 2000), p. 125.

¹¹⁸ Neal Peres Da Costa in his research gave ample evidence to Brahms' use of un-notated arpeggiation, as opposed to Florence May's claim from her lesson with Brahms, 'He particularly disliked chords to be spread unless marked so by the composer... He made very much of the well-known effect of two notes slurred together, whether in a loud or soft tone, and I know from his insistence to me on this point that mark has a special significance in his music.' Quote from Neal Peres Da Costa, *Off the record: performing practices in romantic piano playing* (Oxford: Oxford University Press, 2012), pp. 139–141.

¹¹⁹ Peres Da Costa, *Off the record*, pp. 159–169.

¹²⁰ A particularly informative reference to the use of arpeggiation is the performing practice commentary in the most recent Bärenreiter edition of Beethoven's sonatas for piano and violin, where Peres Da Costa examined in depth the many nuances of 'historically-verifiable expressive practices', and outlined the different usage of arpeggiation through evidence of historical recording from early pianists, and piano treatises from Sigismund Thalberg and Theodor Leschetitzky. Pdf available under the tab 'extras', 'performing practice commentary', <http://www.baerenreiter.com/en/shop/product/details/BA9014/>, consulted on 15 January 2021. Practical experimentation on the variety of chord spreading can be found later in the thesis in Chapter Four, when I discuss how these practices can deviate from piano to piano.

and equality of finger were imperatively demanded by him, and in their utmost nicety and perfection, but as a preparation, not as an end.¹²¹

Louis Brassin

Louis Brassin began teaching at St. Petersburg Conservatoire in 1878, but his pupils at the Pops, Franz Rummel, Arthur de Greef, and Isaac Albeniz, had learnt from him during his years at Brussels Conservatoire from 1868 to 1878. Brassin studied with Ignaz Moscheles at the Leipzig Conservatoire, but Brassin's pupils did not comply with the composed style of Moscheles.¹²² Of the three Pops pianists, Arthur de Greef seemed the most sensible, 'De Greef weaves a most subtle picture for the eye as well as for the ear'.¹²³ Albeniz's performances were bombastic and rousing, 'usually given to the "Ercle's vein"'.¹²⁴ Rummel had the most exaggerated gestures, in particular, a certain, unnecessary curvetting of hands.¹²⁵ This kind of acrobatic playing was generally discouraged throughout the 1880s, as criticised by T. L. Southgate: a 'silly outcome of the "higher development school"'.¹²⁶ However, more and more pianists adapted to this vogue towards the end of the nineteenth century.

3.4 Piano tone according to the Pops reviews

So far, trends summarised from the Pops data revealed that nationality and pianistic legacy were two crucial categories to have influenced pianists' ideals of piano tone. Through the examination into the pedagogical trainings of the Pops pianists, we saw that there was a growing diversity of pianism nearer the end of the century. This propelled the introduction of more piano brands on the London concert platform in London.

¹²¹ Florence May, *the life of Johannes Brahms*, vol. 1 (London: Edward Arnold, 1905), p. 18.

¹²² As I have introduced under The French school, Ignaz Moscheles played with a crisp touch, sparse pedalling, and restricted arm movement.

¹²³ F.H.B., 'Birmingham', *Musical standard*, 30:779 (28 November 1908), p. 351.

¹²⁴ [Steinway Hall, 7 June 1890] 'For the pianist in question, [Albeniz] who is usually rather given to the "Ercles' vein" was in gentle mood and played with delightful grace and delicacy.' 'Concerts, &C.', *The musical world*, 70:24 (14 June 1890), p. 475.

¹²⁵ [St James' Hall, 6 May 1885, Fifth Philharmonic society Concert, Dvorak's Pianoforte concerto] 'The concerto was admirably rendered by Herr Rummel, whose playing, by the way, would sound just as effective if he abandoned the absurd raising of his hands to the level of his head. This silly outcome of the "higher development school" may possibly astonish the ignorant; it grieves the cultured.' T.L. Southgate, 'Philharmonic society', *Musical standard*, 28: 1085 (16 May 1885) p. 310.

¹²⁶ *Ibid.*

Concert reviews can provide further evidence to the definition of tone for each brand. Reoccurring adjectives to describing the tone of pianos were found in late-nineteenth century press, as mapped out on a tone spectrum, [Figure 27, p. 152].¹²⁷ In this diagram, I drew two horizontal arrows to reflect the changing preferences of tone for the British concert reviewers over the last two decades of the nineteenth century. The arrows also frame the critics' conception of styles of piano playing; as critics had judged the suitability of the pianists' own playing style to the tone of the chosen pianos. I compare in relation to the critics' opinions their perceived similarities and differences in tone between the brands, and argue that as a consequence of the growing styles of piano playing, British critics had widened their perspectives on tone, and thus embraced a broader range of pianos by the start of the twentieth century.

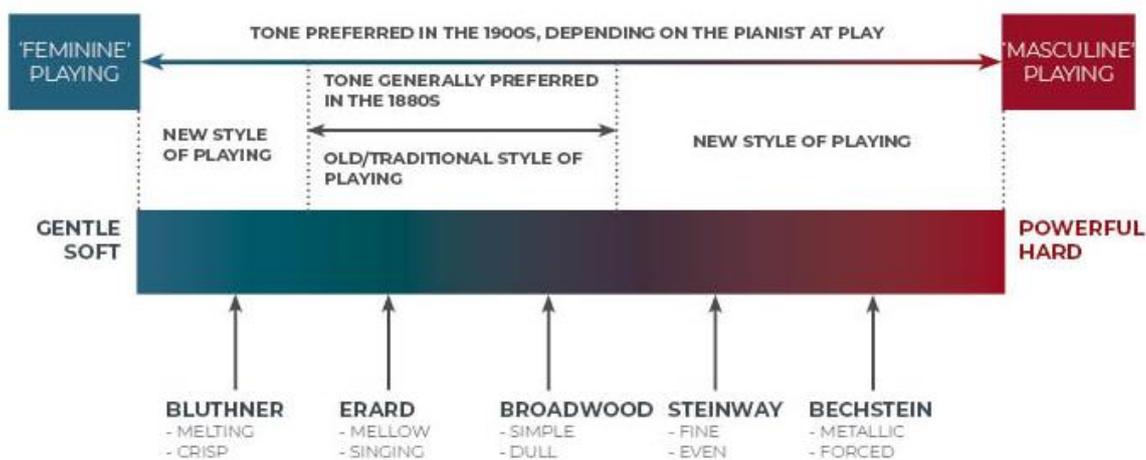


Figure 27: Tone spectrum of piano tone description found in British concert reviews¹²⁸

As illustrated in the diagram, there are two contrasting themes regarding the styles of piano playing. The first is the 'new' versus the 'old', and the second is the 'feminine' versus the 'masculine'. These vocabularies are not to be understood in their explicit terms but are coded terms to convey iterations of tone preferences and reflect a changing attitude towards pianos and piano playing in Britain. It is easy to misinterpret words such as 'new', 'modern', 'old-fashioned', or 'former', as terms either exclusively belonging to the past or the present. For example, one critic referred to added dynamics and rubato in Franz Rummel's rendering of Bach's Chromatic Fantasia being 'modern'.¹²⁹ This criticism could infer that earlier nineteenth-century or even

¹²⁷ I had not included Ibach or Pleyel as a subheading, as there were only a scarce number of concert reviews found in the British periodicals.

¹²⁸ 'Feminine' and 'Masculine' playing were descriptors commonly used by late-nineteenth-century critics. These descriptions were not gender specific and should be only regarded within the context of their time. For further discussions, see later in the chapter under 3.4.8 'Femininity' & 'Masculinity' in piano playing.

¹²⁹ 'His reading of the Chromatic Fantasia was full of modern expression marked by violent contrasts and rubato which would have been in place only in a composition of the present generation.' 'Concerts', *The musical world*, 70: 19 (10 May 1890), p. 376.

eighteenth-century musicians did not add expressions to what was beyond the score, yet earlier treatises gave plenty evidence to variations of dynamics being essential to an artistically beautiful performance.¹³⁰ Therefore, the comparison of old and new are to be understood as vogues of piano playing, the old being what was traditionally and culturally heard in the British concert platforms, and the new being the different, set-apart practices that were introduced slowly from the 1880s.

Similarly, cultural and historical values in gender are conveyed in the critique of music, musicians, and musical reception.¹³¹ According to Katherine Ellis, female pianists in the nineteenth century rarely escape explicit gender criticism, as the disparity between a woman's identity and her professionalism was in conflict throughout this period.¹³² Ellis argued that such prejudice was further exacerbated by the fact that most nineteenth-century compositions performed were predominately gendered masculine: written by male composers to showcase masculinised virtuosity. Thus, female pianists whose playing styles were praised in coded-masculine terms (virtuosity, power, hardness) were generally regarded as better players. Likewise, male pianists who were criticised with coded-feminine terms (effeminate, caressing, exquisite delicacy) were generally disliked by the critics. Critique of concert reception also reflected the social, cultural and historical expectations on gender roles, for example, in 1898, Alice Dessauer's playing was described as 'thoroughly womanly in its neatness and sympathy'.¹³³ Exploring in detail the gendered discourse adopted to describe both tone and playing styles lies beyond the scope of this thesis, but remains an important avenue for future research in concert criticism.

¹³⁰ Notable examples of primary source of information about eighteenth-century performance practice include C. P. E. Bach, *Essay on the true art of playing keyboard instruments*, translated and edited by William J. Mitchell (New York: Norton, 1949), in particular, chapters two and three. For the violin, Leopold Mozart, *Gründliche Violinschule* (Johann Jakob Lotter und Sohn, 1787, first edition in 1756 under the title 'Versuch einer gründlichen Violinschule'), in particular, chapter 12, section 8, p. 261, where Mozart discussed the importance of understanding the composers' intentions, as well as the performer's own abilities to decide on when and how to change dynamics. Last but not the least, Johann Joachim Quantz, *On Playing the Flute* (London: Faber and Faber, 1985), with detailed information on dynamics and performers' responsibilities.

¹³¹ Gender and sexuality studies in musicology is an expansive field largely devoting to work on women in music. An extensive bibliographical source can be found in two articles in the Oxford bibliographies: Heather Hadlock's 'Women in music', *Obo* in music, <https://www.oxfordbibliographies.com/view/document/obo-9780199757824/obo-9780199757824-0078.xml>, consulted on December 10, 2020; Emily Wilbourne, 'Gender and sexuality in music', *Obo* in music, <https://www.oxfordbibliographies.com/view/document/obo-9780199757824/obo-9780199757824-0198.xml>, consulted on December 10, 2020.

¹³² Katherine Ellis, 'Female pianists and their male critics in nineteenth-century Paris', *Journal of the American musicological society*, 50: 2/3 (Summer-Autumn, 1997), pp. 353–385. David Kennerley observed that the changing reception to females in musical professionalism began with female singers in the early-nineteenth century, which paved way for other female musicians to rise to professionalism. David Kennerley, 'Debating female musical professionalism and artistry in the British press, c. 1820-1850', *The historical journal*, 58: 4 (December 2015), pp. 987–1008.

¹³³ 'Popular concerts', *Musical news*, 14: 365 (Feb 26, 1898), p. 214.

3.4.1 Blüthner: Melting & crisp

Amongst the few reviews found in the British press regarding the Blüthner tone over the two decades, the gist was that the Blüthner tone was perceived the most delicate amongst all the brands. ‘Melting’ was used to describe the tone of the Blüthner used by Martha Remmert in 1887, ‘Remmert did not use a Bechstein grand, but a Blüthner, so powerful and at the same time so melting a tone as we never before have heard from a German pianoforte maker.’¹³⁴ This melting tone could have aided Dora Schirmacher’s performance (in 1886) to depict a playing that was of ‘real sensitive force and sympathy’.¹³⁵ As the tone of the Blüthner seemed so delicate, a clearness of touch was the prerequisite for players on Blüthner pianos. Wilhelm Bachkaus’ performance in 1902 was one that was praised by critics, as he had brought out the best tones of a Blüthner by combining ‘crispness and clearness with the temperament of a musician, and a welcome absence of affectation.’¹³⁶

The celebrated Russian pianist Alexander Siloti frequently used Blüthner pianos in the London concert halls, although Siloti did not perform at the Pops. Like Backhaus, Siloti’s playing was marked with ‘clearness, sufficient warmth of expression, and a delightful absence of exaggeration.’¹³⁷ In contrast, pianists who over-exerted in force did not suit the Blüthner tone, such as the Pops pianist Ella Pancera, ‘this young lady is clever executant, but the touch is hard and unsympathetic, and she is too prone to come down upon the keyboard (of a “Blüthner” grand) with what may be called a crash.’¹³⁸

¹³⁴ [St. James’ Hall, 28 June 1887] R.D., ‘Mdlle Martha Remmert’, *Musical standard*, 33: 1198 (16 July 1887), p. 36.

¹³⁵ [St. George’s, Liverpool] ‘Dora Schirmacher’s playing throughout was distinguished by real sensitive force and sympathy, and the wonderful power of her left hand, aided by the tone of the instrument, a Blüthner.’ ‘Music in Liverpool’, *Musical times*, 27: 519 (1 May 1886), p. 284.

¹³⁶ ‘Music’, *Artist: an illustrated monthly record of arts, crafts and industries*, 33 (1902), p. 56.

¹³⁷ [Crystal Palace concert, Beethoven Piano Concerto No. 5 in E flat] ‘The execution was marked by clearness, sufficient warmth of expression, and a delightful absence of exaggeration. In short, the pianist gave a thoroughly classical reading, exactly befitting a highly classical composition; the word ‘classical’ here to be understood as an equivalent of the phrase “worthy of imitation”. Like Herr Rosenthal, M. Siloti used a Blüthner pianoforte.’ ‘Crystal Palace concerts’, *Musical standard*, 4: 103 (21 December 1895), p. 403. I believe that the ‘Rosenthal’ referred to Moritz Rosenthal here, instead of the Pops pianist Archy Rosenthal. This is because of the lack of reviews on Archy Rosenthal before 1900, and that Moriz Rosenthal was a famed pianist frequently being compared to Alfred Reisenauer during this period.

¹³⁸ [St. James’ Hall, 20 May 1897] ‘Other concerts’, *Musical standard*, 7: 178 (29 May 1897), p. 351.

3.4.2 Erard tone: Singing & mellow

According to a reporter from the *Musical standard* at Fanny Frickenhaus' performance in 1881, all Erard pianos possessed a 'singing mellow quality'.¹³⁹ At another concert in the same year, another critic referred the singing quality to the notes in the upper registers of the piano: 'As regards tone, it may be stated that in the rapid runs, the pianist touched, so as to make it tunefully *speak*, the highest A of the grand Erard, on many instruments a mere "thudding" sound, and nothing more; all the piano passages might be distinctly heard at the end of the Hall.'¹⁴⁰ Another description of Erard's higher notes was 'tinkling', a slightly negative connotation used by a professor at Sophie Menter's recital in 1883.¹⁴¹ 'Tinkling' or 'singing' in the upper octaves both referred to a light, clear ringing tone, a sound heard in Paderewski's recital at St. James' Hall in 1890, the 'exquisite delicacy to the scale-playing passages and shakes' in Haydn's Variations in F minor'.¹⁴² An examination of the score reveals that scale passages were mostly played by the right hand in the upper registers, in particular, in Variation II and the Finale. By contrast, shakes (or trills) mostly appeared in the first Variation and comprised of notes from the middle and upper registers.¹⁴³

In addition to striving of 'singing' and 'mellow' tone in the treble, Erard's aim to apply this tone to the rest of the piano was noticed in their 'resonator' patent, which was introduced in 1895 and improved upon in 1896.¹⁴⁴ The advantage of this patent, as witnessed at Mark Hambourg's recital in 1896, was that it had increased the volume and elongation of tone, while avoiding the 'familiar harshness'.¹⁴⁵ This patent was thought to have contributed to Hambourg's performance of Schumann's Fantasia in C Op. 17, where 'The effect with an instrument fitted with Erard's new resonators was superb in the middle movement'.¹⁴⁶

¹³⁹ 'Mdme Frickenhaus was as usual most careful in her performance of the piano part (Sterndale Bennett's quaint Trio in A major), but it is decidedly mistake to raise the lid of the instrument in chamber music, especially when the piano is possessed of that singing mellow quality eminently belonging to all "Erards"'. 'Ludwig and Daubert's Chamber concerts', *Musical standard*, 21: 885 (16 July 1881), p. 37.

¹⁴⁰ The pianist was a pupil of Rubinstein, Herr E. Loewenberg, playing Rubinstein's Concerto No. 4, in D minor. 'Mr Ganz' orchestral concerts', *Musical standard*, 20: 879 (4 June 1881), p. 356.

¹⁴¹ 'An Erard iron concert grand pianoforte was used; and one professor complained to the writer of its "tinkling" sound.' A. M., 'Mdme. Sophie Menter's recitals', *Musical standard*, 24: 984 (9 June 1883), pp. 353–354.

¹⁴² 'Recent concerts', *Saturday review of politics, literature, science and art*, 69: 806 (7 June 1890), p. 705.

¹⁴³ The correlation between repertoire and piano tone is studied in depth in the next chapter.

¹⁴⁴ 'Messrs. Erard have, we understand brought out a "patent resonator", by means of which an increase of power and singing quality is secured.' 'Trade Jottings & Notes', *MOMTR*, 18: 213 (June 1895), p. 601.

¹⁴⁵ 'The Erard pianoforte, with patent resonator, excited considerable interest among the pianists who were in the Hall... We will say we noticed a distinctly increased and sustained body of tone while the patent evidently does much to remove the familiar harshness of sound that was apparently inseparable from pianoforte tone.' 'Mark Hambourg's first recital', *Musical standard*, 5: 109 (1 February 1896), pp. 74–75.

¹⁴⁶ 'Monday and Saturday popular concerts', *Musical times*, 37: 638 (1 April 1896), p. 241.

A pianist whose playing style which suited the tone of Erards was Clotilde Kleeberg, who performed at the Pops from 1885 to 1901. B. F. Wyatt-Smith, through praising the piano's tone, commended Kleeberg's playing at the Pops in 1885: 'the tone of the Erard on which she performed made me think (what I have often thought before) that there is no instrument so beautiful, so sympathetic, or so touching.'¹⁴⁷ From time to time, critics desired to hear repeatedly this singing and mellow Erard tone, as at Stavenhagen's recital in 1886, that instead of a Bechstein, it would have been better for him to use an Erard or Broadwood, as the Bechstein tone 'failed to satisfy ears nicely attuned'.¹⁴⁸ Another example was at Janotha's 1887 Pops concert:

The Broadwood piano provided was not one of the most sympathetic; indeed, to be frank, it was hard and metallic, which qualities were especially noticeable in the opening number, and set the present writer longing for the liquid and refined sweetness of an Erard.¹⁴⁹

3.4.3 Broadwood: Simple & dull

The critic Wyatt-Smith being extremely fond of Erard pianos believed that the tone of all other brands paled in comparison, 'M. de Pachmann played on a "Broadwood", the tone of which I considered somewhat dull.'¹⁵⁰ Excepting for Wyatt-Smith's bias comment, Broadwood tone was mostly well received in concert reviews. The Broadwood used by Johann Heinrich Bonawitz in 1881 had 'fine full tone [and] poetical temperament.'¹⁵¹ Admiration for the Broadwood tone was also expressed by a critic from the *Musical Standard* in 1885, 'if only for the fine and mellow quality of the tone and freedom from a certain nasal "metallic" twang, not unknown to "ears polite."¹⁵² These descriptions suggested that critics positioned the Broadwood tone between Erard and Steinway, as the Broadwood tone had perfectly balanced between the soft and hard.

Thus, the Broadwood tone was conceived as transparent, neither adding nor detracting from the performer. Simplicity in the action was the secret in achieving this tone. In an interview with the *Strolling Player* in 1890, A. J. Hipkins, a representative of Broadwood, explained that the action of a Broadwood piano was made simple compared to other piano actions, as 'the more complications there were, the more and the greater were the obstacles placed between the

¹⁴⁷ B.F. Wyatt-Smith, 'Saturday popular concerts', *Musical standard*, 28: 1079 (4 April 1885), p. 209.

¹⁴⁸ [Prince Hall, 16 April 1886] 'I hope to hear M. Stavenhagen again and again, but I wish that the Abbe Liszt's pupils would occasionally use a grand Erard or a grand Broadwood. The tone of the Bechsteins used last week failed to satisfy ears nicely attuned.' A.M. 'Pianoforte recitals of the Abbe Liszt's Pupils', *Musical standard*, 30: 1134 (24 April 1886), p. 257.

¹⁴⁹ B.F. Wyatt-Smith, 'Saturday popular concerts', *Musical standard*, 33: 1215 (12 November 1887), p. 305.

¹⁵⁰ B.F. Wyatt-Smith, 'Saturday popular concerts', *Musical standard*, 29: 1112 (21 November 1885), p. 319.

¹⁵¹ 'The grand Broadwood pianoforte struck the writer, and every discerning auditor, by its fine full tone, and if the expression be admirable, its poetical temperament.' 'South Kensington school of music', *Musical standard*, 21: 904 (26 November 1881), p. 340.

¹⁵² A. M. 'Mr. Dressel's recitals', *Musical standard*, 28: 1089 (13 June 1885), p. 369.

player and his tone'.¹⁵³ Hipkins claimed that Broadwood's simple mechanism enabled pianists to display their own individuality with more certainty.¹⁵⁴ Broadwood's action encouraged pianistic techniques which promoted strength from the fingers rather than strength from arm weight; the neater the pianists' finger techniques, the better suited the piano to the pianists. Therefore, the Broadwood was befitting for the school of Madame Schumann, and for the English pianists; at Charles Hallé's recital, the Broadwood was a '*sine qua non*', as the instrument had 'more clearness and more sonority'.¹⁵⁵

Not all British critics were fond of the Broadwood action, as for Stavenhagen's performance in 1887, he was recommended an Erard because of their repetition' action, which would have enabled him to achieve greater velocity.¹⁵⁶ In addition, since Broadwood had favoured the employment of simple mechanism to balance finger strength, it was unable to provide for pianists who were fond of using arm weight, in particular, pianists of the Russian piano school. This was noticed through Rubinstein's pupil, Eugene Holliday, 'his occasional violence, which knocks some twenty-five pounds per recital off the value of the instrument he uses (a Broadwood), and his trick of striking the top note of a descending scale as if his little finger were the hammer of a rifle, make the milder Mendelssohnian amateur wince.'¹⁵⁷

3.4.4 Steinway: Even & fine

Before 1888, the Steinway tone as heard in concerts was hardly commented on in the British press. One reason was that most performances on Steinway pianos were given at the Steinway hall, thus it would have been most unusual and impertinent if critics were to judge the pianists' choice of piano.¹⁵⁸ The few reviews on the Steinway tone prior to 1888 mostly came from Franz

¹⁵³ 'This action, as musicians well know, leaves ample scope for the individuality and personality of the player, instead of reducing all to one level because of the load of mechanical contrivances through which it is almost impossible for differences between players to penetrate, the individual tone of the performer being produced with more certainty with a simple than a complicated action.' 'Interview with the strolling player', *Musical standard*, 39: 1369 (25 October 1890), pp. 335–336.

¹⁵⁴ *Ibid.*

¹⁵⁵ 'A very eminent artist, whose name must not be mentioned, played on a grand Broadwood in St James's Hall, and gave his reason for preference to the writer in these words: *cet instrument (de Broadwood) a plus de clarte et plus de sonorite* (this instrument has more clearness and more sonority).' 'The modern pianoforte', *Musical standard*, 43: 1477 (19 November 1892), p. 403.

¹⁵⁶ [Sixth symphony concert] 'Stavenhagen excited a furore, as at the Crystal Palace. He played on a Bechstein, but a grand Erard might have been demanded for the sake of its "repetition action."' A.M. & E.P., 'The symphony concerts', *Musical standard*, 33: 1221 (24 December 1887), p. 399.

¹⁵⁷ G. B. Shaw, *Music in London 1890-94*, vol. 1, p. 184. Entry on 6 May 1891.

¹⁵⁸ Even piano recitals at the Steinway Hall were sparse, and concert reviews from this venue placed an emphasis on recital programmes and how pianists had played rather than an assessment of the instruments. Some examples are listed here: [Pupils of Arabella Goddard, 12 May 1880], 'Madame Arabella Goddard's matinee musicale', *Musical standard*, 18:825, (22 May 1880), pp. 322–323. [Marie Dubois, 9 June 1882 and Louis Köhler, 10 June 1882], 'Various pianoforte recitals', *Musical standard*, 22:933 (17 June

Rummel's performances. In 1881, Franz Rummel played in the Crystal Palace Concerts on a particularly 'fine bright Steinway piano'.¹⁵⁹ In 1885, T. L. Southgate criticised the Steinway tone to be 'weak', and lacking in resonance:

[St. James' Hall] The (Dvorak) concerto was admirably rendered by Herr Rummel... He played on a Steinway pianoforte... the instrument sounded weak, and wanting in that powerful resonance of tone which distinguishes our best English instruments.¹⁶⁰

[St. James' Hall] Rummel's playing of Beethoven's Concerto (in E flat) seemed to want warmth and fire... the weak tone of the Steinway instrument on which he played, may probably account for this want of complete success.¹⁶¹

Southgate continued to disapprove the Steinway tone in other Philharmonic performances. In 1888, Otto Hegner's Steinway was described 'poor thin', and Edward Grieg's Steinway was 'weak'. In 1889, Steinways used by Agathe Backer-Gröndahl and Natalia Janotha were still 'weak' but 'sweet-toned'.¹⁶² G. B. Shaw objected to Southgate's claim of the Steinway being weak especially in a piano concerto; in fact, Shaw thought that Steinway was the best choice of piano for works with the orchestra.¹⁶³

Aside from Southgate's criticism and G. B. Shaw's defence, most of the Steinway reviews in the British press in the 1890s described their tone as 'fine'.¹⁶⁴ This was not to say that Steinway was not appreciated; on the contrary, more and more pianists had used Steinway from 1887 at the Pops, and the number of piano recitals was increased at the Steinway Hall. 'Fine', being opposite to 'coarse', could be interpreted as 'evenness' of tone. This 'evenness' of tone was evident in Sophie Menter's performance in 1894 of Liszt's transcription (overture to *Tannhäuser*), where both her left and right hand were applauded, 'here was felt the force of the left hand in the

1882), p. 373. [Almas Haas, 6 February 1884], 'Mr. H. Holmes' musical evenings', *The monthly musical record*, 14: 159 (March 1884), p. 68. [Fanny Frickenhaus, 26 November 1884], 'Concerts', *The musical world*, 62:48 (29 November 1884), pp. 753–754. [Camille Saint-Saëns, 24 November 1885], 'Concerts', *The musical world*, 63: 48 (28 November 1885), p. 754.

¹⁵⁹ [Mr. Mann's benefit concert, 30 April 1881] 'His playing of the concerto was too uniform in tone, and was wanting in individuality and passion. Beethoven's pianoforte concertos demand something more than good mechanism and ordinary taste. The piece was played on a particularly fine bright Steinway piano.' 'Crystal Palace concerts', *The monthly musical record*, 11 (June 1881), p. 119.

¹⁶⁰ T. L. Southgate, 'Musical intelligence' *Musical standard*, 28: 1085 (16 May 1885), p. 310.

¹⁶¹ T. L. Southgate, 'Philharmonic society', *Musical standard*, 28: 1087 (30 May 1885), pp. 336–337.

¹⁶² [Hegner], T. L. Southgate, 'Philharmonic society', *Musical standard*, 34: 1239 (28 April 1888), p. 258.

[Grieg], T. L. Southgate, 'Philharmonic society', *Musical standard*, 34: 1241 (12 May 1888), p. 290. [Backer-Gröndahl], T. L. Southgate, 'Philharmonic society', *Musical standard*, 36: 1288 (6 April 1889), p. 270.

[Janotha], T. L. Southgate, 'Philharmonic society', *Musical standard*, 36: 1296 (1 June 1889), p. 438.

¹⁶³ G. B. Shaw criticised the use of Broadwood in Eibenschütz's concert at Crystal Palace. G. B. Shaw, *Music in London 1890–94*, vol. 1, pp. 137–138. Entry on 25 February 1891

¹⁶⁴ Few examples include: [Backer-Gröndahl], 'Philharmonic concerts', *The monthly musical record*, 19: 223 (July 1889), p. 154. [Madeline Schiller], 'Concerts, &C.', *The musical world*, 70: 29 (19 July 1890), p. 577. [Menter and Sapellnikoff], 'Music of the week', *The academy*, 1156 (30 June 1894), p. 542. [Bloomfield-Zeisler], 'Crystal Palace Concerts', *Musical standard*, 9: 228 (14 May 1898), p. 315.

“Pilgrim’s March.” Whilst the florid fiddle passages were delivered with delicious refinement, yet most effective accentuation, by the right.¹⁶⁵ It is no coincidence that in another of Menter’s performance in the same season, the Steinway used was described as ‘very fine’.¹⁶⁶

Steinway’s trait of tone being ‘even’ meant that pianists could obtain all gradations of tones, as expressed in the reviews of Arthur Friedheim and Anna Essipoff in 1888.¹⁶⁷ Achieving a gradation of tone meant that pianists were able to access a broad dynamic range, as noticed in Wassily Sapellnikoff’s playing in 1890, ‘the magnificent skill with which he worked up the crescendo in the last movement. His fortissimos are ringing, but never “clashy”, and his tender passages are delicate and liquid.’¹⁶⁸ Thus, the advantages of Steinways’ tone was that it could be favoured by all types of pianists, and is most successfully realised for pianists who selected repertoire which fully embraced and explored the whole dynamic and register range of the piano.¹⁶⁹ This was most evidently found in Alfred Reisenauer’s recital in 1895:

Mozart’s lovely Fantasie in D minor displayed the gentler side of his [Reisenauer’s] marvellous genius whilst the pieces of Rameau and Couperin received sympathetic and intellectual treatment. Beethoven’s Sonata in C sharp minor enabled the pianist to take full revenge for previous quietness; thus, in the final Presto agitato, the grand Steinway must have groaned under such handling; at events it gave forth the grandest tones.¹⁷⁰

3.4.5 Bechstein: Powerful, metallic & hard

‘The choice of a ‘Bechstein’, in this age of controversy, one declines to dispute.’¹⁷¹ Of all the kinds of pianos, the Bechstein tone was the most disputed by critics in the 1880s, but harsh

¹⁶⁵ The reviewer continued to explore the register differences in other pieces of Menter’s recital, ‘...in these pieces (Sapellnikoff’s ‘Dance of elves’ and Tchaikovsky’s ‘Romance’), it may be noticed bell effects in the upper register of the instrument, whilst the theme, or canto fermo, is played by the left hand. Another point was a sweep of the keyboard in scales of five notes.’ ‘Madame Menter’s pianoforte recital’, *Musical standard*, 46: 24 (16 June 1894), p. 506.

¹⁶⁶ ‘Menter played the work on a very fine Steinway piano, and seemed to revel in the difficulties, which she overcame as easily as she did in a Fantasie of her own on “Gipsy Melodies”, an extravagant firework piece in the Liszt rhapsodic style, orchestrated by Tschaiakowsky, and which we have no desire to hear again.’ ‘Philharmonic concert’, *Musical news*, 6:170 (2 June 1894), p. 508.

¹⁶⁷ [Steinway Hall, 18 May 1888], ‘Freidheim possesses a beautiful and sympathetic touch, and has the power of obtaining all possible tone from the instrument without any approach to thumping’, ‘Musical gossip’, *The athenaeum*, 3161 (26 May 1888), p. 672. [Steinway Hall, 29 November 1888], ‘Essipoff’s success was a triumph, recognized by all critics. Bold executancy, nicest gradations of tone, exquisite expression, and inimitable refinement of style, may be mentioned as salient characteristics’, ‘Mme. Essipoff’s pianoforte recitals’, *Musical standard*, 35: 1271 (8 December 1888), p. 355.

¹⁶⁸ [Third philharmonic society, Henselt Pianoforte concerto in F minor], ‘Concerts’, *The musical world*, 70: 18 (3 May 1890), p. 355.

¹⁶⁹ I draw this conclusion not only from the evidence of concert reviews, but also from my own experiences as a pianist having played on late nineteenth-century pianos (which included Steinways). Further discussions and comparisons of pianos from my experiences are discussed in Chapter Four.

¹⁷⁰ ‘Reisenauer’s third recital’, *Musical standard*, 4: 99 (23 November 1895), pp. 339–340.

¹⁷¹ ‘Herr Carl Heymann’s recital’, *Musical standard*, 20: 880 (11 June 1881), p. 371.

criticisms mostly dissipated in the 1890s. Critics perceived Bechstein pianos as being powerful and metallic in sound. Those in favour of Bechstein pianos thought that these were positive qualities of sound, ‘the richness and sweetness of their tone, especially in cantabile passages, could not have been surpassed.’¹⁷² The un-surpassing richness and sweetness in tone of Bechstein pianos could have implications for its volume, and thus Bechstein could be ranked the loudest of all piano brands. In this case, Bechstein would have suited pianists who were strong players, such as Bernhard Stavenhagen, who were able to display on the Bechstein a ‘rare power and beauty of tone’.¹⁷³

Amongst the anti-Bechstein critics, the Bechstein tone was over domineering; as evident in Hans von Bülow’s performance in 1880, ‘Dr Hans von Bülow played as usual on a Bechstein piano, the lid of which was not removed nor even raised, and he made but very little use of the damper pedal.’¹⁷⁴ Disapproval was expressed at Essipoff’s performance in 1885, ‘we did not admire the hard metallic tone of the instrument, a concert grand of Bechstein’s’.¹⁷⁵ The Bechstein tone being ‘hard’ was also criticised in concert reviews, as exemplified through Stavenhagen’s concert in 1889, ‘Stavenhagen thundered like Jupiter Tonans upon a very hard and unsympathetic Bechstein.’¹⁷⁶ Frederic Lamond also chose a ‘hard-toned’ Bechstein for his performance in 1890.¹⁷⁷ The hardness of tone could imply an unproportioned balance between the registers. At Essipoff’s performance at the Pops in 1885, the piano had a heavy bass: ‘the Bechstein “concert grand” pianoforte sounded a trifle too heavy for the delicate theme, especially in the bass’.¹⁷⁸ Critics further observed in 1890 that Bechstein pianos favoured upper-register notes over those in the middle octaves, ‘Mr. Borwick used a Bechstein piano, bright as to its upper range, but not up to the proper standard in its middle portion.’¹⁷⁹

The disproportion of registers, along with the characteristics of the Bechstein being ‘powerful’ was an advantage to the pianists who were familiar with this brand. According to the

¹⁷² [Sophie Menter and Anton Rubinstein’s piano duet recital at Willis’s Room, London, hosted by Mr. C. Bechstein], ‘Music’, *The athenaeum*, 2802 (9 July 1881), pp. 56–57.

¹⁷³ J. B. K., ‘Crystal Palace Saturday concerts’, *The monthly musical record*, 19: 221 (May 1889), p. 111.

¹⁷⁴ ‘The musical union’, *The orchestra*, 6: 71 (June 1880), pp. 334–335.

¹⁷⁵ ‘Leeds’, *The magazine of music: for the student and the million*, 1: 12 (March 1885), p. 26.

¹⁷⁶ [Princes’ Hall, Liszt’s Rhapsodie No. 13] ‘Herr Stavenhagen’s Pianoforte recital’, *Musical standard*, 36: 1288 (6 April 1889), p. 271.

¹⁷⁷ [Crystal Palace, Saint-Saëns concerto in C minor No. 4] ‘The Crystal Palace concerts’ *Musical standard*, 38: 1341 (12 April 1890), p. 337.

¹⁷⁸ [Monday Pops, 12 January 1885, works from Mendelssohn, Chopin, and Rubinstein] *Musical standard*, 28: 1068 (17 January 1885), p. 37.

¹⁷⁹ [Crystal Palace concerts, Saint-Saëns Concerto No. 2 in G minor] S. ‘Crystal Palace concerts’, *Musical standard*, 39: 1369 (25 October 1890), pp. 336–337. It can also be argued for that the reference of ‘up to proper standard’ could also be interpreted as being not up to the proper Bechstein standard, which would denote general approval.

demographic of the eleven pianists who initially chose Bechsteins at the Pops, eight received training either in Germany or in Russia, and one further pianist, Ferruccio Busoni, had lived in Germany for over a decade before his premiere in London. Of the seven multi-brand pianists who used Bechsteins for their Pop performances, six were of Germanic influence. Therefore, it could be assumed that Bechsteins were preferred by pianists of the German and Russian school.

Bechstein pianos being too loud was an issue when used in chamber music, as at Karl-Heinrich Barth's Pops concert in 1884, despite having chosen the Bechstein especially suited to his power, the piano had failed to 'make its tone blend sympathetically with the strings and the voices'.¹⁸⁰ Other pianists faced the same problems: at Anna Essipoff's concert in 1885, her piano had 'absolutely lords it over the strings'.¹⁸¹ The balance between piano and strings was also in want at Teresa Carreño's concert in 1902, 'the pianist of the afternoon, played with her usual skill, but the tone of the instrument frequently overpowered that of the strings. The composer has certainly given to the pianist a very prominent part; anyhow, the lid of the pianoforte should have been shut'.¹⁸²

3.4.6 'Old' versus 'New' playing styles

As expressed by *MOMTR* in 1881, the vogue of piano playing was already starting to shift on the British concert platforms:

Thus we find that while formerly tone, with its different gradations, touch, the position of the fingers, &c., had to be made matters of special study, the present piano with its accomplishments saves this study: whilst formerly the pedal was used but sparingly, it is at present used almost incessantly. Clearness, neatness of execution, a quiet deportment at the instrument, were once deemed to be absolute necessities; it is but seldom that we are gratified at present with these excellent qualities. Whilst in past times the performer treated his instrument as a respected and beloved friend, and almost caressed it, many of our present performers appear to treat it as an enemy who has to be fought with and at last conquered.¹⁸³

Drawing on evidence presented in earlier sections, pianists favouring Broadwood pianos mostly belonged to the 'former practice' of tone execution, which was distinguished by a

¹⁸⁰ [Pops, 1 November 1884] 'Berr Barth chose a solo especially suited to his powers... The piano used was a Bechstein, and both Herr Barth in the trio, and Mr. Zerbini in his accompaniments, failed to make its tone blend sympathetically with the strings and the voices.' B.F. Wyatt-Smith, 'Saturday popular concerts', *Musical standard*, 27: 1058 (8 November 1884), p. 270. In the same article, another contributor also wrote to express his discontentment with the Bechstein tone, 'Herr Barth again played on a "Bechstein" pianoforte, of which others, as well as the writer, could not admire the tone, which is the reverse of full.'

¹⁸¹ [Pops, 12 January 1885, Rubinstein Trio in G minor Op. 15] 'Monday popular concerts', *Musical standard*, 28: 1068 (17 January 1885), p. 37.

¹⁸² [St. James' Hall, Tchaikovsky's Trio in A minor] 'Music', *The athenaeum*, 3915 (8 November 1902), p. 626.

¹⁸³ 'The growth of pianoforte-playing', *MOMTR*, 4: 48 (September 1881), p. 435.

clearness, and neatness of fingers with sparing use of the pedal. This practice was more commonly found amongst pianists in the 1880s. The principle reason for this change could be due to the fact that Broadwoods in the 1880s were very resonant pianos with dampers being not as efficient, therefore less pedal was needed, whereas the dampers on pianos from contemporary competing brands, or even Broadwood's later models, were much more efficient and so more pedalling was needed.¹⁸⁴ According to the Pops statistics, the majority of Broadwood users gave their Pops premieres before 1891, and only four of 27 were new Broadwood users from 1892 to 1901. In 1901, there were only 2 pianists using Broadwood at the Pops, which further supported the claim that there was a changing notion of pianistic style, and thus a change to preferences in the piano tone.

From the 1890s, critics seemed to embrace the demonstration of piano virtuosity, and accepted power to be a virtue. This was reviewed at Arthur Reisenauer's performance at the Pops in 1895: 'the ensemble was not good in Beethoven's 'Kreutzer' Sonata, which was played by Herr Reisenauer and Senor Arbos, the pianist overpowering the violinist. But for this Herr Reisenauer should not be wholly blamed. The violin remains practically what it was nearly two centuries ago... and Herr Reisenauer played upon Messrs. Steinway & Sons' "new scale orchestral grand pianoforte", hence the want of balance.'¹⁸⁵

At the turn of the century, reformed piano practices introduced new ways of interpreting old repertoire, which did not comply with Broadwood's tone ideals in clarity of finger-works and minimal use of pedal. The new training encouraged performers to prioritise their own individuality over the composers, as demonstrated by Benno Schönberger in 1890:

[Steinway Hall] Bach's Prelude and Fugue in A minor, for instance, was played in masterly style, but there was a good deal of banging in the bass; and three pieces by Scarlatti were played in terribly modern fashion, so that the listener was constantly asking himself whether Scarlatti or any old master should be dressed in so modern a garb that all traces of his individuality disappear, and the style necessitated by the instrument for which he wrote ignored. The listener – we can speak for one – answered that the performer should forget his modern training, and endeavour to speak the tongue of the otherwise silent dead.¹⁸⁶

There was also the great desire for younger-generation pianists of this time to transcribe compositions, such as the Bach-Busoni Chaconne in D minor, or Leopold Godowsky's studies on Chopin Etudes. London critics on the other hand did not always approve these practices, as

¹⁸⁴ In conversation with Neal Peres Da Costa, 7 December 2020. In my own exploration of pianos from this period, I realised that I used less pedalling when playing on the Broadwood 1881. For more discussion on the usage of pianos between different brands, see Chapter 4.3.2, Pedalling options in Brahms *Ballade*.

¹⁸⁵ 'Musical gossip', *The athenaeum*, 3557 (28 December 1895), pp. 909–910.

¹⁸⁶ 'Concerts', *The musical world*, 70: 26 (28 June 1890), p. 517.

evident through the reviews on Godowsky's London concerts in 1903. In March 1903, Leopold Godowsky was criticised for his transcription of Weber's Rondo from Sonata in C, 'pianists of M. Godowsky's ability would do better to write special pieces to display their executive powers to the full than to touch up music of the great composers.'¹⁸⁷ Three months later, Godowsky was criticised again for his transcription of the Chopin Etudes, 'we cannot praise M. Godowsky's distortions of Chopin's Etudes. His technique is wonderful, but he should use it to better purpose.'¹⁸⁸

3.4.7 Gentle & soft versus powerful & hard in tone

Generally, criticisms were expressed of pianists who exerted too much power on pianos conceived as being gentle in tone, such as Blüthner and Erard pianos. This was evident in the condemning review of Alfred Reisenauer in 1892: 'Mr. Reisenauer would also do well to occasionally remind himself that an Erard piano is not an anvil.'¹⁸⁹ By 1895, Reisenauer was regularly using Steinway pianos, and no longer needed to restrain his power in fear of criticism:

Beethoven's Sonata in C sharp minor enabled the pianist to take full revenge for previous quietness; thus, in the final *Presto agitato*, the grand Steinway must have groaned under such handling; at all events it gave forth the grandest tones... The Steinway pianofortes are held to be very superior instruments and Herr Reisenauer may probably have found his dreadfully hard work made a trifle easier by the ingenious "actions" invented by the patentees.¹⁹⁰

Critics did not change their opinions regarding the appropriateness of power which pianists could execute on certain pianos. This was prevalent in the Erard-Steinway example. Whilst it was reasonable for pianists to demonstrate power on Steinway pianos in 1895, ferocious playing was still disapproved of on Erard pianos. In contrast to Reisenauer's Steinway review above, Louis Diémer was heavily criticised, for 'striking the Erard so viciously that it yielded sounds resembling nothing so much as blows upon a tea-tray. Your Erard is an aristocrat among the pianofortes, and when rudely treated knows how to snub the offender most effectually.'¹⁹¹

Whilst critics had categorised the Erard tone as belonging to the gentle category, they had grouped the Broadwood tone with Steinway and Bechstein. Such expectation was prevalent in 1885, when critics had feared that the Broadwood could eventually fall behind in power against

¹⁸⁷ 'Musical gossip', *The athenaeum*, 3934 (21 March 1903), p. 378.

¹⁸⁸ 'Musical gossip', *The athenaeum*, 3945 (6 June 1903), p. 731.

¹⁸⁹ In spite of the criticism, the reviewer for the concert praised Reisenauer's playing style: 'In swiftness and strength of finger, in elasticity and power of wrist, he can hold his own with the best; and as regards higher qualities, he phrases intelligently, has passion, and can make his instrument sing very delightfully.' E. F. J., 'Recent concerts', *The academy*, 42: 1052 (2 July 1892), p. 19.

¹⁹⁰ 'The popular concerts', *Musical standard*, 4:99 (23 November 1895), p. 339.

¹⁹¹ 'Mr. Henschel's Concert', *Musical times*, 36: 625 (1 February 1895), p. 96.

other pianos on the concert platform, 'the ideal pianoforte of the future is taken as the standard of excellence; but the old-fashioned English piano is not therefore likely to maintain itself on the concert platform against the much richer and more powerful instruments made on the American system.'¹⁹² There were also recurring adjectives used when describing Broadwood and Bechstein pianos, such as the 'hard' tone on the Broadwood played by Agnes Zimmerman in 1888.¹⁹³ Likewise, the tone of the Broadwood used by Natalia Janotha's concert in 1887 was 'hard and metallic', which was far from the 'liquid and refined sweetness' of tone found in Erard pianos.¹⁹⁴

Since critics had perceived the Broadwood tone as also being powerful, any attempts made by pianists in toning-down a Broadwood piano would be a misuse of the instrument. Such was the case with Arthur de Greef in 1892 when he was found using the soft pedal: his performance was thought 'hardly a success', as he has 'misused the soft pedal, and produced a poor tone from the fine Broadwood piano provided.'¹⁹⁵ Another example is Mathilda Wurm, who tried to display her delicate side through playing quiet passages, but was instead disapproved, the tone being 'not as full as that of Miss Davies, and in the quiet passage at the close this inequality was particularly noticeable'.¹⁹⁶

Compared to the Steinway pianos, the tone of Broadwood pianos were insufficient for concert halls, as noticed at Ilona Eibenschütz's performance at the Crystal Palace in 1891, that she would have 'been better equipped with a Steinway than with the instrument [Broadwood] she had used'.¹⁹⁷ It was likely that pianists had also made such comparisons, and opted for brands which were superior in power. Of the ten Pops pianists who initially used Broadwood pianos and switched pianos, six of them opted for Steinway. Adelina de Lara was amongst the six who went from using Broadwood to Steinway. At her concert in 1891, G.B. Shaw criticised her choice of Broadwood: 'Miss Adelina de Lara was hampered by a bad pianoforte. Broadwood is not the right maker for a touch like hers: probably Pleyel would suit her better. The particular Broadwood in question so resented her handling that it ruptured a hammer and stopped the performance.'¹⁹⁸

Although G.B. Shaw said Adelina de Lara's touch was not appropriate on the Broadwood, he did not recommend a Steinway, as the Steinway tone could have been too powerful for her to

¹⁹² 'Review of Mr. A. J. Hipkin's fourteen-page article in the nineteenth volume of the encyclopaedia Britannica in *Dramatic review*', *Musical standard*, 29: 1097 (8 August 1885), p. 90.

¹⁹³ [Pops, 3 December 1888]. 'Miss Zimmermann, who played on a somewhat hard-toned Broadwood piano.' 'Monday popular concerts', *Musical standard*, 35: 1271 (8 December 1888), p. 354.

¹⁹⁴ B.F. Wyatt-Smith, 'Saturday popular concerts', *Musical standard*, 33: 1215 (12 November 1887), p. 305.

¹⁹⁵ 'Philharmonic society', *Musical news*, 2: 55 (18 March 1892), p. 269.

¹⁹⁶ [Pops, 6 December 1886, Schumann's Andante and Variations in B flat Op. 46]. Shedlock, 'Music', *The academy*, 762 (11 December 1886), p. 402.

¹⁹⁷ G. B. Shaw, *Music in London 1890-94*, vol. 1, pp. 137–138. Entry on 25 February 1891.

¹⁹⁸ G. B. Shaw, *Music in London 1890-94*, vol. 1, p. 180. Entry on 29 April 1891.

handle. G.B. Shaw's suggestion for her to use a Pleyel was not entirely bad advice. Pleyel pianos were used only two times at the Pops by the professor of the Brussels Conservatoire, Arthur de Greef. At his first concert in 1890, a reviewer criticised the Pleyel as being 'irresponsive'.¹⁹⁹ Another reviewer of the same concert thought that de Greef was disadvantaged as the quality of the instrument was 'metallic and unsympathetic'.²⁰⁰ Similar criticism was noticed for Mari-Aimée Roger-Miclos' recital at the Crystal Palace in 1892, when the Pleyel was described 'hard' and 'unsympathetic'.²⁰¹ Furthermore, G. B. Shaw captured Pleyel's hard and unsympathetic tone as sounding like 'steel dulcimers' in his review of Roger-Miclos' performance in 1891, 'I got only a glimpse of Madame Roger-Miclos, playing in her cold, hard, swift style on one of those wonderful steel dulcimers made by Pleyel.'²⁰² G. B. Shaw also emphasised that the difference of tone between Pleyel and Steinway should not be ignored, implying that the two were sounding very similar for critics and listeners during this time.²⁰³ Based on these reviews, if we were to put the Pleyel on the tone spectrum [Figure 27, p. 152], it would have been appropriate to label Pleyel being between Broadwood and Steinway.

For the British critics in 1880 to 1904, Steinway pianos did not have as much a marked difference in power compared to Bechstein pianos. According to Christopher Fifield, it was only in performances with orchestras that Steinway pianos were slightly better heard than Bechstein pianos.²⁰⁴ Critics acknowledged that Bechsteins were able to withstand and 'toned down' players who exercise aggression, 'the exacting piano part was played with spirit and ample fluency by Mr. Louis Edger, whose occasional aggressiveness was toned down by a Bechstein grand.'²⁰⁵ On the other hand, there were pianists who exceeded the limits of the Bechstein pianos. In 1903, both Leopold Godowsky and Ferruccio Busoni were criticised for having exerted too much force into the pianos at the Bechstein Hall. Godowsky's tone was thought to sound 'harsh and noisy' in the

¹⁹⁹ [Pops, 22 March 1890] 'M. de Greef may or may not attain that proud position among us; but he at once proved himself a pianist of the first rank, A somewhat irresponsible "Pleyel" was used, and Mendelssohn *Variations Sérieuses* was the solo selected.' 'Monday popular concerts', *Musical standard*, 38: 1339 (29 March 1890), p. 289.

²⁰⁰ 'Music', *The athenaeum*, 3257 (29 March 1890), p. 412.

²⁰¹ [Crystal Palace Concerts] 'Mdme. Roger-Miclos gave rather a scrambling rendering of Beethoven's C minor pianoforte concerto, she played on a hard, unsympathetic instrument of Pleyel's, and her performance wanted breadth of conception and refinement.' 'Crystal Palace', *Musical News*, 2: 51 (19 February 1892), p. 173.

²⁰² 'The remarkable difference between a Pleyel and a Steinway piano should not be ignored.' G. B. Shaw, *Music in London 1890-94*, vol. 1, p. 18. Entry on 18 June 1890.

²⁰³ 'If the difference in tone-colour between a clarinet in C and one in A, or between a horn in D and one in B flat basso, is worth considering in composition, I do not see why the equally remarkable difference between a Pleyel and a Steinway piano should be ignored.' G.B. Shaw, *Music in London 1890-94*, vol. 3, p. 99. Entry on 22 November 1893.

²⁰⁴ Fifield, *Ibbs and Tillett*, p. 29.

²⁰⁵ W.J. B., 'Liverpool', *Musical standard*, 16: 416 (21 December 1901), pp. 393-395.

forte and fortissimo passages.²⁰⁶ Busoni was 'trying to get more tone out of the instrument than it was capable of giving out.'²⁰⁷

3.4.8 'Femininity' & 'Masculinity' in piano playing

Critics of this period often used femininity and masculinity descriptions in piano playing to prescribe the suitability of the pianists with their selected pianos. In 1888, Clotilde Kleeberg exerted a 'masculine power over the keyboard'.²⁰⁸ 'Masculinity' was also described in the playing of two other celebrated female pianists. Sophie Menter, an Erard pianist who later changed to Steinways, possessed 'strong masculine hands', in particular, with 'effective weight of the left hand, and sonority and fullness of tone'.²⁰⁹ The Bechstein user, Teresa Carreño, was considered 'apt to be too masculine'.²¹⁰ The description of 'masculine' being associated with power described in female pianists implied that they were capable of producing powerful tone that exceeds their physique, and perceived to match the power that of their male colleagues. For this reason, Menter and Carreño would have suited pianos which were more powerful in tone (i.e. Steinway, and Bechstein). Menter was probably aware of this issue, and so changed from playing on Erard to Steinway in 1892. However, as Menter had on many previous occasions played on Erards in London, her decision for the change could have been regarded a shock:

The performance (Beethoven's 5th piano concerto) was truly magnificent, the technique perfect, all the scale passages executed with wonderful evenness, and the gradations of tone exquisite, but an unfortunate choice had been made of the pianoforte, of which the low notes were coarse, the high ones shrill, and the tone very "American". Why not have ordered an Erard?²¹¹

Pupils of Sophie Menter, Wassily Sapellnikoff and Josef Slivinski, did not use Erard at the Pops. Apart from Menter, pianists who were accustomed to practicing pianos with a heavier touch, in particular, those with German or Russian school influence were criticised for using Erard. This can be seen in Antoinette Szumowska, where she was twice questioned on her choice of an Erard at the Pops in 1891:

²⁰⁶ A.M., 'Other recent concerts', *Musical standard*, 19: 481 (21 March 1903), p. 183.

²⁰⁷ 'Music', *The athenaeum*, 3970 (28 November 1903), p. 726.

²⁰⁸ 'Mlle Clotilde Kleeberg's recital', *Musical standard*, 34: 1242 (19 May 1888), p. 307.

²⁰⁹ 'Mdme. Menter's pianoforte recital', *Musical standard*, 38: 1350 (14 June 1890), p. 552.

²¹⁰ On comparisons between the great Chopin players (M. de Pachmann, Leopold Godowsky, Madame Carreño, and Paderewski), 'In the concert room', *The monthly musical record*, 31: 367 (July 1901), p. 153. Carreño used Bechstein pianos in London, as evident from her appearance at St James' Hall in 1890, 'Various concerts', *Musical standard*, 38: 1348 (31 May 1890), p. 505. Carreño continued using Bechstein pianos at the turn of the century, 'Mme. Carreno's pianoforte recital', *Musical standard*, 18: 467 (13 December 1902), pp. 371–372.

²¹¹ [Fourth philharmonic concert, 27 April 1892], 'Music in London', *Musical standard*, 42: 1449 (7 May 1892), p. 379.

She [Szumowska] played Schumann's 'Papillons' Op. 2, and Chopin's Ballade in G minor with much intelligence and even power. Possibly, however, she has not been accustomed to an Erard, for the tone produced was rather hard and unsympathetic... [On Monday, Chopin's Sonata in B minor, Op. 58] Her playing was remarkably brilliant and almost unflinchingly accurate, but the same hardness of tone was perceptible. Whether the defect was due to her touch or to the instrument we are unable to determine.²¹²

Szumowska also changed from using Erard pianos to Steinway pianos.

As well as critics having observed a 'masculine' playing in female pianists, they also commented on a 'feminine' playing in male pianists. Emil Sauer's playing on a Steinway at the Queen's hall in 1896 was described 'effeminate', and played the Beethoven Emperor Concerto in a 'caressing manner', lacking in a 'manly' force.²¹³ The reviewer for this concert thought it was strange for Sauer to play in this way, as power and fire was epitomised in his playing in previous concerts. The key distinction was that Sauer had mostly used Ibach pianos in his previous appearances: nine times at the Pops. Whilst Sauer was able to demonstrate masculinity and power on the Ibach pianos, he was yet to conquer the power of Steinway or Bechstein. Thus, the tone of Ibach pianos was perceived in the British minds as being less powerful than the Steinway or Bechstein. Feminine description was also found in the playing of Ignacy Jan Paderewski, what one critics had described in 1890 as of 'exquisite delicacy'.²¹⁴ In his Pops concerts, Paderewski was a devout Erard artist. However, Paderewski developed more ferocity in his playing over time, as noticed in reviews in 1901: 'Paderewski has an individual charm that makes us forgive his inartistic and frenetic outbursts.'²¹⁵ By this time, Paderewski's tone was 'golden', and showed no real efforts of force.²¹⁶ Whereas Paderewski's early playing styles may have suited the tones of an Erard, his style by 1901 may have better projected if it was on a Steinway. This may have been the

²¹² [Pops concerts, 28 and 30 November 1891], 'Music', *The athenaeum*, 3345 (5 December 1891), p. 770.

²¹³ [Queen's Hall, 2nd Philharmonic concert, Beethoven's Emperor concerto] 'At times, it appeared he [Emil Sauer] was playing the music in too caressing a manner, making too much point of delicacy, when all the time a manly force and impulse were the main qualities needed to play the concerto alright. The interpretation was (perhaps intentionally) effeminate.' 'Dvorak at Queen's hall', *Musical standard*, 5: 117 (28 March 1896), pp. 204–205.

²¹⁴ 'Recent Concerts', *Saturday Review of Politics, Literature, Science and art*, 69: 1806 (7 June 1890), p. 705.

²¹⁵ The reviewer compared Mark Hambourg's playing to Paderewski's: 'He [Hambourg] exaggerates tempi, both fast and slow, and he is too much inclined to "bring down the house" by sheer physical force. One might say the same of Paderewski, it is true, but then Paderewski has an individual charm that makes us forgive his inartistic and frenetic outbursts.' 'In the concert room', *The monthly musical record*, 31: 371 (November 1901), p. 250.

²¹⁶ [St. James' Hall, 18 June 1901] 'There is a glamour in the golden tone he [Paderewski] produces from the piano... Paderewski is often too much the virtuoso in his delight in sudden contrasts of force, and his strength is purely nervous and uneven; he has no real force in the sense that Rubinstein had, or, among the moderns, D'Albert and Lamond possess. His finger technique compared with Godowsky's or Pachmann's is primitive. But he has a romance of feeling and clear-cut individuality in which no other living pianist can equal him.' 'In the concert room', *The monthly musical record*, 31: 367 (July 1901), p. 153.

prevailing reason for Paderewski to use Steinway pianos more and more in concerts in the twentieth century.

3.5 Summary

This chapter has focused on the ideals of piano tone from the perspectives of performing pianists and critics in London between 1880 and 1904. The sampled statistics from the Monday and Saturday popular concerts at St. James's Hall between 1880 and 1901 showed a shifting preference for pianos from both pianists and critics. Preference for Broadwood decreased, for Steinway increased, and for Erard and Bechstein remained relatively the same. These four brands dominated the concert halls in London. Whilst other brands were available, such as the seldom-seen brands at the Pops (Blüthner, Chickering, Emil Ascherberg, Ibach, and Pleyel), the majority of pianists performing in London did not consider them fashionable. The reasons for being out of fashion may have been the lack of showroom presence, i.e. Emil Ascherberg and Chickering, or that their tones were suited more to salons or smaller concert halls, i.e. Blüthner, Ibach, and Pleyel.

Pianists' choices impacted the critics' perception of the ideal of piano tone, consequently compelling their shift of preference. As evidenced from concert reviews, Blüthner's 'melting' tone was the gentlest in tone, but it was likely due to this feeble tone that it was unpopular for pianists in large concert halls. Erard's 'mellow' tone brought out the sweetness of the melodies, and was preferred by pianists (of the French school) who sought floridity and fluidity. Broadwood's 'simple' tone was best suited for pianists (of the English school and Clara Schumann's pupils) who had clear, articulate executions. Steinway's 'fine' tone and Bechstein's 'powerful' tone suited modern players (of the German schools, Russian schools, and the Viennese schools) who wanted to exert greater force into the pianos without the fear of shattering the tone. Different brands suited different schools of piano playing, and as some schools were favoured above other schools at the Pops, certain brands prevailed. As more and more diversity of piano playing was seen on London concert platforms, critics began to widen their perspectives on the ideal piano tone. Tones which were once displeasing to critics in the 1880s because they were unusual or uncommon were silently being accepted over the two decades, despite no drastic changes in the pianos themselves. Who changed the minds of the critics? 'It is the piano makers who have given the instrument its present character, and to whom finally the musician is debtor.'²¹⁷

²¹⁷ 'Pianoforte manufacturers and the tone of pianos', *MOMTR*, 26: 308 (May 1903), pp. 641–642.

Part Two - Sound archives

Our ears need be aware of the other possibilities, and once you become aware of those other possibilities, it will forever change how you imagine the sound should be on a modern piano.¹

– Pianist Gwendolyn Mok in conversation with Thad Carhart

So far in this thesis, the discussion of piano tone has mostly drawn on written, historical evidence: in Chapter One, the ideal of the trade and the piano firms as reflected in the piano designs; in Chapter Two, the manner in which pianos were promoted and received by the wider public at exhibition platforms; and in Chapter Three, the varying pianistic playing styles in the late-nineteenth century. The purpose of Part Two is to investigate practically through playing and hearing the pianos dating from this period, some of the concerns and considerations exposed in the earlier chapters. In addition to illuminating and understanding the written account of tone in the late nineteenth-century, this part aims to address how historical pianos can continue to shift ideals of tone for pianists today.

I am now leaving the province of historical research and entering into an auto-ethnographic approach: as a pianist, I establish my own preferences of tone through playing 17 period-appropriate pianos. In particular, this second part sheds light on a practitioner's (my own) theories and strategies in investigating historical tone, and offered alternative methods to the praxis frequently found in the arena of 'Historically-informed practice' (HIP). According to John Butt, any practical survey of period instruments, and using them to create sound, is in itself an approach associated with HIP.² HIP is a movement arisen out of the early music revival, and Arnold Dolmetsch was accredited the pioneer in the 1920s.³ Since Dolmetsch, scholars and performers have paid increasing attention to early music. Yet, as Richard Taruskin sternly criticised, the claims of HIP being 'authentic' or 'appropriate' have too often violated other performance types as being 'inauthentic' or 'inappropriate'.⁴

My purpose in using period-appropriate pianos is neither to be 'authentic' in the re-enactment of history, nor to re-create any musical experience. Rather, it is simply to show how diversified the piano tones were, and the consequences of such variety on one's interpretation.

¹ <http://www.gwendolynmok.com/interviews.php#thadcarhart>, consulted on 30 May 2020.

² John Butt, 'Authenticity', *Grove music online*, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000046587>, consulted on 10 September 2020.

³ Stanley Ritchie, 'Authentic reconstruction of musical performance: history and influence', *The drama review*, 28: 3 (Autumn 1984), pp. 67–73.

⁴ Richard Taruskin, 'The pastness of the present and the presence of the past' in Nicholas Kenyon, *Authenticity and early music: a symposium* (Oxford: Oxford University Press, 1988), pp. 137–207.

Certainly, in the late-nineteenth century, only a few scholars were keen on pre-dated period instruments, and their interest in such instruments remained only at surface level: as a mere collection of historical artefacts instead of promoting usability and sustainability.⁵ In those times, whether critics, music specialists, pianists or piano builders, they were concerning with the 'now' and were forward-thinkers, not trying to recreate, but believed in progress and innovation. Likewise, John Butt and others have argued that HIP is itself modernist and even a post-modernist attitude, as only a true modernist would dream of performing something in a 'historical fashion'.⁶ HIP-ers like any other performers sought inspiration for their interpretation, in that they have chosen to ground their identity on historical sound and sources. In this respect, the continuum of time difference can be negated, that whether I was a musicologist/pianist studying in the twenty-first century, or a pianist/critic of the nineteenth century, the opinions of 'piano tone' found can be used to offer novel interpretations, and provoke diverging tastes. It is on such platform that I explore the potential to break new grounds and bring reconciliation between researched musicology and performance practice.

In shaping the methodology for Chapter Four, a broad range of scholarship relating to piano tone were considered. Pioneers in the study of period pianos in relation to performance practice include Malcolm Bilson and Paul Badura-Skoda.⁷ Specifically, research into tone ideals through practice on historical instruments have received increasing attention since first addressed by Robert Winter in 1977.⁸ Scholars such as Kenneth Mobbs scrutinised on how pianos through their differences in parts (i.e. key compass, touch-weight, and action response) promote a diversity of

⁵ Notably, Alfred Hipkins and Victor Mahillon. Hipkins frequently conducted lectures and hosted events to display early pianofortes in the 1880s, i.e. 'Mr. Hipkins's lecture on "the old claviers"', *Musical times*, 31: 574 (December 1890), pp. 719–723. Mahillon was a curator of the Brussels Conservatoire museum from 1879, where he formed a collection of more than 1,500 ancient, modern, and non-Western instruments. The display of ancient instrument was also prevalent at world exhibitions, particularly those held in London and Paris, such as the 1885 London, and 1889 and 1900 Paris. *Official guide to the International Inventions Exhibition* (3rd edition; London: William Clowes & Sons Limited, 1885), p. 58. *Catalogue général officiel: exposition rétrospective du travail et des sciences anthropologiques. Section II. Arts libéraux / Exposition universelle internationale de 1889 à Paris* (Lille: Impr. de L. Danel, 1889), pp. 74–89. *Musée rétrospectif de la Classe 17. Instruments de musique, matériel, procédés et produits à l'exposition internationale de 1900, à Paris. Rapport du comité d'installation* (Paris: André Eyméoud, 1900).

⁶ John Butt, 'Historical performance at the crossroads of modernism and postmodernism' in *Playing with history: the historical approach to musical performance (Musical performance and reception)* (Cambridge: Cambridge University Press, 2002), pp. 125–164.

⁷ Malcolm Bilson, 'Schubert's piano music and the pianos of his time', *Studia Musicologica Academiae Scientiarum Hungaricae*, 22: 1/4, (1980), pp.263–271. Malcolm Bilson, 'Late Beethoven and early pianos', *Early music*, 10: 4 (1982), pp.517–519. Paul Badura-Skoda, 'Playing the early piano', *Early music*, 12: 4 (1984), pp. 477–480.

⁸ Robert Winter, 'Performing nineteenth-century music on nineteenth-century instruments', *19th-century music*, 1: 2 (1977), pp. 163–175. A few other scattered publications during this early movement included William S. Newman, 'Beethoven's pianos versus his piano ideals', *Journal of the American Musicological Society*, 23 (1970), pp. 484–504. Winter's own revisit to his 1977 article, 'The Emperor's New Clothes: Nineteenth-Century instruments revisited', *19th-century music*, 7: 3 (1984), pp. 251–265.

pianism.⁹ In the past decade there has been an upsurge in publications relating to surviving nineteenth-century pianos in collections.¹⁰ Recent studies have continued to reflect on the utility of these instruments for our current time; David Breitman took on an ethnomusicological approach to survey how student-pianists can learn from playing on historical pianos.¹¹ The growing enthusiasm for hands-on experience with historical pianos also called forth the need to reconstruct contemporary pianos based on nineteenth-century concepts, as seen in the work of Robert Giglio.¹² Thus, the bond between pianos and pianists can be conceived as inseparable, as prompted by Deirdre Loughridge, 'it is perhaps not quite right to regard the piano's two species of soul—one received temporarily from the performer, one native to the instrument—as fully independent.'¹³ All this scholarly work pointed to the need to investigate the surviving instruments themselves in understanding and uncovering its sound properties.

Beyond musicology and performance practice, my approach in this chapter seeks to synthesize the broader prospects on piano sounds, in particular, psychoacoustics and neuroscience research. Studies in these fields can enrich the perception of sound through addressing thoughts unexplained through music alone. Harry Hart & al. have investigated how pianists were able to produce different tones through dynamic phrasing or timing of notes.¹⁴ Werner Goebel & al. have argued that sound parameters relating to touch were perceived by pianists as part of the piano tone.¹⁵ Dorothea Baumann and Zora Kalkandjiev have examined the effects of acoustics and ambience within a performance space on shaping the tone perception of pianists and their audiences.¹⁶ They concluded that the condition of the hall can limit and change a pianist's choice in tone. Research on the impact of acoustical environments on performers have

⁹ Kenneth Mobbs, 'Stops and other special effects on the early piano', *Early music*, 12: 4 (1984), pp. 471–476. Kenneth Mobbs, 'A performer's comparative study of touchweight, key-dip, keyboard design and repetition in early grand pianos, c. 1770 to 1850', *The Galpin society journal*, 54 (2001), pp. 16–44.

¹⁰ Alec Cobbe, Jean Jacques Eigeldinger, Rose Evelyn Cholmondeley and David Hunt, *Chopin's swansong: the Paris and London pianos of his last performances now in the Cobbe collection* (London, 2010). J. H. van der Meer, *In search of lost sounds: art and music in the instruments collection of Fernanda Giulini, Milan and Briosco* (Briosco (Milano): Villa Medici Giulini, 2006).

¹¹ David Breitman, 'Time-travel for pianists: how today's players can learn from yesterday's instruments', *Keyboard perspectives*, 3 (2010), pp. 75–86.

¹² Robert Giglio, 'Reconstructing history, a conversation with Chris Maene and Tom Beghin', *Keyboard perspectives*, 6 (2013), pp. 127–132.

¹³ Deirdre Loughridge, 'Piano death and Life' in *Keyboard perspectives*, 10 (2017), pp. 71–90, quote in p. 81.

¹⁴ Harry C. Hart, Melville W. Fuller, and Walter S. Lusby, 'A precision study of piano touch and tone', *The journal of Acoustical Society of America*, 6: 80 (1934), pp. 80–94.

¹⁵ Werner Goebel, R. Bresin, and I. Fujinaga, 'Perception of touch quality in piano tones', *The journal of the Acoustical Society of America*, 136:5 (2014), pp. 2839–2850.

¹⁶ Baumann Dorothea, *Music and space: a systematic and historical investigation into the impact of architectural acoustics on performance practice followed by a study of Handel's Messiah* (New York: Peter Lang, 2011). Zora Schärer Kalkandjiev, *The influence of room acoustics on solo music performances. An empirical investigation* (Ph. D thesis, Technischen Universität Berlin, 2015).

confirmed that room acoustics do significantly shape a musician's choice of tempo, rubato, and dynamics (sound level).¹⁷ For a musician, adapting to room is instinctive, as they are trained to cope with bad or good spaces. Consequently, it could be difficult for a pianist to differentiate whether the tone characteristic belonged to the piano, or the room. The pianist Mitsuko Uchida drew the same conclusion in speaking of her experience of being unable to take her preferred piano on stage, 'I do use my own instrument for recordings, but that is a luxury. It's very mellow, very round. I adore it. But I made the mistake of taking that beautiful instrument into Royal Festival Hall in London. It's not hard enough for that hall.'¹⁸

Scholars have also suggested how we can use the acoustical properties of sound to analyse subjective opinions on tone. Jamie Angus and David Howard have proposed compartmentalising timbral descriptions in relation to the zones of frequency (Hz).¹⁹ Categorising was also evident in Goebel & al., where they had devised five timbre descriptors (bright, dark, dry, round and velvety) based on a cluster analysis of ratings given by pianists on tone familiarity and similarity.²⁰ Interviewing pianists was also another common method sought, as found in the research of Michel Bernays and Caroline Traube.²¹ Although the majority of the acoustical studies have used modern pianos as experimental objects, Antoine Chaigne & al. (in 2019) investigated the tones of historical instruments through considering and implementing the above-listed methodologies.²² All these approaches were not only compelling for my own analysis of the recorded sound files in Chapter Four, but also for the understanding the minds of those in the nineteenth century, as uncovered in the previous chapters.

The core method used for Chapter Four is an auto-ethnographical approach: self-recordings of 17 grand pianos dating from 1870 to 1910, soliloquized verbal reaction to the experiences, and

¹⁷ In addition to the aforementioned sources on Room ambience and acoustics, S. Bolzinger, O. Warusfel and E. Kahle, 'A study of the influence of room acoustics on piano performance', *Journal de Physique IV Colloque*, 1994, 04 (C5), pp.C5-617-C5-620. K. Kawai, K. Kato, K. Ueno, and T. Sakuma, 'Experiment on adjustment of a piano performance to room acoustics: analysis of performance coded into MIDI data', *Proceedings of International Symposium on Room Acoustics* (2013), pp. 1–6.

¹⁸ Bruce Duffie, *Boulez and Uchida*, <http://www.kcstudio.com/uch.html>, consulted on 7 August 2019.

¹⁹ Jamie Angus and David Howard (ed.) *Acoustics and psychoacoustics*, 4th Edition (London: Focal Press, 2009), pp. 42–52.

²⁰ W. Goebel, R. Bresin, and A. Galembo, 'Once again: the perception of piano touch and tone. Can touch audibly change piano sound independently of intensity', *Proceedings of the international symposium on musical acoustics* (2004), pp. 332–335.

²¹ Michel Bernays and Caroline Traube, 'Expressive production of piano timbre: touch and playing techniques for timbre control in piano performance', *10th sound and music computing conference (SMC2013)* (Stockholm, Sweden: KTH Royal Institute of Technology, 2013), https://www.researchgate.net/publication/263657986_Expressive_production_of_piano_timbre_Touch_and_playing_techniques_for_timbre_control_in_piano_performance, consulted on 20 February 2017.

²² Chaigne Antoine, Alejandro Osses, and Armin Kohlrausch, 'Similarity of piano tones: A psychoacoustical and sound analysis study', *Applied acoustics*, 149 (June 2019) pp. 46–58.

the analysis of both the recordings and thoughts. As a pianist, I firmly believe that our mannerism and technique can significantly influence the timbral nuances of pianos. By influence, I am implying that the selection and blend of piano tones can differ from one pianist to another. Well-trained pianists are usually instinctive on adapting to the behaviour of the piano, thus knowing how to conceal the weakness or bring out the strength of the instrument, as phrased by Alfred Brendel, 'there are no bad pianos, only bad pianists'.²³

Since the tone produced can be manipulated by pianists, existing recordings on period-appropriate pianos could be difficult to compare. Yet, the insights a pianist can gain from playing historical pianos can enhance and challenge the described tone in historical accounts, as David Breitman explained: 'the old instruments did not really teach the students how to play differently, so much as how to think differently.'²⁴ It is therefore crucial to have the same pianist (myself) to limit discrepancies when seeking out differences in piano tone. Through practice, a pianist can discover new ideals, or finally accomplish the sound as they had imagined, as in the case of Gwendolyn Mok on an Erard:

I sat down and played Ravel's *Alborada del gracioso*. The decay on the instrument was so conducive to the effect I wanted to get, something I had struggled with on a Steinway. There's a very abrasive edginess, a dry strumming sound in combination with the percussive quality of the strings.²⁵

Before proceeding to Chapter Four, I describe the methodological procedure, from recording to analysis, and provide an evaluation of the shortcomings (variables). The variables should not be viewed as discounting the results, but rather they should serve as an elaboration of the thought process, and provide further conviction on explaining how one arrives at a preferred tone. While the results and trends can be extremely interesting, they ultimately reflect one individual's (my own) perspective. On the other hand, the variables discussed are circumstances which have been and continue to be confronted by all pianists, both past and present. Discussions of variables and how they cross-influence each other should further spark curiosity as to how tone could be perceived, judged, and preferred.

²³ Alfred Brendel, *Alfred Brendel on music, collected essays* (London: JR Books, 2007), p. 335.

²⁴ Breitman, David, 'Time-travel for pianist', p. 78.

²⁵ Gwendolyn Mok in conversation with Thad Carhart, <http://www.gwendolynmok.com/interviews.php#thadcarhart>, consulted on 30 May 2020.

Methodology

The grand pianos sampled are listed in the table below, [Table 20]. The pianos are referred to throughout the by their brand name followed by year of production.

Table 20: Grand pianos sampled (1870-1910)²⁶

Brand	Year	Location
Bechstein	1903	Mottisfont Abbey, UK
Bechstein	1906	Upton House, UK
Bechstein	1892	Wightwick Manor, UK
Blüthner	1892	Gunby Hall, UK
Blüthner Aliquot	1894	In author's possession, UK
Blüthner	1901	Wimpole, UK
Broadwood	1881	Calke Abbey, UK
Broadwood Barless	1903	Penrhyn Castle, UK
Broadwood Barless	1908	Coughton Court, UK
Collard & Collard	1905	Beningbrough Hall, UK
Collard & Collard	1870	Arlington Court, UK
Erard	1900	Berrington Hall, UK
Erard	1870	Lyme Park, UK
Erard	1896	Kingston Lacy, UK
Pleyel	1909	Musée Eu de Louise Philippe, France
Steinway & Sons	1905	Polesden Lacey, UK
Steinway & Sons	1889	Stourhead, UK

The recording process

All recordings took place in the morning, between the hours of 8.30 am to 12.30 pm. The whole process lasted between two to three hours, and only one piano was recorded on each day. All pianos were played by the same pianist (myself), and the same procedure was followed at each location [Table 21, p. 175]. The repertoire was played in the following order:

- (*Warm up*) F. Chopin: Piano Sonata No. 3 in B minor Pp. 58iv, *Finale: Presto non tanto*
1. L.V. Beethoven: Piano Sonata No. 30 in E major Op. 109, first and second movements
 2. J. Brahms: Intermezzo in A major Op. 118 No. 2, *Andante teneramente*
 3. J. Brahms: Ballade in G minor Op. 118 No. 3, *Allegro energico*
 4. F. Chopin: Nocturne in E-flat major Op. 55 No. 2
 5. F. Liszt: 'Gnomensreigen' in *Zwei Konzertetüden* S.145

Specific bar numbers of each piece were also trialled to test effects of tone on pianos; for example, in Liszt's *Gnomensreigen*, bars 21 to 32 were played on each piano with five different metronomic speeds, and the preferred metronomic speed was then stated.

²⁶ 'Collard & Collard' is further abbreviated to 'Collard' in the thesis. Likewise, Broadwood & Sons and Broadwood Barless were abbreviated to 'Broadwood', and Steinway & Sons to 'Steinway'.

Table 21: Procedure for audio recording²⁷

Order	Task	Task breakdown
1	Set Up & Warm Up	work station: laptop; Microphone cable & set dB meter set gain & record maximum dB during warm up piece Warm up: Chopin Op. 58/iv; <i>Reflection: location; observation on action / sound</i>
2	Beethoven Op. 109 I & II	First recording; Reflection Second recording; Reflection
3	Brahms Op. 118 Brahms <i>Intermezzo</i> Op. 118 No. 2	First recording; Reflection Second recording; Reflection Record bars 1-8: Reflection: balance, chord spread Record bars 49-76: Reflection: una corda effect, chord spreading
4	Brahms <i>Ballade</i> Op. 118 No. 3 Bars 1-10 only	Record pedal type 1: Instinctive / normal pedalling; Record pedal type 2: Selective pedalling only on non-staccato notes Record pedal type 3: no pedal at all Reflection: state pedalling preference
5	Chopin <i>Nocturne</i> Op. 55 No. 2	First recording; Reflection: balance, voicing, dislocation Second recording; Reflection
6	Liszt <i>Gnomenreigen</i>	First recording; Reflection: clarity bars 21-32: Speed 1 (130); Speed 2 (138); Speed 3 (146); Speed 4 (152); Speed 5 (160) Reflection : state speed preference Record bars 133-143; at preferred metronome speed above Record bars 133-143; at speed as fast as possible Reflection: comment on speed change
7	Sound Properties	Record all F or As at fixed dB Record the maximum dB for all F/As ²⁸
8	Final Observations	Reflection: conclusion; most and least enjoyed (1 or 2 each)

There were two types of audio recordings made, those of the pieces, and my own soliloquies, labelled as ‘reflections’, which were immediate responses after the playing. These recordings were transcribed after the end of the recording project to reduce cross influence. During the reflections, I addressed three questions to distinguish between tone that was primarily produced by my efforts and what was the ‘natural’ tone of the pianos. Firstly, a subjective description of the piano’s tone. Secondly, a description of any hindrances in the production of tone, whether from physical limitation or conflicting aesthetic/artistic perspective in the interpretation of the repertoire. Thirdly, solutions for reconciling the problems incurred, and whether this was achieved through physical or mental adaptations.²⁹

²⁷ Playing and Recording sessions have been highlighted in blue, and reflections (talking) have been highlighted in yellow.

²⁸ The measurement for the maximum dB was taken with the starting position of the finger resting on the key itself. The intention is to achieve an *ff* sound, not smashing the key.

²⁹ My considerations were similar to the interview questions posed by Shen Li on her participants for her doctoral project, where she sought to understand the definition of piano timbre through performance. Shen Li and Renee Timmers, ‘Exploring pianists’ embodied concepts of piano timbre: an interview study’ in

As well as audio recordings, the dimension and the weight of the pianos keys are measured, [Table 22, below]. Acoustical measurements from single-notes, dynamic range of room (from lowest ambient noise to the loudest volume during the playing of the Chopin Sonata in B minor) were also recorded. This enabled me to take steps to acknowledge and overcome the variables, which are just as important a discussion than trends and conclusions, as they inform about the *why* behind the choices made, and the *how* behind the generalisations formed.

Table 22: Procedure for physical measurements

Order	Task	Task Breakdown
1	Piano keys	Down and up weight of keys, depth of key travelled Width of black keys (F#4); Width of key (across 1 octave)
2	Strings observation	Changes from 1 to 2 to 3 strings, crossings, bars, material
3	Room observation	Where the piano was positioned, furniture within the room, any material which may influence how sound travels

The variables

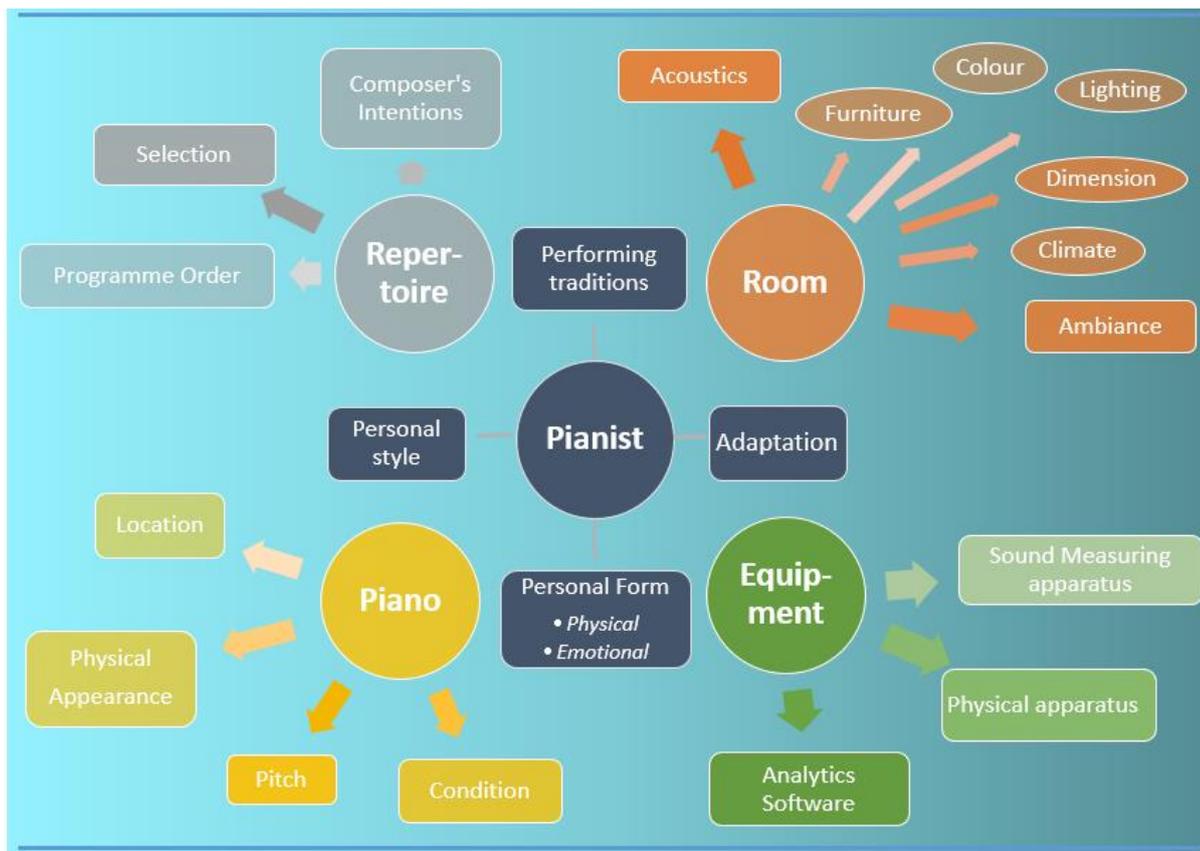


Figure 28: Diagram of variables

E. Van Dyck (ed.) *Proceedings of the 25th anniversary conference of the European society for the cognitive sciences of music, 31 July-4 August 2017, Ghent, Belgium* (2017), pp. 112–117, especially p. 114.

The diagram in the previous page [Figure 28, p. 176] illustrates the interaction between five main variables: pianist, pianos, repertoire, room, and equipment. At the centre is the pianist, who influences and links the four other variables.

The pianist

Of all variables, the role of the pianist is the most crucial in the discussion of piano tone. Personal authenticity, as addressed by Peter Kivy, resides within the performing artists, as a performance (tone) itself cannot express or assert.³⁰ For this reason, a performer would instinctively feel compelled to do what sounds *good* instead of habitual standards. Pianist Alfred Brendel also acknowledged that adjusting to newer instruments in unfamiliar conditions required pianists to rid their memory 'of all recently acquired habits of listening and playing.'³¹ The extent to which a pianist is able to 'forget' their habit differs from one pianist to another, but with enough experience, the adaptation can be more or less instinctive, which involves mostly a change in pianistic techniques.

The most obvious change was the pianist's seating position or hand position. In my setup, the seating position was low on all three Bechstein pianos, the two Broadwood Barless pianos (1903 & 1908), the Collard 1905, and the Erard 1870. A higher seating position was more favourable when needing to exert arm weight, thus allowing for a fuller, resonating tone. In addition, sitting higher enabled a better control for finger agility, as I had reasoned on the Collard 1870. Hand positions also changed from one piano to another. Usually the position of my hand is more arched so the tip of the fingers could voice the melodic line, but on a few pianos, particularly those dating from the earlier periods (Broadwood 1881, Collard 1870, and Erard 1870), I had laid my fingers flatter to 'cushion' the notes. This was first noticed on the Collard 1870, where a flatter finger allowed for a more cantabile, mellow sound. Playing on the Erard 1870 a few days later, I had consciously decided to apply the same technique as on the Collard 1870 to quickly achieve the optimal sound.

Physical adjustments depended on the touch weight of pianos, which varied. On some days, I found the piano to be either too heavy or light compared to what was encountered the previous day. The largest difference was between the Broadwood 1881 and the Collard 1905, and from the Collard to Blüthner 1892 the following day. On these days, I needed more time to adjust to the different touch-weights, and therefore discouraged my liking for the pianos.

³⁰ Peter Kivy, *Authenticities, philosophical reflections on musical performance* (Ithaca: Cornell University Press, 1995), pp. 108–142.

³¹ Brendel, *Alfred Brendel on music*, p. 337.

As well as the physical limitations which could affect one's perception of tone, preconceived sound ideas could further cause discomfort in tone preferences. As addressed in Chapter 1, pitch was one of the main struggles for pianists like Clara Schumann. Likewise, as I have absolute pitch, I struggled with pianos tuned below the modern pitch (Erard 1870, Erard 1900, and Broadwood 1881).³² The state of confusion that went inside my mind is as described below:

Many a times I had to concentrate to not play the note as envisaged in my mind. In bars 76 to 77 [Op. 109ii], I looked at the note, and in my mind I hear the note, I know that I cannot play the note I hear on the piano, so I transposed it.³³

However, the discomfort in pitch can provoke a positive outcome and cast new lights on the composition, for example, the Brahms *Intermezzo* on the Broadwood 1881:

The lowered pitch worked really well on this piano. There were some chords in there which had worked particularly nice with this pitch, just before bar 5, bar 7, and also one in bar 14. I could hear that clash much more evidently, bars 11, 14, and 15. Those clashes, those inner clashes, I could hear them more prominently.³⁴

Other sound ideals also include preferences for adopted practices. As emphasised in Chapter Three, pianists' preferences of tone and touch depend on their musical training: '[Arthur] Rubinstein needed a piano where he would feel some resistance in the action, and which had a much warmer or broader sound, or a deeper, darker sound. A [Vladimir] Horowitz piano is much more focused; the sound is much more brilliant.'³⁵ The choice of pedalling also varies amongst pianists, which would affect tone sonority and heighten a different sensation from pianos.³⁶ Yet, practical experimentation of the pianos can bring about changes to one's ideal sound. One of my examples was in the choosing of whether to spread or not spread the chords at bars 57 to 64 in Brahms' *Intermezzo*. As Neal Peres Da Costa has investigated, the tradition of spreading of unnotated chords was heard in the playing of many late-nineteenth century pianists such as Leschetitzky and Paderewski.³⁷ However, as modern pianist, I was taught to not to arpeggiated

³² The term 'Absolute Pitch', or those in possession of 'tone-AP', is the ability 'either to identify the chroma (pitch class) of any isolated tone, using labels such as C, 261 Hz or do, or to reproduce a specified chroma – for example, by singing or adjusting the frequency of a tone generator – without reference to an external standard.' Richard Parncutt and Daniel J. Levitin, 'Absolute pitch' in *Grove Music Online*, <https://www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000000070>, consulted on 6 August 2019.

³³ Thoughts after recording Beethoven on the Erard 1900.

³⁴ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1881. I have tried playing this section by transposing up a semitone to the modern concert pitch and find that the harmonic clash was not as prominent. The day after playing on the Broadwood 1881, I was playing a Collard & Collard 1905. I had tried transposing down a semitone the Brahms *Intermezzo* passage for the first 16 bars, but the effect of 'clarity' was not as what I had heard on the Broadwood 1881.

³⁵ Franz Mohr, Chief Concert Technician for Steinway & Sons 1968-92, in conversation with Bruce Duffie, <http://www.bruceduffie.com/mohr.html>, consulted on 20 February 2017.

³⁶ The different styles of pianism have been widely exploited in 3.3 Schools of piano playing.

³⁷ Neal Peres Da Costa, *Off the record: performing practices in romantic piano playing* (Oxford: Oxford University Press, 2012) pp. 139–141.

chords if not marked by the composer, as it would be considered uncontrolled and unrefined playing. Yet, spreading the chords was almost an instinctive act when I played on the Erard 1896, for the sake of what seems to have sounded aesthetically more appropriate. Upon using this convention, I continued doing so for subsequent playing on most other straight-strung pianos. This and other examples I highlighted in Chapter Four shows how practical experimentation on these pianos can change one's interpretation of the music, therefore bringing about insight and illumination on tone.

The repertoire

As mentioned earlier, the choice of repertoire can have a serious impact on the preference of piano tone, therefore, an in-depth discussion and analysis on repertoire will appear in Chapter Four. There are three aspects of repertoire to consider when analysing the ideal tone; the first is the preconception of the piano brands that composers had preferred, the second is the philosophy that pieces themselves emanate, and the third is the account of the composers' own pianistic habits.³⁸ When I was deciding which repertoire best suited each piano, brands that were used and preferred by the composer were instinctively more favourable. Yet, majority of the composers did not make explicit claims about which was their favourite piano. Furthermore, the intentions of the composer are not revealed entirely through the score: the ideal of tone of the piece imposed through specific instructions, i.e. tempo and dynamic, or ambiguous suggestions, i.e. mood and character, could conflict with the composers' own personal practices as a pianist, or the practices of pianists who have studied with the composers. These ideals will be elaborated upon as I analyse piece by piece in Chapter Four.

The pianos

Prior to selecting the pianos for inclusion in this thesis, a preliminary assessment of the playability and originality of each piano was considered. Almost all the pianos have had some restoration, and so 'originality' was not possible in the truest sense without a compromise in its playability. On the other hand, restoration can be viewed as bringing the piano back to a healthier condition, so it depends on the type of restoration – whether it is sympathetic to the original or has brought significant changes. Since the pianos are over a century old, there would have been deterioration to a certain degree. The vast majority of the historical pianos examined showed symptoms of deterioration despite not being severe; sticky keys (E6, F6) and loose tuning pins (on

³⁸ This idea resembles much of what Kivy had addressed as authenticity to the composer, and authenticity of the composition.

the Ab3) were found on the Erard 1896, and mould growth on the soundboard of the Broadwood 1903.

All 17 pianos were in playable condition, and most had retained their original parts, i.e., the soundboard, frame, and ideally, the action mechanism. The most 'original' was the Erard 1870, although the piano was restored in 1998, its restoration process was kept to a minimum.³⁹ Four pianos, Erard 1896, Erard 1900, Bechstein 1892, and Steinway 1905 were recommended to undergo an immediate, full restoration.⁴⁰ Blüthner 1892 was the most recently restored (action regulated and hammers cleaned); therefore the touch of the keys was highly responsive, and felt similar to a modern-day Blüthner. The Pleyel 1906 was worked on six years prior, and the action response was considerably less evenly distributed than those on the Blüthner 1892.⁴¹ The Bechstein 1906 had not had any major restoration, and the action response and tone was tolerable and stable.⁴²

The deterioration of the strings is a factor in reducing the focus of tone as it once was. Changes in the material, deposits, as well as the loosening of tension between the string and the pin at the bridge would all contribute to deterioration of tone. One way to perceive this is through the tuning. There were no noticeable detractors in tuning during all the recordings.⁴³ Half of the pianos sampled were regularly tuned and played by volunteer pianists: all 3 Bechsteins, all 3 Blüthners, both Collard & Collard pianos, and the Steinway 1905. Of those which were not being played on regularly, Erard 1896 and Erard 1900 were tuned within a week of the recording by Chris Farthing. Farthing observed that the strings on the Erard 1896 were very rusty, but was surprised when there was no breakage during the tuning.⁴⁴ Rust was also noticed on strings in the

³⁹ The Erard 1870 was highly recommended by Christopher Nobbs and Alastair Laurence, both of whom considered it a fine representation of Erard for this time. The restoration was completed by Jeffrey Clamp, where new leather and felts were only used as an unavoidable necessity in the rebuilding and regulation of the action. *Unpublished notes by Andrew Garrett, Emeritus Adviser on Musical Instruments to the National Trust. Kindly supplied by Christopher Nobbs, the current Adviser to the Trust.*

⁴⁰ Steinway & Sons London carried out the preliminary assessment for Steinway 1905: 'Immediate work was recommended on the action hammer, damper mechanism, keyboard and pedal mechanism together with the tuning pins that won't stay in position, and a new sound board is needed within the next 5-10 years.' Meeting minutes of Polesden Lacey's volunteering pianists, 18 January 2019. Jeffrey Clamp also listed similar work to be done the Erard 1900, 'Action/keyboard/damper system & lyre to be removed. Broken lever arm repaired. Action & keyboard to be stripped down. All leads removed & replaced. Sympathetically clean action and damper parts. Re-build. Strip down pedal system. Overhaul & re-build. Regulate.' Email correspondence with Derw Thomas, House and Collections Manager at Berrington Hall, 16 February 2019.

⁴¹ This was detected during my recording of the repertoire, when I was confused by the weight distribution of the keyboard. Afterwards when I was measuring the weight of the keys, I noticed the key descent was at times quick and at times slow, despite putting the same amount of weight each time on the same key.

⁴² The Bechstein 1906 had its recent assessment by Michael Cole in April 2019.

⁴³ Most the pianos were tuned close to concert pitch [A=440 Hz], but all 3 Erard pianos and the Broadwood 1881 were tuned at a lower pitch (about a semi-tone lower).

⁴⁴ I played on the Erard 1896 one month after the recording, and found the tuning was still stable.

Broadwood 1881 and Broadwood 1908, and as it was audibly perceivable, I had to take precautions in restraining my force in the fear of breaking strings, 'something is not right about the G#5... I have to take care in playing this key, or else it will either break or go out of tune.'⁴⁵ Dirt deposits had formed inside the Erard 1870 and Broadwood 1881, which could have explained why I thought these pianos sounded a bit gritty. The dirt could also have caused the unresponsiveness of keys, as on the Broadwood 1881, 'this note [F#4] sometimes gets a bit caught, it was stuck twice around bar 49 to 56 [of Brahms Intermezzo], so I could not get any of the melodic line, and so was the C2.'⁴⁶ The unpredictable touch was distracting, and detracted my attention from fully immersing in expression, and thus not being able to make as beautiful a tone as I had hoped.

The striking area where the hammers come in contact could have also shifted from the ideal of its original design. Most pianos had grooved hammers, and more were found for the upper sections of the piano than the lower. Extremely grooved hammers were noticed on the Erard 1896, and for octave C6 to C7 on the Blüthner 1901 and Broadwood 1908. As observed by Farthing, grooved hammers cause striking area to change from the optimal rounded point to a flat area.⁴⁷ The Broadwood 1908 and Blüthner 1892 seemed to have fewer grooved hammers than other pianos. Damping of sound is also equally important. The dampers being not aligned straight on the Collard & Collard 1905 may have contributed to its long sustain after the release of the key.

Pedals, especially the *una corda* pedal, were ineffective on the Bechstein 1892, Broadwood 1903, and Steinway 1905, and these had disrupted the tone. The squeaking *una corda* pedal on the Steinway 1905 was so obtrusive that I decided not to use it, and likewise the neglected appliance of the *una corda* on the Bechstein 1892, 'the problem of the *una corda* is that it makes it very blur. The notes are not clearing off quickly, it is weakly damped, and has a lot of sustain. Therefore I tried to get the pp without the soft pedal.'⁴⁸ This had mostly impacted the *una corda* section in the Brahms *Intermezzo* [bars 57 to 64], as I had remarked on the rigid pedal of the Broadwood 1903:

The *una corda* was a bit stuck. It does engage but it takes a bit of time for it to undo its effect. So I did let go of it at bar 64, but it did not achieve the contrast I wanted between the *una corda* section [between bar 57 to 64] and the *tre corde* section at bar 65.⁴⁹

⁴⁵ Initial thoughts on the Broadwood 1908.

⁴⁶ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1881.

⁴⁷ Email correspondence from Chris Farthing, 4 April 2019.

⁴⁸ Thoughts after recording the Brahms *Intermezzo* on the Bechstein 1892. I was especially disappointed by the chords at bar 57 to 64 because of this defect.

⁴⁹ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1903.

Lastly, although the physical appearance of pianos generally do not contribute to the sounding qualities of tone, they could distort or distract the pianist's perception of tone. This includes the cosmetic wear of keys, such as the two keys having lost their ivory coating on the Steinway 1905, and two slightly cracked coatings on the Steinway 1889. Other obscurities include the odd-shaped black keys on the Collard 1870, and the enlarged pedals (duck-feet like) on the Broadwood 1881.

The room

As highlighted in much scholarly work, the effect of the room ambience and room acoustics needed to be taken into consideration when thinking about one's perception of tone. The ambience primarily influences a pianist's psychological perception of the performance. As encapsulated in Gaston Bachelard's *La Poétique de l'Espace*, the ambience of the room imparts a lived experience, where a person's emotional responses to building and space interacts with his/her own creativity.⁵⁰ This interaction between one's perception and their actions could be complex to explain.⁵¹ In my own experience, I had subconsciously hoped to achieve a grand sound in halls of larger spaces with dispersed furniture, such as at Lyme Park and Wightwick Manor, whereas in rooms of smaller confined spaces, such as at Calke Abbey and Kingston Lacy, I wanted quieter and intimate sound. These experiences can be used to relate to how visitors could have felt at an exhibition, as presented in Chapter 2.

The influence of room ambience could also go beyond a physical reception of the surroundings to a cognitive stimulation, namely, to the sensory register.⁵² The sensory register is our immediate form of memory, and it contains both the 'iconic' for visual aspects and 'echoic' for

⁵⁰ Bachelard's sympathies for the poet and space are expressed from pages 201 to 203, [p. 201] 'The two kinds of space, intimate space and exterior space, keep encouraging each other, as it were, in their growth. To designate space that has been experienced as affective space, which psychologists do very rightly, does not, however, go to the root of space dreams. The poet goes deeper when he uncovers a poetic space that does not enclose us in affectivity. Indeed, whatever the affectivity that colours a given space, whether sad or ponderous, once it is poetically expressed, the sadness is diminished, the ponderousness lightened. Poetic space, because it is expressed, assumes values of expansion... [p. 203] It would seem, then, that it is through their "immensity" that these two kinds of space – the space of intimacy and world space – blend. When human solitude deepens, then the two immensities touch and become identical. In one of Rilke's letters, we see him straining toward "the unlimited solitude that makes a lifetime of each day, toward communion with the universe, in a word, space, the invisible space that man can live in nevertheless, and which surrounds him with countless presences".' Gaston Bachelard, *The poetics of space* (Boston: Beacon Press, 1969), pp. 201–203.

⁵¹ 'There is a complex relationship between [human] action and perception on the one hand, and the natural and cultural environments on the other hand.' Marc Leman, *Embodied music cognition and mediation technology* (Cambridge, Mass: MIT Press, 2008), p. 51. Room ambience was also highlighted as a contextual variable in Kalkandjiev, *The influence of room acoustics on solo music performances*, pp. 10–15.

⁵² Summarised in Baumann, *Music and space*, pp. 86–89. She explained how the temporal aspect of memory based on three processes, the sensory register, short-term memory, and long-term memory.

acoustic events. At Berrington Hall, I had described the Erard as possessing a pastoral tone, soon realising that the thought was triggered by the presence of sheep on a plain outside the mansion. Despite having my back against the window the whole time, this image had persisted in my memory from when I first arrived at the house. Likewise, the contextual surroundings can evoke experiences, as well as continually adding to memory to affect the performance. Such was the cause for my commotion at Stourhead. The room was dimly lit, and as it rained all that day, I had felt inclined towards a gentler, lyrical tone.⁵³ In my soliloquies, I perceived the piano as being too loud, bright and brilliant, when in fact the piano was ranked 10th in its maximum volume readings. These examples reflected how memory-based impressions could be inseparable to the descriptions of piano tones, but can at times be inaccurate to 'true' reading.

While the attribution of room ambience as a variable can be described as unquantifiable, research into room acoustics has demonstrated how elements within the room, such as dimensions, objects, surfaces, and textiles can measurably reduce or enhance the perception of sound.⁵⁴ Further attempts in identifying room acoustics can be prevalent in the comparison of dry versus wet spaces. Firstly, acoustically dry rooms, also known as 'dead' room, can seriously impede the blending of sound, which is crucial to good resonance. As illustrated by Baumann, 'in these halls, a crescendo has to be forced, and a full and overwhelming fortissimo is impossible. In such rooms musicians not only feel hampered by an inadequate room reaction but experience the hall's 'slow' answer as resistance against their playing.'⁵⁵ Baumann's observations aligned with my own challenges when recording on the Erard 1896, where resonance was always in want.⁵⁶ In contrary, reducing the dynamics and tempo, as well as a more pronounced articulation in sound, was needed in halls which were reverberant. In these halls, there is often an unbearable blurring

⁵³ Numerous accounts from pianists, to name a few, Chopin and Debussy, also expressed the effect of weather and light on emotions.

⁵⁴ Dorothy Baumann's summary below highlighted some common features found in concert halls, which were prominent at the locations of the recordings: 'Musicians know from experience that large surfaces of polished slates, marble or other stone cause excessive reverberation due to very low absorption. The large wooden surfaces in many famous halls gave to a nearly mythical belief in the acoustical benefits of this material... Measurements [have] confirmed that wooden plates produce audible vibrations due to resonance at low frequencies, especially if directly set into vibration by such instruments as the violoncello, the double bass or the grand piano... Plaster, also in the form of stucco or lime with sand, enhances acoustics due to its modest absorption that increases towards high frequencies and dampens hard reflections. Carpets, upholstered chair or even simple wooden benches [...] have a high absorption coefficient for middle and high frequencies.' Baumann, *Music and space*, pp. 100–105. Within these pages enlists a table containing the standard values for absorption coefficients of some building materials, originally from Fasold, Wolfgang, Ernst Sonntag and Helgo Winkler, *Bauakustik und Raumakustik* (Verlag Bauwesen, 1987), p. 259.

⁵⁵ Baumann, *Music and space*, p. 61.

⁵⁶ The mostly likely cause for sound absorption was the thick carpet underneath the piano.

of melody, harmony, and rhythmic patterns, such as at Beningbrough Hall (Collard 1905) and Penrhyn Castle (Broadwood 1903).

The equipment

The discussion below details the setup of the equipment according to its use in the timeframe, including the choices and deliberations I have made to reduce the imprecisions and partialities. As there is no total elimination of errors in the results, the data presented in this study should not be taken for its exactness. Instead, trends and patterns generated from the empirical data are used to debate and support my own qualitative judgements.

A measuring condenser microphone (Behringer ECM8000) was selected for the recording. The preference for the omnidirectional microphone was so that it could be placed at close proximity to the soundboard.⁵⁷ Audio recordings were made using a laptop in conjunction with a USB audio interface (Scarlett Focusrite 2i4).⁵⁸ A digital audio workstation software (Reaper) was used to control the start and end of the recording as well as for file management and trimmings.

For the majority of the analysis, I listened to the recordings through speakers and compared musical elements: dynamics, tempo, chord spreading, use of pedal, and clarity of voice-lines and textural balance.⁵⁹ In addition to making aural analysis, I also used analysis from audio software, Sonic Visualiser, to further draw comparisons.⁶⁰ The only analysis done using Sonic Visualiser was in detecting the variations in dynamic (intensity) for bars 25 to 52 of the first movement of Beethoven Op. 109. The plugin used is the Mazurka Project, and the transformation 'Smooth

⁵⁷ Omnidirectional microphones, as opposed to polar and cardioid microphones, are less sensitive to 'proximity affect', the proximity affect being the boosting low frequency as the microphone is placed closer to the sound source. For the measurement microphone model ECM8000, raw .wav files were used to generate level readings. Specification data show a ± 0.6 dB for the frequency range of interest 50Hz to 5kHz. The calibration data for this microphone can be found in https://kb.musictribe.com/musickb/view/article/behringer/en_US/Microphone-Where-Can-I-Download-The-ECM8000-Calibration-Data, consulted on 7 August 2019.

⁵⁸ A sample rate of 48 kHz was used, and files were saved as 24bit WAV format.

⁵⁹ Tannoy Reveal Active Studio Monitors.

⁶⁰ There is a vast number of analytical software which could aid with musical analysis. Most audio processing/editing software, such as Reaper and Audacity, have basic analysis plugins which displays the amplitude (volume), spectrogram (harmonic properties), and tempo changes. Some of the recording programmes, such as VoceVistaPro, specialises in retrieving only one or two elements of musical analysis. Programmes specific to analysing and viewing music contents, including Sonic Visualiser, Spear, and Izotope RX, are platforms for adding plug-ins to highlight different annotated layers. More advanced but powerful platforms are Librosa and Matlab, which require programming python code to tailor the parameters of analysis and output. On how to use Sonic Visualiser, Nicholas Cook and Daniel Leech-Wilkinson, *A musicologist's guide to Sonic Visualiser*, https://www.charm.kcl.ac.uk/analysing/p9_1.html, consulted on 5 May 2019.

Power curve', [Figure 29].⁶¹ This data (annotated layer) is then extracted onto an Excel sheet to produce graphs and statistical comparisons. The software was not intelligent in selecting the extract of music required for analysis. This was done manually to an accuracy of 0.1 second. For raw level readings (in dB), the sound level meter is used.⁶² On the sound level meter, I chose the setting C-weighting instead of A-weighting, as C-weighting correlates better with one's response to high noise levels, while A-weighting eradicates lower and higher frequencies.⁶³ The sound meter was used to measure the room ambient sound level (lowest dB), the maximum volume reach from playing Chopin Sonata Op. 58 iv in the warm up, and the loudest possible of individual notes.⁶⁴ All measurements of width, height and depth of keys were first templated on the edge of a piece of paper against the key to an accuracy of ± 1 mm.

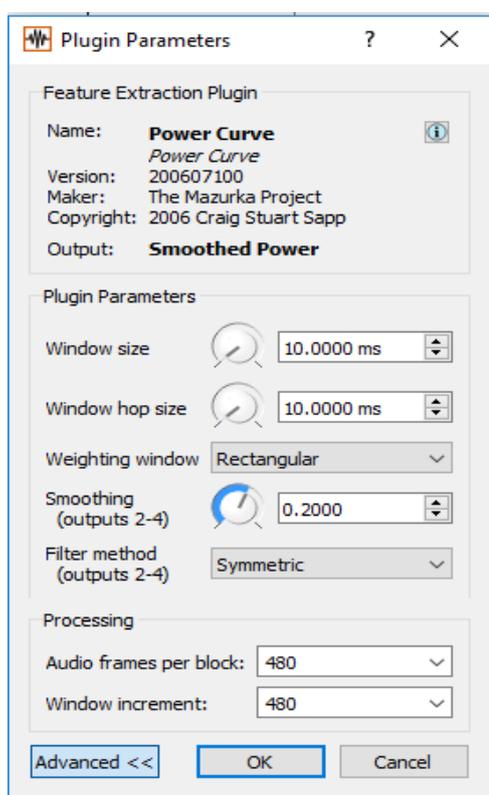


Figure 29: Parameter settings for power curve transformation

⁶¹ This tool measures dynamics (power over time) of an audio signal. The parameters have been left unchanged as from the programme setting, which outputs data of average power/time in every 0.01 second. I intended to diminish the window of capture to 0.05 seconds instead of 0.01, as the data output for the c30 seconds extract was too immense. However, this option seems to be malfunctioning at the time of analysing, as I have trialled it on five different computers, and all gave the same readings.

⁶² Matthew Wright, Senior Lecturer in Acoustics at the University of Southampton performed the calibration using a Norsonic calibrator. The calibrator generates a 1k Hz tone in a chamber that reaches 94 dB, and when coupled with the SLM, it read 95.2 dB, which suggests that it was over-reading by 1.2 dB. Email correspondence with Matthew Wright on 9 July 2019.

⁶³ <http://www.acoustic-glossary.co.uk/frequency-weighting.htm>, consulted on 7 August 2019.

⁶⁴ When measuring individual notes, all the Fs in each register were recorded. For consistency, the hand is placed on the keys with the index finger positioned above the 'F'. The index finger is then lifted and strike down. This is trialled 5 times, and the maximum dB obtained was noted.

The variables addressed expose the forces at play in influencing one's perception of piano tone; these have mostly been omitted in historical narrations. For pianists, there were factors beyond their playing habits which would impact their choice of piano tones, such as musical ability, general preferences to sound, and different approaches to interpretation. The acoustics and ambience of the room could also enhance or detract the pianist's perception of the piano tone quality both audibly and visually. The methodology described in this section enabled such experiment to be repeatable and trialled by other musicologists and pianists, so that they may also enter in the judging of pianos for themselves. In the following chapter, I contribute my own perspectives of piano tone regarding the playability and suitability of these pianos to specific repertoire, adding to the documentation of ideals of piano tone.

Chapter 4 Piano Tones in Sound

A study into the tone of the late nineteenth-century pianos would be incomplete without hearing the sound of historical pianos. To this end, I selected four pieces across the breadth of the nineteenth century repertoire and recorded myself playing on 17 pianos (dating 1870 to 1910), most of which were located in National Trust houses across England.¹ Thus, this is a multimedia chapter in that the sound clips embedded help make the reading experience come alive in the truest sense of the term ‘sound studies’.

‘Now that you played on all these historical pianos, which one of them was your favourite?’ This was the question most frequently asked when I speak about my recording expedition taken in various National Trust properties in 2019. To begin addressing the complex matter, I produced a ‘mashup’ recording, that is, a recording being over six and a half minutes in length, featuring fourteen pianos, each segment lasting approximately 25 seconds, of the Beethoven Sonata in E major Op. 109 (I & II), [[Beethoven mashup](#)].² I then conducted a survey to find out what pianos the general public might prefer.³ I encouraged respondents to jot down any verbal descriptions of the tone that came to their minds. Those surveyed could select multiple favourites, and almost all had opted for three or more pianos.

Despite there being no consensus on what was the ‘best’ piano, there were striking similarities in the descriptions of piano tone qualities, as listed on [Table 23, p. 188]. None of the participants provided commentary about the last piano, Collard 1905. Most of the participants commented that Steinway 1905 had a ‘nicely rounded, resonant, ample, and concert-hall’ tone; while adjectives such as ‘glassy, slightly metallic, strong, light, clear, and bright’ were used for the tone of the Bechstein 1906. By contrast, the tone of the Erard 1896 was described as ‘dampened, soft, tender, impressionistic, and slightly veiled’. Two participants found that there were similarities in tone between the Bechstein 1906 and the Broadwood 1908. Most of the participants also argued that the ordering of the pianos influenced how they had perceived the next piano’s tone. One participant mentioned that their perception of the ‘richness’ of tone in the Blüthner 1892 might have been because of hearing the Steinway 1889 just before, and that the

¹ Two exceptions were the Blüthner Aliquot 1894, which is my own possession, and the Pleyel 1909, which is housed in Musée Louis Philippe in Eu, France.

² All audio samples are hyperlinked in this chapter. The link to the folder containing all (47) audio files is <http://doi.org/10.5258/SOTON/D1745>. Recordings included in this thesis are listed in Appendix F: Audio recordings on pianos (1870-1910).

³ This was an informal, small-scale survey to provoke interesting and insightful responses of how one would describe differences in piano tones. The demographic of those who took part in the survey included musicians and members of the public.

Steinway 1889 had a (relatively) thinner tone than their conceived ‘Steinway’ tone. The same participant also mentioned that the Blüthner 1892 had tones richer than their conceived ‘Blüthner’ tone. Therefore, their reaction to the Blüthner 1892 as being ‘startling rich’ contradicted with others who had described the piano’s tone as being ‘dampened, soft, creaky, and veiled’.

Table 23: Responses from the mash-up survey on Beethoven Op. 109 i & ii

Order	Timings & Pianos	Number of likes	Descriptions of piano tone (x2 meaning two people had used the same description)
1.	[0’02-0’36] Bechstein 1906	2	Glassy; slightly metallic; strong; light, clear sound; bright x2;
2.	[00’36-1’05] Broadwood Barless 1908	2	Warm x2; similar to Bechstein 1906 x2
3.	[1’06-1’45] Erard 1870	2	Real lack of sustain; muffled x2; darker, fortepiano qualities
4.	[1’46-2’19] Collard 1870	1	Brittle; hollow; lighter mood
5.	[2’20-3’00] Steinway 1905	4	nicey rounded; resonant; ample, concert-hall colour
6.	[3’01-3’25] Erard 1896	4	Dampened; soft; tender; impressionist sound, slightly veiled
7.	[3’26- 3’59] Blüthner 1901	2	Similar to Erard 1896
8.	[3’40-4’26] Erard 1900	4	boxy sound; slightly harsher sound; metallic; rich early C19th sound, fortepiano colour; hard
9.	[4’27-4’46] Broadwood 1881	0	Weak; similar to Erard 1900
10.	[4’46-5’05] Steinway 1889	4	Fuller version of the Collard 1870; similar to Erard 1900
11.	[5’06-5’37] Blüthner 1892	1	dampened / soft; creaky; similar to Erard 1900 but veiled; startling rich
12.	[5’38-5’56] Bechstein 1892	1	thin
13.	[5’57-6’15] Bechstein 1903	2	Bright tone, but lost in high registers
14.	[6’15-6’40] Collard 1905 ⁴	1	

The responses from the mash-up survey proved that participants had their own pre-conceptions of tones when judging the pianos. Descriptions such as ‘fortepiano qualities’ and ‘early nineteenth-century sounds’ used to describe the tone of Erard 1870 and Erard 1900 would not have been possible had participants not previously heard the earlier types of pianos. Likewise, the tone of the Steinway 1905 being ‘concert-hall colour’, in contrast to the tone of the Erard 1870 having a ‘real lack of sustain’ meant that participants had subconsciously compared them to modern piano tones. Participants also showed partiality through prescribing positive adjectives to

⁴ No descriptions were found amongst participants for Collard 1905, not even from the person who liked its tone.

pianos of their liking, such as ‘warm’ (Broadwood 1908) and ‘tender’ (Erard 1896), and adjectives with negative connotations for pianos they disliked, such as ‘weak’ (Broadwood 1881) and ‘brittle’ (Collard 1870). The participants’ familiarity with piano tones, as well their personal preferences of sound dictated their choosing of pianos.

My hypothesis is that people would have different preferences of piano tone had I presented another mash-up, with the same ordering of pianos but a different composition (such as Liszt’s *Gnomenreigen*). This is what I argue in this chapter, that repertoire significantly influences the ideals of piano tone. I examine my own musical decision-making process, and compare my musical intention, performances, and reflection on these performances that led to the differing preferences of tone. I begin the chapter by comparing the pianos themselves, with evidence from my reflections on each instrument (both playing and hearing).⁵ I draw comparisons between what I was hearing and the acoustic measurements from the sound level meter to further narrow the piano tone from room acoustics. Along with the data on physical measurements of the piano keys, I explain how and why my judgement of tone was influenced by impression and perception. Following on, I list the compositions which I thought were most effective (and least effective) on each of the pianos and provide explanations for my choices. Finally, I present the analysis of my recordings under each of the compositions, and highlight some of the musical elements which contribute to the interpretation, including the use of dynamics, tempo, balancing of voice parts, the spreading of chords, and the use of pedal. I conclude that my preference for piano tones depended on the interpretation striven for in each composition, whether this was the want for more clarity or blurriness, for more sustain or more decay, and for more dynamics.

It is important to acknowledge that I am both the pianist that played and recorded the pianos, and the researcher speaking and analysing on my behalf. The pianist within me kept an open mind whilst playing, and spoke my reflections playing each of the instruments immediately after each recording. The researcher then relied on the transcriptions to create this piece of research and corroborated these thoughts with the perceptions historically perceived. Understanding my own conduct, thoughts and playing as a pianist could help one relate to the thought process of pianists and critics, regardless of whether they belong to the current times, or lived in the late nineteenth century.

⁵ As mentioned in the introduction of Part Two, my thoughts were recorded immediately after playing each of the compositions, and later transcribed after all recordings were made so to reduce cross influence.

4.1 First impressions of the pianos: preferred tone?

In total, I played six compositions to test the playability and suitability of the pianos to specific repertoire, and reflected on how my thoughts corroborated or deviated from historical accounts. The first piece, the ‘warm up’ piece, was the Chopin Sonata Op. 58iv.⁶ The piece served as a technical exercise for warming up my fingers, as well as exploring the extensive dynamic range of the piano. These first five or so minutes of playing provided for an opportunity for me to gain an initial impression of the pianos, and descriptions of my initial thoughts can be found on [Table 24, p. 191]. It was evident that some of my perception of the tone qualities was influenced by past experiences, for example, the Bechstein 1903 being not as loud compared to the Steinway 1905, and the Erard 1900 being compared to the Erard 1896. Though I did not plan to do this intentionally, I had instinctively sought out the limitations of the sound by considering how it had differed from other pianos I previously encountered.

The pianos which produced my preferred tones, without consideration of the repertoire, were the Broadwood 1908, Blüthner 1894, Pleyel 1909, and Erard 1896.⁷ It was difficult to choose the best piano tone, as each had their own advantages. The tone of the Broadwood 1908 and the Pleyel 1909 was piercing and brilliant, whereas the tone of the Blüthner 1894 and Erard 1896 was gentle and mellow. Liking both brilliant and mellow toned pianos seemed to be a contradiction, but these opposites could be the constituents for my own ideal combination of piano tones. The palette of tone preference could differ from pianist to pianist, just like how my own preferences seemed to oppose the claim made by Alfred Brendel:

Eccentric pianists who are accustomed to an overly loud bass or a piercing treble should bring in their own piano. The upper middle range (the ‘second stave’) where so many of the cantabile melodies are located must not be duller than the lower half... faced with the choice between a concert grand with an inherently beautiful but invariable tone, and a less noble but more colourful instrument, the pianist will usually prefer the more colourful one.⁸

⁶ This piece was not recorded, as during the time of playing, the sound engineer was still setting up the equipment, and adjusting the gain levels for microphone input.

⁷ It is not entirely true that the decision for the most preferred tone was made without considering the repertoire, as I had conducted the study using a selected repertoire. It could be possible that if I played a different selection of repertoire, for example, consisting of twentieth century compositions, or one made up of entirely Baroque pieces, my preferred piano tone could consequently change.

⁸ Alfred Brendel, *Alfred Brendel on music: collected essays* (London: JR Books, 2007), pp. 338–339.

Table 24: First impression of tone after playing Chopin Sonata Op. 58iv

Order of recording	Pianos	Tone descriptions
1	Blüthner 1894	Warm, gentle, mellow, shrouded
2	Steinway 1905	Crispy, modern
3	Bechstein 1903	Loud, not as loud as the Steinway 1905, powerful, brilliance
4	Erard 1896	Less brilliant and bright than Bechstein 1903, gentle, apologetic
5	Steinway 1889	Very loud compared to Erard 1896, resonant on outer registers, but not in the middle portions
6	Collard 1870	Very bright upper-region notes, loud bass notes, dry
7	Erard 1900	more harsh than Erard 1896, more leathery tone in the bass than Erard 1896, soprano region is mellow
8	Broadwood 1881	Muffled, leathery, thin
9	Bechstein 1892	Modern, long sustain of tone, brilliance
10	Erard 1870	Dry, hard, clear, stone / marble-like tone, flaking sound
11	Collard 1905	Similar to Collard 1870 in bell-like tone, but more muffled than Collard 1870, not as crisp as Steinway 1905, modern, sustained
12	Blüthner 1892	More modern compared to Blüthner 1894, a bit brighter compared to Collard 1905, soft, gentle
13	Blüthner 1901	Less modern than Blüthner 1892, sweet, droplet of sounds, not harsh, soft
14	Broadwood 1908	Distinct, clear-cut, penetrating, cold, quick decay, brilliant
15	Bechstein 1906	Very modern, very powerful, bass notes particularly strong, long decay
16	Broadwood 1903	Extremely long decay (because of the hall), silvery, bell-like, similar to Broadwood 1908,
17	Pleyel 1909	Dry, not loud, rounded-off, silvery, buzzing, penetrating

During the warmup, my priority was to get acquainted with the piano, as well as be aware of how the sound travels in the surrounding space. My main pre-occupations were to test the dynamic range, both through playing on the piano and through conducting measurements from the sound level meter.⁹ The results from the sound meter are listed in [Table 25, p. 192], and consist of the measurements of the room ambience and the maximum volume reached while playing the Chopin Sonata. In this table, the pianos are listed from the loudest maximum volume reached to the quietest.

⁹ See Part Two: Sound Archives, The equipment for explanations on the sound meter.

Table 25: Room ambient noise and maximum volume reached on the pianos

Pianos	Room Ambience (dB)	Maximum volume reached in Chopin Sonata Op. 58iv (dB)
Bechstein 1906	47.5	108.9
Broadwood 1908	48.5	108.8
Steinway 1905	48.4	107.9
Blüthner 1901	48	107.8
Blüthner 1894	47.5	107.6
Erard 1870	48.7	106.9
Collard 1870	48.5	106.8
Broadwood 1903	48.1	106.5
Bechstein 1903	48	106.4
Steinway 1889	47.6	106.3
Collard 1905	47.6	106.1
Blüthner 1892	47.3	105.8
Erard 1896	47.5	105.8
Erard 1900	47.5	105.6
Bechstein 1892	50.3	105.3
Pleyel 1909	49.1	105.3
Broadwood 1881	48.1	104.9

My ordering of pianos from loud to soft generally aligned with the measurements of the sound level meter. I was surprised about the decibel readings of Blüthner 1894, Blüthner 1901, and Steinway 1905 being almost equal, as I had perceived the Blüthners to be the quietest amongst all. In my opinion, the three quietest sounding pianos should have been the Blüthner 1892, Erard 1896, and Erard 1900, but instead, the readings show that the quietest were the Bechstein 1892, Pleyel 1909, and Broadwood 1881. Quietness could have been influenced by room acoustics, for example, the Bechstein 1892 was placed in a wooden, barn-shaped room, where there was an ample amount of resonance. My perception of loudness came from the room, so I intentionally played the piano quieter to meet a tolerable threshold of loudness. On the other hand, quietness could have been the pianos themselves: on both the Pleyel 1909 and the Broadwood 1881, I felt that I was not able to project the dynamics as much as I had hoped, as these pianos were muffled and confined in tone.

As mentioned above for Bechstein 1892, one of the reasons for the difference between my perceived loudness and the actual loudness recorded was the impact of room acoustics. The Broadwood 1903 was the most problematic piano to record on as the space it was occupying was extremely reverberant. The room resonance distorts effects, as the higher-register notes tended to scatter much quicker, and the lower-register notes had much longer reverberation time. While the piano itself could be played much louder, it was difficult to achieve clarity, therefore I felt constrained from playing at my maximum strength. The room acoustics also confused the distinctions between the higher-register notes and the lower register notes. In passages where

there is a dominance of melody, and the melody being often in the higher registers, the pianist would usually diminish the volume of the underlying accompaniment parts. This was particularly disadvantaging when playing Brahms' *Intermezzo*, where the melodic line struggled to elevate above the harmony, resulting in a murky blending of sound.

Several deductions can be made by further examining the loudest volume across each octave through measuring all the Fs. On straight-strung pianos, there were more variances between adjoining registers, thus the undulations in the graphs as depicted in [Figure 30]. For cross-strung pianos, [Figure 31 & Figure 32, p. 194], the distinction appeared mostly in the soprano range, F4 to F6, where most melodic interest predominantly lies.¹⁰ The crucial difference between cross-strung and straight-strung piano can be pinpointed to F2 to F3. Apart from the Erard 1870, all straight-strung pianos had stronger F2 than F3 notes, whereas most cross-strung pianos had weaker F2 than F3 notes.¹¹ Because of this drop, the disparity between F3 and F4 was distinctly more noticeable in straight-strung pianos than in cross-strung pianos. This pattern could explain the ease of voicing I was able to attain for the melodies in the alto and tenor lines on straight-strung pianos. However, the F3 dip can be a drawback for achieving overall blended tone, as opposed to the more levelled dynamic in the lower registers found in cross-strung pianos.

4.1.1 Graphs showing maximum dB reached in Fs of each register

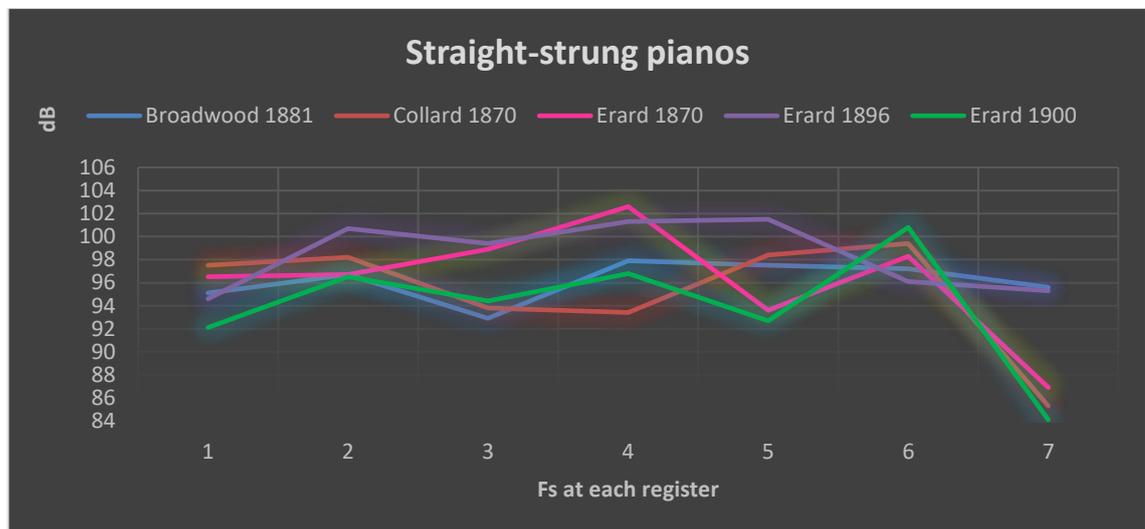


Figure 30: Straight-strung pianos

¹⁰ The historical debate of piano firms on cross stringing versus straight stringing in influencing the tone qualities in pianos can be found in Chapter 1.2.3 Strings.

¹¹ The exceptions are the Blüthner 1892 and Blüthner 1901, where there was a slight drop from F2 to F3.

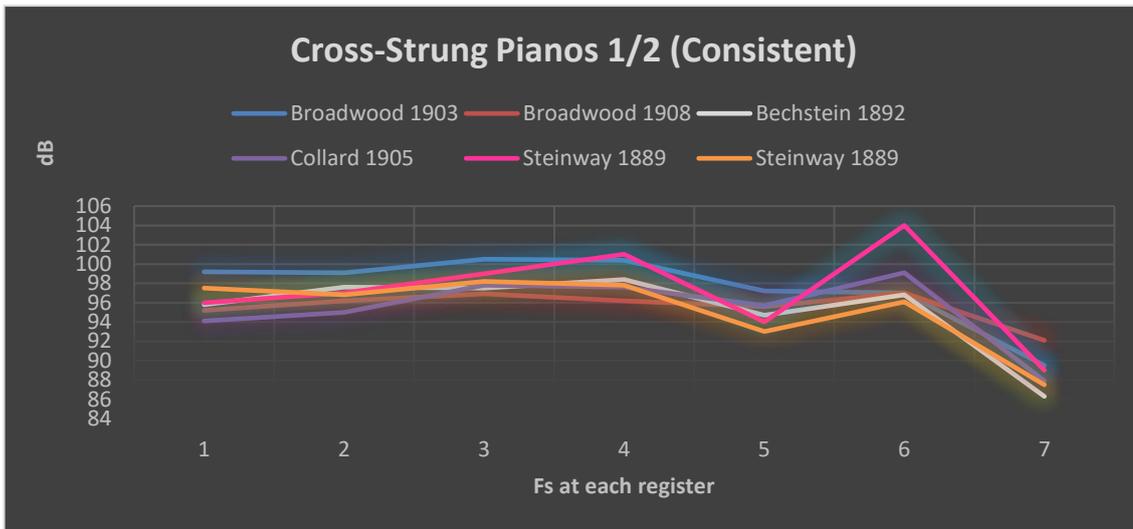


Figure 31: Cross-strung pianos part 1

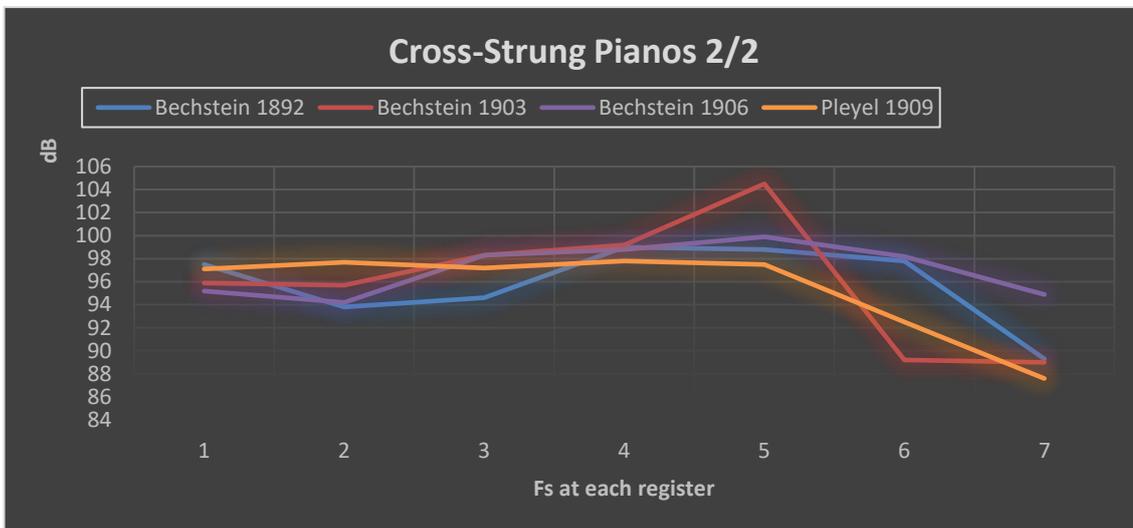


Figure 32: Cross-strung pianos part 2

Except for the Broadwood 1881 and Erard 1896, the quietest notes were those in the highest end of the piano compass (F7).¹² I was able to produce louder F7s (around 95 dB) on the Broadwood 1881 and Erard 1896, but the other straight-strung pianos had quieter F7 than the cross-strung pianos. The F6 was the loudest amongst the higher three octaves (F5-7) on most pianos, except for the 3 Bechsteins and the Erard 1896. The F6 on the Bechstein 1903 was 15 dB quieter than its F5. The dramatic decline of volume in these pianos from F5 to F7 implied that the notes weakened the higher their pitch. On the three Bechstein pianos, F1 was particularly louder than F2s. These two characteristics, powerful bass and weak treble, can serve as evidence to corroborate the claims on the Bechstein tone made by firms, juries, critics, and pianists, as presented in previous chapters. Yet, Bechstein pianos were not the loudest in the F1 to F2 region, nor the quietest in the F6 to F7 region. At the lower extreme, the highest dB possible was

¹² On these two pianos, notes in the bottom end (F1) was the quietest measured.

achieved on the Broadwood 1903 and Blüthner 1901, and at the upper end, the lowest dB was attained from the Collard 1870 and Erard 1900, [Table 26].

Table 26: Loudest and quietest pianos of each F register

	F1	F2	F3	F4	F5	F6	F7
Loudest	Blüthner 1901	Erard 1896	Blüthner 1894	Erard 1870	Bechstein 1906	Steinway 1989	Broadwood 1881
Quietest	Erard 1900	Bechstein 1892	Broadwood 1881	Blüthner 1901	Blüthner 1894	Bechstein 1903	Erard 1900

Further examination into the peculiar effect of the aliquot stringing can be identified on the Blüthner 1894 from F3 to F5. The Blüthner 1894 not only reached a peak in volume at F3, but also was the loudest piano at this point. However, the volume intensity decreased dramatically from F3 to F5, and this decline was likely the effect of the aliquot stringing from G4 onwards, as this pattern was not prevalent in the other two non-aliquot Blüthners. My supposition is that sympathetic vibration on the aliquot could have weakened the tone since energy (from the initial strike of strings) was lost to the unstruck strings. This, however, was against the claims of nineteenth-century accounts that aliquot was able amplify sound.¹³

4.1.2 Physical measurements: Key lengths and widths

Physical attributes of the piano, in particular the keys on the keyboard, can also significantly influence the pianists' perception of tone. Profiles of each piano in each of the houses, along with their pictures, can be found in Appendix D: Piano profiles. A summary of the measured components of the keyboard is detailed in [Table 27, p.196]. There were hardly any variances in the horizontal dimensions of white keys (the octave span) and black keys (width), but there were distinct differences in the length of the keys.

On all other pianos, the measurement at the top of the black key differed from the bottom as the keys sloped down.¹⁴ The Collard 1870 had the longest black keys (95mm), while the black keys on the Erard 1900 and Erard 1896 were the shortest, measuring at 81mm and 83mm respectively. The shape of the black-keys on the Collard 1870 were also peculiar, being oval-oblong rather than rectangular, and thus had equal dimensions at both its top and bottom. As described in *Class XVI, Musical Instruments* (1862 London Exhibition), the button-keys of Collard were designed 'for the purpose of giving to the performer increased facility for rapid execution,

¹³ I had also thought that tone of the treble notes from F3 to F5 were shrouded but had richer overtones.

¹⁴ The measurement for the bottom of black keys have been excluded here as a performer would normally not be playing on the slope of the black keys.

and imparting to the keyboard a more pleasing appearance.¹⁵ Yet, I find the opposite to the supposedly ‘increased facility and rapid execution’ when playing the Liszt etude, as the maximum speed I was able to reach on the Collard 1870 was the slowest of all the pianos.¹⁶

Although the Collard 1870 had the longest black key length, its length in the white key segment measured one of the shortest (46.5mm). This shortened area meant that fingers would have to be more curled. A shortened length was also noticed in the white keys of the Erard, and as I remarked on the 1896 Erard, ‘this [length] is about the size of my thumb. I have to play with a more arched position towards my palm to fit all fingers on the keys!’¹⁷ Due to the adjustment in hand shape, which would have increased finger agility but decreased arm weight, the tone would have been less full but more focused, since the attack into the keys would have been much faster.

Table 27: Measured components of the Keyboard compass

Piano	One octave span F4-F5 (mm)	Length of black key (top end of key) (mm)	Width of black key (top end of key) (mm)	Length of white key to the edge of the black key (mm)	Height of white key (mm)
Bechstein 1892	164.5	88	11	49	11
Bechstein 1903	163	92	10	49.5	10
Bechstein 1906	164	89	10	50	11
Blüthner 1892	164	90.5	10	48	11.5
Blüthner 1894	164	90.5	11	49.5	11
Blüthner 1901	164	91	9	49.5	10
Broadwood 1881	164.5	90.5	9.5	48.5	10.5
Broadwood 1903	163.8	90	10	49.5	12
Broadwood 1908	164.8	87.5	10	49	10
Collard 1870	165	95	11	46.5	11.5
Collard 1905	163	87	10	51	10
Erard 1870	164	87.5	11	46	10.5
Erard 1896	165.8	83	9.5	47	9
Erard 1900	155	81	10	47	10
Pleyel 1909	165	90	9.5	51	10.5
Steinway 1889	166.5	87.5	9.8	49.5	10
Steinway 1905	166	87	9.2	52	12

There were some variances in the placement of strings, especially in the division of strings in the lower registers; these observations could explain the difference in the split of register sonority I had perceived during the recording. In the changeover from one to two strings, Bechstein and Blüthner pianos changed at the same place (A#1), while Broadwood pianos, Steinway pianos and the Pleyel 1909 changed at another note (F1). The changeover of the

¹⁵ *The International Exhibition of 1862: the illustrated catalogue of the industrial department. Volume 2 British division 2* (Cambridge: Cambridge University Press, 2014), p. 101.

¹⁶ Analysis and comparisons on the speed in Liszt can be found later in the chapter, 4.3.4 Tempo in Liszt.

¹⁷ Initial Thoughts after recording the Chopin Sonata in B minor Op. 58iv on the Erard 1896.

number of strings in the Erard 1870 was at a lower pitch (F#1) than the two later Erards (G#1). Likewise, the Collard 1870 changed at an extremely low pitch from one to two strings (at D1, only five notes were single-strung), while the Collard 1905 changed at a higher pitch (A#1), being at the same point as Bechstein and Blüthner pianos. The switchover from two to three strings had similar patterns: the 3 Bechsteins, the 3 Blüthners and the Pleyel 1909 switched at B2, the Broadwood and Collard pianos, then Erard 1896 and Erard 1900, and Steinways at E2. The Broadwood 1903 had an exceptionally short section of bi-chords (two-stringed notes) between F1 to B1. The Erard 1870 also ended this section early, the bi-chords spanning from F#1 to C#2.

Of the pieces I recorded, the lowest note played was the E1 on the Brahms *Intermezzo* Op. 118 No. 2. Both the Beethoven and the Liszt went down to F#1. Notes lower than E1 are rarely found in compositions, but this note borders the transition between one and two strings. The register distinction can be especially audible when there is octave doublings, as found in the left hand at the beginning eight bars of the Beethoven Op. 109ii, *Prestissimo*. On [Table 28, p. 198], I have mapped the notes onto grids: lower notes of the octave have been highlighted in yellow, and the upper in green.

According to this distribution, the segregation of the octave is most demarcated on the Broadwood 1903, Collard 1870, Steinway 1889, and the Steinway 1905. On all other pianos, there would have been interruption in tone through its melodic line. The material of the strings from wound to solid could have also disrupted the gradation of tone. Apart from the Broadwood 1903, the changeover of string material mostly coincided with the changes in the stringing numbers. The difference in tone across registers could manifest where one string overlays on top of another due to the presence of acoustic energy from harmonics, as in the case of notes in the cross-strung section and the aliquot stringing. Such detailed acoustical study into the properties of individual notes needs further probing, which goes beyond the scope of my research.¹⁸

¹⁸ Despite having collected data and made some preliminary analysis on the acoustical properties of tone, I believe such work need more refining through collaborations with acousticians. This is an area of further study, which I have listed under my suggestions for further research in the conclusion chapter of my thesis.

Table 28: Table showing the placement of strings in the pianos up to G4

Notes	Be92	Be03	Be06	Bl92	Bl94	Bl01	Br81	Br03	Br08	Cc70	Cc05	Er70	Er96	Er00	Pl09	St89	St05
A0									S1								
A#0																	
B0																	
C1																	
C#1										S1							
D1										S2							
D#1																	
E1								S1								S1	
F1								S2				S1				S2	
F#1												S2					
G1													S1				
G#1													S2		S2		
A1		S1			S1			S2		S1					S3		
A#1		S2			S2			S3		S2							
B1																	
C2																	
C#2												S2; W					
D2												S3; So					
D#2																	
E2																S2; W	
F2													S2; W			S3; X1	
F#2											S2; W		S3; So				
G2							S2; W	W	W	S3; X1							
G#2							S3; So	So; X1	So						W		
A2		S2; W													So		
A#2		S3; So; X1			S2; W										X1		
B2					S3; So; X1												
C3																	
C#3																	
D3																	
D#3																	
E3																	
F3																	
F#3																	
G3																	
G#3																	X2
A3								X2		X2							
A#3																	
B2		X2			X2												
C4																	
C#4															X2		
D4																	
D#4																	
E4																	
F4																	
F#4					S4												
G4					S4												

Abbreviations and definitions of the table

Be03	First 2 letters of the piano brand, and last 2 digits of the year
Er00	Straight strung pianos
F#1	Lower notes of LH Octave (b. 1-8, Op. 109ii)
F#2	Higher notes of LH Octave (b. 1-8, Op. 109ii)
S-	Number of strings
X-	Crossing of strings
So	Solid strings
W	Wounded strings

4.2 Preferences of repertoire on each piano

As introduced earlier, the programme recorded on each the pianos was:

L.V. Beethoven: Piano Sonata No. 30 in E major Op. 109, movements I & II

J. Brahms: *Intermezzo* in A major Op. 118 No. 2, *Andante teneramente*

J. Brahms: *Ballade* in G minor Op. 118 No. 3, *Allegro energico*

F. Chopin: *Nocturne* in E-flat major Op. 55 No. 2

F. Liszt: 'Gnomenreigen' in *Zwei Konzertetüden* S.145

[Table 29] below lists my preference of repertoire on each of the piano. As previously stated, my overall preference in terms of piano tone were the Broadwood 1908, Blüthner 1894, Pleyel 1909, and Erard 1896, but not all pieces played were effective on these pianos. It stands to reason that pianists (past and present) could have two types of preference: a general and a repertoire-based preference. Given the choice, I would have preferred to play the Beethoven Sonata on the Broadwood 1908, the Brahms *Intermezzo* on the Erard 1900, the Chopin on the Pleyel 1909, and the Liszt on the Bechstein 1892.

Table 29: Table showing my favourite and least favourite piece on each the pianos

Pianos	Beethoven 1 st Movt	Beethoven 2 nd Movt	Brahms <i>Intermezzo</i>	Brahms <i>Ballade</i>	Chopin <i>Nocturne</i>	Liszt <i>Gnomenreigen</i>
Bechstein 1892			X		X	✓
Bechstein 1903		✓	X		X	✓
Bechstein 1906		✓	X	✓	X	
Blüthner 1892		X			✓	X
Blüthner 1894		✓	X		✓	X
Blüthner 1901		X	X		✓	
Broadwood 1881	X		X	✓	✓	
Broadwood 1903		✓	X		✓	X
Broadwood 1908	✓	✓				X
Collard 1870		✓	✓		X	
Collard 1905	✓	X	X			✓
Erard 1896			✓		X	✓
Erard 1870	✓		X		✓	
Erard 1900	✓		✓		X	
Pleyel 1909			X		✓	✓
Steinway 1889			X	✓		
Steinway 1905	✓		✓			X

✓ = Favourite; X = least favourite

4.2.1 Preferred pianos for Beethoven Sonata in E major Op. 109 i & ii

The pianos that I thought worked most effectively for the first movement of the Beethoven Sonata were the Broadwood 1908, Erard 1870, Erard 1900, and Steinway 1905. Clarity of tone was a shared feature in these pianos. On the contrary, I found the Broadwood 1881 the least satisfactory, as it had a muffled tone. Clarity of tone was also the underlying factor for my

preference of tone for the second movement, where I liked the Bechstein 1903 and 1906, Broadwood 1908, and Collard 1870, and disliked Blüthner 1892, Blüthner 1901, and Collard 1905.

For this sonata, I desired pianos with a clear tone and a full dynamic range. The need for greater sonority and clarity of tone was striven for by Beethoven himself through the expectations he had placed on pianos, needing one with 'a heavier action, sturdier instrument, and a bigger tone.'¹⁹ I will draw evidence from the recordings made on the Broadwood 1908, Broadwood 1881, Blüthner 1901, and Collard 1905.²⁰

In my opinion, the tone decay of the Broadwood 1908 was most appropriate for the Beethoven sonata.²¹ In both movements, I was able to enact the *crescendo* and *decrescendo* effectively. When I had played loud notes or accented notes in the first movement, (such as the *sfp*, or the *ff* at bar 62), the tone was never forced nor harsh, or too set apart from the melodic line. At quiet sections, such as at bars 66 to 73, the tone was not so soft as to be mellow or weak in sound, but retained its clarity, like crystal chandeliers. The clarity of tone meant that notes could be heard long enough to be resonant but not obscured, particularly those in the bass register (between E1 and E2). Thus, the counterpoint figuration throughout was much easier to achieve. I particularly enjoyed playing the ending; I thought I was finally able to achieve *staccato* in the three chords without the need to slow down.²²

As for the Broadwood 1881, the decay of notes was much too quick, and the tone was thin and leathery.²³ In the first movement, the lack of sustain in the notes resulted in too dry a sound if the Adagio sections were to be played as slowly as I normally would have done on a modern pianoforte, as the notes had not connected from one to another to make the expressive *legato* effect. The lack of *legato* also affected the long *crescendo* from bars 21 to 52, and the *diminuendo* in bars 65 to 66. In addition, more resonance of tone was desired for the *dolce* sections, such as at bars 16 to 21, but instead, the thin and leathery tone of the piano meant that I was unable to achieve the desired softness, and expressivity was achieved through other means, such as using more *rubato*. In contrary, this dryness of the tone was advantageous for the second movement, as it gave definition to the fugal-writing. Furthermore, the action on the Broadwood 1881 was also lighter than Broadwood 1908, and therefore was much easier to play at *prestissimo*.

¹⁹ William S. Newman, 'Beethoven's piano versus his ideals', *Journal of the American musicological society*, 23:3 (1970), p. 489.

²⁰ Analysis on how I achieved the dynamic ranges on the different pianos will be discussed later in this chapter under 'Dynamics in Beethoven Sonata Op. 109i: bars 25 to 52'.

²¹ [[Beethoven Broadwood1908](#)].

²² Normally, as the chords are loud and fast, their harmonies slightly overlap and blur into each other.

²³ [[Beethoven Broadwood1881](#)].

The Collard 1905 had opposite tone qualities to the Broadwood 1881 in that its tone was muffled, but had a large dynamic range. These were good traits to work with for the first movement, but not ideal for the second movement.²⁴ On the Blüthner pianos (1892 and 1901), the tone was even more subdued than the Collard 1905, and Blüthner actions were very light.²⁵ It was easy to over-exert force on the Blüthner pianos when playing the *ff* passages in want of a louder tone, for example, at the opening to the second movement, but in doing so, the tone sounded harsh. The need to restrain power, along with the muffled tone of these pianos, caused my experience of playing the Beethoven on them to be not as pleasant both physically and aurally.

4.2.2 Preferred pianos for Brahms *Intermezzo* Op. 118 No. 2

My preferred pianos for the Brahms *Intermezzo* were the Erard 1896 and Erard 1900. To highlight the difference and difficulties in interpretation, I will also draw examples from two Broadwood pianos 1903 and 1908, the Collard 1870, and Blüthner 1894.²⁶ I preferred playing the *Intermezzo* on straight-strung pianos, in particular, the Erards. On all three Erards, I was drawn to the individuality of voice-lines, the soprano and tenor melodies being equal in volume and amount of sustain, but at the same time sounding distinct from one another. The interaction between the soprano and tenor voices was less successful on other straight-strung pianos: despite the individuality of voice-lines, the tone balance between the melodies was not always ideal. On the Broadwood 1881, the resonance in the tenor line (C3 to G4) was rich compared to the thin top melody, whilst on the Collard 1870, the difficulty was in the top melody being shinier than the inner line.²⁷ On the Erard 1896, the independence of the soprano and tenor melodies were like two separate timbres of sound: a female and a male singer instead of two female singers.²⁸

The advantage of this distinct tone separation through registers meant that I need not to ‘force’ the melodies out. Such ease of playing echoed Eduard Hanslick’s description of Brahms’ own playing as ‘judiciously soft’ but lacked the full tone of the piano, as Brahms never forced the instrument beyond its capability.²⁹ Hanslick’s depiction suggested that Brahms responded to the

²⁴ [[Beethoven Collard1905](#)].

²⁵ [[Beethoven Bluthner1901](#)].

²⁶ I have presented three recordings (the Blüthner 1894 and the two Erard pianos) in its entirety, whilst for the other examples (of the two Broadwood pianos and the Collard 1870), I presented only a snapshot (bars 49 to 76) to focus further on detailed listening comparisons.

²⁷ [[BrahmsIntermezzo 49to76 Collard1870](#)].

²⁸ [[BrahmsIntermezzo Erard1896](#)].

²⁹ Hanslick’s review of Brahms’ first Vienna recital in 1862, originally found in Eduard Hanslick, *Aus dem Konzertsaal, Kritik und Schilderungen, 1848-1868* (Vienna, 1897), p. 288, is quoted by Michael Musgrave in his *A Brahms reader* (New Haven: Yale University, 2000), p. 126.

limitation of his pianos, and adapted practices (even practices he was preaching against) accordingly to achieve his desired tone, such as varying his touch, using rubato, or spreading chords where no spread was notated.³⁰ This was also testified by Fanny Davies, Clara Schumann's pupil, who said that Brahms' intentions for his composition often went beyond the instructions he gave in the score, as he was preoccupied with producing the best possible tone:

The sign < >, as used by Brahms, often occurs when he wishes to express great sincerity and warmth, applied not only to tone but to rhythm also. He would linger not on one note alone, but on a whole idea, as if unable to tear himself away from its beauty. He would prefer to lengthen a bar or a phrase rather than spoil it by making up the time into a metronomic bar.³¹

Further to Davies' remark on the Brahmsian hairpins (the sign < >, crescendo followed by diminuendo signs), David Hyun Su Kim explained that the Brahmsian hairpins were indicators of rhythmic inflections rather than a simple call for increase and decrease in volume. Kim differentiated three common types found in the performance practices of the Brahmsian hairpins, based on agogic principles, which he named 'closing', 'accelerando', and 'lingering'.³² Despite agreeing with the principles in theory, my enactment of rhythmic nuances for these hairpins did not come across strongly on the recordings.³³ Admittedly, one's own stylistic habits do not always change overnight.

By contrast, I find the practice of un-notated arpeggiation much easier and natural to implement on some pianos, which brought about significant changes to the tone of the instrument, as well as shed a new light on the composition. During the first play through of the piece on the Erard 1896, I thought the chords at bars 57 to 64 sounded particularly static and 'blocky'.³⁴ In the second take, I experimented with the spreading of chords, and having found it effective, (describing the sound as being 'harp-like'), I adopted this practice on subsequent straight-strung pianos.³⁵ Of the three Erard, my favourite for the Brahms was the Erard 1900.³⁶

³⁰ Neal Peres Da Costa investigated extensively on the subject of whether or not Brahms approved the use of un-notated arpeggiation and presented a variety of evidence that substantiated truth for both sides of the argument. Neal Peres Da Costa, *Off the record: performing practices in romantic piano playing* (Oxford: Oxford University Press, 2012), pp. 139–141.

³¹ Between 1884 and 1896, Fanny Davies had frequently heard Brahms play his own compositions. Quote found in Robert Pascall, *Playing Brahms: a study in 19th-century performance practice* (Nottingham: Department of Music, University of Nottingham, c1991), p. 18. Another of Brahms' student, Florence May, also made claims that Brahms had 'liked variety of tone and touch, as well as certain elasticity of *tempo*'. Quote from Florence May, *the life of Johannes Brahms*, vol. 1 (London: Edward Arnold, 1905), p. 18.

³² David Hyun Su Kim, 'The Brahmsian hairpin', *19th-century music*, 36: 1 (Summer 2012), pp. 46-57.

³³ My immediate Thoughts after recording the Brahms *Intermezzo* on the Collard 1870 and Erard 1896 were that I had used more rubato than usual, but when I came to analyse the recordings, the subtle variances were difficult to pin down.

³⁴ [[BrahmsIntermezzo_54to64take1_Erard1896](#)].

³⁵ [[BrahmsIntermezzo_54to64take2_Erard1896](#)].

³⁶ [[BrahmsIntermezzo_Erard1900](#)].

The Erard 1900 was tuned slightly lower than the Erard 1896, and some chords were particularly meaningful in the lowered pitch, e.g., the last crotchet chord of bar 4, first crotchet chord of bar 7, first crotchet chord of bar 11, third crotchet chord of bar 14, and first crotchet chord of bar 15. The tone of the Broadwood 1908 was also effective for this piece, although the feeling that this piano had evoked in Brahms differed to those felt on the Erards.³⁷ Whereas the Erards had possessed much warmer tones, the Broadwood 1908 was cold and solemn:

When you get to the *p* and *pp* on this piano, there is this very isolated, lonely sound. I really like the notes in the alto section, between C#4 and C#5, but not when it goes down to B and A at bar 64. The alto notes really peaked out, but as you submerge into the tenor section, it does not have the soothing, sandy sound as heard on the Erards. On the Erards it is easier to bring out the tenor part. On the Erards, I viewed this as tenor voice. But on this Broadwood, I am seeing it as an alto line, because it sounds sharper [higher, brighter tone].³⁸

Although the Brahms *Intermezzo* suited the Erards and the Broadwood 1908, it was my least favourite piece for many of the pianos sampled: all three Bechsteins, all three Blüthners, Broadwood 1881 and 1903, and Collard 1905. I disliked the lack of sustain on the Broadwood 1881, despite my efforts to bring out the melody, notes such as the F#5 at bars 49 to 53 had refused to ring out.³⁹ One of the solutions was to play with a flatter hand posture:

Normally, I would try to press into the keys with a bit more depth to make those notes really sustaining. On this piano, the more I do that, the more stuck the notes, and the more I cannot actually get sustain out of the notes. So I have to play with almost un-projected fingers, and not try to do too much with it.⁴⁰

Except for the Broadwood 1881, sustaining the tone was not the main concern. Instead, it was a lack of focus in tone in the middle region, such as on the Bechstein 1892, where a more curved hand position was favourable, as then my fingers could attack the keys with more focused force:

I had to use more tip, especially the pinkie in the chords to ring out the melodic line, a directly downward force, almost trying to get a better grip to make the notes more pronounced.⁴¹

The main drawback I experienced on Blüthner pianos was the lack of tension from dissonant notes: they blended too well together as a chord that they did not sound harsh. The need to resolve unstable tension throughout this piece was highlighted by Steven Rings in his analysis of the piece. Rings suggested that tension was in the underlying theme from the start, where the leap of the 7th in the melody (B to A) across the bar-line from the first to the second bar was 'especially striking, as it is at once an intervallic expansion of the previous B-D leap as well as

³⁷ [[BrahmsIntermezzo 49to76 Broadwood1908](#)].

³⁸ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1908.

³⁹ [[BrahmsIntermezzo 49to53 Broadwood1881](#)]. This also an evidence of my frustration as experienced.

⁴⁰ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1881.

⁴¹ Thoughts after recording the Brahms *Intermezzo* on the Bechstein 1892.

a paradoxical “resolution”⁴². This gesture is repeatedly returned to until the very last bar, where the ‘A’ finally steps down from the ‘B’. Rings also described how instability could result from constantly varying between consonant and dissonant chords.⁴³ This harmonic turbulence was limited on the Blüthner pianos, as their well-blended tone lessened the distinction of consonant and dissonant chords. For example, at bar 10, the tension of the chord $DF^{\sharp}B$ (having the augmented 4th) was awaiting resolution, but on Blüthner pianos, its tone characteristics smoothed out the ugliness of the chord. I noticed the same effect at bar 14 ($ABGC^{\sharp}$) and at bar 15 ($AF^{\sharp}EB^{\sharp}$), where there was nothing harsh about those chords on a Blüthner piano.⁴⁴

4.2.3 Preferred pianos for Brahms *Ballade* Op. 118 No. 3 (bars 1 to 10 only)

Only the first 10 bars of the Brahms *Ballade* Op. 118 No. 3 was recorded to test the effect of pedal on the resonance of the instrument. Broadwood 1881 and Steinway 1889 were my preferred piano tones for playing this extract. Unlike the *Intermezzo*, where there was mostly polyphonic texture and legato markings, the *Ballade* had mostly homophonic texture, and chords were marked staccato. On the Broadwood 1881, the leathery tone and lack of sustain meant that chords in the first ten bars could enact a true sense of staccato, as tone dissipated quickly enough before the next chord (harmony) was played.⁴⁵ On the Steinway 1889, the tone was resonant enough when played without the pedal, as there was enough bounce on the chords.⁴⁶ More discussion on the use of pedal is found later in the chapter under 4.3.2 Pedalling options in Brahms *Ballade*.

4.2.4 Preferred pianos for Chopin *Nocturne* in E-flat Op. 55 No. 2

I chose the Chopin *Nocturne* as the most fitting repertoire on all three Blüthner pianos, because of their soothing, gentle tone, but I also enjoyed playing the piece on the Broadwood 1881, Erard 1870, and Pleyel 1909. Interestingly, of the six that best suited Chopin, the three Blüthner pianos and the Broadwood 1881 were those which I find least satisfied for the Brahms *Intermezzo*. On the other hand, pianos which I thought worked well for the *Intermezzo*, the Erard 1896 and 1900, were amongst those that I felt lacking in tone for the *Nocturne*. This was perhaps due to the lack of homophonic / chordal textures in the Chopin (until the last six bars), and that

⁴² Steven Rings, ‘The learned self: artifices in Brahms’s late intermezzi’ in Heather Platt and Peter H. Smith (ed.) *Expressive intersections in Brahms: essays in analysis and meaning* (Bloomington: Indiana University Press, c2012), pp. 19–52, especially pp. 19–23.

⁴³ *Ibid.*

⁴⁴ [[BrahmsIntermezzo Bluthner1894](#)].

⁴⁵ [[BrahmsBallade_1to10_Broadwood1881](#)].

⁴⁶ [[BrahmsBallade_1to10_Steinway1889](#)].

the melodic interest was mostly in the right hand, where there was a dialogue between soprano and alto lines. The figuration of the left-hand accompaniment part, although spelling out the harmony, was in continuous single-note quavers. These contributed towards a sense of ‘fluidity’, as explained by the French philosopher and musicologist Vladimir Jankélévitch: ‘hypnology in Chopin is nothing but the dissolution of rigid forms, the liquefaction of all the rhythms and the liberation of pure contents without form by means of ravishing sleeping narcosis.’⁴⁷ Jankélévitch described Chopin *Nocturnes* as being both mesmerising and improvisational: ‘the nocturnes therefore represents the illusionistic confusion of the qualities that the alert intellect separates into distinct registers; he plays on all keyboards at once.’⁴⁸ Jean-Jacques Eigeldinger also observed the dreamy and fluid ideas presented in Chopin *Nocturnes*, and suggested that it was Chopin who anticipated the impressionistic ideas in Verlaine’s *Art Poétique*.⁴⁹

In striving for the dream-like, hypnotic and fluid tone, I draw on the recordings on the Blüthner 1894, Erard 1870, Bechstein 1906 and Pleyel 1909 to show the various kinds of challenges presented in each. The Blüthner tones were the softest, most gentle, and sweet in both the treble and bass registers. Trills were extremely effective and ‘fluttering’, as Blüthner actions were particularly light.⁵⁰ On the Blüthner 1894, the melodic lines in the right hand had just enough sustain and projection above the left hand notes, a balance which I find difficult to achieve on other pianos.⁵¹ Despite liking the *Nocturne* on Blüthner pianos, I was not convinced that its tones were the most ideal for Chopin. When I recorded on the Erard 1870, I remarked that I was yet to find the piano suited for Chopin, and that the tone of this Erard was close to the ideal.⁵² My reasoning was that the soprano melodic line was either dominating over other parts, or too docile. On the Erard 1870, the balance seemed perfect, but the tone was ‘flaking’ and dry, as it dispersed too quickly.⁵³

Whilst the *Nocturne* was not technically demanding, I became more and more critical of finding the ‘right’ tone for this piece. I particularly disliked playing the *Nocturne* on the Bechstein 1906, as the tone of the piano was brilliant, bright, and powerful.⁵⁴ Such tone encouraged

⁴⁷ ‘L’hypnologie chez Chopin n’est rien d’autre que dissolution des forme rigides, liquéfaction de tous les rythmes et libération des purs contenus sans forme par le moyen de la ravissante narcose somnifère.’ Vladimir Jankélévitch, *Le Nocturne, Fauré; Chopin et la nuit; Satie et le matin avec 24 exemples musicaux* (Paris: A. Michel, c1957), 99.

⁴⁸ ‘Le nocturne représente donc la confusion illusionniste des qualités que l’intellect vigilant sépare en registres bien distincts; il joue sur tous les claviers à la fois.’ Jankélévitch, *Le Nocturne*, p. 38.

⁴⁹ Jean-Jacques Eigeldinger, *L’univers musical de Chopin* (Paris: Fayard, 2000), p. 58.

⁵⁰ I had used the word ‘fluttering’ to describe the trills when playing on the Blüthner 1894 and 1901.

⁵¹ [[ChopinNocturne_Blüthner1894](#)].

⁵² Erard 1870 was the 10th piano I recorded, so it was just beyond the mid-way point of my trip.

⁵³ [[ChopinNocturne_Erard1870](#)].

⁵⁴ [[ChopinNocturne_Bechstein1906](#)].

virtuosic display, which was not suitable for the piece. On the Pleyel 1909, I finally found my ideal piano tone for Chopin.⁵⁵ Unlike on modern pianofortes where I would have to adjust my technique to bring out melodic lines, on the Pleyel 1909, I just ‘let the piano do it’.⁵⁶ The balance of the parts worked well, and the tone of the piano, being rounded-off and silvery, particularly suited the *Nocturne*. Further, the tone of the piano highlighted the layering of textures; the first is the stratification of voice-line entries, at bars 13 to 30, the single melody, then bars 30 to 38, dual melody; the second is the bell-ringing effect of the B \flat notes (bars 59 to 60).⁵⁷

4.2.5 Preferred pianos for Liszt *Gnomenreigen* in F-sharp minor

The tone of the Pleyel 1909 was not only the most ideal for Chopin, but also for Liszt’s concert etude, the *Gnomenreigen*, despite the two pieces posing very different pianistic ideals and challenges. In the *Nocturne*, technique is masked by the fluidness of the melody; but in the *Gnomenreigen*, virtuosic display is unavoidable. During the time of composing the two concert etudes, Liszt was using a small Boisselot upright piano in his apartment at the Via Felice.⁵⁸ Alan Walker remarked that the image of the Liszt playing music on such a ‘fragile’ instrument was ‘inconceivable until we remember that the etude calls not for force, but for dexterity.’⁵⁹ The dexterity challenge in the *Gnomenreigen* consisted of hands alternating at quick succession, numerous repeated notes in the lower registers of the piano, and torrents of up and down scale and arpeggio passages.⁶⁰ My preferred piano was based on how successful I was able to overcome the abovementioned challenges, thus the sensation of touch was an important factor.

My most preferred touch was the Erard 1896, in particular, the ease of playing the repeated notes (such as at bars 85 to 103).⁶¹ On lighter-action pianos, such as the Blüthner 1892, I had the inclination to go too fast (such as bars 133 to 143), and could sporadically lose control of the notes.⁶² On heavier-action pianos, such as the Collard 1905, both the repeated notes and the scale passages required more strength to play.⁶³ From the recordings alone, this was hardly perceivable as maximum speed was reached, however, differences towards the end of the piece can be

⁵⁵ Pleyel 1909 being the last piano I recorded.

⁵⁶ Thoughts after recording the Chopin *Nocturne* on the Pleyel 1909.

⁵⁷ [[ChopinNocturne_Pleyel1909](#)].

⁵⁸ Liszt was notoriously known for breaking piano strings in concert halls, as quoted in the introduction to Chapter 3, Liszt having killed ‘a grand pianoforte every week’. ‘The modern pianoforte’, *Musical standard*, 43: 1477 (19 November 1892), p. 403.

⁵⁹ Alan Walker, *Franz Liszt, the man and his music* (London: Barrie & Jenkins, 1970), p. 51.

⁶⁰ Franz Liszt gave the analogy of ‘mixing salad’ to a French student who seemed to keep getting her fingers tangled up in the etude. Walker, *Franz Liszt*, p. 248.

⁶¹ [[LisztGnomenreigen_85to103_Erard1896](#)].

⁶² [[LisztGnomenreigen_133to143_Blüthner1892](#)].

⁶³ [[LisztGnomenreigen_133to143_Collard1905](#)].

audible, as I had slightly slowed down (due to fatigue) on the Collard 1905, and the left and right hand notes had not entirely interlocked in the descending scale passages. The want for a lighter action was also evident for pianists in the late nineteenth century. Mark Hambourg wrote an account of meeting a pianist who changed from playing German pianos to lighter-toned French pianos on the basis that 'I found every time I gave a concert on a German instrument the critics wrote next day: 'What a fine piano, but what a bad pianist!' Now, I play a French one they write: 'What a bad piano, but what a fine pianist.'⁶⁴

Although touch was a factor when deciding what pianos were enjoyable physically, the tone was still the key essence in distinguishing between pianos. Generally, I preferred pianos with more brilliance for the *Gnomenreigen*: all three Bechsteins, the two Collard pianos, and the Pleyel 1909. The more brilliant the tone, the more potential for virtuosity. On the Bechstein 1892, the top region was sparkly and jubilant, and there was an ample amount of brightness and bounciness in the chords of the middle region (around F4).⁶⁵ Likewise, the upper region being sparkly was also an asset on the Collard 1905: 'Yesterday I played on an Erard and commented on how the upper region was not shiny enough. On this piano, I find that it has just the right amount of shine for this piece'.⁶⁶ The most sparkling notes came from the Pleyel 1909, the tone of which suited the character of the music in both fast and very fast sections.⁶⁷

The pianos which I least preferred playing *Gnomenreigen* on were the Blüthner 1892, the Broadwood 1908, and the Steinway 1905. On the Steinway 1905, despite having a crisp tone, the top region was not as sparkly as I had imagined.⁶⁸ The Broadwood 1908, although having much brilliance in the tone, was difficult to play due to the heavy action, especially for the repeated notes in the bass at bars 85 to 103.⁶⁹ Additionally, I could not play as fast as I would have liked to in the section *il piu Presto possibile*.⁷⁰ The shrouded tone of the Blüthner 1892 downplayed the virtuosic element.⁷¹

⁶⁴ Mark Hambourg, *The eighth octave: tones and semi-tones concerning piano-playing, the Savage Club and myself* (London: Williams and Norgate, 1951), pp. 16–17.

⁶⁵ Thoughts after recording the Liszt *Gnomenreigen* on the Bechstein 1892. The tone in the upper region was 'weak' on the Bechstein 1903. Despite the Bechstein 1903 not having a sparkling top, the bass notes were loud, which had added to the fanfare spirit of the piece. Hence, I still chose Liszt as my preferred piece here. [[LisztGnomenreigen_Bechstein1892](#)].

⁶⁶ Thoughts after recording the Liszt *Gnomenreigen* on the Collard & Collard 1905.

⁶⁷ [[LisztGnomenreigen_Pleyel1909](#)].

⁶⁸ [[LisztGnomenreigen_133to143_Erard1870](#)].

⁶⁹ [[LisztGnomenreigen_85to103_Broadwood1908](#)].

⁷⁰ [[LisztGnomenreigen_133to143_Broadwood1908](#)].

⁷¹ [[LisztGnomenreigen_133to143_Bluthner1892](#)].

4.3 Analysis with the scores

So far, I have stated my general preference of tone for each the repertoire and shown how certain tonal qualities could work for one piece, but not for another. In this section, I examine my preferred tone for each of the compositions through specific reference to scores. For each piece, I draw attention to one or two aspects that were of a crucial influence to forming my preferences, and pinpoint specific traits of tone in illuminating performance practice issues. In the Beethoven Sonata, I concentrate on the effect of the crescendo in the first movement between bars 25 to 52. In the Brahms *Ballade*, I explore pedalling options in bars 1 to 10 in relation to the tone decay. I compare the similarities in texture between the Chopin *Nocturne* and the Brahms *Intermezzo* (bars 49 to 56, and the upbeat to bar 65 to 73) to show the distribution of voice parts. I focus also on the homophonic texture in the Brahms *Intermezzo* in bars 57 to 64, so to discuss the treatment of chords (i.e. spreading) as found in the practices of late-nineteenth century pianists. I conclude with trialling different metronome speeds in Liszt *Gnomenreigen*, bars 21 to 32, as well as testing the competence of the pianos' action by repeatedly playing low D2s. Through these case studies, I emphasise that elements from each of these compositions call for different types of tonal qualities. Consequently, no piano was ideal for all kinds of repertoire, nor a piece ideal on all kinds of pianos.

4.3.1 Dynamics in Beethoven Sonata Op. 109i: bars 25 to 52

The section from bars 25 to 52 in Op. 109i is a momentous escalation not only through the rise of register, but also in the rise in dynamics from *piano* to *forte*. Although my initial intention was to achieve an over-arching *crescendo* over these twenty-seven bars, I soon realised that the process of achieving a satisfying *crescendo* had varied from one piano to the next. Moreover, a *crescendo* was more than just a moderation between soft and loud playing; it was relative to tempo and the use of rubato, tonal decay, physical endurance, as well as the consideration and justification for using 'excessive' dynamic range, which at times exceeds the composer's sound-world.

Overall, the use of rubato did not delay the timings of the section, as the lengths were approximately the same on all pianos. Since the purpose of *rubato* is to achieve expressivity by quickening or slackening of tempo, I had reserved its use only on pianos where there was a lack of dynamic expressivity, e.g., the Broadwood 1881, its tone being rather loud. Pianos which were dynamically expressive had a singing tone did not need much rubato, like the Erard 1870:

I heard this section containing layers of voices, because when I play a chord, the decay of those notes was very smooth, it was very human. It became not about trying to get louder

but trying to fill the room more and more. Before I felt like I needed to play louder, expand more. Here I felt the noise gush inwards.⁷²

The physical sensation of creating a *crescendo* on a piano can be at times enough to satisfy the senses even when sound intensity could not be matched. Even Beethoven himself sought such comfort when he was unable to hear, having ‘pounded on keys till the strings jangled’ in forte passages, and ‘played so softly that whole groups of tones were omitted’.⁷³ My experience of this feeling was most prominent on the Erard 1896:

Even though I felt a bit restricted with the forte sound, I feel that physically I am exerting a lot [of force]. It is not dynamically satisfying, but it was physically satisfying because I was putting in a lot of strength and effort into the piano. I thought the forte sections contrasted very well with the piano sections, because I was able to physically feel [the difference of my strength] in the soft and loud passages.⁷⁴

On some pianos, extreme dynamics were accessible, such as playing very quietly on the Blüthner 1892 and Erard 1896, or very loudly on the Steinway 1889 and Bechstein 1906. However, I was apprehensive about exploiting the full dynamic range of the piano, as the main dilemma was that the sound was too ‘modern’ compared to the other pianos examined:

This piano (Bechstein 1906) is very good at its loud dynamic ranges. I have the tendency to want to exploit those ranges. The more it goes down to the bass, the more difficult it is to make a soft sound. It is easier in the upper registers in comparison. I think what I did there was too romantic for what I think Beethoven should sound like. I had to make many decisions, deciding what to prioritise. I felt I had to do what I did to suit the sound of the instrument, but in my mind, it was not an authentic Beethoven sound.⁷⁵

4.3.1.1 Analysis of bars 25 to 52 in Beethoven Op. 109i using Sonic Visualiser

A pianist’s perception of a *crescendo* encompasses much more than just measured loudness (decibels). What I had perceived as a long, effective crescendo could be limited by the sensation of loudness, which changes according to the register range.⁷⁶ Textural distribution, i.e., the playing of chords versus the playing of single notes, could also influence the sensation of

⁷² Thoughts after recording Beethoven on the Erard 1870.

⁷³ Louis Spohr’s recount of Beethoven at his rehearsal for the first performance of the *Archduke* Trio in April 1814, original in Alexander Wheelock Thayer, *The life of Ludwig van Beethoven*, vol. 2 (New York: The Beethoven Association, 1921), p. 269, quoted in Derek Carew, *The mechanical muse: the piano, pianism and piano music, c. 1760–1850* (Aldershot: Ashgate, 2007), p. 123. Even though in the context of Spohr, he was lamenting at the fact of Beethoven’s hearing loss and not being at his pianistic prime, which resulted in his rather accentuated exaggerated playing, it is strong evidence in pointing to what Beethoven had intended from his music.

⁷⁴ Thoughts after recording Beethoven on the Erard 1896.

⁷⁵ Thoughts after recording Beethoven on the Bechstein 1906.

⁷⁶ Various psychoacoustic studies on determining a subjective scale of loudness have concluded that for ‘equal loudness’ below 80 dB, lower frequencies would possess a higher dB reading than those of higher frequencies. Curve of equal loudness (Fletcher and Munson, 1933) in J. G. Roederer, *Introduction to the physics and psychophysics of music* (London: English Universities Press; New York: Springer-Verlag, 1973), pp. 76–77.

loudness.⁷⁷ Understanding the actual loudness through analysing the dynamics on the recordings can further uncover distinctions in each the pianos. Using the annotation layer of Sonic Visualiser to display the power intensity over time, I extracted this data and plot graphs to illustrate the difference in actual loudness of each recording, shown in Appendix E.⁷⁸ There is one graph for each piano (17 in total), but these have been left in the Appendix as I intended to only extract musicological ideas rather than explore the scientific aspects. An example of graph (Steinway 1905) is shown on [Figure 33]. From the graphs, I analysed the effect of the *crescendo* in bars 25 to 52 in four separate sections:

1. 'The first crescendo': bar 25 (D# minor chord) to bar 32 (F# major chord)
2. 'The passage of sfps': bar 32 (B major chord) to bar 42 (B major chord)
3. 'The second crescendo': bar 42 (E# major chord) to bar 48 (B major chord)
4. 'The forte plateau': bar 48 (E major chord), to bar 52 (E major chord)

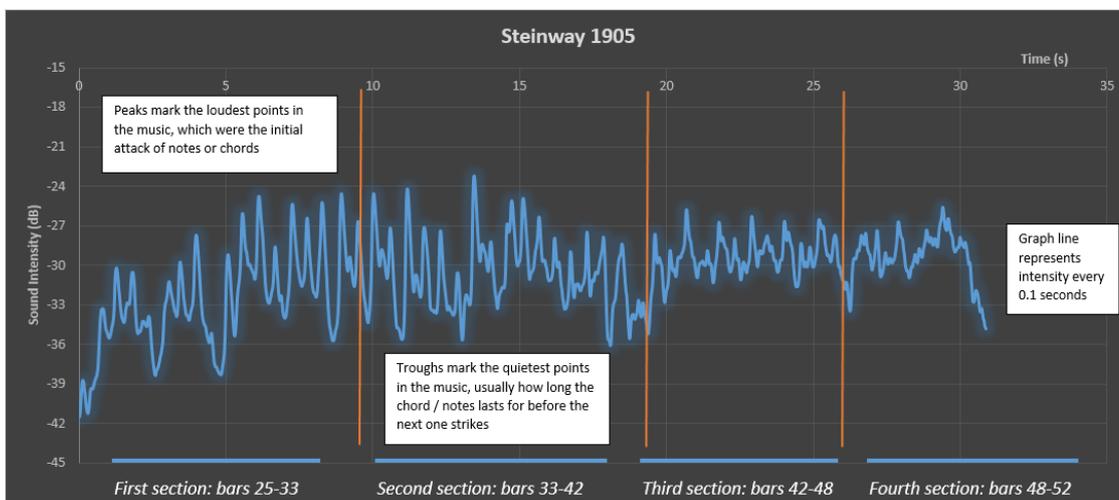


Figure 33: Sample interpretation of graph (Steinway 1905)

⁷⁷ To test this, I played a chord using my right hand, and then a single note at the same register range. The chords sound louder than a single note, but when I measure it using the sound-meter, they are about the same. This is because the energy transferred from hand to multiple fingers is less than a focused energy transferred to single notes.

⁷⁸ As explained in the introduction of Part Two, I used Sonic Visualiser to detect the variations in dynamic (intensity) for bars 25 to 52. The plugin was the transformation Smooth Power curve from the Mazurka Project, and this tool measures dynamics (power over time) of an audio signal.

4.3.1.1.1 The first *crescendo*

Figure 34: First section of Beethoven Op. 109i, bars 25 to 33

In this section, there are 4 phrases lasting approximately 2 bars each. From the graphs, each peak marked a right-hand chord at the start of the crotchet beat. The bigger the dip of the trough, the more loss in the loudness between chords (in the right hand) and single notes (in the left hand), and more the clarity as the decay is faster. On the graph of the Blüthner 1894 and 1901 recordings, the small dips of each phrase implied that there was little decay and more blur across each crotchet beat, and lesser distinction in volume between chords and single notes. Besides the two Blüthner pianos, the small-dip trend was most prominent in the first phrase of the recordings from the Broadwood 1881, Erard pianos, and the Collard 1870, but gradually increased the size of fluctuation of peaks and troughs. This suggests that the higher the notes, the more clarity between each of the chords, which would substantiate the claims of straight-strung pianos having marked differences in tone between registers. In contrast, the graphs of the recordings made on Broadwood and Steinway pianos had larger fluctuations between peaks and troughs. This visually represented what I was hearing on the Steinway 1905:

I was able to come down (in dynamics) much quicker at each phrase-line. From bar 25, I was able to do various mini crescendos across each four-chord phrase, which worked well as waves of dynamics gradually growing bigger and bigger.⁷⁹

⁷⁹ Thoughts after recording Beethoven on the Steinway 1905.

On almost all the pianos a crescendo was successfully achieved through the four phrases, in that at least one of the peaks within each phrase were higher than the previous phrase. The exceptions were Collard 1905 and Blüthner 1892, where the first two phrases were louder than the latter two. On both these pianos, the dynamic peaked in this area, suggesting that their trebles were not as effective as their lower registers.⁸⁰ Amongst the graphs that illustrated the greatest dynamic increase were those of the recordings on the Bechstein 1906 and Broadwood 1908. These were the only two pianos which I had commented on having achieved a satisfying increase of dynamics during my recordings. In contrast, the graph of the Erard 1896 recording showed the least increase, This I had also noticed during the recording, as one of my first comment after playing Beethoven on the Steinway 1889 was that I did not struggle as much with the *crescendo* as I had the previous day (on the Erard 1896).

4.3.1.1.2 The passage of *sfps*

Figure 35: Second section of Beethoven Op. 109i, bars 33 to 42

From bar 33 to bar 42, there were *sfps* marked on every second-crotchet beat in the score. Alfred Brendel's understanding of Beethoven's *fp* was that it could have stood for more than just an abrupt accent:

⁸⁰ On the Collard & Collard 1905, there were two more instances where it was louder (at around 10 seconds and 24 seconds). However, this was not much higher (around 1 dB) than that achieved in the first two phrases.

It may mark out the last note of a longish forte passage which is to be succeeded by a sudden piano. In contrapuntal piano writing, the *fp* may also serve to underline and sustain the note of longest value while the other parts fall back at once to piano.⁸¹

A general decline in dynamics through the *sfps* was noticed in my recordings on the Bechstein 1903, both Collard pianos, Erard 1870, and Steinway 1889. It is possible that textual difference to the previous section (the right-hand notes being higher) accounted to a loss in dynamic capacity. Another likely reason was that I could have been affected by the perceptual loudness, as these pianos had tones particularly bright and shrilled in the upper registers. To remove the harshness of sound, I would have played with less attack, as on the Broadwood 1908:

I am cushioning into the chords [*sfp*] so they are not like an accent. Normally on some pianos, you get a forced, accented sound, which is quite set apart from the melodic line. But this piano does not produce this forced, harsh sound. It is just like a little nudging.⁸²

From the graphs, it was evident that in this section I achieved an increase of dynamics through the *sfp* on the Broadwood 1908 and the Erard 1896 and Erard 1900. On these three pianos, I was able to integrate the *sfps* to depict the rise of the melodic line, 'the *sfps* from bar 33 made much sense. Whilst in the left hand you can easily achieve a crescendo, you cannot hear a shape or line in the right hand if you don't do the *sfps* as written.'⁸³ On four other pianos, Bechstein 1892, Blüthner 1892, Blüthner 1901, and Pleyel 1909, I had retained the same loudness through the *sfps*. On the Blüthner 1892, the dynamics in this section were less than its previous section, which implied that the higher register notes of the piano were quieter than the lower register notes. Such balance contributed to Blüthner's tone being mellow and shrouded.

4.3.1.1.3 The second *crescendo*

Figure 36: Third section of Beethoven Op. 109i, bars 42 to 48

⁸¹ Brendel, *Alfred Brendel on music*, p. 36.

⁸² Thoughts after recording the Beethoven Sonata Op. 109 on the Broadwood 1908.

⁸³ Thoughts after recording the Beethoven Sonata Op. 109 on the Erard 1896.

In the third section, there is a *crescendo* marking from bars 42 to 48. On all pianos, I had started this section at a quieter dynamic than the end of section 2. The Blüthner 1901 and Erard 1896 were the only pianos that had overall louder dynamics in this section compared to its previous sections. On the two Steinway pianos, the dynamic was overall softer in this section. Although I had managed to do a *crescendo* on most pianos, I had difficulties producing the *crescendo* on the Pleyel 1909:

In the *crescendo*, I almost gave up trying to make it louder, because I know I cannot make it any louder on this piano. Instead, I concentrated on making the RH more sparkly, bringing out the fifth finger. I can hear that there were short swelling phrases. It was difficult to make a long-phrase; this piano does not allow the line to carry through.⁸⁴

4.3.1.1.4 The *forte* plateau



Figure 37: Fourth section of Beethoven Op. 109i, bars 48 to 52

The final section lasting from the second-crotchet beat of bar 48 to first-crotchet beat of bar 52, has *forte* as the indicated dynamic marking. Texturally, this section is at its thinnest as the right hand has predominantly single notes instead of chords. This explains the dip in loudness on all the pianos in this section compared to other sections, despite the section being marked *forte*. A *crescendo* was achieved on the three Bechsteins and Steinway 1905. This suggested that I was able to produce on these pianos louder notes even though the texture in the right hand was thin. On the contrary, I was not able to maintain the *forte* on the Blüthner 1894 and Collard 1905, as 'It was difficult to balance between the extreme ranges to bring out the *forte*. The tone decay of the upper register did not match the tone decay of the lower register, and overpowered over the bass notes.'⁸⁵ This implied that as notes descended more into the middle regions (B4 to B5) on the Blüthner 1894 and Collard 1905, the tone became less and less powerful. Therefore, for reasons of better balance between the extreme registers, the maximum volume depended on the loudest achievable in the upper register notes.

⁸⁴ Thoughts after recording the Beethoven Sonata Op. 109 on the Pleyel 1909.

⁸⁵ Thoughts after recording the Beethoven Sonata Op. 109 on the Collard & Collard 1905.

4.3.1.1.5 Dynamic distribution

According to the graphs, the vacillation between peaks and troughs varied from piano to piano, and from section to section. Both the Broadwood 1903 and Erard 1900 were the most consistent in their undulation throughout all four sections, whilst on other pianos the latter sections (3 and 4) usually have fewer rises and falls than the previous two sections. The greater the difference between peaks and troughs, the more distinction between loud and soft sounds, as well as clear distinction (of loudness) between notes. Examples of these can be found on the Blüthner 1892's section 1, Broadwood 1881's section 2, Broadwood 1908's section 1 and 2, and Pleyel 1909's section 2. It was probably that I was using more pedalling, so notes were not separated from each other. More legato playing would result in less distinction in loudness and less decaying of sound between notes, as evident from Bechstein 1903 section 3 and Erard 1896 section 3. Therefore, pianos which had fewer undulations overall, such as the Erard 1870, Blüthner 1901, and Collard 1905, would have had more sustain or resonance in sound than pianos with more undulations, such as the three Broadwood pianos, Bechstein 1906, and Collard 1870.

I have devised two tables to further explain the difference in the dynamic distribution of each piano. [Table 30, p. 216] reveals the amount of dynamic range and the percentage occupied at each of the level bands (3 dB per band, 9 in total).⁸⁶ Erard 1896 and Collard 1905 had the least dynamic range (6 bands), and the Bechstein 1906 had the greatest accessible dynamic range (9 bands). If we apply the 3 dB rule, where 'every 3 dB change represents a doubling or halving of sound energy', then the Bechstein 1906 with 24.7 dB difference increased the sound energy 6 times, whereas the Erard 1896 with 15.7 dB difference only increased 3 times.⁸⁷ Yet, the *crescendo* was more evenly spread on the Erard 1896, as 5 of 6 of its dynamic bands occupied more than 5% usage, while on the Bechstein 1906, only 4 of 9 of the dynamic bands had more than 5% usage.⁸⁸ According to [Table 31, p. 216], which informs the percentage of this dynamic range against the available headroom, Erard 1896 used the least percentage of the dynamic available, only 27%.⁸⁹ The lesser percentages (28%) were also prevalent on other quieter pianos, such as the Blüthner 1894, Blüthner 1901, and Collard 1905. The louder the piano, the more percentage of the room it used, for example, Pleyel 1909 (38%) and Bechstein 1906 (40%).

⁸⁶ One being the loudest and nine being the quietest. As the gain was set differently for each piano during the recording, i.e. a quiet piano would need more boost in the sound signal, whereas a loud piano would require less.

⁸⁷ <https://pulsarinstruments.com/en/post/understanding-3db-rule>, consulted on 22 July 2020.

⁸⁸ Even dynamic spreading was also prevalent on the Erard 1900, Pleyel 1909, and Steinway 1889.

⁸⁹ The available headroom is calculated by subtracting the maximum volume (measured at the start of my recordings when playing Chopin Sonata Op. 5iv) and the minimum volume (the room at 'silence'). Dynamic variation is how much difference in dB between the loudest and softest passages in the recordings from bars 25 to 52 of the Beethoven Sonata Op. 109i.

Table 30: Percentage within each dynamic band (Beethoven Op. 109i, bars 25-52)⁹⁰

Dynamic bands	Bechstein 1892	Bechstein 1903	Bechstein 1906	Blüthner 1892	Blüthner 1894	Blüthner 1901	Broadwood 1881	Broadwood 1903	Broadwood 1908	Collard 1870	Collard 1905	Erard 1870	Erard 1896	Erard 1900	Pleyel 1909	Steinway 1889	Steinway 1905
1	1.0%	0.8%	1.6%	3.0%	0.5%	1.6%	0.4%	1.0%	0.8%	0.2%	2.2%	0.2%	7.6%	5%	1.4%	0.6%	0.2%
2	1.3%	18.2%	13.5%	20.7%	11.7%	20.0%	8.1%	10.8%	6.2%	3.0%	30.0%	12.4%	30.9%	22%	7.7%	4.0%	6.9%
3	10.0%	48.2%	41.4%	39.0%	47.4%	42.8%	32.4%	40.7%	34.3%	13.5%	44.8%	49.2%	34.8%	42%	27.2%	14.9%	39.1%
4	26.5%	25.9%	29.5%	27.5%	28.2%	25.1%	35.7%	34.6%	36.2%	46.7%	16.4%	24.2%	19.9%	24%	41.2%	48.5%	31.4%
5	42.2%	6.0%	9.5%	7.6%	10.2%	8.4%	19.3%	7.6%	13.1%	27.3%	5.5%	12.5%	6.5%	8%	16.2%	23.5%	17.6%
6	17.6%	0.7%	2.6%	1.6%	1.9%	2.0%	3.5%	5.1%	4.9%	6.5%	1.2%	1.3%	0.3%	1%	4.9%	7.5%	3.4%
7	1.3%	0.3%	1.2%	0.6%	0.2%	0.1%	0.6%	0.1%	4.2%	2.6%		0.3%		0%	0.6%	1.0%	1.4%
8			0.3%						0.4%	0.2%					0.8%		
9			0.3%														

Table 31: Rankings of pianos from least to greatest in headroom usage

Rank	Piano	Dynamic variation (dB)	Available headroom (dB)	percentage of headroom used
1	Bechstein 1892	17.3	55	31%
2	Pleyel 1909	21.6	56.2	38%
3	Broadwood 1881	16.7	56.8	29%
4	Erard 1900	19.1	58.1	33%
5	Erard 1870	17.6	58.2	30%
6	Erard 1896	15.7	58.3	27%
7	Collard 1870	19.7	58.3	34%
8	Broadwood 1903	16.6	58.4	29%
9	Collard 1905	16.4	58.5	28%
10	Blüthners 1892	18.7	58.5	32%
11	Steinway 1889	17.4	58.7	30%
12	Bechstein 1903	19.3	58.8	33%
13	Blüthners 1901	16.7	59.8	28%
14	Blüthners 1894	17.1	60.1	28%
15	Broadwood 1908	21.6	60.3	36%
16	Steinway 1905	18.3	60.6	30%
17	Bechstein 1906	24.7	61.4	40%

The examples I have given in analysing the *crescendo* in bars 25 to 52 through sonic visualiser graphically represented the dynamic variations, which correlated with my perception of ‘muffled’, ‘gentle’, ‘bright’ or ‘brilliant’ tone. Muffled or gentle tones, as described for Broadwood 1881, Blüthner 1894 and 1901, Collard 1905, and Erard 1896, were the pianos where I had achieved the least amount of dynamic variation.⁹¹ ‘Bright’ and ‘brilliant’ toned pianos, such as the Bechstein 1906, Broadwood 1908, and Pleyel 1909 were pianos where I was able to achieve more dynamic variations.⁹² These examples have briefly shown how scientific methods can provide evidence to

⁹⁰ The dynamic band is a ladder rung from loudest to quietest, each rung being 3dB (figuratively speaking, the first rung is 97 to 100 dB, the second rung is 94 to 96 dB, etc.). The percentages have been coloured to show the distribution.

⁹¹ [[Beethoven Broadwood1881](#)], [[Beethoven Collard1905](#)], [[Beethoven Bluthner1901](#)].

⁹² [[Beethoven Broadwood1908](#)], [[Beethoven Bechstein1906](#)], [[Beethoven Pleyel1909](#)].

correlate to one's musical ideas, and is a potential platform for future research on music analysis, as well as the analysis on the perception of tone.

4.3.2 Pedalling options in Brahms *Ballade*

The sonority of the instrument affected how much pedal I would use. This was especially prevalent for the polyphonic texture in Beethoven's Op. 109ii, and the chordal texture in Brahms' *Ballade*. As evident from the score, there were no pedalling indications until bar 11, but in almost all surviving recordings, pianists have used the pedal discrepantly. This is because the chords are marked with *forte* and *staccato*, which could sound rather exposed if left unpedalled on modern pianos. On the pianos sampled, there was a marked difference in the tone decay. The differences of tone decay between the pianos meant that there was no one-for-all solution for pedalling.

To explore the sonority of the pianos, I stated my preferences in pedalling (instinctive, selective or none) for the first 10 bars of Brahms *Ballade*, [Table 32, p. 218]. Instinctive pedalling is changing the pedal with the octaves on strong beats in the left hand. Selective pedalling is changing the pedal at places where an accent has been marked. No pedal is not using the pedal at all. [Figure 38, p. 218] shows the two types of pedalling in the first 10 bars of the Brahms *Ballade*, and a third type of pedalling between instinctive and selective, as executed on the Pleyel 1909. Through analysing my rationale in choosing the frequency of pedalling, differences on the sound decay from piano to piano can further give evidence to my ideal tone quality.

● Instinctive Pedalling
● Selective Pedalling
● Pedalling on the Pleyel 1909

3. Ballade

Allegro energico

Figure 38: Pedal markings on the Brahms *Ballade* Op. 118 No. 3

Table 32: My pedalling preferences for bars 1-10 of the Brahms *Ballade*

Pianos	First Preference	Second Preference	Third Preference
Bechstein 1906	A	B	C
Blüthner 1892	A	B	C
Blüthner 1894	A	B	C
Erard 1896	A	C	B
Steinway 1905	A	C	B
Blüthner 1901	B	A	C
Collard 1870	B	A	C
Collard 1905	B	A	C
Erard 1900	B	A	C
Bechstein 1892	B	C	A
Broadwood 1903	B	C	A
Pleyel 1909	B	C	A
Broadwood 1881	C	A	B
Broadwood 1908	C	B	A
Steinway 1889	C	B	A
Bechstein 1903	C	B	A
Erard 1870	C	B	A

Type of Pedalling: A – Instinctive; B – Selective; C - None

4.3.2.1 Instinctive pedalling as the first choice

The first pedal preference order, (instinctive, selective, then none) is the most 'routine', as this was my preference order of pedalling on the Blüthner 1894, which is my own piano. However, this preference order was only enacted on two other pianos, the Bechstein 1906 and Blüthner 1892. On these pianos, I was able to quickly respond to the pianos and control the balance of the staccato of the chords against the reverberation time. Not using the pedal on these pianos would result in the tone of the chords sounding dry, harsh, and snatching. As the sonority of tone on the Bechstein 1906 was fuller than the tone of Blüthner 1892 and 1894, I used half the depth of the pedal instead of the full amount.

The second pedal preference group, (instinctive, none, then selective), was chosen on the Erard 1896 and Steinway 1905. On these pianos, selective pedalling was especially difficult to achieve as the decay of tone in the staccato notes faded relatively quickly, so many a time I was inclined to revert to using instinctive pedalling. Because of the difficulty in gaining technical control over the use of pedal, my second preference on these two pianos was not to use the pedal at all.

4.3.2.2 Selective pedalling as the first choice

Selective pedalling as a first choice was suitable on 7 pianos. The pianos which I had chosen the preference order as selective, instinctive, then none, were Blüthner 1901, Collard 1870, Collard 1905, and Erard 1900. On these pianos, I had played slower to gain more clarity, as I find that the staccato chords had sustained for longer than the pianos for which I had chosen instinctive pedalling as my first choice. Both the tone of the Blüthner 1901 and the Erard 1900 felt a little sluggish and dragged. The added reverberation time could have been the room instead of the pianos themselves; both the Collard pianos were placed next to staircases, and the Blüthner 1901 was situated in a very long gallery.⁹³ The effect of the room reverberation on the pianos were also prevailing for the Bechstein 1892, Broadwood 1903 and Pleyel 1909, and there was too much blur if I were to use instinctive pedalling. However, selective pedalling was preferred over no pedalling as then the accented chords could be made more pronounced. On the Bechstein 1892, I was able to use the pedal effectively to balance how much sustain I wanted from the chords by changing the dynamics.⁹⁴ On the Pleyel 1909, there was still too much resonance even if

⁹³ The cause and effect of room reverberation is an extremely important factor for pianists in their choice of pianos in concert halls. My experience of playing in the National Trust houses, some of them being the same sizes as the concert halls, can relate to the experience that pianists would have had while they were actually playing these kinds of brands in the nineteenth-century concert halls.

⁹⁴ Thoughts after exploring all three pedalling options for the *Ballade* on the Bechstein 1892.

I was half-peddalling selectively. To compensate between selective and no pedalling, I created a new type of pedalling on the Pleyel 1909: 'I pedalled just on the accented notes on the third beats only... this piano is difficult to get a sudden forte, so by pedalling just on the accented notes I gained a bit force on that accent.'⁹⁵

4.3.2.3 No pedalling as the first choice

The piano that I had the most difficulty in deciding my preference in pedalling was the Broadwood 1881: Instinctive pedalling could have enriched the sonority of the chords, but a natural decaying of notes without any pedalling seemed particularly effective on this piano. In my opinion, the chords had great clarity on the Broadwood 1881, and the sound was able to project long enough to link but not obscure to the next chord. This was also the same on the Bechstein 1903, Broadwood 1908, Erard 1870, and Steinway 1889. The more pedal I had used, the more this seemed to place a drag on the music, as I had heard on the Bechstein 1903: 'when I don't use the pedal, the chords are crispy, and clear cutting. I wish to retain the dryness on this piano.'⁹⁶

It could be argued that pianos belonging to the last group possessed the most ideal tone decay in Brahms' *Ballade*, since Brahms did not indicate pedalling instructions until bar 11. As previously mentioned, my preferred sound for the Brahms *Ballade* was for the dry, leathery tone of Broadwood 1881, and the slightly resonant tone of the Steinway 1889.⁹⁷ One quality of an ideal tone decay is through mimicking the decay of the human voice, as I remarked after playing on the Erard 1870: 'when I play notes or chords, the decay was very smooth, it was very human. When I speak, I do not have to drag on intentionally to make the decay. Likewise, the decay here is gradual but not too slow. The louder I play, the longer that decay.'⁹⁸

The difference in sound decay between low notes and high notes affected my perception of the sonority of the instrument. Pianos which were more resonant in the bass and tenor region than their trebles, such as the Bechstein 1892, Bechstein 1903, and Steinway 1889, were perceived as being more sonorous than pianos with characteristics vice versa, e.g. Blüthner 1901, Collard 1905, and Pleyel 1909. However, if notes across several registers were to be played simultaneously, the overall length of the decay could increase significantly. The Erard 1896 was an example where the sonority of notes greatly increased with the notes being played simultaneously, and thus I had to slow down to achieve greater clarity:

⁹⁵ Thoughts after exploring all three pedalling options for the *Ballade* on the Pleyel 1909.

⁹⁶ Thoughts after exploiting all three pedalling options for the *Ballade* on the Bechstein 1903.

⁹⁷ [[BrahmsBallade_1to10_Broadwood1881](#)], [[BrahmsBallade_1to10_Steinway1889](#)].

⁹⁸ Thoughts after recording Beethoven on the Erard 1870.

During the final bars [of Op. 109ii], there was a lot of resonance. There is this ringing noise, as the notes do not seem to scatter as quick away as they normally do. I had not used any pedal this time, and even then, the notes lasted much longer than I had anticipated. After attempting it at a slower speed, the notes were audibly clearer, in particular, the last three chords, one could hear the cadence, the dominant not being mashed into the tonic. If I played this at a faster speed, and even if I were to not play not as loudly, the chords would just blend and not be distinct from each other.⁹⁹

4.3.3 Texture in Chopin *Nocturne* & Brahms *Intermezzo*

In Chopin's *Nocturne* Op. 55 No. 2 and Brahms' *Intermezzo* Op. 118 No. 2, the effectiveness of the balance between melody and accompaniment was vital for the search for the ideal tone. Pianos which had a distinct stratification of tone across the registers were desired for the Chopin *Nocturne*, as the texture was predominantly melody against single-note accompaniment rather than chordal.¹⁰⁰ For the majority of the piece, there were two melodic lines in the treble clef, and continuous quaver-accompaniment figuration in the bass clef. In Brahms' *Intermezzo*, this kind of texture was only present at bars 49 to 56, and the upbeat to bars 65 to 73. Beyond these bars, chords were infused, and there was only a single prominent melody instead of two being in dialogue. The difference in texture between the two compositions resulted in the variances to my preferred piano tone, though I had overall settled for pianos which were mellow and soothing in tone.

On [Table 33, p. 223], I have mapped out the note distribution for the Chopin *Nocturne* and the Brahms *Intermezzo* for ease of comparison. Notes in the Chopin *Nocturne* spanned across five octaves: the highest note was B \flat 6, and the lowest B \flat 1. The top melody ranged just over two and a half octaves; the inner melody spanned across approximately two octaves, overlapping the top melody and the accompaniment; and the left hand accompaniment notes ranged across three octaves, excepting the single C5 and E \flat 5 in bar 11. In the Brahms *Intermezzo*, the highest note was D \flat 6, and the lowest was mostly at A1, except for the low E1 appearing only once in the penultimate bar. This meant that the Chopin *Nocturne* had eight more notes in the upper-end register than the Brahms, but almost no difference in the lower end.

The use of chromatics was also much more prevalent in the Chopin than the Brahms. Thus the *Nocturne* was improvisational and with relentless cascades, an unrelieved sentimentality as described by Frederick Niecks:

The melody flowing onward from beginning to end in a uniform manner. The monotony of the unrelieved sentimentality does not fail to make itself felt. One is seized by an ever-

⁹⁹ Thoughts after recording Beethoven on the Erard 1896.

¹⁰⁰ Excluding the last six bars, where the texture changes to chordal.

increasing longing to get out of this oppressive atmosphere, to feel the fresh breeze and warm sunshine, to see smiling faces and the many-coloured dress of nature, to hear the rustling of leaves, the murmuring of streams, and voices which have not yet lost the clear, sonorous ring that joy in the present and hope in the future impart.¹⁰¹

The Brahms *Intermezzo* by comparison was less chromatic and improvisatory. Brahms focused on a predominant motif found at the start of the piece (C#-B-D, C#-B-A). This organisation meant that there was more textural variety and less rhythmic propagation. According to the Malcolm MacDonald, the *Intermezzo* is ‘a kind of cradle-song, wistfully yet broadly conceived, with especially fine harmonic shading, poignant use of major/minor cadences, and touches of canonic imitation.’¹⁰²

A comparison on the range of the inner melody in both pieces reveal that the tone of the vocal range could be regarded differently. In Chopin’s *Nocturne*, F3 to Eb5 could have been sung by an alto voice.¹⁰³ In Brahms’ *Intermezzo*, although the range was somewhat similar, the extension into B2 and A2 in the lower end and C#5 being the highest note is more befitting for a tenor than an alto. Furthermore, the inner melody in the *Nocturne* was played mostly by the right hand, whereas this was taken predominantly by the left hand in the *Intermezzo*. Brahms himself, as recounted by Ethel Smyth, also made the reference to ‘tenor’, ‘when lifting a submerged theme out of a tangle of music, he [Brahms] used jokingly to ask us to admire the gentle sonority of this ‘tenor thumb’.¹⁰⁴ Because of this shift, my tendency in comparison in the *Nocturne* was first to evaluate how the inner melody balanced with the top melody, before weighing the two melodies against the bass line. In the *Intermezzo* at bars 49 to 56, I first sought out the balance between the inner melody and the accompaniment, before evaluating how they juxtapose against the top melody.

¹⁰¹ ‘Frederick Niecks, *Frederick Chopin as a man and musician*, vol. 2 (London & New York: Novello, Ewer & Co., 1888), pp. 265–266.

¹⁰² Pamphlet notes from Leon McCawley, *Johannes Brahms, variations & fugue on a theme of Handel Op. 24, Waltz Op. 38, Klavierstücke Op. 118* (Somm Recording, 2012), p. 4. A similar description was used by Barry Douglas in the Pamphlet notes to his CD, *Brahms, works for solo piano* (Chandos, 2012), p. 10.

¹⁰³ Vocal range in *New Harvard dictionary of music*, https://web.library.yale.edu/cataloging/music/vocal-ranges?fbclid=IwAR2P7JY9dWk_Y2Lw3PdfEpPzykYayb6h77Bg1E7bW1GHhTkGwHjU5rOihU, consulted on 24 July 2019.

¹⁰⁴ Ethel Smyth, *Impressions that remained: memoirs*, vol. 1 (London: Longmans, Green, 1923), p. 279.

Table 33: Note distribution of the Chopin *Nocturne* and the Brahms *Intermezzo*¹⁰⁵

Notes	Chopin Nocturne in E flat Op. 55 No. 2			Brahms Intermezzo Op. 118 No. 2: bars 49-56; 65-73			rest of piece
	Top Melody	Inner Melody	Accompaniment	Top Melody	Inner Melody	Accompaniment	
Eb1							
E1							Grey
F1							
Gb1							
G1							
Ab1							
A1							
Bb1			Green				
B1			Green				
C2			Green				
Db2			Green				
D2			Green				
Eb2			Green				
E2							Grey
F2			Green				
Gb2			Green				
G2			Green				
Ab2			Green				
A2					Yellow	Green	
Bb2					Yellow	Green	Grey
B2					Yellow	Green	
C3			Green				
Db3			Green				
D3			Green				
Eb3			Green				
E3			Green				
F3		Yellow	Green	Pink	Yellow		
Gb3		Yellow	Green	Pink	Yellow		
G3		Yellow	Green	Pink	Yellow		
Ab3		Yellow	Green	Pink	Yellow		
A3		Yellow	Green		Yellow		
Bb3		Yellow	Green		Yellow		
B3		Yellow	Green		Yellow		
C4		Yellow	Green	Pink	Yellow		
Db4		Yellow	Green	Pink	Yellow		
D4	Pink	Yellow	Green	Pink	Yellow		
Eb4	Pink	Yellow	Green	Pink	Yellow	Green	
E4	Pink	Yellow	Green				
F4	Pink	Yellow	Green	Pink	Yellow		
Gb4	Pink	Yellow	Green	Pink	Yellow		
G4	Pink	Yellow	Green	Pink	Yellow		
Ab4	Pink	Yellow	Green	Pink	Yellow		
A4	Pink	Yellow	Green	Pink	Yellow		
Bb4	Pink	Yellow	Green	Pink	Yellow		
B4	Pink	Yellow	Green	Pink	Yellow		
C5	Pink	Yellow	Green		Yellow		
Db5	Pink	Yellow	Green	Pink	Yellow		
D5	Pink	Yellow	Green	Pink	Yellow		
Eb5	Pink	Yellow	Green	Pink	Yellow		Grey
E5	Pink	Yellow	Green	Pink	Yellow		Grey
F5	Pink	Yellow	Green	Pink	Yellow		Grey
Gb5	Pink	Yellow	Green	Pink	Yellow		
G5	Pink	Yellow	Green	Pink	Yellow		
Ab5	Pink	Yellow	Green	Pink	Yellow		
A5	Pink	Yellow	Green	Pink	Yellow		
Bb5	Pink	Yellow	Green	Pink	Yellow		
B5	Pink	Yellow	Green	Pink	Yellow		
C6	Pink	Yellow	Green	Pink	Yellow		
Db6	Pink	Yellow	Green	Pink	Yellow		
D6	Pink	Yellow	Green	Pink	Yellow		
Eb6	Pink	Yellow	Green	Pink	Yellow		
E6	Pink	Yellow	Green	Pink	Yellow		
F6	Pink	Yellow	Green	Pink	Yellow		
Gb6	Pink	Yellow	Green	Pink	Yellow		
G6	Pink	Yellow	Green	Pink	Yellow		
Ab6	Pink	Yellow	Green	Pink	Yellow		
A6	Pink	Yellow	Green	Pink	Yellow		
Bb6	Pink	Yellow	Green	Pink	Yellow		
B6	Pink	Yellow	Green	Pink	Yellow		

¹⁰⁵ The colour portions in this chart represent notes as found on score. Pink portions represent note of the top melody. Yellow portions represent notes of the inner melody. Green portions represent notes of the accompaniment. In the Brahms *Intermezzo*, grey portions represent addition notes found in the rest of the piece other than bars 49-56 and 65-73.

4.3.3.1 Melodic distribution in Chopin

The top melody

On three of the pianos, the Bechstein 1892, Bechstein 1903 and Steinway 1905, I found the notes of the top melody had dominated over the other two voice-lines, and several issues arose as a result. Firstly, the inner melody was unable to match the ringing qualities of the top melody. This was noticed on the Steinway 1905 that notes between B \flat 4 and B \flat 6 had a nice singing tone, but notes below the B \flat 4 had paled in comparison. Similarly, on the Bechstein 1892, 'notes of E \flat 2 to E \flat 4 felt warm and sonorous, while the notes above E \flat 4 were obtrusively ringing tone.'¹⁰⁶ On these pianos, it was difficult to make the two top melodies come in dialogue with one another, despite the top melody balancing well with the accompaniment in sections without the inner melody.

The ringing qualities of notes above notes E \flat 4 or B \flat 4 was especially problematic when playing trills. The brilliancy of the trills, being too virtuosic and melodious, appeared to be inappropriate for the mood of this *Nocturne*. The ideal trill sound was achievable on the Blüthner 1892 and Blüthner 1894, as opposed to the trill sound on all three Bechstein pianos: 'the trills were very tuneful... I wanted the trills at bar 34 to be fluttering, and disguised... I had to adjust my finger to get the voicing right on this piano, especially at bar 52 to 55.'¹⁰⁷ Besides trills, an unevenness of the ringing quality in the registers covering the top melody was much easier to notice in the *Nocturne*. On the Steinway 1889, extra care over the treatment of particular notes was needed: 'At bar 13, the C5 did not connect, it sounded like it had scattered (dynamically). Compared to the D \flat next to it, this C was much more muffled. Also the notes D5 to A \flat 5, they all sounded quite muffled.'¹⁰⁸ Other pianos also had odd notes which stood out, such as the lack of sustaining, carrying quality of the A \flat 5 on the Erard 1896.¹⁰⁹

The inner melody

The prominence of the inner melody is crucial in this piece not only because it is a dialogue with the top melody, but also because it is an additional layer in the texture. It was not until playing on the Pleyel 1909 that the importance of the inner melody was brought forth, 'I felt like something was missing from the music [bar 13 to 30], which was then made complete when the

¹⁰⁶ Thoughts after recording the Chopin *Nocturne* on the Bechstein 1892.

¹⁰⁷ Thoughts after recording the Chopin *Nocturne* on the Bechstein 1903.

¹⁰⁸ Thoughts after recording the Chopin *Nocturne* on Steinway 1889, [[ChopinNocturne_Steinway1889](#)].

¹⁰⁹ [[ChopinNocturne_Erard1896](#)].

inner melody came back at bar 30.¹¹⁰ On the Broadwood pianos (1903 and 1908) and the Pleyel 1909, it was easier to bring out the inner melody, in particular how the tone differed between F3 to D♭4, E♭4 to E♭5, and E♭5 onwards. The splitting of registers into regions was most prominently heard on the Broadwood 1903:

The alto region, F3 and B♭4, this region is more humble in tone, whereas the region above is brighter... What was effective was from bar 58, from B♭6 onwards, the notes are very thin, and so they do not actually get in the way... It has almost a character of its own, very thin, and papery. On this piano, I can hear several layers of tone, [from the top] a thin region, then a singing, then supporting, accompanying, and bass rumbling. I feel each region divides itself very nicely.¹¹¹

Besides the Broadwood 1903 and 1908, and the Pleyel 1909, I was also able to achieve (almost effortlessly) a pleasant duet between the melodic lines on the Broadwood 1881 and the Erard 1900, the tone of the latter being mellow and *sotto voce* around C4 to C5, which was distinct from the notes in the upper melody (above C5). I did not feel the need to intentionally bring out the melodic lines by varying the finger strength, this being a common practice in modern piano techniques. In contrary, 'voicing' the melody was needed on pianos such as the Collard 1905: 'as soon as it [the inner melody] gets below the middle C, then I started to have force some of the notes out.'¹¹²

The accompaniment part

As the accompaniment part in the left hand is uninterrupted throughout the entire piece, it could be regarded as another lyrical gesture. Therefore, a well-defined tone would be ideal to depict the melodic flow in the left hand. Pianos with louder treble but weaker bass notes were the ideal for the proportioning of tone, such as the Blüthner 1892, as the dynamic indicated for the left-hand accompaniment part as indicated on the score:

At bar 35, I am inclined to bring out the top lines, because the climax of the dialogue is there. But you cannot reach *fortissimo* [on this piano] if you only just bring out the right hand; you must bring out the left hand also. Normally when you bring out the left-hand line, it is too much of a riot.¹¹³

The balance between the accompaniment part and the melodic parts was especially challenging on pianos with loud bass-register notes but weak trebles, as on two of the Bechstein pianos (1903 and 1906), the tone of the bass notes were particularly loud and too powerful. Bechstein's domineering bass tone created a kind of nervous tension in the music, 'the left hand is not nice, I am trying to make a beautiful accompaniment out of this, but it is difficult. To achieve

¹¹⁰ Thoughts after recording the Chopin *Nocturne* on Pleyel 1909.

¹¹¹ Thoughts after recording the Chopin *Nocturne* on Broadwood 1903, [[ChopinNocturne Broadwood1903](#)].

¹¹² Thoughts after recording the Chopin *Nocturne* on Collard 1905.

¹¹³ Thoughts after recording the Chopin *Nocturne* on the Blüthner 1892.

the kind of Chopin I am after, I would probably have to use the *una corda* all the way through. Right now it is a very loud, nervous, and vicious sound.¹¹⁴ My fear of playing the left hand too loudly on these pianos, particularly when at places where a *piano* was indicated, resulted in half-hearted (faint) notes, which had not allowed the tone on these pianos to speak. The gradation of tone in the left hand alone was also a difficult task in this *Nocturne*, as notes in the accompaniment had spanned over three octaves. To achieve the correct proportioning of sound, I adjusted the strength of my fingers through the rise of registers on the Collard 1905:

I am trying to make my left hand quieter because it was really loud, and needed it to be more lyrical, especially at bar 24. At bar 28, I want to achieve an ascent, but I must work hard in my fingers to achieve this.¹¹⁵

4.3.3.2 Melodic distribution in Brahms *Intermezzo*

The issue of balance in the Chopin as I have discussed above could also be applicable for evaluating the effectiveness of tone in the 3-part texture in the Brahms *Intermezzo*, at bars 49 to bars 56, and bars 65 to 73. The crucial difference between the Brahms and the Chopin was in juggling the inner melody with the left hand against the accompaniment, rather than playing it in the right hand against the top melody. I had the most difficulty on the Broadwood 1903 and Collard 1905, as the as the tone of the middle proportion in these two pianos was ‘heavy’ both in sound and weight:

At bar 49 to 56, the tenor line was not easy to bring out as I thought. I put in much more effort than it looks. I think it is because, when it is in my right hand, I am balancing out the lower part of the two-part harmony. It is easier than if the melody were in the left hand, as I am balancing the upper part of the two-part harmony. It is bottom heavy. It is difficult, because naturally I can do more on my strong fingers (1, 2 and 3). It should be the same for both hands, but somehow the notes are much louder in the bass, so harder to control.¹¹⁶

Beyond these bars, chords were frequent in the *Intermezzo*, e.g. bars 57 to 64 was chordal in texture. The greatest interest in playing this passage on different pianos was the practical experimentation of un-notated chord spreading. As previously discussed in Chapter Three, un-notated chord spreading was fashionably adopted by nineteenth-century pianists, and was a practice to enhance tonal quality of the melody as well as to soften, give energy to, expand texture, and vary temporal and rhythmic interest through agogic accentuations.¹¹⁷ This practice

¹¹⁴ Thoughts after recording the Chopin *Nocturne* on Bechstein 1906.

¹¹⁵ Thoughts after recording the Chopin *Nocturne* on the Collard & Collard 1905.

¹¹⁶ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1903.

[[BrahmsIntermezzo_49to76_Broadwood1903](#)].

¹¹⁷ Chapter 3.3.8 The Viennese school, under Brahms, p. 166. In the new Bärenreiter edition of Beethoven’s sonatas for piano and violin, Neal Peres Da Costa explained that un-notated chord spreading is one of ‘the historically-verifiable expressive practices’ from the late-eighteenth and nineteenth centuries which should not be ignored and neglected in performance practice, but rather to be experimented and understood by current-day pianists and musicologists to unlock further potentials and possibilities in interpreting music.

continued in the early-twentieth century, despite pianists playing on pianos which were radically different to those in the nineteenth century.¹¹⁸ Thus, un-notated chord spreading could be understood as a toolkit which reflected the individual artistry of pianists and their response to different pianos.

In my exploration of pianos, I found it particularly unnatural to play the chords without the spread on straight-strung pianos. On the Erard 1870, I expressed my disliking of hearing the notes sound together in a chord, and reasoned that the more even the spread the chords, the better the chords would have sounded.¹¹⁹ On the Erard 1900, I explained that spreading the chords could promote further fullness of tone:

The keys feel very shallow. I think if I play them just as a chord, I cannot hear the fullness of the chord on this piano, so that is why I arpeggiated it. If I play the whole chord, I cannot hear all the individual notes.¹²⁰

My intention for chord spreading was at times hindered by the condition of the piano, such as on the Broadwood 1903, where the keys were sticky, so spreading the chords would have caused bulges in the sound: ‘the chords are very static, but if I spread them, the keys are a bit sticky. I do not feel confident that I can spread them and still make a *pianissimo* sound, so I left them as chords today.’¹²¹ In general, excepting the two Broadwood Barless pianos, I did not spread the chords on cross-strung pianos:

When the notes combine to play the chord, they are very harmonious. When it is a dissonance, you can hear that it is a dissonance, and where there is a resolution, you can hear a resolution. Spreading the chord devoid of this tension and release. When you play the arpeggiation, it gets a bit messy, surging, and complicated... I prefer chords as it is on this piano.¹²²

I also contemplated whether to spread the first right-hand chord at bar 6, which would mean a change in the fingering. If I were to play it as a chord, the fingering would be 1-3-5 (with the thumb being across the A and B). If I were to spread the chord as four independent notes, I would need to use fingers 1-2-4-5. Spreading the chord and adopting the fingering 1-2-4-5, which I did so on the Broadwood 1908, highlighted the dissonant interval leap of the 7th in the melodic line:

‘Performing practice commentary’, <http://www.baerenreiter.com/en/shop/product/details/BA9014/>, consulted on 15 January 2021.

¹¹⁸ Un-notated arpeggiation can be heard in many of the piano rolls made by nineteenth-century pianists and their pupils. An immensely useful source for piano rolls is Denis Condon’s *Collection of reproducing pianos and rolls*, the recordings of which have been digitised and made available online by Stanford University, <https://supra.stanford.edu/>, consulted on 17 February 2021.

¹¹⁹ Thoughts after recording the Brahms *Intermezzo* on the Erard 1870.

¹²⁰ Thoughts after recording the Brahms *Intermezzo* on the Erard 1900.

¹²¹ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1903.

¹²² Thoughts after recording the Brahms *Intermezzo* on the Pleyel 1909.

I wanted a bit more delay before approaching my highest note. The chord itself sounded harsh, which lessens the impact of the melodic dissonant leap of the 7th, especially on this piano. The 4-note spread slightly highlights the top A.¹²³

4.3.4 Tempo in Liszt *Gnomenreigen*

The last aspect of comparison on tone is how it can influence tempo, which I evaluated through Liszt's *Gnomenreigen*. A brief examination into some of the recordings of *Gnomenreigen* reveal that there were vast differences in speed. György Cziffra recording and Sviatoslav Richter's 1958 Budapest recording was the fastest to be found, lasting around 2 and a half minutes.¹²⁴ Richter's recording of the same piece in 1988, lasting over 3 minutes, was much slower but had used less pedalling to allow for more clarity.¹²⁵ The speed on Richter's latter recording was around the same timings as Sergei Rachmaninoff's (3'05) and Adam Gyorgy's (3'12).¹²⁶ Claudio Arrau's recording in 1863 was amongst those which adopted slower speeds, and his was more refined in dynamic shaping and had more clarity in the notes than Cziffra's, although less technically excellent.¹²⁷ In the past years, there was once again a fashion for faster playing, as heard in Daniil Trifonov's recording for the Deutsche Grammophon (2'54).¹²⁸ My own timings of this piece mostly lasted between 3'18 to 3'23.

To test the limitations of tone clarity, I conducted two experiments on tempo variation in the *Gnomenreigen*. For the first experiment, I played from bars 21 to 32 at five different metronome speeds (quaver beats per minute: 130, 138, 146, 152, and 160), and selected the speed. The second experiment was to play as fast as I can without considering clarity the *il piu presto possibile* section (bars 133 to 143). This was so to compare the difference in speed between playing as fast as possible and the playing at the perceived ideal clarity in tone. This data can be found on [Table 34, p. 229].

In general, the weight of the piano keys had not influenced too much the decision for the ideal speed, however, slower speed was preferred on Broadwood 1881 and Bechstein 1906, as

¹²³ Thoughts after recording the Brahms *Intermezzo* on the Broadwood 1908.

¹²⁴ György Cziffra, *Piano works by Liszt, Schumann, Balakirev, Field, Hummel and Cziffra*, HCD32056 (Hungaroton, 2001), recording lasting 2'42. Sviatoslav Richter, *Piano recital: Richter, Sviatoslav - LISZT, F. / CHOPIN, F. (1948-1963)*, PH18041 (Profil, 2018), recording lasting 2'28.

¹²⁵ <https://www.youtube.com/watch?v=rbKRTxKilhc>, consulted on 20 August 2019.

¹²⁶ Sergei Rachmaninoff, *Piano recital: Rachmaninov, Sergei – Schumann, R. / Chopin, F. / Liszt, F. / Mendelssohn, Felix / Tchaikovsky, P.I. / Schubert*, DIAP040 (Les indispensables de Diapason, 2011). Adam Gyorgy's 2003 recording: https://www.youtube.com/watch?v=gWs5jqRcT_4, consulted on 20 August 2019.

¹²⁷ Claudio Arrau, *Piano recital: Arrau, Claudio – Beethoven, L. van / Schumann, R. / Liszt, F. (1963)*, IDIS6695 (IDIS, 2015), recording lasting 3'14.

¹²⁸ Daniil Trifonov in *Liszt, the essentials (Trifonov, Barenboim, Kempff, Horowitz, L. Berman, Argerich, Pletnev, Yundi Li, Anda, Ott, Pogorelich)* (Deutsche Grammophon, 2017). Mikhail Pletnev's 2018 recording lasted 2'58, <https://www.youtube.com/watch?v=Nu4VEWL3z1w>, consulted on 20 August 2019.

these pianos had a heavy, down-weight action in the F3 to F5 region. On the other hand, faster speed was achievable on Blüthner pianos, as they have much lighter action. On the Blüthner 1894 and Blüthner 1901, I was able to play the fastest at *il piu presto possibile* (bars 133 to 143), but at the expense of losing clarity: 'I am always inclined to go too fast on a Blüthner, because the action is so light and keys are quite slippery. Sometimes my fingers go out of control, but I am having so much fun that I am not concerned about the clarity as much'.¹²⁹

Table 34: Various metronome speeds taken for sections within *Gnomenreigen*¹³⁰

Piano	Preferred speed for bars 21 to 32 (bpm)	Speed of <i>il piu presto possibile</i> (bpm)	Preferred speed as % of <i>il piu presto possibile</i>
Bechstein 1892	148	170	87%
Bechstein 1903	152	170	89%
Bechstein 1906	144	170	85%
Blüthner 1892	148	178	83%
Blüthner 1894	146	183	80%
Blüthner 1901	152	183	83%
Broadwood 1881	138	170	81%
Broadwood 1908	138	160	86%
Broadwood 1903	146	168	87%
Collard 1870	160	172	93%
Collard 1905	146	174	84%
Erard 1870	152	172	88%
Erard 1896	152	172	88%
Erard 1900	150	172	87%
Steinway 1889	146	176	83%
Steinway 1905	145	164	88%
Pleyel 1909	130	170	76%

As I had conducted these experiments in their sections, I did not need to take into account the technical endurance needed to complete the whole piece from beginning to end, thus was able to sprint at maximum speed. However, taking into account the physical endurance, a pianist may not be able to play as fast as they could, or go at the maximum capacity of the instrument. This was what I had noticed when playing the heavy-action Collard 1905 in comparison to the lighter-action pianos encountered on previous days:

Over the past few days, I have been using mostly my fingertips (Broadwood 1881, Erard 1870). Today, I had to exert a lot more energy, a lot more arm weight, and I am feeling quite tired already by the time I arrived at bar 121.¹³¹

¹²⁹ Thoughts after recording the Liszt *Gnomenreigen* on the Blüthner 1892, [[LisztGnomenreigen Bluthner1892](#)].

¹³⁰ The gradient shading for the speeds goes from red to blue, with red-coloured boxes representing a slow tempo, and blue-coloured boxes representing a fast tempo. For the final column, the preferred speed as a % of maximum speed is also shown as a bar chart, i.e. the whole width represents 100%.

¹³¹ Thoughts after recording the Liszt *Gnomenreigen* on the Collard & Collard 1905.

Clarity can be understood as the measure of audibly distinguishable notes. As mentioned previously, room acoustics can significantly alter a pianist's perception of tone clarity. A piano in a richly reverberant room, such as the one that the Broadwood 1903 was in, would have blurred the piano's tone compared to one in an absorbent room, such as the room Erard 1900 was in. However, room resonance has lesser impact on higher frequency notes, so we can negate the factor of room resonance for Liszt, as at bars 21 to 30 of *Gnomenreigen* all the notes were above middle C. For bars 21 to 34, the brilliance of the tone especially in the upper treble region can affect the perceived clarity. The more brilliant the right-hand notes, from D#5 to D#7, the more penetrating the tone to heighten the virtuosity display of finger works. There was no need to adjust the tempo on pianos in which this trait was already prominent, such as the Bechstein 1906, Broadwood 1903, Collard 1905 and Steinway 1889. These pianos generally had a sparkly upper region, a muffled, non-dominating middle region, and a smooth but not too distinct bass region. Whereas on pianos which possess brilliant upper registers, such as the Bechstein 1903 and the three Erard pianos, a faster speed was needed to better encapsulate the character. On these pianos, the jubilant bouncing of the left-hand chords could contribute to the effect of *giocoso non-legato*, making up for the lack of brilliance of the upper register notes in the right hand. This was noticed on the Bechstein 1903:

It was very satisfying playing the *vivacissimo* from bars 121, because it was really loud and brilliant. Despite the weak tone in the upper register, the bass was particularly loud, which really added to the fanfare spirit of the piece.¹³²

The greater imbalance in tone between the registers, the faster I was compelled to play to bridge the differences; thus I selected 160 bpm on the Collard 1870: 'if I played too slowly, the left hand chords would be dull and less bright and bouncy in juxtaposition to the sparkly right hand notes.'¹³³ On the Broadwood 1881 and Broadwood 1908, 138 bpm was my preferred speed, but for alternative reasons. The Broadwood 1881 did not sound virtuosic, as it had lacked brilliance of tone in the upper registers, therefore playing fast would not have brought out the piano's best tones.¹³⁴ The action was also not as responsive as on other pianos, as one needed to use more finger articulation to make every note sound. At 138 bpm, the speed was not too fast to obscure the clarity in the right-hand notes, whilst still able to retain the buoyance to the left-hand chords. In comparison, the tone of the Broadwood 1908 was sparkling in the upper-regions, and the left hand chords did not sound sluggish.¹³⁵ Although I could manage to achieve clarity at faster speeds, 138 bpm was preferred as it was enough to reflect the *giocoso* character. Likewise, a slow

¹³² Thoughts after recording the Liszt *Gnomenreigen* on the Bechstein 1903.

¹³³ [[LisztGnomenreigen Collard1870 130bpm](#)], [[LisztGnomenreigen Collard1870 160bpm](#)].

¹³⁴ [[LisztGnomenreigen Broadwood1881 138bpm](#)].

¹³⁵ [[LisztGnomenreigen Broadwood1908 138bpm](#)].

speed preference, such as on the Pleyel 1909, would not diminish the effect of the character if already could be portrayed through the tone:

The right hand had just enough flamboyance and sparkle to balance the left-hand chords, which were also effervescent and light, while meaningful. I did not feel compelled to go any faster, as I can do all the dynamics, all the fluctuations, and build from these.¹³⁶

By experimenting with playing at different speeds on different pianos, it had eventually led to a shift in my own interpretation of the piece. On the Pleyel 1909, there was an extreme difference in speed between my preferred and the *il piu Presto possibile*. The great increase in speed opened the opportunity for a noticeable variety in character change, rather than maintaining at a fast speed throughout the piece:

Liszt's own tempo instructions on score were *Presto scherzando*, then *un poco più animato* at bar 21; *rinforzando velocissimo* at bar 33, and back to *Presto scherzando* at bar 41. A similar pattern follows until bar 77: *sempre presto*, then bar 121: *vivacissimo*, and finally, bar 133: *il più Presto possibile*. If the tempos were an indication to a specific metronomic mark, then there should be at least a difference of 40 [bpm] between the fastest and slowest sections. I thought that I had achieved this on this piano. I could create a dramatic contrast in character in both the slower and faster sections without losing its virtuosic element.¹³⁷

4.4 Summary

This chapter presented the highlights from comparing 17 historical pianos dating the period 1870 to 1910. Through playing the same pieces on each the pianos, I have shown that while there were pianos with tones that I had generally preferred, those tones may not have suited particular repertoire. Likewise, what I thought as the most suitable tone for the piece may not be my ideal piano. Each composition posed differing technical challenges, and thus needed differing tones. In the Beethoven sonata, a sustaining tone across all registers was needed for achieving effective dynamic variations. In the Brahms *Ballade*, an appropriate amount of decay was needed for the staccato chords, its effects which could be enhanced by using the sustaining pedal. In the Brahms *Intermezzo*, a prominent middle register was anticipated to achieve harmonic dissonances and resolution in chords, as well as the melody voicing above the left-hand accompaniment. In the Chopin *Nocturne*, a singing tone for notes in middle and upper register was sought to achieve the effect of duetting, as well as a mild bass tone to serve as accompaniment. In the Liszt

¹³⁶ Thoughts after trailing all the speeds for bars 21 to 32 in *Gnomenreigen* on the Pleyel 1909. For a comparison of the audio recording at different speeds [[LisztGnomenreigen Pleyel1909 130bpm](#)], [[LisztGnomenreigen Pleyel1909 138bpm](#)], [[LisztGnomenreigen Pleyel1909 146bpm](#)], [[LisztGnomenreigen Pleyel1909 152bpm](#)], [[LisztGnomenreigen Pleyel1909 160bpm](#)].

¹³⁷ Thoughts after conducting all experiments in *Gnomenreigen* on the Pleyel 1909.

Gnomesreigen, a clarity in tone in the extreme ends of the keyboard compass was preferred when playing at fast tempos.

In the Beethoven Sonata, my preference was for the clear, penetrating tone in both upper and lower registers, as found on the Broadwood 1908. For the Brahms *Intermezzo*, the tone of the Erard 1900 and 1896 worked best, as there were distinctions in tone between different registers. In the Brahms *Ballade*, my pick was the Broadwood 1881, that despite my general dislike of its tone, the piano had the ideal amount of tone decay for the piece. In Chopin *Nocturne*, the shrouded tone of Blüthner pianos suited its character, but my preferred tones were the Erard 1870 and Pleyel 1909, where there the notes in the middle and upper regions were particularly singing. In the Liszt *Gnomesreigen*, my preferred pianos for Liszt were the Collard 1870 and Pleyel 1909, as their tones were bright in the upper treble but less resonant in the middle regions, with an action neither heavy nor light.

In addition to the physical appearances of the pianos, other factors, such as room acoustics and room ambiance also affected my perception of the ideal tone. As emphasised throughout this chapter, these external influences did not alter my sensation of the perceived tone, but rather augmented or diminished the existing qualities already belonging to the pianos themselves. Certainly, the acoustics of some of the pianos could be improved, but the nature of the pianos' tones was not compromised. The same could be said for myself, the pianist, that despite trying to manipulate the tone to sound better, I still could not change the natural tone of the instruments.

The value for pianists today in gaining experience on late nineteenth-century pianos, as I have enacted through my expedition, is the potential to unlock and expand on the concept of artistic piano playing. The distinction of tone found between these pianos is far greater than their modern equivalents, with varying rates of tone decay, key weight, sonority, and register distribution, all of these could lead to a refined and nuanced understanding of the complexity of late-nineteenth-century performance practice. I started the thesis with understanding of the pianos from treatises and company archives, and now I have seen, touched, played, and heard the tone of these surviving artefacts. I have scrutinised the written descriptions found in the late nineteenth-century press to uncover the diverse perspectives on piano tone from music historians and pianists, forming a judgement of piano tones through analysing my own playing, renewing the obsolete descriptions for pianists and musicologists today. The sound archives produced, along with the available documentary evidence, are irreplaceable in the search for the ideals of late-nineteenth-century piano tones. Whilst this investigation prepares us for the discussion, it is the idiosyncrasies of tone through the sound archives that elicit our responses to the late-nineteenth-century performance culture both objectively and imaginatively. So, what is your preferred tone?

Conclusion – Key themes, future research & final remarks

This thesis has investigated grand pianos tones (1880 to 1904) through an array of perspectives of piano manufacturers, piano trade, instrument builders, musicologists, critics, and pianists. My contribution to the piano scholarship is twofold; highlighting the significance of written, historical accounts of tone through the examination of trade, world exhibitions, and concert reviews; and playing and compiling recorded samples of sounds from pianos of this period. This combined approach has paved the way for a new understanding of pianos through mediation and reception studies.

The diagram below [Figure 39] illustrates the conflict of interest for the preference of tone in the period under examination. While there were clear isolated pockets of piano tone preference prior to 1880, by 1904, there was a shift towards a homogeneous ideal of tone. The narratives presented throughout the thesis have revealed that people fervently voiced their opinions during this period, but as the dominant taste became widespread, their voices were heard less and less. The purpose of exploring the ideals of tone was not merely to find the best, but rather, to understand why these differences existed (and still exist), and how they can inform performance practice.

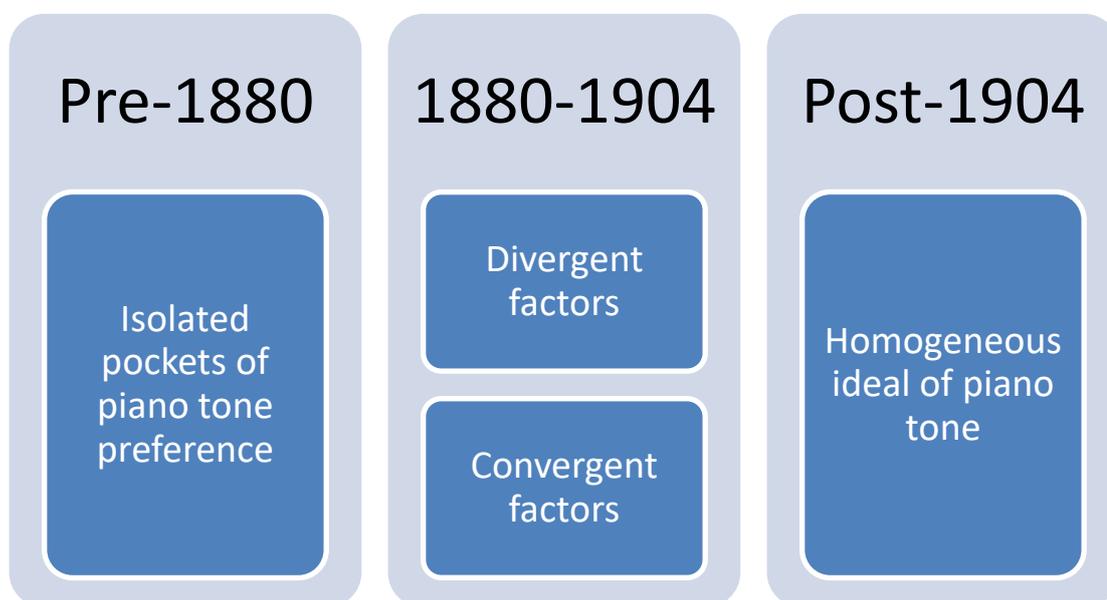


Figure 39: Shifting ideals of tone from 1880 to 1904

Ideal tones in Design

As detailed in the first chapter, the piano industry flourished in the late-nineteenth century, and the pursuit of tone was an important consideration in designs of the grand piano. The availability of technological improvements and scientific progress in acoustics during this period meant that pianos could be engineered with more precision, and piano productions could be accelerated through machinery. These newer technologies were welcomed by American and German firms, but generally shunned by English and French firms. Thus, American and German firms were considered ‘innovative’, and the English and French firms were regarded as ‘conservative’. The rejection of a growing reliance on machinery was mostly due to pride in the firm’s legacy; the majority of the leading English and French firms, such as Broadwood, Kirkman, Erard, and Pleyel, were century-long establishments, whereas the leading American and German firms, like Steinway, Bechstein and Blüthner, were only a few decades old. Differing priorities and choices of piano parts generalised different tones. This difference was summarised in an article entitled ‘American and English Pianoforte’ in an *MOMTR* issue from 1881:

On comparing pianofortes by various makers it is well also to bear in mind the special peculiarities of each. The makers of the Erard piano desire to produce a brilliant ringing effect, and do not destroy the numerous tingling overtones which succeed the cessation of their primaries. Sensitive artists who desire an achromatic quality object to these, although they are intended to add a kind of harmonic halo or lustre to the general tone, which in a crowded drawing-room might appear dull and lifeless – wanting in radiance and animation. The Broadwood makers strive for the formation of a full organ-like tone. The Collards are successful in obtaining flute-like and liquid tones, which in the treble are remarkably sweet and dulcet. The German pianofortes are generally rough and unfinished in mechanical details when compared with the French, although the tones are stronger. Yet neither bear comparison with those of the United States. These also among themselves present marked characteristic. One maker prides himself on the magnitude and power of his instruments, and their fitness to be employed with the orchestra in large halls; another on the delicacy and extreme purity of the tone which he deems can only be obtained a “travelling power”.¹

Yet, a lack of reliance on machinery meant that the ‘conservative’ firms were not able to compete in piano quantity against the ‘innovative’ firms, which curtailed their chances in the local and global market, thus diminishing their use and resulting in reduced popularity. In late nineteenth-century France, government legislations protected French firms, slowing this domino effect. British firms were the ones severely affected: they lost the export market to German firms and were invaded by them domestically. With a change of directors of the British firms in the late 1890s, some conformed to the practices of American and German firms, but changes in the manufacturing process led to unique designs being abandoned and compromised. Viennese firms,

¹ ‘American and English pianoforte’, *MOMTR*, 4: 47 (August 1881), p. 415.

on the other hand, chose to pursue both the ideals of 'conservative' and of the 'innovative' in their piano designs, and concurrently made pianos according to Viennese, English, French, and German standards.

During this period, manufacturers specialising in piano parts developed superior efficiency, which led to piano firms outsourcing some processes. Parts such as the action, stringing, frames, and soundboard were crucial to the composition of tone traits. Shoring of these parts led to a narrowing of designs, which led to a homogenous tone. Variations could still be found in pianos before the turn of the century from firms which used careful selection of parts, as well as proprietary designs in achieving their ideal tone.

Although piano firms of the late-nineteenth century had desired to establish their own unique tones, their priority rested on what was sustainable and economically favourable. As the trends shifted, so did the ideal of tone. It was only through reaching the pinnacle that firms could be unhesitant about projecting their ideal tone onto others.

Ideal tones on Exhibit

The second and third chapters of this thesis explored the various ways in which opinions of piano tone were formed. In Chapter 2, international exhibitions were examined to explore how pianos were compared on a global scale. The exhibitions modelled the influences concurrent in the society at large. Exhibition experience was shaped by the organisers and representatives, thus guiding the public's taste of pianos. In some cases, visitors experienced the pianos silently (as playing was forbidden), their opinions were stimulated by visual perception: the piano's casing and surroundings, the written descriptions, and the atmosphere of the gathered crowd.

The public was also informed of the quality of pianos through the exhibition competition rankings. Thus, piano firms desired a suitable yet empathetic jury. The many protests and complaints about the jury composition, as well as the discrepancies in awards, revealed the diverging opinions of tone ideals between piano firms and the juries, and even amongst juries themselves. Jury reports and reports of delegates were published in the press. However, for the late nineteenth-century audience, the reportages of opinions were of very limited scope, thus the press had much power in projecting the ideal of piano tone onto the public.

Through the study of exhibitions, it is evident that tone ideals in grand pianos of the late-nineteenth century were not only projected by the piano firms, but also projected by the governing bodies and press. It is through these support networks that firms either failed or

continued to thrive in building pianos, whether that was to retain their own uniqueness of piano tone, or to conform to the newly emerging dominant culture.

Ideal tones in Concert

Turning to the perception of the instrument in sound, the main protagonists in Chapter Three are late nineteenth-century pianists and the British critics. In London, sales representatives for foreign firms grew in number from the 1860s to the 1880s, and as a result, some acquired warehouses, showrooms, and even concert halls. The abundant choice of pianos in London meant that pianists could include choice of piano in their negotiations, a novelty which they did not have if performing in France, Austria, or the United States. This was why the London popular concert series was chosen as the case study. Through observing the brands used by pianists, two significant changes were apparent: a decline of Broadwood, and an increase in the variety of foreign brands, notably, Steinway. Albeit the claims made by many piano historians that Steinway had monopolised the world's market since the 1873 Vienna World's Fair, this data showed that the majority of European pianists still preferred and performed on European brands during this period.

Setting aside commercial reasons, preference for brand(s) related principally to the pianist's preconceptions and experiences, namely, through their pedagogical trainings. Diverse schools of piano playing were found in the European Conservatoires and schools of piano virtuosi, such as Franz Liszt, Carl Tausig, and Clara Schumann. Piano firms accommodated for these playing styles, and European brands, such as Broadwood, Bechstein, Erard, Pleyel, and Streicher had the advantage of being in geographical proximity to these schools and virtuosi. As a result, pianists relied on brands they were most familiar with, or risked being criticised by the press for choosing brands whose tone did not match their playing styles. For pianists in the 1880s, such as those seen at the Pops, studying with several teachers in various locations was becoming the norm, and therefore they were acquainted with a range of pianos whilst developing their technique. The more the merging of pianistic styles, in particular, favouring of the 'modern' style of using arm weight instead of the conventional style of using weight mostly from the hands and fingers, the more the preference for heavier-toned pianos. Mark Hambourg spelt out this distinction in his memoirs, 'the French pianos usually have a light action retaining the tone quality of the instruments of the past, and are well suited to the prevailing style of French piano-playing,

distinguished for its brilliancy, rapidity and clear articulation. [...] The heavier action of the German and American pianos are more satisfying in the depth of tone they produce.²

It is also possible that pianists who practiced and performed on a wider range of pianos gain a more nuanced and flexible conception of technique than pianists who only used one type of piano. It stands to reason that the diversified styles of pianism, which were beginning to converge at the start of the twentieth century, propelled the shifting ideals of piano tone. It was the pianists who had increased the variety of piano tones for their audiences abroad, as they testified to the individuality of the diversified piano tones through their playing. Through their pianism, pianists slowly but surely broke through barriers of prejudices and predispositions, and widened the critics' and public's opinions of piano tone ideals in the late-nineteenth century.

Ideal tone in Sound

The most unique resource in this research is presented in the last chapter: a portfolio of recordings made on 17 pianos dating from the period 1870 to 1910, and the thought process of a pianist (myself) during the recording. Whereas in previous chapters, 'sound' was preserved through written descriptions, this chapter presented sound in its truest sense through hearing. Although having contextualised myself à-vis to those in the late-nineteenth century, I am not trying to claim authenticity over how nineteenth-century compositions should be performed, but instead my soliloquies and the recordings made demonstrated how historical instruments can inform any pianists' performance practices, whether in the past, or today. Just as how late nineteenth-century pianists, piano manufacturers and critics have tried and offered 'new' and 'different' interpretation with available tones, I too as a twenty first-century pianist and musicologist through rediscovering the 'forgotten' variety of tone produced a newly-created sound archive. These sound compilations, together with the historically-written evidence of tone confront objectively and imaginatively the complexity and idiosyncrasies of nineteenth-century piano works. This was achieved in the second part of the thesis in three distinct ways.

Firstly, my first-hand experience as a pianist playing on pianos which seemed familiar but were subtly different in many ways. Internal and external factors, such as my own musical training, lineage, and knowledge, and the ambience and acoustics added further dimensions to the experience. My reflections were a navigation tool to relate to the minds of those in the late-nineteenth century, particularly those viewing and comparing pianos at the exhibitions, and the

² Mark Hambourg, *The eighth octave: tones and semi-tones concerning piano-playing, the savage club and myself* (London: Williams and Norgate, 1951), p. 16.

pianists selecting the pianos for performances in concert hall. This connection is not only psychological, but also physical, as the pianos I performed and recorded on date from this very period.

Secondly, there was a difference between the pianists' general preference of tone, and an ideal tone for each the repertoire played. A pianist's ideal tone consisted of combining their own 'palettes' of tone traits, and a possible palette could take in consideration the amount of decay and the clarity, as visualised in the diagram below, [Figure 40]. The many analyses found in Chapter 4 gave evidence to the distinction of tone palette, not only from piano to piano, but also from register to register of each piano. These distinctions can highlight passages in compositions previously unnoticed if practiced on a modern piano. Therefore, playing on pianos dating from this period has informed my own performance practice as a modern pianist, and can inform others also in their performance practice.

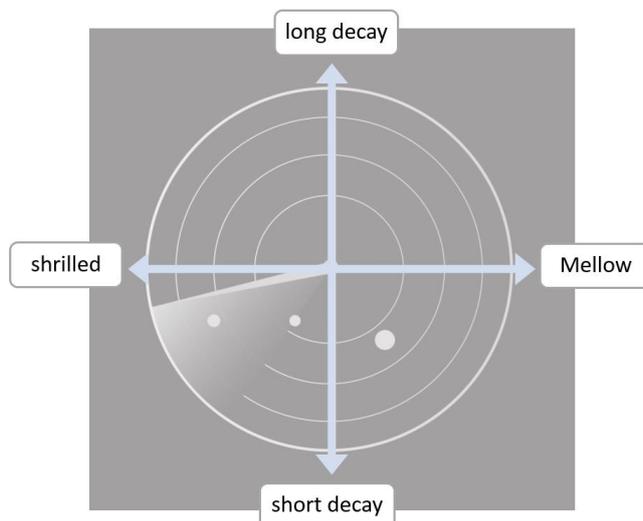


Figure 40: Tone palette showing comparison of decay and clarity³

Lastly, the chapter has shown how late nineteenth-century practices, such as chord spreading, voicing of melodies, dynamic and tempo fluctuations should be regarded as an indication of pianists' response to the pianos they were playing on. These un-notated gestures were interpretations to heighten the effect of tone, which worked on some pianos, but not on others. For instance, the chordal section in the Brahms *Intermezzo* Op. 118 No. 2; while I adopted chord spreading on straight-strung pianos to heighten the interest of individual notes in the chords, I was not compelled to do so on the cross-strung pianos, where there was already a harmonic interest in the tone. Another example was evident through the projecting of the melody in the Chopin, where the prominence of tone in the treble registers of Erard 1896 resulted in an

³ The dots represent how I could have pinpointed each individual piano on a radar.

effortless balance between melodic and accompaniment parts. This and much more evidence in the chapter indicate that pianists did not achieve their ideal tone through physical and pianistic enactments, but through listening and responding to the sound of their pianos.

The hybrid methodologies found throughout this thesis, as well as the vast collections of the unique sources, have enriched our understanding of how pianos sounded in the late-nineteenth century not only for ears of its time, but also for ears today. Moreover, this thesis has shown that the remarkable value for pianists today in gaining experience on late nineteenth-century pianos is the potential to challenge and expand on one's artistry and piano playing. Chronicles and recordings can provide us with information as to what late nineteenth-century piano tones could have sounded like, but the real moment of revelation comes when one sees, touches, plays, and hears the pianos for themselves. Historical pianos are treasure chests containing endless possibilities of performing-practice skills: the varying rate of tone decay throughout the registers, key weight, sonority, balance, and many more aspects that one can learn and unlock. We have merely scratched the surface of late nineteenth-century piano tone discovery in this thesis, and already we have seen how informative and illuminating this resource can be for academics, musicians, and technicians. In concluding the thesis, I would like to suggest three areas of furthering the study into piano tone ideals for the implication of performance practice.

Future Research

Ideals of piano tone in chamber works

In my own recordings, I have only played solo repertoire to express my own perception of piano tones as a pianist. It would be interesting to include chamber and vocal works, so to gain insights from the perspectives from other instrumentalists. The assessment of piano tone in chamber works was frequently found in the concert reviews of the late-nineteenth century, as evident in Chapter 3 of this thesis. Critics had often evaluated the compatibility of the piano tones with other instruments, e.g., the Ibach pianos were called the violinist's pianos.⁴ According to the reviews, certain brands did not suit chamber performances, such as Teresa Carreño being criticised for not shutting the lid of the Bechstein piano in her chamber performances, as the 'tone of the instrument frequently overpowered that of the string.'⁵ Choosing an ideal piano for

⁴ H. T., 'Provincial: Hertford', *The violin times: a monthly journal for professional and amateur violinists and quartet players*, 11:122 (January 1904), p. 4.

⁵ [St James' Hall recital, 7 November 1885, Tchaikovsky's Trio in A minor] The pianist of the afternoon, played with her usual skill, but the tone of the instrument frequently overpowered that of the strings. The

both chamber and solo works in the same performance was a challenge for pianists, for instance, Franz Rummel was disadvantaged by the tone of his chosen piano in the concerto, despite the tone of piano having sounded appropriate for his solo piece.⁶

For modern pianists today, playing chamber works on late nineteenth-century pianos could enlarge a pianist's perspective on tone. One possible method is to compare how pianists' ideals of tone can shift between playing solo works and chamber works by the same composer. Another comparison could draw on the different combinations of chamber music to attest the blending of tone, e.g. a piano trio with strings or a piano trio with woodwinds. In addition to broadening the pianist's perspective, the preferences of piano tones as judged by singers or other instrumentalists involved would also contribute significantly to the discussion. It would be an opportunity to document from their perspectives how the piano tone influences their interpretations of the work, as well as the practical solutions to challenges faced, such as issues of balance, seating / standing orientations, and concert programming.

Exploring ideals of piano tone in other geographical settings

My research in this thesis has grounded geographically in Europe, such as the third chapter, where I investigated the brands of pianos used in London concert halls through a case study of the popular concerts at St. James' Hall (1880-1904). This led to the focus on uncovering the correlation between pedagogical backgrounds of pianists in influencing the pianists' choice of pianos, as well as the responses from critics, which showed a general shift in the preference of tone over the twenty years in question. Such discussions were only possible because London had been traditionally a centre of Western Art Music, and thus the public (through the words of the critics) could engage in a discourse as they were familiar with such an instrument, and had expectations on how pianos should or could sound like.

Pursuing a search on the ideals of piano tone in locations outside of Europe or North America could provoke different research questions and findings. It would be interesting to explore places such as Australia or Japan, where there was less of a cultural 'baggage' in defending home brands. This was only briefly examined in Chapter Two through world exhibitions, such as Australia having hosted three exhibitions in this period: 1879 in Sydney, and 1880/81 and 1881/89 in Melbourne.

composer has certainly given to the pianist a very prominent part. Anyhow, the lid of the pianoforte should have been shut.' 'Music', *The athenaeum*, 3915 (8 November 1902), p. 626.

⁶ [Fifth philharmonic concert, 6 May 1885, Dvorak Piano Concert] 'He played on a Steinway pianoforte. The tone of this was liquid and pure, well suiting pieces in Chopin's style. but in the concerto, the instrument sounded weak, and wanting in that powerful resonance of tone which distinguishes our best English instruments.' T. L. Southgate, 'Musical intelligence', *Musical standard*, 28: 1085 (16 May 1885), p. 310.

There were ample opportunities for those beyond Europe to familiarise with the range of piano brands. European firms had sent pianos with pianists on world tours; Mark Hambourg remarked that Erard had sent five of their pianos to Australia for his tour in 1895, all of which were sold to the surrounding region.⁷ For Japan, the first piano made was built in 1900 by Torakusu Yamaha.⁸ However, Japan had local agents who sold pianos made by the European manufacturers, for example, The Robinson Piano Co. Ltd, who supplied pianos from brands including Collard, Brinsmead, Bechstein, and Haake.⁹ One possible research is to investigate the sales agents through reviewing the brands they had selected and preferred, and the influence of agents had on the ideals of piano tone for the non-American or non-European markets. Another possibility could be to explore how pianos as an instrument carried the ‘tone’ of Western Art Music into another culture, such as what compositions were introduced, who were the pianists that introduced them, and how those concerts were received.

Ideals of piano tone in acoustical studies

The last of my suggestions goes beyond the field of musicology to potential collaborations with engineers in acoustics research. As evident from Chapter 4, I have incorporated elements from psychoacoustics for reflecting on the experimentation on the pianos, as well as in the analysis of my recordings. During my expedition, in addition to the recordings of the repertoire, I also made recordings of single-notes to uncover the acoustical properties of each piano. I recorded all the Fs on each of the pianos, and made a preliminary analysis on the harmonic properties of the notes through VoceVistaPro, and compared the rates of sound decay.¹⁰ Image files of spectrograms were created from the software to show the harmonic series and sound envelope (changes over time).¹¹ I was particularly interested at the harmonic properties of each note and the decay rate of harmonics, and used these to define my own subjective descriptions of tone. For example, the F3 note on the Broadwood (Barless) 1903 had a weak fundamental compared to other pianos at the initial attack of the note, and even harmonics (2nd and 4th) were

⁷ Hambourg believed that one was sent afterwards to Wellington, New Zealand. Hambourg, *The eighth octave*, p. 13.

⁸ Torakusu Yamaha was the founder for Nippon Gakki Co. Ltd in 1897. It was Torakusu’s piano that had represented Japan at the 1904 St. Louis World’s Fair, where it received an Honorary Grand Prize. <https://hub.yamaha.com/a-brief-history-of-yamaha-pianos/>, consulted on 20 June 2020.

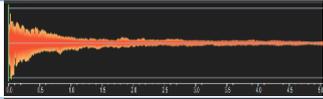
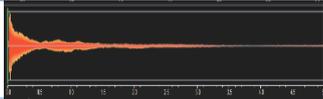
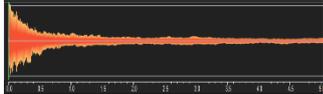
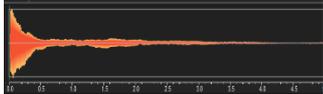
⁹ The Robinson Piano Co. Ltd was established in 1875 and has two branches in Japan. *The directory & chronicle for China, Japan, Korea, Indo-China, Straits Settlements, Malay states, Siam, Netherlands India, Borneo, the Philippines, &c.* (Hongkong: The Hongkong daily press office, 1904), p. 1131.

¹⁰ Each F was recorded separately. I had to play each F at a targeted decibel (in accordance with the sound level meter), and held onto the note until it was not audible.

¹¹ In addition, I could extract note properties, which includes the individual intensity of each of its sympathetic overtones.

quick in decay. According to Jürgen Meyer, the dominance of odd number harmonics lead to a veiled sound, and strong even numbers would result in an open and clear timbre.¹² Another analysis I briefly conducted was the rates of sound decay through comparing the sound envelopes, I noticed from the visual graphics that the shape of the note differed from piano to piano, and differed between registers. These graphics visually explained the differences in decay that I perceived from piano to piano. I have presented two images of the F2 and F4 notes from Erard 1870 and Steinway 1889 in [Table 35, below].

Table 35: Sound envelopes of F2 & F4 on the Erard 1870 and Steinway 1889

Piano	F2 (first 5 seconds)	F4 (first 5 seconds)
Erard 1870		
Steinway 1889		

As resourceful and informative this data may be, it is difficult to digest this fully without computational analysis and mathematical modelling. This would have detracted from the purpose of this thesis, which was to present the perception of tone. However, unpacking the data would be most valuable in defining the tone of historical pianos, and could draw correlations between subjective perceptions of tone to the objective measurements of tone.

Final Remarks

There are endless possibilities in studying piano tones. Reading, writing, and philosophising can prepare us for the discussion, but it is the sound itself which elicits the instinctive responses in forming the basis of our taste and preference. Yet, the question of whether we should restore antique pianos and return them to playing condition remains. Our right to hear the sound and play the piano often conflicts with the obligation to retain the instrument in its original form. Clumsy restoration often diminishes the historical value of an instrument, and the replacing of original parts due to deterioration would result in a piano devoid of its originality. For this reason, curators of museums and musical instrument collections have often objected to restoration attempts. This was the case with two pianos: the 1885 Hagspiel at Charlecote Park and 1879 Pleyel at Waddesdon Manor, both of which were unplayable at the time of this research, but would have added fruitfully to the discussion of tone. Indeed, restoration works have been performed on many of the extant pianos mentioned in thesis, and we cannot negate the fact that

¹² Jürgen Meyer, *Acoustics and the performance of music* (Frankfurt am Main: Verlag das Musikinstrument, 1978), pp. 26–28.

the sound produced from the pianos could be different to how it was, as the pianos contain contemporary parts. The same is said for replica instruments, that although they use original concepts of building, they are still nevertheless built in the current day. However, pianos 'untouchable' and 'unsoundable' strip away its purpose and function, and has been and will be eventually disposed of if space and environment no longer can accommodate them. As the number of surviving pianos from this period diminishes, so do the number of technicians with expertise for regulation and servicing.

At present, there are some very fine piano technicians throughout the world who engage in making and restoring excellent examples of pianos from the second half of the nineteenth century. One example is an 1899 Bechstein grand, rebuilt by Peter Salisbury, and played at the Wigmore Hall by Pierre-Laurent Aimard in 2017.¹³ In addition to the pianist having discovered new sounds in his familiar repertoire, the composer Julian Anderson noticed that the instrument was able to provoke a different kind of playing style from Pierre-Laurent.¹⁴ Another example is Neal Peres Da Costa's Streicher-replica c. 1868, made by Paul McNulty, and played in a concert in Sydney, December 2020.¹⁵ Peres Da Costa's performance highlighted many aspects of his research on nineteenth century performance practice, in particular to works of Johannes Brahms.¹⁶ These two examples, along with the many examples I used in the thesis, demonstrated the tremendous insight one can gain from examining restored and replica pianos. The limited opportunities we have with these valuable resources should compel a sense of urgency, and now is the time to play and rebuild them, before it is too late.

¹³ 'Pierre-Laurent Aimard talks about C. Bechstein at the Wigmore Hall', <https://www.youtube.com/watch?app=desktop&v=vgecQ1uytSA>, consulted on 10 January 2021.

¹⁴ Ibid.

¹⁵ 'Johannes Brahms (1833-1897) Intermezzo op. 118 no. 2 with a touch of J.B. Cramer as a prelude', https://www.youtube.com/watch?v=3FIMqEUuR_I&feature=youtu.be, consulted on 12 December 2020.

¹⁶ As written in his commentary, Peres Da Costa particularly engaged with using un-notated performing practices, such as arpeggiation, asynchrony between left and right hands, rhythmic alteration, and tempo modifications. These ideas were already discussed in his seminar work, *Off the record: Performing practices in romantic piano playing*, which I have mentioned throughout this thesis.

Appendices Index

Appendix A: Advertisements

Sampled advertisements found in periodicals and programme notes of the Monday & Saturday popular concerts, St. James' Hall

Appendix B: Exposition Portfolio

Floorplans, jury constitution, and table of awards

Appendix C: Pops Portfolio

[Appendix C Pops Concerts \(Nov 1880-April1901\)](#): 819 Concerts detailing pianists, solo repertoire played, piano used

Pops pianists background: detailing the pedagogies of Pops Pianists

Appendix D: Piano Profiles

Profiles of pianos sampled

Appendix E: Analytical graphs from Sonic Visualiser

Analytical graphs from Sonic Visualiser

Appendix A Advertisements

J. & J. Hopkinson in *The school music review*¹

**J. & J. HOPKINSON'S
PIANOFORTES.**

THE DISTINGUISHING FEATURES OF THESE PIANOS ARE:

- A. EXTREME DELICACY, ELASTICITY, AND EQUALITY OF TOUCH.
- B. SONORITY, PURITY, AND POWER OF TONE.
- C. PERFECTION OF DAMPING OR CHECKING OF VIBRATION.
- D. SOLIDITY AND RIGIDITY OF CONSTRUCTION, WITH REMARKABLE POWER OF REMAINING IN TUNE.

The following Testimonials fully bear out these statements:—

RUBINSTEIN.—"The Grand Pianos of J. & J. HOPKINSON, London, are very remarkable. All the qualities which can be demanded by an experienced virtuoso—vigour of attack, openness of sound, possibility to give the necessary shade to the music, and to produce effects of extreme delicacy—are found in HOPKINSON'S Pianofortes. They possess also a sonority of a crystalline nature, which gives them a certain charm, and characterises their own personality."

CHARLES GOUNOD.—"I have had occasion to test HOPKINSON'S Pianos in London and Paris, and I am bound to declare that with regard to power, evenness of tone, and equality of touch, I have found them of rare excellence. They are instruments that all pianists ought to appreciate, for they allow them to give expression to their feelings, and to play with the most delicate nuances."

CHRISTINE NILSSON.—"I state with pleasure that the Grand Pianos of Messrs. J. & J. HOPKINSON, of London, which I have had the opportunity of hearing and of trying myself, are remarkable for their fabrication and for their wonderful power and elasticity of touch. I should wish no other for my personal use and to accompany me in my concerts."

In ending purchasers should make no selection without first seeing the HOPKINSON PIANOS, which may be had upon hire or on the Three Years' System. A number of Grand Pianofortes just returned from hire, almost equal to new, and specially adapted for the requirements of School or College use, are on view, at extremely low prices.

GOLD MEDALS AND SPECIAL AWARDS AT ALL INTERNATIONAL EXHIBITIONS.

Printed Circulars, giving full information, forwarded with Photographs and Price Lists, on application to
J. & J. HOPKINSON, 34, 35, & 36, MARGARET STREET, CAVENDISH SQUARE, LONDON, W.

Brinsmead & Sons in *The school music review*²

ESTABLISHED IN THE REIGN OF KING WILLIAM IV.
*Knighthood of the Legion of Honour, 1878. Knight Commander of Villa Vicosa, 1883.
Gold Medals at the principal International Exhibitions.*

JOHN BRINSMEAD & SONS'
PIANOFORTES

Are the Perfection of Tone, Touch, and Durability.

The distinguishing qualities of these Pianos are—

<ol style="list-style-type: none"> 1. Sympathetic Tone. 2. Flexibility and Lightness of Touch. 3. Great Sustaining Power of Tone. 	<ol style="list-style-type: none"> 4. Solidity. 5. Durability. 6. Facility and Permanency of Tuning.
--	---

I.—SYMPATHETIC TONE.—A writer truly says: "Words may appeal to the mind; melody may excite the imagination; but it is tone which reaches the heart."
The tone of the Brinsmead Pianos is acknowledged by the whole of the profession and amateurs to be perfect, powerful, and sympathetic.
Madame ADELINA PATTI writes: "I am charmed with the tone and touch of the splendid pianoforte made for me by Messrs. John Brinsmead and Sons."

JOHN BRINSMEAD & SONS,
Pianoforte Makers,
To the Royal Family, and by Special Appointment to His Royal Highness the Prince of Wales,
Her Royal Highness the Princess of Wales, &c.

18, 20, & 22, WIGMORE STREET, CAVENDISH SQUARE,
LONDON, W.
And of the Principal Musicsellers.

ILLUSTRATED CATALOGUES AND HIRE SYSTEM PRICED LISTS ON APPLICATION.

¹ 'Advertisement', *The school music review: a monthly periodical devoted to the interest of music in schools; London/New York*, 2: 16 (September 1893), p. 51.

² 'Advertisement', *The school music review: a monthly periodical devoted to the interest of music in schools; London / New York*, 3: 34 (March 1895), p. 5.

Other British brands in *MOMTR*³

JOHN BROADWOOD & SONS,
Pianoforte Makers
 By Special Warrants of Appointment to H.M. the Queen, T.R.H. the Prince and Princess of Wales, H.R.H. the Duke of Edinburgh.
Go'd Medals & Various Honours. **NEW MODELS.** *Established in the Year 1732.*
GREAT PULTENEY STREET (NEAR REGENT STREET), LONDON, W.

LATE OF] **KIRKMAN & SON,** [3, SOHO SQ.
Manufacturers of Grand and Upright Pianofortes
12A, GEORGE STREET, HANOVER SQUARE, W.
 (Opposite St. George's Church).

SPECIAL MODELS FOR EXTREME CLIMATES AND THE COLONIES.

REGISTERED TRADE MARK. **RALPH ALLISON & SONS**
 (LIMITED),
PIANOFORTE MANUFACTURERS,
167 & 169, WARDOUR STREET, LONDON, W.



DESIGNS of the NEW MODELS (Iron Verticals), &c.,
 SENT POST FREE ON APPLICATION.

Pleyel Wolff & Co. in *Musical news*⁴

MAY 5, 1894. **MUSICAL NEWS.** 407

PLEYEL WOLFF & CO.'S PIANOS.
ESTABLISHED 1807.

THESE CELEBRATED INSTRUMENTS
 HAVE A
WORLD-WIDE REPUTATION,
 AND ARE KNOWN TO, AND USED BY, THE
MOST EMINENT PIANISTS OF THE DAY.

NEW MODELS,
 WITH COMPLETE METAL FRAMING, AND ALL THE MOST RECENT IMPROVEMENTS,
FROM 55 TO 300 GUINEAS.

The PEDALIER for Organ Pedal-practice at Home is highly recommended.
 It is INDEPENDENT, and can be used with ANY PIANO.

LONDON: 170, NEW BOND STREET, W.

³ 'Advertisement', *MOMTR*, 17: 195 (December 1893), p. 142.

⁴ 'Advertisement', *Musical news*, 6: 166 (5 May 1894), p. 407.

Steinway & Sons in *Pops programme & notes*⁵

GOLD MEDAL.
INVENTIONS EXHIBITION, 1885.

GOLD MEDAL,
SOCIETY OF ARTS, 1886.

STEINWAY & SONS

PIANOFORTES.

MADAME ADELINA PATTI.

"During my artistic career in the Art-centres of the World, I have used the Pianofortes of nearly all the celebrated manufacturers, BUT NONE OF THEM CAN BE COMPARED TO YOURS—none possess in such a marvellous degree that sympathetic, poetic, and singing quality of tone which distinguishes the 'Steinway' as PEERLESS AMONGST THEM ALL."

MADLE. TITIENS.

"I am deeply impressed with your magnificent Pianofortes, and consider they fully deserve their WORLD-WIDE REPUTATION."

MADAME MARIE ROZE.

"I consider the Steinway Pianofortes the best in the World."

MADAME TREBELLI.

"I am greatly pleased with the Steinway Grand Pianoforte which I purchased from you some years ago. The wonderful beauty and sweetness of its tone, its singing quality and power of supporting the voice, and its perfect freedom from harshness, together with its exquisitely light and delicate touch, render it, to my mind, not only much superior to the Pianofortes of all other makers, but also eminently worthy of the great reputation which the Steinway Pianofortes have everywhere acquired."

MADAME ALWINA VALLERIA.

"It combines a grandeur and purity of tone, an elasticity of touch, and brilliancy exceeding all other Grand Pianos I have hitherto been privileged to play upon, and I count myself fortunate in being the possessor of such a truly magnificent instrument."—Oct. 14, 1886.

Show Rooms—

STEINWAY HALL,
15, LOWER SEYMOUR STREET, LONDON, W.
(Near Portman Square)

© British Library Board (Music Collections d.480)

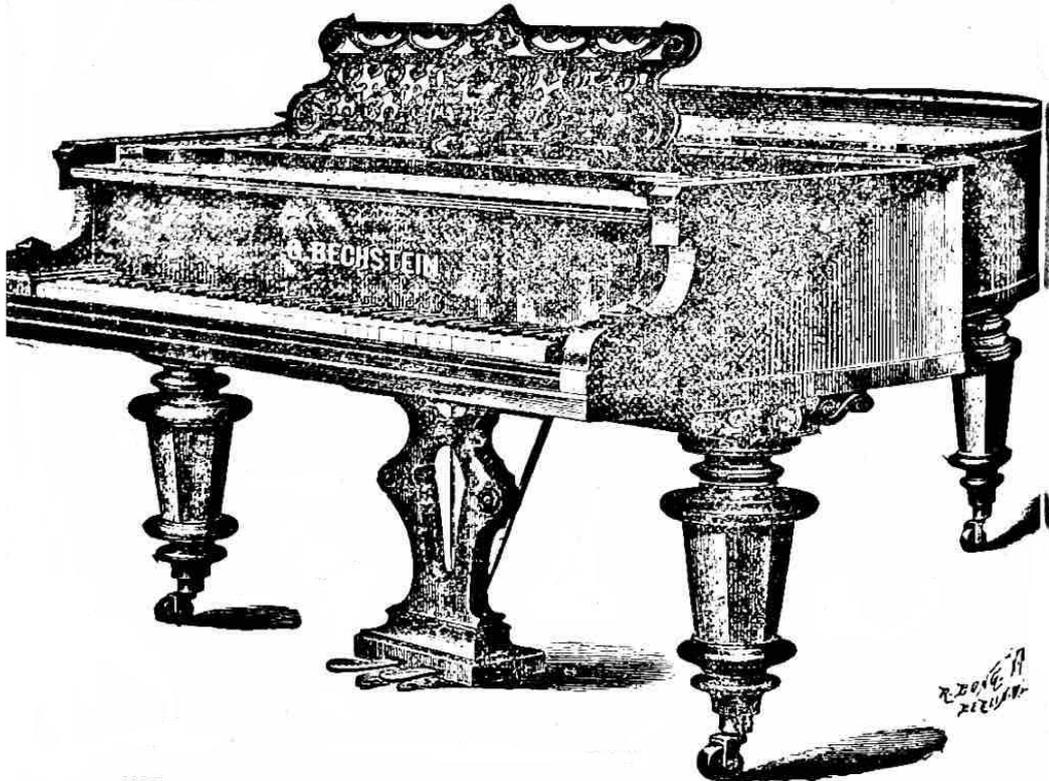
⁵ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, Season 30 (24 November 1887), p. 378.

Bechstein in *Pops programmes & notes*⁶

C. BECHSTEIN,
40, WIGMORE STREET, LONDON, W.,
Pianoforte Manufacturer

BY SPECIAL APPOINTMENT TO

HER MAJESTY THE QUEEN,
HIS MAJESTY THE EMPEROR OF GERMANY & KING OF PRUSSIA
HER MAJESTY THE EMPRESS QUEEN FREDERICK OF GERMANY,
H.R.H. PRINCESS LOUISE, MARCHIONESS OF LORNE,
H.R.H. THE DUKE OF EDINBURGH.
H.R.H. THE PRINCE FREDERICK CHARLES OF PRUSSIA.



"For twenty-eight years that I have now used your Pianos they have maintained their superiority."

"C. Bechstein has attained the utmost degree of perfection in the art of instrument making."

"Bechstein's instruments are distinguished by their superior quality in every branch of pianoforte manufacture."

"C. Bechstein's Pianos are resounding benefits to the Musical World."

LISZT.

RUBINSTEIN.

BÜLOW.

RICHARD WAGNER.

© British Library Board (Music Collections d.480)

⁶ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, Season 34 (14 November 1891), p. 25.

Blüthner in *Pops programmes & notes*⁷

BLÜTHNER PIANOFORTES

(Grand and Upright),

The most Perfect Pianofortes
in the World.

THE BLÜTHNER PIANOFORTES "maintain the FIRST POSITION in the world" is the verdict of Dr. Oscar Paul, whose "*History of the Pianoforte*" is the standard treatise on the subject; this estimate of the accomplished Music Critic and Historian being amply sustained by every form of appropriate evidence. They have received similar testimonies from the most eminent Pianists and other Musicians of the present day*; have invariably obtained the Highest Honours and Awards of the International Exhibitions of the world whenever entered for competition; have been supplied to almost all the Royal courts of Europe; and have an annual sale which is *larger and far more cosmopolitan than that of any other Pianofortes in the World.*

* Typical Illustration.

"Having observed with much interest your steady progress in the manufacture of Pianofortes during the past TWENTY-FIVE YEARS, and believing you to be WITHOUT A RIVAL in the Art of Piano making, we beg you will receive this letter as a proof of our high appreciation of the honourable position which you occupy as the LEADING PIANOFORTE MANUFACTURER OF THE WORLD."

LEIPSIK CONSERVATORIUM OF MUSIC.

CENTRAL HOUSE
For Great Britain and Ireland:
**7 & 9, WIGMORE STREET, CAVENDISH SQUARE,
LONDON, W.**

© British Library Board (Music Collections d.480)

⁷ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, Season 35 (24 October 1892), p. 32.

Erard in Pops programmes & notes⁸

ONLY COUNCIL MEDAL, LONDON, 1861.—GRAND PRIX, PARIS, 1889.

Established in Paris, 1780

Licensed by
King Louis XVI., 1783.

Established in London,
1808.

Gold Medals, Paris, 1819,
1823, 1827, 1834, 1839, 1844
1851, 1855, 1878, etc.

Two Medals, Sydney, 1879.

Three Medals, Melbourne,
1880.



Pianoforte and Harp
Makers

TO
Her Majesty Queen
Victoria.

T.R.H. The Prince and
Princess of Wales.

H.M. The Queen of Spain.

H.M. The Queen of
Belgium.

THE ERARD PIANO

IS

ABSOLUTELY WITHOUT RIVAL.

RUBINSTEIN has said :

“But there is only one piano—the ERARD ; as to the others they are but imitations.”

WAGNER to **LISZT** :

“Get an ERARD on the ninety-nine years’ system or any other system.”

LISZT :

“Those fine ERARD pianos that Marlborough Street makes so well.”

MENDELSSOHN, writing from Germany, said :

“The difference between your instruments and those which are manufactured here is so great ! It is like hearing a full orchestra near a small piano !”

MDME. SCHUMANN :

“I have asked for an ERARD piano.”

M. PADEREWSKI :

“Play only on an ERARD, wherever obtainable.”

S. & P. ERARD, 18, GREAT MARLBOROUGH ST.,
LONDON, ENGLAND.

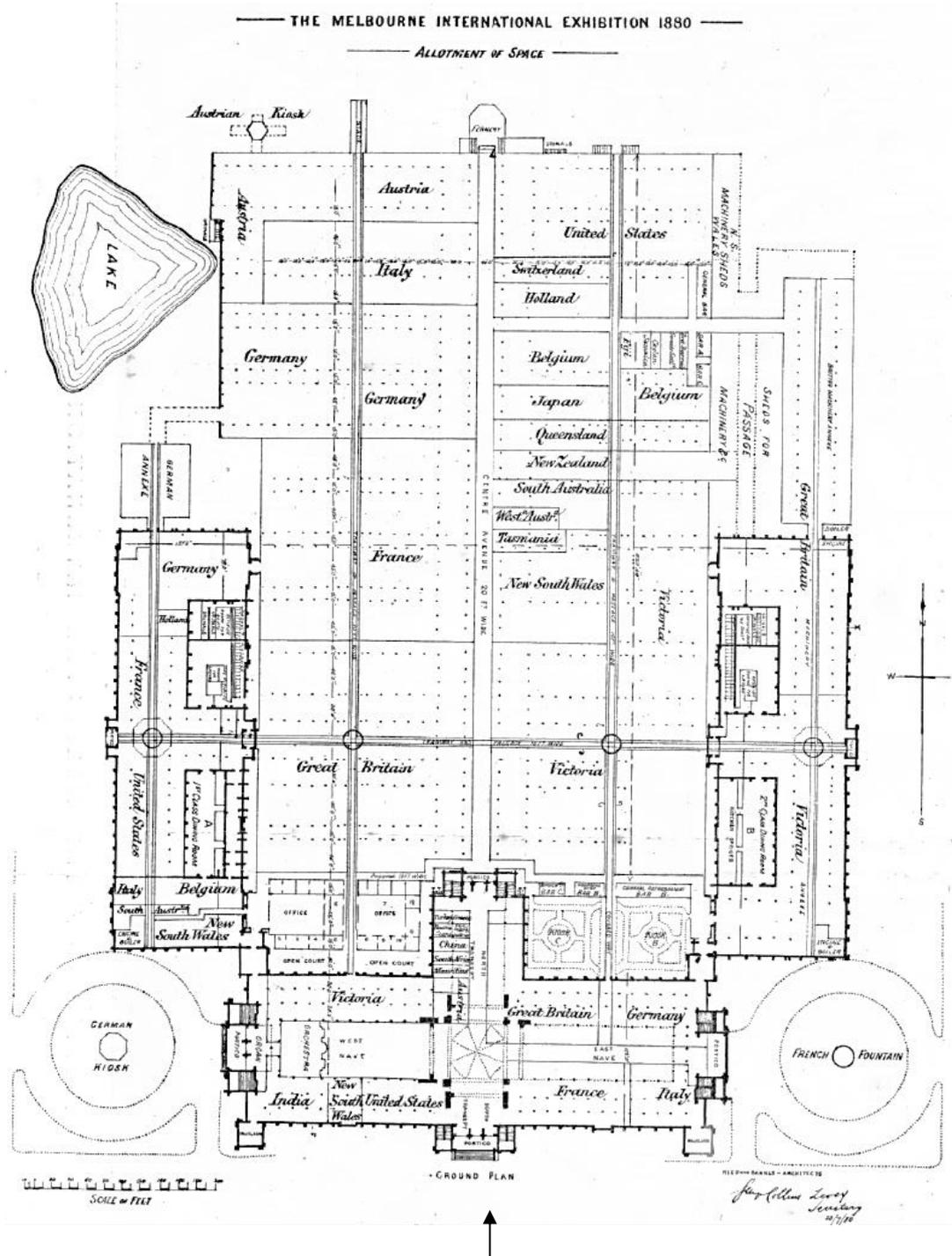
© British Library Board (Music Collections d.480)

⁸ Monday popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480, Season 35 (24 October 1892), p. 32.

Appendix B Exposition portfolio

Floorplans

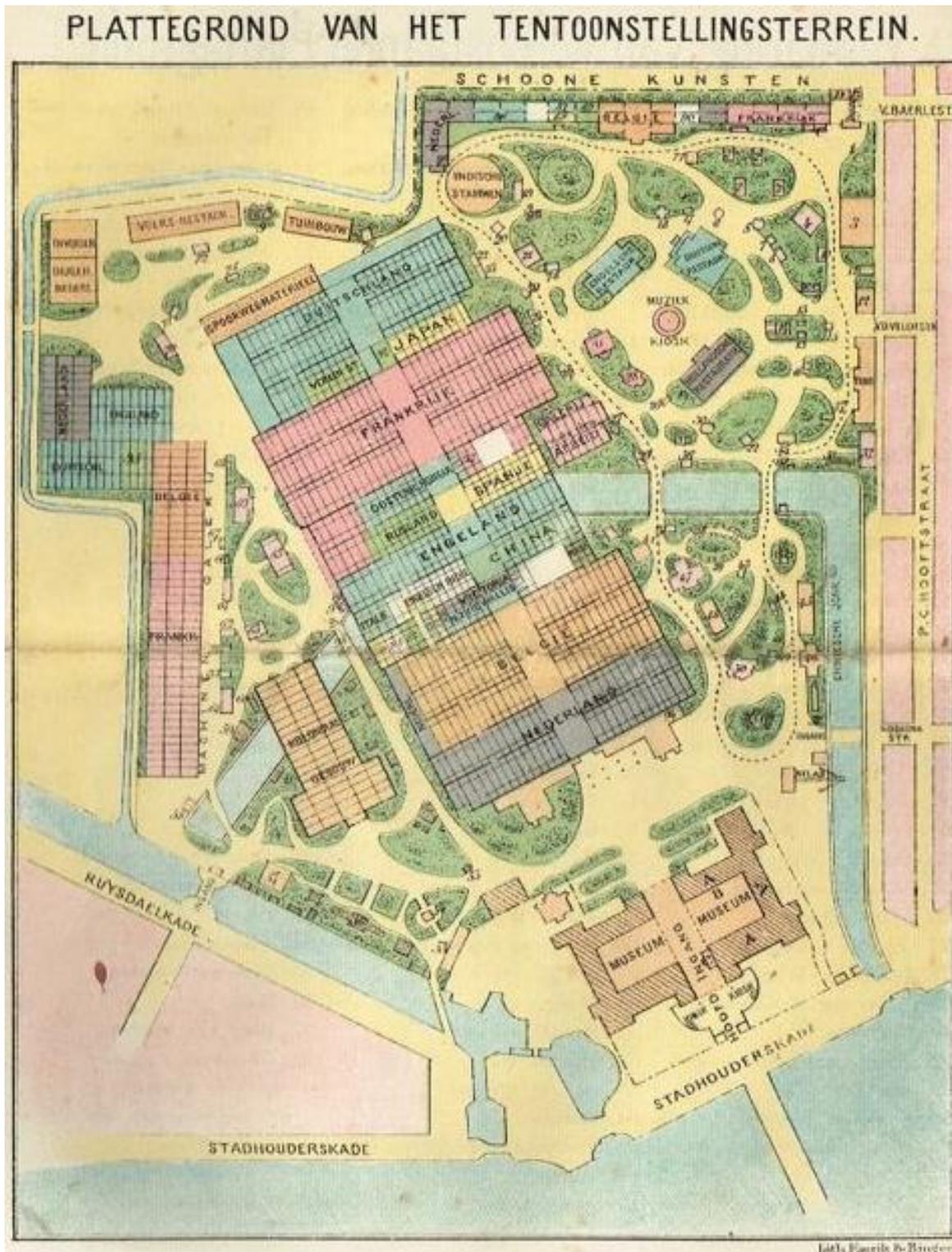
1880 Melbourne¹



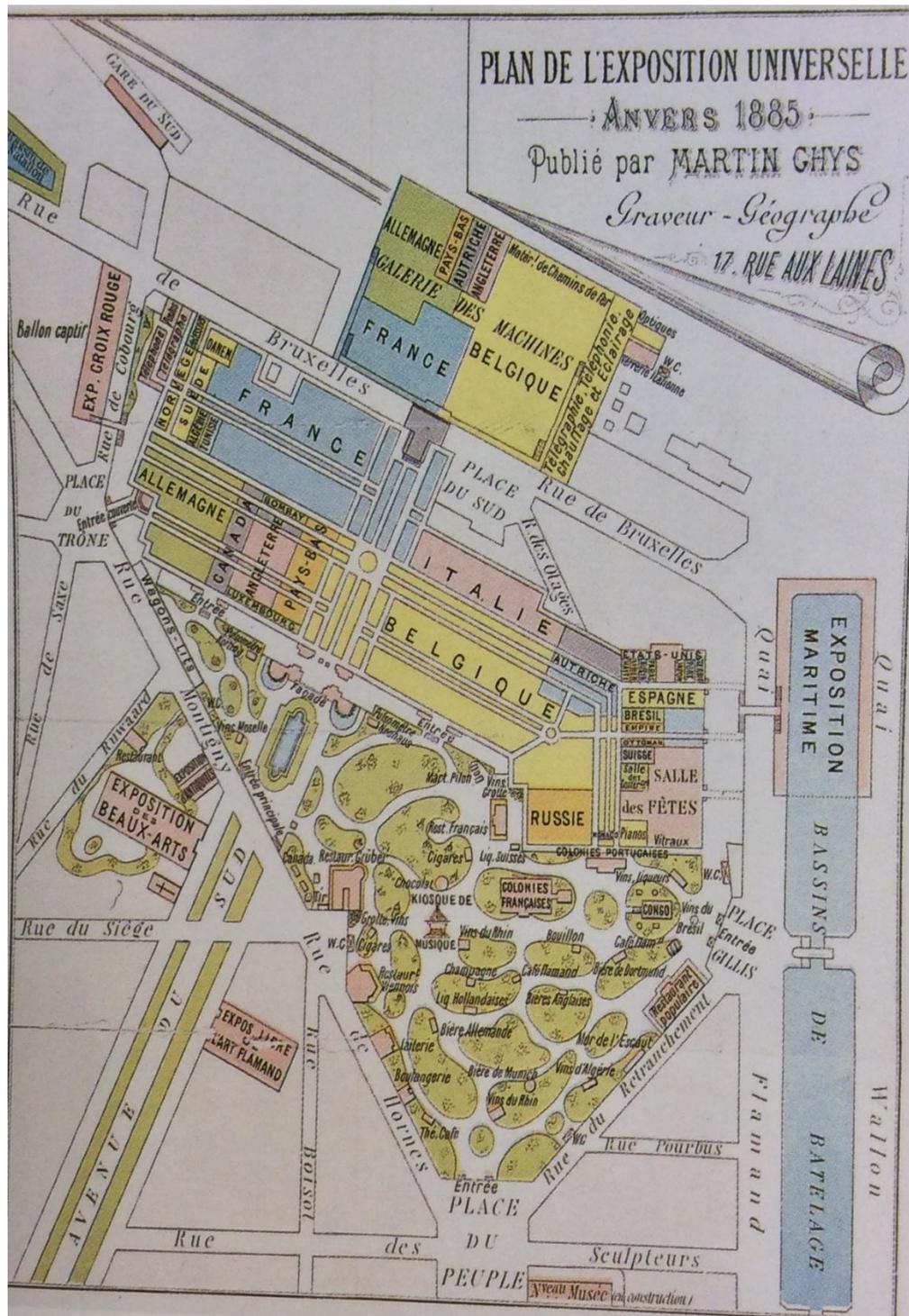
Massina's Popular Guide: instruction to approach the exhibition from the main southern entrance

¹ International exhibition (1880-1881: Melbourne, Vic.), *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits* (Melbourne: Mason, Firth & McCutcheon, 1882).

1883 Amsterdam²



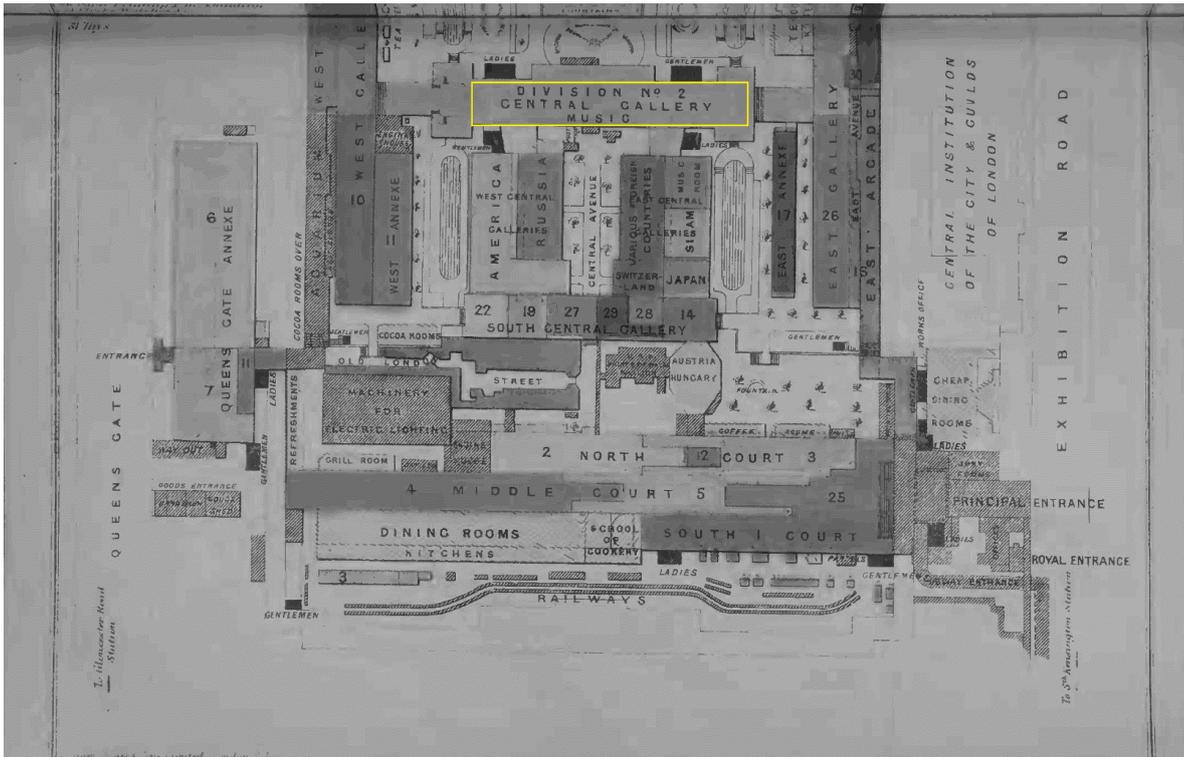
² <https://www.catawiki.com/l/14946691-commemoration-of-the-colonial-world-exhibition-in-amsterdam-in-1883>, consulted on 20 September 2019. Floorplan of the exhibition site originally found in an album released in *Het Nieuws van den dag* on 2 August 1883 (for subscribers of the newspaper) on the colonial world exhibition of Amsterdam in 1883.

1885 Antwerp³

© British Library Board (General Reference Collection LB.31.b.11212)

³ Mandy Nauwelaerts, Jan-Lodewijk Grootaers, et al., *De Panormaische drom: Antwerpen en de wereldtentoonstellingen 1885, 1894, 1930 = The panoramic dream: Antwerp and the world exhibitions, 1885, 1894, 1930* (Antwerp: Antwerpen 93 V.Z. W., 1993), p. 82.

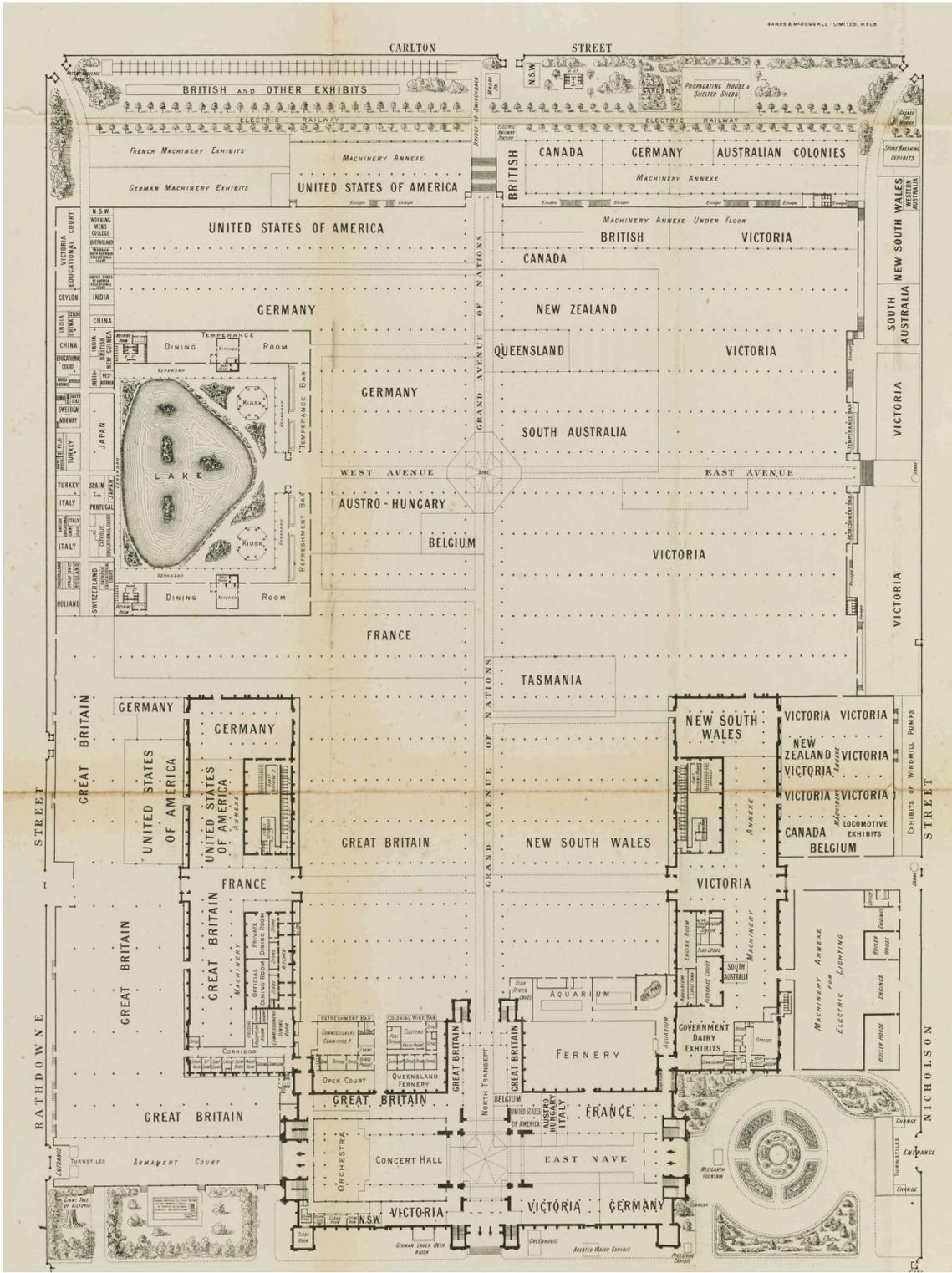
1885 London⁴



© British Library Board (General Reference Collection D-07958.ee.11.)

⁴ Division of music in the central gallery. *Official guide to the International Inventions Exhibition* (3rd edition; London: William Clowes & Sons Limited, 1885), unpaginated.

1888 Melbourne⁵



⁵ 'Centennial international exhibition 1888 ground plan of permanent building' in Centennial International Exhibition (1888-1889: Melbourne, Vic.), *Official record of the Centennial International Exhibition, Melbourne, 1888-1889* (Sands & McDougall, Melbourne, 1890).

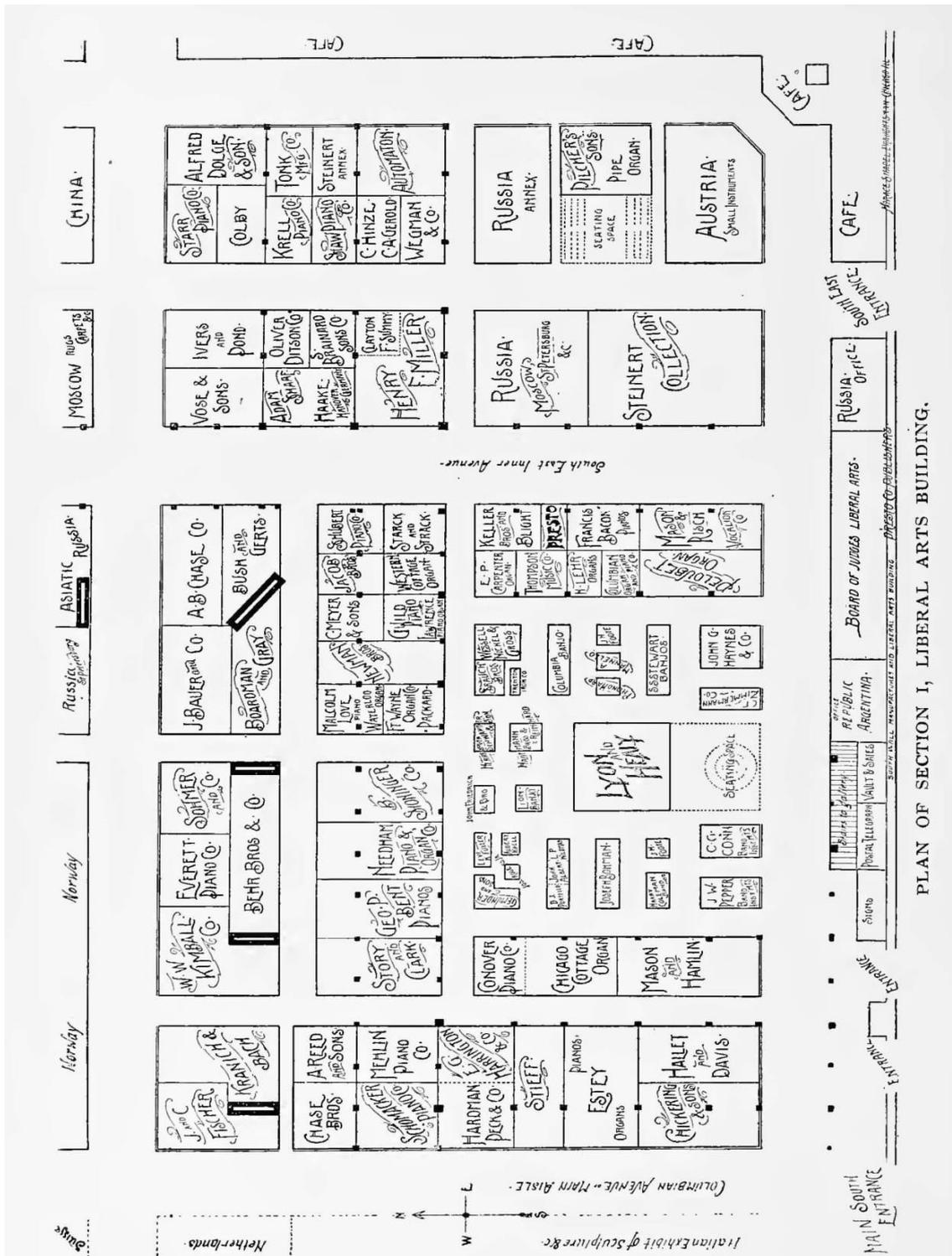
1889 Paris⁶



© British Library Board (General Reference Collection 7955.g.)

⁶ Liberal arts building circled. 'Plan général de l'exposition universelle de 1889' in *L'exposition de Paris, publiée avec la collaboration d'écrivains spéciaux*, vol. 1 (Paris: Librairie Illustrée, 1889), unpaginated.

1893 Chicago⁷



⁷ Frank D. Abbott, *Musical instruments at the World's Columbian Exposition* (Chicago: Presto Co., 1895), p. 48. All except French instruments in the Liberal Arts Building.

1894 Antwerp⁸

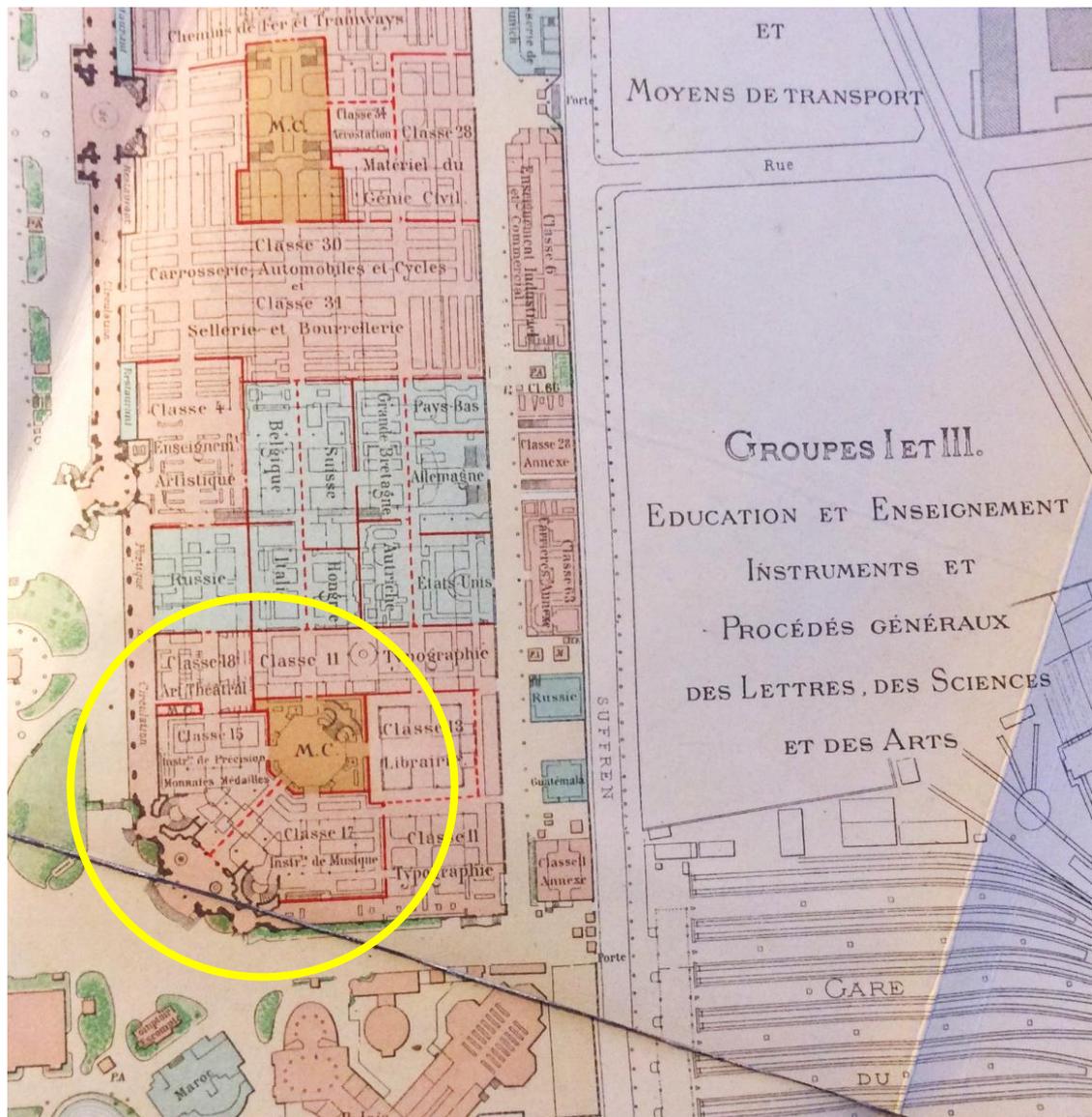


France and Belgium
in central halls

Britain & Germany
in side rooms

⁸ C. H. Bertels (ed.) *Plan officiel de l'Exposition Universelle d'Anvers 1894* (Antwerp: H. Vankerkhoven, Place Communale Molenbeek, 1894).

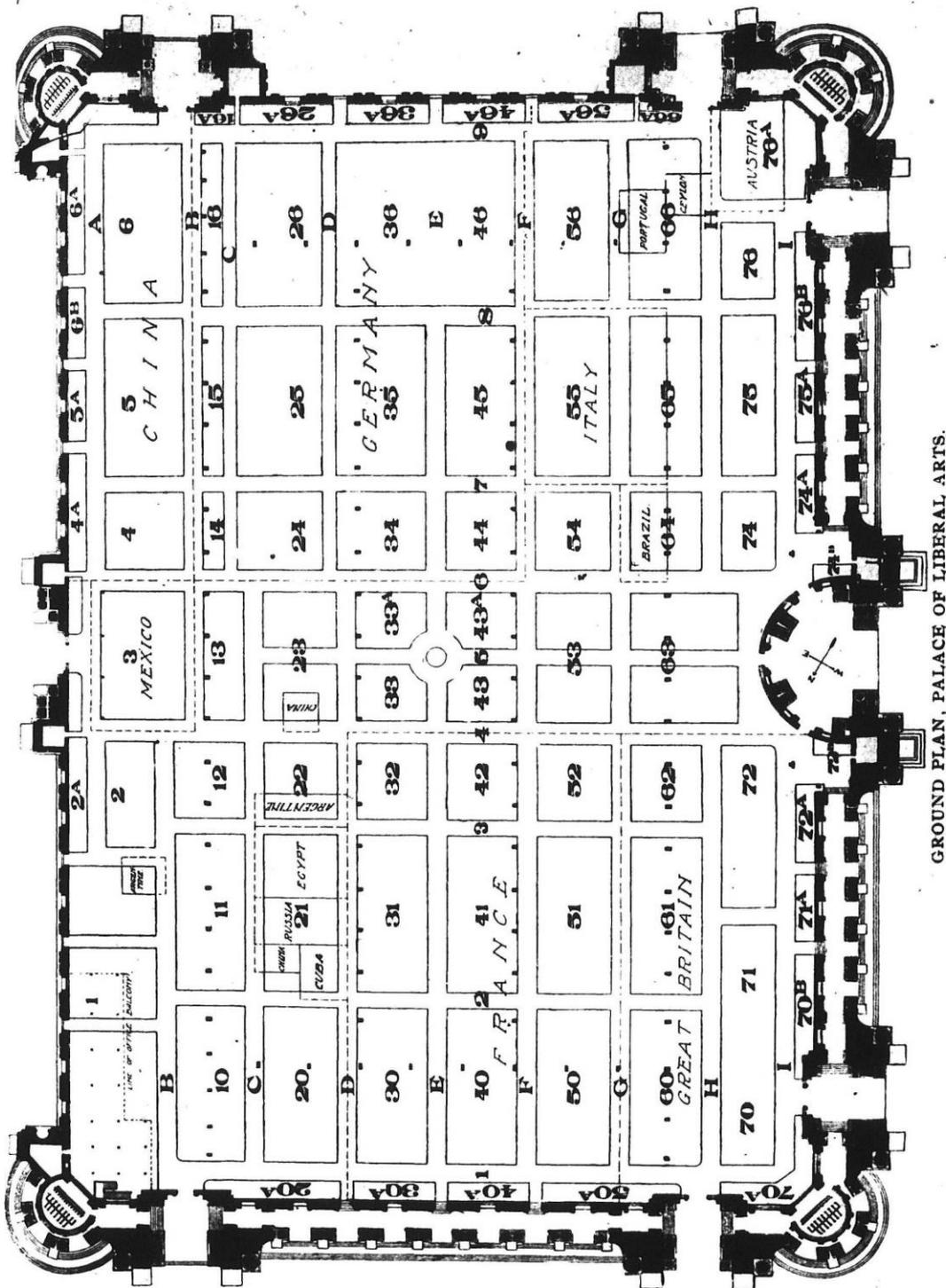
1900 Paris⁹



© British Library Board (General Reference Collection 7955.eee.9.)

⁹ Class 17: Instrument de musique; Instruments across two floors. Exposition universelle internationale de 1900. *Rapport général administratif et technique*. Par M. A. Picard, plans généraux (Paris: Imprimerie Nationale, 1903), unpaginated.

1904 St. Louis¹⁰



GROUND PLAN, PALACE OF LIBERAL ARTS.

¹⁰ F.J.V. Skiff, *Official catalogue of exhibitors, Universal Exposition, St. Louis, U.S. A., 1904: division of exhibits* (Published for the Committee on Press and Publicity by the Official Catalogue Company (Inc.), 1904), page before the index. Palace of Liberal Arts: American pianos mostly placed in block 63; French pianos are also found here, but the block unspecified. Italian pianos are in block 55. German, Belgian and Japanese pianos are not placed here but in their national pavilions and in the Palace of Varied Industries.

Jury constitution

1880 Melbourne¹¹

Jury Members	Nationality	Role / Profession
Léon Caron	France	<i>Chairman; composer</i>
L. Michaelis	Belgium	Formerly employed by Steinweg at Brunswick, Germany, resigned only after the pianos have been adjudicated on
L. Moonen	Switzerland	Music dealer
W. E. Keighley	Great Britain	Affiliated with Waddington & Co
G. Gerlach	Germany	Professor of Music
J. Siede	Austria	Professor of Music
A. Giammona	Italy	Professor of Music (singing)
T. Morant	U.S.	Replaced Sig. K. Stephani*
H. Johnson	Victoria	
W. Anderson	Victoria	Organ builder
C. Plunket	Victoria	Music dealer and teacher
W. R. Blazey	Victoria	<i>Expert appointed to appeal against Jury decisions; Agent for Erard</i>

1883 Amsterdam¹²

Jury Members	Nationality	Role / Profession
Mr. Wolff	France	<i>President; Chief of Pleyel-Wolff & Co.</i>
Ernst Kaps	Germany	<i>Vice-president; Chief of Kaps</i>
Victor Mahillon	Belgian	<i>Secretary; Woodwind instruments maker, conservator at museum of Brussels Royal Conservatoire of Music</i>
Eugène Gand	France	Luthier of the Conservatoire and the Opera, Paris
Daniel de Lange	Netherlands	Professor of Music, Amsterdam
H. Rahr	Netherlands	Music publisher, Utrecht
Eugen de Vries	Netherlands	Professor of Music, Amsterdam

¹¹ *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits* (Melbourne: Mason, Firth & M'Cutcheon, 1882), p. 46. 'The Melbourne Exhibition', *London and provincial music trades review* (15 April 1881), pp. 13, 15.

¹² 'Bericht des Herrn Commerzienrath Ernst Kaps in Dresden an das Reichskanzleramt zu Berlin über sein Thätigkeit als Jurymitglied der Amsterdamer Ausstellung', *ZfI*, 3 (1882/83), p. 363.

1885 Antwerp¹³

Jury Members	Nationality	Role / Profession
Camille Saint-Saëns	France	<i>President</i> ; Member of the Institute, Composer, organist, conductor, pianist
Chevalier Xavier van Elewyck	Belgium	<i>Vice president</i> ; Composer, Maître de Chapelle, Louvain
Gustave Huberti	Russia	<i>Secretary</i> ; Composer, organist, pianist
Victor Mahillon	Belgium	<i>Reportorter</i> ; Jury at 1883 Amsterdam
Oscar Forster	Germany	Son-in-law of Adolf Schiedmayer, chief of Schiedmayer Pianofortefabrik
Eugène Gand	France	Jury at the 1878 Paris, 1883 Amsterdam
Mr. Godeffroy	Austria	Professor of Chemistry at the Technological Museum and Director of the Vienna Pharmaceutical school
C. F. Just	Canada	
Mr. Besson	France	
Mr. Balhazar-Florence	Belgium	<i>substitute</i>
Gordon Hall	Great Britain	<i>substitute</i>

1885 London¹⁴

Jury Members	Nationality	Role / Profession
The Duke of Edinburgh	Great Britain	<i>Chairman</i>
Earl of Lathom	Great Britain	Director of the Royal Italian Opera Company
Luigi Arditi	Italy	Opera Conductor
R. H. M. Bosanquet	Great Britain	Music theorist
J. Frederic Bridge	Great Britain	Organist of Westminster Abbey
Alfred Gibson	Great Britain	Viola Player
Thomas Harper	Great Britain	Trumpet Player
Charles Harres	Great Britain	Practising doctor
Major Hawkins	Great Britain	Piano builder
Professor George Horton	Great Britain	Oboe builder
William Huggins	Great Britain	Lawyer
A. C. Köhler	Germany	Wind instrument maker

¹³ Exposition universelle d'Anvers, 1885, *Rapports des membres du jury international des récompenses publiées par le Commissariat général du gouvernement, ministère de l'agriculture, de l'industrie et des travaux publics. Tome I. Première section. Tome I. Documents divers, arrêtés, règlements, etc. Groupe I. Classes 1 à 11. Enseignement. Arts libéraux. Mobilier et accessoires. Tissus, vêtements et accessoires* (Bruxelles: Typographie Alfred Vromant, 1886), p. 365.

¹⁴ 'The Inventions Exhibition', *MOMTR*, 8: 94 (July 1885), p. 514. 'Die Musikalische Jury auf der „Inventions Exhibition“ zu London', *ZfI*, 5 (1884/85), p. 370.

J. A. Fuller Maitland	Great Britain	Writer
August Manns	Germany	Kapellmeister
George Martins	Great Britain	Second organist at St. Paul's Cathedral
Samuel Miller	Great Britain	Trombonist
Walter Parrett	Great Britain	Composer
C. H. Hubert Parry	Great Britain	Composer, Professor
Ernst Pauer	Great Britain	Piano professor
E. J. Payne	Great Britain	Attorney-at-law
Eugenio Peruzzi	Italy	Composer
H. W. Petherick	Great Britain	Writer
William Pole	Great Britain	Civil Engineer and composer
George Curtis Price	Great Britain	Writer, professor of Music
W. S. Rockstro	Great Britain	Musicologist, pianist, composer
C. V. Stanford	Great Britain	Professor of Music, composer
W. H. Stone	Great Britain	Practising doctor
Franklin Taylor	Great Britain	Piano teacher
E. H. Turpin	Great Britain	Organist, music publisher

1888 Melbourne¹⁵

Jury Members	Nationality	Role / Profession
Julius Siede	Victoria	<i>Chairman</i>
W. Anderson	U.S.	
W. R. Blazey	Victoria	
Frank H. Bradley	Victoria	
Oscar Comettant	France	Son-in-law of one of the owners of Mangeot Bros, Paris. Delegate of the French Government
A. F. Morrison	Great Britain	Scotch College, Melbourne
L. Pabst	Victoria	
W. Perraton	Victoria	
A. Plumpton	Victoria	
H. Kowalski	Great Britain	Musician, Petersham, Sydney
Benno Scherek	Germany	
Joseph Reed	Victoria	
W. Stoneham	Victoria	
A. Strauss	Austria	

¹⁵ Julius Siede, 'Reports of Juries – section 6 and 7, class 13 and 14' in Centennial International Exhibition, *Official record of the Centennial International Exhibition, Melbourne, 1888-1889* (Melbourne: Sands & McDougall, 1890), pp. 717–721.

Fredk. Tate	Great Britain	
W. Wakefield	U.S.	
J. W. Lindt F. Luttioh George Stirling	Victoria	<i>Experts appointed to appeal against Jury decisions</i>

1889 Paris¹⁶

Jury Members	Nationality	Role / Profession
Ambroise Thomas (President)	France	President; Member of the Institute, director of the Conservatoire
Victor Mahillon	Belgian	<i>Vice-president</i> ; Jury at 1883 Amsterdam, 1885 Antwerp
Eugène Gand	France	Jury at 1878 Paris, 1883 Amsterdam, 1885 Antwerp
J. Thibouville-Lamy	France	<i>Reporter</i> ; Factory of musical instruments
T. Campbell Clark	Great Britain	Publicist
Arnold	Switzerland	Professor of music
Aubin Dumoustier de Frédilly	France	Chief Ministry Officer of Commerce
Cavaillé-Colle	France	Organ maker
A. C. Dickinson	U.S.	
Didion	France	Pianoforte maker
Gavioli Fils	Italy	Factory of organ mechanics
V. J. Hlavač	Russia	Composer, orchestral conductor
Lecomte	France	Wind instruments maker
Ruch	France	Pianoforte maker
Decombes	France	<i>Substitute</i> ; Piano professor at the Conservatoire
Salvayre	France	<i>Substitute</i> ; composer

1893 Chicago¹⁷

Jury Members	Nationality	Role / Profession
Dr. Hugh A. Clark	U.S.	Professor of music at University of Pennsylvania
E. P. Carpenter	U.S.	Bureau of Awards in revising texts
V. J. Hlavač	Russia	Jury at 1889 Paris
Max Schiedmayer	Germany	Pianoforte maker
George Steck	U.S.	Pianoforte maker, businessman and musician
Dr. Florence Ziegfeld	U.S.	President of the Chicago Musical College, Educator

¹⁶ J. Thibouville-Lamy, 'Classe 13, Instruments de musique' in *Exposition universelle internationale de 1889 à Paris. Rapports du jury international: Groupe II. 2e partie. Matériel et procédés des arts libéraux. Classes 9 à 17* (Paris: Imprimerie nationale, 1891), p. 473.

¹⁷ Frank D. Abbott, *Musical instruments at the World's Columbian Exposition* (Chicago: Presto Co., 1895), pp. 39–49.

1894 Antwerp¹⁸

Jury Members	Nationality	Role / Profession
J. Thibouville-Lamy	France	<i>President</i> ; Author of 'Manufacture d'instruments de musique: catalogue of instruments', issued at 1878 Paris Exposition
Berrens	Russia	<i>Secretary</i> ; Affiliated with Hofpiano factory, Antwerp
Gustave Lyon	France	<i>Reporter</i> ; Pleyel, Wolff & Cie, Paris
Bender	Belgium	Kapellmeister; inspector of military music in Belgium
Blondel	France	Affiliated with Erard & Cie, Paris
O. Forster	Germany	Son-in-law of Adolf Schiedmayer, chief firm of Schiedmayer Pianofortefabrik
V. J. Hlavač	Russia	Jury at 1889 Paris, 1893 Chicago
Mathieu	Belgium	Director of the Conservatorium in Leuven
Ruch	France	Affiliated with Ruch, Paris
E. P. Carpenter	U.S.	<i>Substitute</i> ; Jury at 1893 Chicago
MM. Colyns		<i>Substitute</i>
Fréchette		

1900 Paris¹⁹

Jury Members	Nationality	Role / Profession
Gustave Lyon	France	<i>President</i> ; Affiliated with Pleyel, Wolff & Co.
Friedrick Ehrbar	Austria	<i>Vice-president</i> ; Pianoforte maker
Alfred Acoulon	France	<i>Secretary</i> ; Affiliated with firm Thibouville-Lamy
Eugène de Bricqueville	France	<i>Reporter</i> ; Organist
Amédée Couesnon	France	Band instrument maker
Gustave Bernardel	France	Violin Maker
Georges Dutreih	France	Musical box maker
Gabriel Gaveau	France	Pianoforte maker
Constant Pierre	France	Secretary of the Conservatoire of Paris
Henri Schoenaers	France	Band instrument maker
A. Bord	France	Pianoforte maker
Ernest Focké	France	Pianoforte maker
Albert Jacquot	France	Violin maker

¹⁸ 'Die Jury für die Musikinstrumenten-Gruppe auf der Antwerpener Ausstellung', *ZfI*, 14 (1893/94), p. 750.

¹⁹ *Exposition Universelle Internationale de 1900 Jury International* (Paris: Imprimerie Nationale, 1900), pp. 44–45.

Amédée Thibout	France	Pianoforte maker
Herm. Rönisch	Germany	Pianoforte maker
Henri Krehbiel	North America	Music critic and musicologist
J. W. Schunda	Hungary	Wind instrument maker
Eramus Dloussky	Russia	Professor of piano
L. P. Mermod	Switzerland	Musical box maker
Louis Danti	Italy	
Francisco Lacerdal	Portugal	
J. Carpentier	France	<i>Expert appointed to appeal against jury; Member of the office of longitudes, former engineer of manufacturers in U.S., mechanics of precision</i>

1904 St. Louis²⁰

Jury Members	Nationality	Profession
E. Delfaux	France	Instrument maker
Dr. Rieloff	Germany	Imperial Consul
Ernest R. roeger	U.S	Bureau of music, World's Fair
Chas. J. Kunkel	U.S.	Pianist
Arthur S. onson	U.S.	Band instrument maker
M. Mattes	U.S.	Organ and pianos maker
Adam Jakob	U.S	String and Wind instrument maker
Theodore Spiering	U.S.	Violinist
O. C. Faust	U.S.	Piano tuning and repair
John O'Shea	U.S.	Pipe organist
N. J. Corey	U.S.	Organist
Alberto Jonas	U.S	Director of Michigan Conservatoire of music
Alfred Robyn	U.S.	<i>Substitute; Organist</i>
E.W. Glover	U.S.	<i>Substitute; Pianist</i>
C. Meyer	U.S	<i>Substitute; Professor of Acoustics, University of Missouri</i>
Wm. H. Leggett	U.S.	<i>Substitute; Violinist and string instrumental maker</i>
Alfred Ernest	U.S.	

²⁰ 'Official list of juries of awards, Louisiana Purchase Exposition, St. Louis, U.S. A – Group 21 – Musical instruments - materials, processes and products', *World's fair bulletin*, 5: 11 (September, 1904), p. 58.

Exhibition awards for pianofortes in music instruments group

1880 Melbourne²¹

Number of medals awarded for each nationality

Nationality	Hors Concours	First order of Merit	Second order of Merit	Total
Austria	1	-	3	4
Belgium	-	1	-	1
France	1	4	1	6
Germany	2	3	4	9
Great Britain	-	1	0	1

Firms receiving awards

Award	Firm	Nationality
Hors Concours	Bösendorfer	Austria
	Pleyel	France
	Lipp Rönisch	Germany
First order of Merit (1st)	Gebr. Campo	Belgium
	A. Bord Erard H. Herz P. Herz	France
	J. Blüthner E. Kaps Schiedmayer Pianofortefabrik	Germany
	Brinsmead & Sons	Great Britain
Second order of Merit (2nd)	Holz Hoffman Oeser	Austria
	A. Thibout	France
	Gebauhr Ibach & Sohn E. Seiler Westermayer	Germany

Rankings according to the Jurors²²

Firm	Nationality	Award	Points	Rounded Points
Erard	France	First	399	40
Blüthner	Germany		390	39
Henri Herz	France		375	38
Ernst Kaps	Germany		373	38
Brinsmead & Sons	Great Britain		370	37
P. Herz	France		361	36

²¹ Melbourne International Exhibition, *Official record containing introduction, history of exhibition, description of exhibition and exhibits, official awards of commissioners and catalogue of exhibits. Report of superintendent of juries and awards* (Melbourne: Mason, Firth & McCutcheon, 1882), p. 42. 'The Melbourne Exhibition', *MOMTR*, 4: 44 (May 1881), p. 300.

²² 'Die Preisvertheilung auf der Ausstellung zu Melbourne 1881', *ZFI*, 1 (1880/81), pp. 201–202. L. Moonen, 'The Melbourne Exhibition again', *The London and provincial music trade review* (15 November 1881), p. 5.

Bord	France		351	35
Gebr. Campo	Belgium		345	35
Schiedmayer	Germany		340	34
Gebauhr	Germany	Second	327	33
Thibout	France		312	32
Oeser	Austria		304	31
Westermayer	Germany		278	28
Ibach & Sohn	Germany		268	27
Holzl	Austria		266	27
E. Seiler	Germany		261	26
Hofmann	Austria		256	26

1883 Amsterdam²³

Number of medals awarded for each nationality

Nationality	Hors Concours	Diplomas of Honour	Gold Medal	Silver Medal	Total
Austria	-	-	-	-	-
Belgium	-	1	1	-	2
France	1	1	3	1	6
Germany	1	5	5	4	15
Great Britain	-	1	-	-	1

Firms receiving awards

Award	Firm	Nationality
Hors Concours	Pleyel, Wolff & Co.	France
	E. Kaps	Germany
Diplomas of Honour (1st)	J. Günther	Belgium
	Gaveau	France
	J. Blüthner R. Lipp & Son Carl Mand Schiedmayer Pianofortefabrik Schiedmayer & Sons	Germany
	Brinsmead & Sons	Great Britain
Gold Medal (2nd)	J. Oor	Belgium
	P. Herz J. Ruch A. Thibout	France
	Fedor Bing F. Kaim & Son Mann & Cie Mayer & Cie Zeitter & Winkelmann	Germany

²³ 'Die Colonial-Ausstellung von Amsterdam', *ZFI*, 3 (1883/84), pp. 319, 321. 'Bericht des Herrn Commerzienrath Ernst Kaps in Dresden an das Reichskanzleramt zu Berlin über sein Thätigkeit als Jurymitglied der Amsterdamer Ausstellung', *ZFI*, 3 (1882/83), pp. 363–364. 'Noch einmal die ausserdeutschen Prämierungen von Amsterdam', *ZFI*, 4 (1883/84), p. 19.

Silver Medal (3rd)	A. Bord	France
	Ad Knöchel Compagnie Concordia E. Seiler Selinke & Sponnagel	Germany
Unknown	C. Rönisch	Germany
	Diederich bros	Russia

1885 Antwerp²⁴

Number of medals awarded to each nationality

Nationalities	Hors Concours	Diplomas of Honour	Gold Medal	Silver Medal	Bronze Medal	Total
Austria	-	-	-	3	-	3
Belgium	-	2	-	6	6	14
France	-	4	3	3	1	11
Germany	1	3	6	5	4	19
Great Britain	-	1	-	-	-	1
Russia	-	1	2	1	-	4
U.S.	-	-	-	-	-	-
Other	-	-	2	2	-	4

Firms receiving awards

Award	Firm	Nationality
Hors Concours	Schiedmayer PianoforteFabrik	Germany
Diplomas of Honour (1st)	J. Günther J. Oor	Belgium
	F. Elcké & Cie Erard, S. & P. Gaveau Pleyel, Wolff & Co.	France
	Carl Mand R. Lipp & Son Schiedmayer & Sons	Germany
	Brinsmead & Sons	Great Britain
	C. M. Schroeder	Russia
Gold Medal (2nd)	A. Berrens G. Dopéré M. Hainaut G. Heinemann	Belgium
	Kriegelstein & Cie J. Ruch A. Thibout	France
	Carl Ecke F. Adam G. Adam Mann & Cie L. Mörs & Co L. Römhildt	Germany
	Carlos Roeseler	Italy
	Gebr. Diederich E. Mühlbach	Russia
	Hüni und Hübert	Switzerland
	Carl Hofmann Caffol Triest R. W. Kurka	Austria

²⁴ 'Award at the Antwerp Exhibition', *POMTJ*, 4: 38 (September 1885), pp. 130–131. 'Prämiirungen von Antwerpen', *ZFI*, 5 (1884/85), pp. 399–400, 402, 439.

Silver Medal (3rd)	Hainaut & Fils L. Hoebrechts & Fils Joseph Herman J. Klæe-Cassard Louis Derdeyn A. Renson & Fils	Belgium
	A. Woltez Lévêque & Thiersen N. Winther	France
	Gust. Ad. Ibach Carl Marx Joh. Kuhse Julius Deesz Gebr. Trau	Germany
	Carlo Perotti Domenico Vigo	Italy
	G. Goetze	Russia
Bronze Medal (4th)	Franz Čoveliers Van Hyfte A. Liedel Ch. Nuytens H. Paeshnys G. Vits & Co	Belgium
	Leguerinains & Cie	France
	Compagnie Concordia W. Dambach H. Kracht Weischenberg	Germany

1885 London²⁵

Number of medals awarded for each nationality

Nationalities	Hors Concours	Gold Medal	Silver Medal	Bronze Medal	Total
Austria	-	-	-	-	-
Belgium	-	-	-	-	-
France	1	-	1	-	2
Germany	2	1	4	4	11
Great Britain	1	3	7	14	25
Russia	-	1	1	1	3
U.S.	-	1	-	-	1
Other	-	-	-	-	-

Firms receiving awards

Award	Firm	Nationality
Hors Concours	Pleyel, Wolff & Co.	France
	J. Blüthner Ibach & Sons	Germany
	Collard & Collard	Great Britain
Gold Medal (1st)	Schiedmayer & Sons	Germany
	Broadwood & Sons J. & J. Hopkinson Kirkman & Son	Great Britain
	C. M. Schroeder	Russia
	Steinway & Sons	U.S.
Silver Medal	A. Bord	France

²⁵ 'Supplement to the London gazette, awards to exhibitors in "Old London"', *London gazette* (4 November 1885), pp. 5074–5077. 'The awards at the inventions Exhibition', *POMTJ*, 4:41 (December 1885), pp. 184–185. 'Die Prämiirungen der Londoner Inventions Exhibition', *ZFI*, 6 (1885/86), pp. 53–54.

(2nd)	G. Dörner & Sohn F. Kaim & Son Schiedmayer Pianofortefabrik Zeitter & Winkelmann	Germany
	Brinsmead & Sons Challen & Son Chappell & Co J. B. Cramer & Co J. Curwen and Sons Pohlmann & Son W. G. Eavestaff	Great Britain
	H. Koch	Russia
Bronze Medal (3rd)	Hölling & Spangenberg Hundt & Sohn Hüni & Hübert W. Ritmüller & Sohn	Germany
	Ajello, Giuliano A. Allison & Co S. Brewer Burling & Burling Hemingway & Thomas James L. Stephen Justin Browne C. McVay Metzler & Co. Moore & Moore G. Rogers & Sons Squire & Longson Strohmenger & Sons H. Ward	Great Britain
	Diederichs Brothers	Russia

1888 Melbourne²⁶

Number of medals awarded to each nationality

Nationalities	First Order of Merit	Second Order of Merit	Third Order of Merit	Honourable Mentions	Total
Austria	-	-	-	-	-
Belgium	-	-	-	-	-
France	-	-	-	-	-
Germany	9	7	8	7	31
Great Britain	2	-	2	1	5
Russia	-	-	-	-	-
United States	1	1	-	-	2
Other	-	1	-	1	2

Firms receiving awards

Award	Firm	Nationality
First Order of Merit (1st)	J. Blüthner J. Feurich G. Hahmann Grotrian Helfferich Schulz, H. Steinweg Nachfolger - Brunswick E. Kaps R. Lipp & Son F. Neumann Schiedmayer & Sons Ferd. Thürme	Germany
	J. & J. Hopkinson T. Chappell & Co.	Great Britain
	Behr Bros. & Co.	United States
Second Order of Merit (2nd)	Albert Fahr Grotrian Helfferich Schulz, H. Steinweg Nachfolger - Brunswick W. Liedcke F. Mayer Carl Scheel Schiedmayer PianoforteFabrik G. Schwechten	Germany
	Brödener Hals	Norway

²⁶ Julius Siede, 'Reports of Juries – section 6 and 7, class 13 and 14' in Centennial International Exhibition, *Official record of the Centennial International Exhibition, Melbourne, 1888-1889* (Melbourne: Sands & McDougall, 1890), pp. 717–721.

	T. M. Antisell Piano Co.	United States
Third Order of Merit (3rd)	Apollo Pianoforte Fabrik Compagnie Concordia Carl Ecke E. F. Haake Heinrich Knauss & Sohne J.G. Vogel & Sohn F. Weber Zeitter & Winkelmann	Germany
	J. Spencer & Co. Wood & Co	Great Britain
Honourable Mentions (4th)	R. Görs & Kallmann F. Kaim & Son G. & E. Kanhäuser P. Schmidt & Son E. Seiler H. Wagner H. Wolfframm	Germany
	G. Russell	Great Britain
	Milner & Thompson	New Zealand

1889 Paris²⁷

Number of medals awarded to each country

Nationalities	Hors Concours	Grand Prix	Gold Medal	Silver Medal	Bronze Medal	Honourable Mentions	Total
Austria	-	-	-	-	-	-	-
Belgium	-	-	1	2	1	-	4
France	2	2	5	13	16	8	46
Germany	-	-	-	-	-	-	-
Great Britain	-	-	-	1	-	-	1
Russia	1	-	2	1	1	-	5
u.S.	-	-	-	1	-	-	1
Other	-	-	-	4	5	1	10

Firms receiving awards

Award	Firm	Nationality
Hors Concours	M. Didion J. Ruch	France
	Hlavatch	Russia
Grand Prix (1st)	S. & P. Erard Pleyel, Wolff & Co.	France
Gold Medals (2nd)	Berden et Cie	Belgium
	A. Bord Focké fils aîné M. Gaveau M. Gouttière H. Herz	France
	J. Kerntopf & Sons Krall et Seidler	Russia
Silver Medals (3rd)	Heinemann Renson & fils	Belgium
	Auch frères Augenscheidt Baruth Burckard et Marqua Gervex Hansen J. Lafontaine L. Lévêque Lévêque & Thersen Lévy-Mario V. Pruvost C. Soufleto A. Thibout	France
	Brinsmead & Sons	Great Britain

²⁷ 'Die Prämiirungen der Musikinstrumenten-Aussteller auf der Pariser Weltausstellung', *ZFI*, 10 (1889/90), p. 20; 'Liste der Musikinstrumenten-Aussteller auf der Weltausstellung zu Paris', *ZFI*, 10 (1889/90), pp. 347–348, 364; 'Paris Universal Exhibition', *POMTJ*, 7: 88 (November, 1889), pp. 189–190.

	Brizzi et Nicolai	Italy
	J. Thoresen	Norway
	J. Malecki	Russia
	Brusco	Spain
	Rordorf et Cie J. Trost et Cie	Switzerland
	A. Weber	U.S.
Bronze Medals (4th)	Hainaut et fils	Belgium
	Aurand-Wirth Boussuge Constantz Danti Dhibaut Frantz Gauss Guillot Jeanpert H. Klein Labrousse Lary Limonaire frères & Co Oury H. Pruvost Société des facteurs de pianos de Paris (Hanel, Benard & Cie)	France
	Van Kieshout & Zoon	Holland
	Volpi & Co	Italy
	Ernesto-Victor Wagner	Portugal
	A. Strobl	Russia
	Guarro e hijos	Spain
	Bieger	Switzerland
Honourable Mentions (5th)	Avisseau et fils Burgasser & Theilmann Dieffenbacher Jouffroy Leguérinain Leibner Toudy jeune N. Winther	France
	Rindlisbacher	Switzerland

1894 Antwerp²⁸

Number of medals awarded to each nationality

Nationalities	Hors Concours	Grand Prix	Diplomas of Honour	Gold Medal	Silver Medal	Bronze Medal	Honourable Mentions	Total
Austria	-	-	-	1	1	-	-	2
Belgium	-	-	2	1	3	-	-	6
France	3	1	2	5	4	-	1	16
Germany	1	-	1	5	4	1	-	12
Great Britain	-	-	-	-	-	1	-	1
Russia	-	2	-	-	-	-	-	2
U.S.	-	-	-	-	-	-	-	-
Other	-	-	-	-	2	-	-	2

Firms receiving awards

²⁸ 'Berich über die Prämiirungen der Klasse 13, Musikinstrumente, auf der internationalen Ausstellung zu Antwerpen', *ZfI*, 14, 1893/94), pp. 828–829.

Awards	Firm	Nationality
Hors Concours	Erard, S. & P. Pleyel, Wolff & Cie J. Ruch	France
	J. Blüthner	Germany
Grand Prix (1st)	E. Gouttière	France
	J. Becker C. M. Schroeder	Russia
Diplomas of Honour (2nd)	Berden & Cie J. Günther	Belgium
	H. Herz Kriegelstein & Cie	France
	Carl Mand	Germany
Gold Medals (3rd)	A. G. Römhildt	Austria
	Florence Balthazar	Belgium
	Burgasser & Theilmann M. Focké J. Lary P. & H. Herz neveu & Cie A. Thibout	France
	Carl Ecke A. H. Francke Görs & Kallmann Mann & Cie C. Rich, Ritter	Germany
Silver Medal (4th)	Stingl Bros	Austria
	Beyer Vve. Frans Coveliers Van Hyfte	Belgium
	A. Blondel Ed. Pruvost fils J. Staub Henri Klein	France
	Clemens Müller Julius Hauber P. Hansen Gebr. Perzina	Germany
	M. J. Lieshout	Holland
	Paul Izabal	Spain
Bronze Medal (5th)	Boden & Schünemann	Germany
	Bishop & Sons	Great Britain
Honourable Mentions (6th)	A. Schindler	France

1900 Paris²⁹

Number of medals awarded to each nationality

Nationalities	Hors Concours	Gold Medal	Silver Medal	Bronze Medal	Total
Austria	1	-	2	1	4
Belgium	-	-	1	-	1
France	8	3	9	2	22
Germany	1	3	3	4	11
Great Britain	-	1	-	1	2
Russia	-	2	1	-	3
U.S.	-	1	1	-	2
Other	1	4	4	4	13

²⁹ 'Offizielle Prämiierungsliste der Musikinstrumenten-Aussteller auf der Pariser Weltausstellung', *ZFI*, 20 (1889/1900), pp. 990–997.

Firms receiving awards

Award	Firm	Nationality
Hors Concours	F. Ehrbar	Austria
	A. Blondel A. Bord & Cie Erard & Cie Focké fils aîné Gaveau Henri Herz Pleyel, Wolff & Co. A. Thibout	France
	C. Rönisch	Germany
	A. Thék	Hungary
Gold	L. de Smet	Belgium
	Newcombe & Co.	Canada
	Hals Brodrene	Denmark
	E. Gouttière P. Hansen P.H. Herz Neveu H. Klein Kreigelstein & Cie Rodolphe fils	France
	J. Blüthner Schiedmayer Pianofortefabrik E. Sponnagel	Germany
	Broadwood & Sons	Great Britain
	G. Mola	Italy
	Waner & Levien suces	Mexico
	J. Becker Diderich bros	Russia
	Baldwin Piano Co.	U.S.
Silver	Stenzel & Schlemmer Stingl Bros	Austria
	Chassaigne Frères	Belgium
	Dominion Organ & Piano Co. Pratt & Co.	Canada
	Koch & Korselt	Czech Republic
	A. Angenscheidt Aurand-Wirth & Cie M. Burkhardt A. Garbé C. Gauss J. Lary H. Pruvost V. Pruvost N. Winter	France
	O. Beyer-Rahnefeld Ritmüller & Sohn C. Ritter	Germany
	E. Bremitz	Italy
	A. Eberg	Russia
	Hamilton Organ Co. Ludwig & Co.	U.S.
Bronze	C. Starke	Austria
	Jenson Sören	Denmark
	N. Erard Menneson & fils	France
	F. Adam Instrumentenfabrik 'Reform' G. Rösler Van Hyfte frères	Germany
	Halle Piano Co.	Great Britain
	K. Dehmal Govino & Figli B. Cateura	Hungary / Italy / Spain

Piano exhibitors at 1893 Chicago and 1904 St. Louis

1893 Chicago³⁰

Firms	Nationality	Total
A. A. Barthelmes G. Newcombe & Co Dominion Organ and Piano Co.	Canada	3
J. Emil Felumb	Denmark	1
Aucher Frères A. Bord Burgasser & Theilmann Elké Focké fils aîné Gaveau Girard Gouttière Hansen Kriegelstein & Co. J. Labrousse Lary Lévêque & Thersen Pleyel, Wolff & Co. Ruch A. Thibout Vanet	France	17
Grotrian, Helfferich, Schulz, Th. Steinweg Nachf. M. F. Rachals & Co. C. Scheel F. L. Neumann Rohlfing Bros E. Seiler	Germany	6
G. Mola	Italy	1
C. M. Schroeder J. Becker E. Mühlbach A. Eberg W. Reinhardt	Russia	5
Francis Bacon Julius Bauer & Co Behr Bros & Co. George P. Bent Boardmann & Gray Bush & Gertz A. B. Chase Co. Chickering & Sons Colby Piano Co. Conover Piano Co. Chase Bros Piano Co. Estey Piano Co. Everett Piano Co. J. & C. Fischer C. A. Gerold Haake & Co Hallet & Davis Co. Hardmann, Peck & Co E. G. Harrington & Co. Ivers & Pond Piano Co. Jacob Bros W. W. Kimball Knabe Keller Bros & Blight Co. Krell Piano Co. Kranich & Bach Mason & Hamlin Mehlin Piano Co. C. Meyer & Sons Henry F. Miller & Sons Needham Piano and Organ Co. A. Reed & Sons Russell Piano Co. A. Schaaf Schomacker Piano Co. Schubert Piano Co. Shaw Piano Co. B. Shoninger Co. Sohmer & Co. Starr Piano Co. Steinway & Sons C. M. Stieff Vose & Sons Piano Co. Wegman & Co.	U. S.	44

1904 St. Louis³¹

Firm	Nationality	Total
J. Günther	Belgium	1
L. Burgasser & H. Theilmann L. Chartier L. Coquet fils J. Girard Klein, Henry, Montreuil s. Bois J. Labrousse J. Lary E. Legay Pleyel, Wolff & Cie E. Pruvost Renard & Cahouet E. Vasselin E. Weingartner	France	13
J. Blüthner Ibach & Sons Carl Mand Schiedmayer PianoforteFabrik	Germany	4
Mauro, Antonino	Italy	1
Nippon Musical Instrument Mfg. Co	Japan	1
Baldwin Piano Co. Clark S. Wood Ellington Pianos Co. Estey Piano Co. Starr Piano Co.	U.S.	5

³⁰ Frank D. Abbott, *Musical instruments at the World's Columbian Exposition* (Chicago: Presto Co., 1895), pp. 30–31, 186–189, 191–194. J. Thibouville-Lamy, *Exposition internationale de Chicago en 1893. Rapports publiés sous la direction de M. Camille Krantz. Comité 38. Instruments de musique* (Paris: Imprimerie Nationale, 1894), pp. 22–23. 'The Chicago Exhibition', *POMTJ*, 10: 135 (November 1893), p. 179.

³¹ F.J.V. Skiff, *Official catalogue of exhibitors, Universal Exposition, St. Louis, U.s.a., 1904: Division of exhibits*. Published for the Committee on Press and Publicity by the Official Catalogue Company (Inc.), 1904. 'Die Prämiierungen der deutschen Aussteller auf der Weltausstellung von St. Louis', *ZFI*, 25 (1904/05), p. 103.

Appendix C Pops portfolio

Pops concerts data (November 1880 to April 1901)

[Appendix C Pops Concerts \(Nov 1880-April1901\)](#): 819 Concerts detailing pianists, solo repertoire played, piano used.

Pops pianists' background (ordered by surnames)

Pianists	Nationality	Birth	Death	First teacher	Second teacher	Third teacher
Albeniz, Isaac	Spanish	1860	1909	Clementina Albeniz (sister), Narciso Oliveras, Barcelona	Antoine-François Marmontel	Franz Rummel, Louis Brassin, Brussels Conservatoire
Barnett, Emma	English	1851	1942	John Francis Barnett (brother)		
Barth, Karl-Heinrich	German	1847	1922	Ludwig Steinmann, Postdam	Hans von Bülow, Bronsart von Schellendorf, Carl Tausig	
Borwick, Leonard	English	1868	1925	Hoch Conservatoire in Frankfurt, Clara Schumann		
Brüll, Ignaz	Austrian	1846	1907	Julius Epsten, Vienna Conservatoire		
Busoni, Ferruccio	Italian	1866	1924	Ferdinando Busoni (Father)	August Wilhelm Ambros, Johanne Brahms, Eduard Hanslick, Vienna Conservatoire	Carl Reinecke
Cohn, Isidor	English, German by birth	1856	1928	G. S. W. Osterholdt, Hamburg	Xaver Scharwenka, Berlin	
Consolo, Ernest	Italian	1864	1931	Giovanni Sgambati, Rome	Carl Reinecke, Leipzig Conservatoire	
Cor-de-Lass, Señor A.	Russian	n/a	n/a	Theodore Leschetizky, St. Petersburg Conservatoire		

Appendix C: Pops Portfolio

d'Albert, Eugene	German, English by birth	1864	1932	Arthur Sullivan, Ernst Pauer, Ebenezer Prout, National Training School for Music in London	Franz Liszt	
Davies, Fanny	English	1861	1934	Carl Reinecke, Leipzig Conservatoire	Clara Schumann, Frankfurt	
Dawson, Frederic	English	1868	1940	Charles Hallé and Edward Dannreuther	Anton Rubinstein	
De Greef, Arthur	Belgian	1862	1940	Louis Brassin, Brussels Conservatoire	Franz Liszt, Weimar	
De Lara, Adelina	English	1872	1961	Fanny Davies	Clara Schumann	
De Pachmann, Vladimir	Ukrainian	1848	1933	Joseph Dachs, Vienna Conservatoire		
Dessauer, Alice	English	1865	1950	Clara Schumann		
Dohnanyi, Ernst Von	Hungarian	1877	1960	István Thomán (piano), Hans von Koessler (composition), Royal National Hungarian Academy of Music, Budapest	Eugene d'Albert	
Eibenschütz, Ilona	Hungarian	1873	1967	Hans Schmitt, Vienna Music Academy	Clara Schumann, also played to Rubinstein and Liszt	
Elliott, Muriel	English	n/a	n/a	Bernhard Stavenhagen		
Essipoff, Anna (Yesipova)	Russian	1851	1914	St Petersburg Conservatoire, Leschetizky		
Fauré, Gabriel	French	1845	1924	Louis Niedermeyer, École Niedermeyer	Camille Saint-Saëns	
Foerster, Charles	Hungarian	1860	1905	Vienna Conservatoire	Franz Liszt	

Frickenhaus, Fanny	English	1849	1913	Geroge Mount	Auguste Dupont, Brussels	William Bohrer
Fromm, Marie	German	1865	1905	Clara Schumann, Frankfurt Hoch's Conservatoire		
Geisler-Schubert, Caroline	English, Bratislavian by birth	1856	1951	Anton Door, Vienna	Clara Schumann, Hoch Conservatoire	
Goodson, Katharine	English	1872	1958	Oscar Beringer, Royal Academy of Music, London	Theodore Leschetizky, Vienna	
Grieg, Edvard	Norwegian	1843	1907	Gesine Grieg (mother)	Louis Plaidy, E. F. Wenzel, Moscheles, Carl Reinecke, Leipzig Conservatoire	
Gröndahl, Agathe Backer	Norwegian	1847	1907	Otto Winter-Hjelm, Halfdan Kjerulf, Ludvig Mathias Lindeman, Christiania	Theodor Kullak, Akademie der Tonkunst, Berlin	
Haas, Alma	polish	1847	1932	Wandelt's music school	Theodor Kullak, Berlin	
Hallé, Charles	English, German by birth	1819	1895	Friedrich Halle (father)	George Osborne, Paris	
Hambourg, Mark	English, Russian by birth	1879	1960	Michael Hambourg (father)	Theodore Leschetizky	
Heymann, Johanna	Dutch	1873	1938	Julius Röntgen, Amsterdam	Eugène d'Albert, Heinrich Barth	
Hofmann, Josef	American, Polish by birth	1876	1957	Kazimierz Hofmann (father)	Moritz Moszkowski, Anton Rubinstein, Germany	
Janotha, Natalia	Polish	1856	1932	Julian Janotha (dather)	Rudorff, Bargiel, Brahms, Clara Schumann, Franz Weber, Marcelina Czartoryska, Berlin	

Kleeberg, Clotilde	French	1866	1909	Louis Massart, Theodore Dubois in theory, Paris Conservatoire		
Krebs, Marie	German	1851	1900	Carl August Krebs (father)		
Kwast, James	Dutch-German	1852	1927	Carl Reinecke, Leipzig Conservatoire	Theodor Kullak, Berlin	Louis Brassin, François-Auguste Gevaert, Brussels
Lamond, Frederic	Scottish	1868	1948	David Lamond (brother)	Max Schwarz, Raff Conservatoire, Frankfurt	Hans von Bülow
Margolies, Vera	English, Russian by birth	n/a	n/a	Royal Academy of Music, London		
Menter, Sophie	German	1846	1918	Siegmund Lebert, Friedrich Niest, Munich	Carl Tausig, Hans von Bülow, Berlin	Franz Liszt
Neruda, Olga	English, German by birth	1858	1945	Charles Hallé		
Okey, Maggie (Madame de Pachmann)	Australian	1864	1952	Vladimir de Pachmann		
Paderewski, Ignacy Jan	Polish	1860	1941	Piotr Sowiński	Warsaw Music Institute	Theodor Leschetizky, Vienna
Pancera, Ella	Austrian	1876	1932	Privatlyzeum Institut Hanausek	Julius Epstein, Theodor Leschetizky, Josef Vockner, Vienna Conservatory	Bernhard Stavenhagen, Weimar
Pauer, Max	German, English by birth	1866	1945	Ernst Pauer (father)	Vincenz Lachner (composition), Karlsruhe Conservatoire	
Reisenauer, Alfred	German	1863	1907	L. Köhler	Franz Liszt	
Rosenthal, Archy	English	1874	1947	Theodore Leschetizky, Vienna	Leopold Godowsky, Berlin	

Rummel, Franz	German, English by birth	1853	1901	Louis Brassin, Brussels Conservatoire		
Sapellnikoff, Wassily	Russian	1867	1941	Louis Brassin, Sophie Menter, Odessa Conservatoire		
Sauer, Emil	German	1862	1942	Ludwig Deppe	Nikolai Rubinstein, Moscow Conservatoire	Franz Liszt, Weimar
Schelling, Ernest	American	1876	1939	Academy of Music, Philadelphia, Pennsylvania	Paris Conservatoire	Hans Huber, Richard Barth, Percy Goetschus, Moritz Moszkowski, Theodor Leschetizky, Ignacy Jan Paderewski
Schirmacher, Dora	English	1857	n/a	Hermann Schirmacher (father)	Carl Reinecke, Ernst Ferdinand Wenzel, Leipzig Conservatoire	
Schönberger, Benno	Austrian	1863	1961	Anton Door, Gesellschaft der Musikfreunde, Vienna		Franz Liszt
Schumann, Clara	German	1819	1896	Freiderich Wieck (father)		
Slivinski, Josef	Polish	1865	1930	Theodor Leschetizky	Anton Rubinstein, Sophie Menter, St. Petersburg	
Stanford, Charles Villiers	English	1852	1924	Ernst Pauer	Leipzig and Berlin	
Stavenhagen, Bernhard	German	1862	1914	Wilhelm Urban, Griez	Ernst Rudorff, Hochschule für Musik	Franz Liszt (Weimar)
Stockmarr, Johanne	Scandinavian	1869	1905	Anna Stockmarr (cousin)	Edvard Helsted, Copenhagen Conservatoire	
Suart, Evelyn	English, Indian by birth	1881	1950	Storck, Brussels	Raoul Pugno, Paris	Theodor Leschetizky, Vienna

Appendix C: Pops Portfolio

Szumowska, Antoinette	Polish	1868	1938	Rudolf Strobl, Aleksander Michałowski, Warsaw Conservatoire	Ignacy Jan Paderewski, Paris	
Verne, Adele	English	1877	1952	Mathilde & Alice Wurm	Ignacy Jan Paderewski, Switzerland	
Wild, Margaret	English	1862	1905	Oscar Beringer	Robert Papperitz, Carl Reinecke, Bruno Zwintscher, Leipzig Conservatoire	Clara Schumann, Hochs Conservatoire, Frankfurt
Wurm, Mathilde (Mathilde Verne)	English	1877	1936	Clara Schumann, Frankfurt		
Ysaye, Theophile	French	1865	1918	Liège Conservatoire	Berlin	
Zeldenrust, Eduard	Dutch	1865	1910	Ferdinand Hiller	Antoine F. Marmontel, Paris	
Zimmermann, Agnes	English, German by birth	1847	1925	Cipriani Potter, Ernst Pauer, Royal Academy of Music, London		

Piano	BECHSTEIN
Year	1892
Serial number	28936

Appendix D Piano profiles

Bechstein 1892

Main Hall, Wightwick Manor, UK

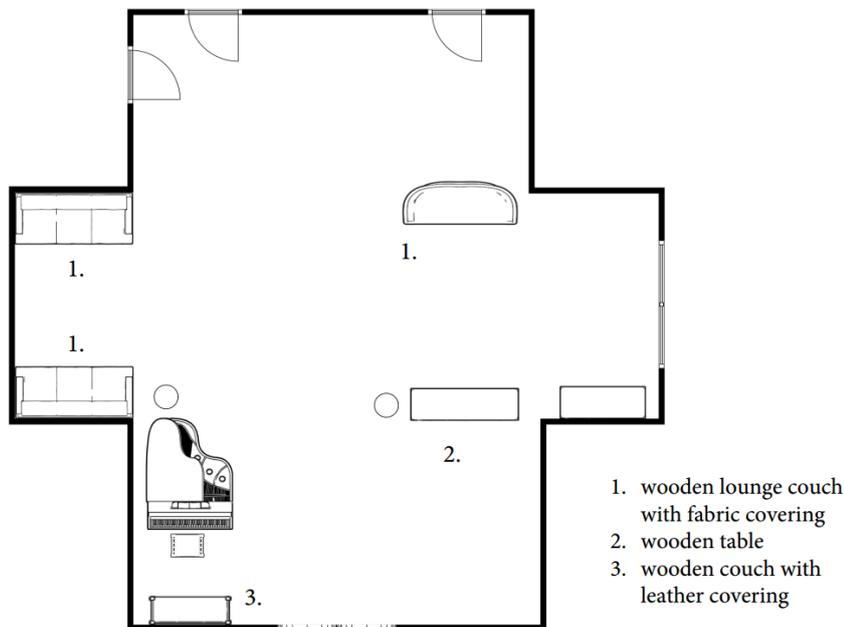
Specifications of the piano

Bechstein Model V: 6 foot 7 inches¹

Material: Ebonised

Room description

Two storey high ceiling; wooden barn style. Wooden flooring.



History of Wightwick Manor²

Built by Theodore Mander in the nineteenth century, Wightwick Manor is a timber-framed Victorian house in the Wightwick Bank. The National Trust owned the property from 1937 despite its young age, as the design had been entirely under the influence of the 'Aesthetic Movement', so it was considered worthy of preservation.

History of the piano

The original sale of the piano was recorded in one of Bechsteins' London account ledgers: 'November 1892 - E. F. Allen & Sons, 63 Queen St., Wolverhampton - 1 grand V, No. 28936 – Blackwood.'³ An estimated price of an ebonised model V around this time was £104.

Other sampled Bechsteins: Wightwick Manor (1892), Mottisfont Abbey (1903)

¹ 'Grand piano models up to 1092, Bechstein model V, <https://www.thepianogallery.co.uk/bechstein-pianos-for-sale.php>, consulted 12 June 2019.

² David Ross, 'Wightwick Manor', <https://www.britainexpress.com/attractions.htm?attraction=3710>. <https://www.nationaltrust.org.uk/wightwick-manor-and-gardens#Overview>, consulted on 12 June 2019.

³ Entry in one of the Bechstein's London account ledgers, the archive preserved at the Royal College of Music, UK.



Figure 41: Bechstein logo on the Bechstein 1892



Figure 42: Bechstein plate on the Bechstein 1892

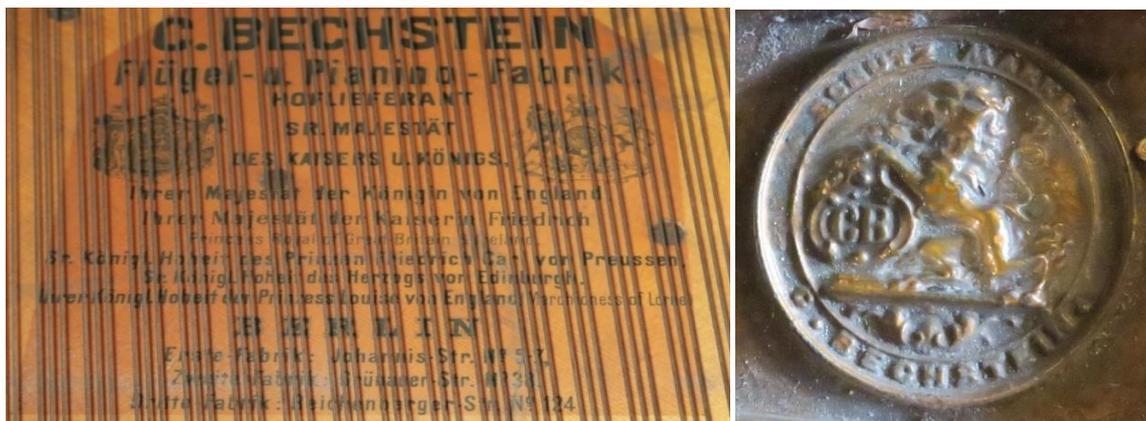


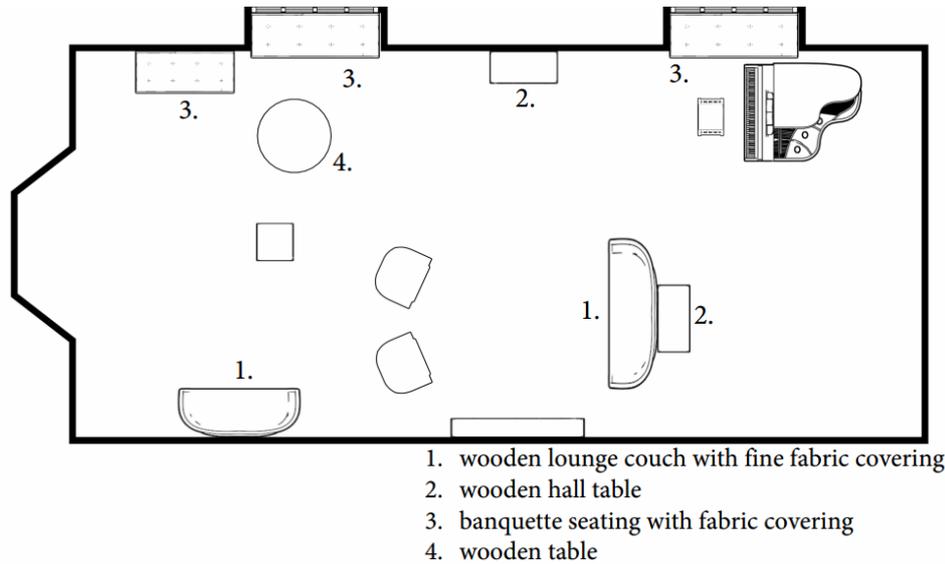
Figure 43: (left) Inscription on the Bechstein 1892 soundboard; (right) Bechstein crest

Bechstein 1903*Whistler Room, Mottisfont Abbey, UK*

Piano	BECHSTEIN
Year	1903
Serial number	63532

Specifications of the pianoBechstein Model B: 6 foot 8 inches⁴

Materials: Rosewood

Room descriptionRectangular room with a bay semi-circular window at far end; wooden flooring, silk wallpaper.⁵

1. wooden lounge couch with fine fabric covering
2. wooden hall table
3. banquette seating with fabric covering
4. wooden table

History of Mottisfont Abbey⁶

A 12th-century Augustinian priory converted into a private house. It was last lived in by Maud Russell until 1970s, although she had transferred ownership to the National Trust while she still lived in the house. The Whistler room was designed by Rex Whistler just before he was killed in active service in France.

History of the piano

Maud Russell had owned an early twentieth-century Bechstein, but his is not the same as the current Bechstein at Mottisfont.⁷ The origins of this piano can be traced in the Bechstein archives: 'Paterson Sons & Coy / Glasgow / 1 Grand B 63532 / Rosewood 6 legs / on 5/11/03'.⁸

Other sampled Bechsteins: Wightwick Manor (1892), Upton House (1906/07)

⁴ Grand Piano Models after 1902, Bechstein model B, <https://www.thepianogallery.co.uk/bechstein-pianos-for-sale.php>, consulted on 12 June 2019.

⁵ The drapery curtains were taken down as part of a 5 year restoration project when the pianist conducted her research at Mottisfont Abbey. These were placed in the wooden crates in the same room.

⁶ David Ross 'Mottisfont Abbey, <https://www.britainexpress.com/attractions.htm?attraction=191>. 'The Whistler Room', <https://www.nationaltrust.org.uk/mottisfont/features/the-house-at-mottisfont>, consulted on 12 June 2019.

⁷ Personal correspondences to Sophie West, House Manager at Mottisfont Abbey on 4 December 2018.

⁸ Bechstein Ledgers, Bechstein archives, identified by Michael Mullen (Royal College of Music librarian, London), in correspondence with Andrew Garrett on 6 August 2012.



Figure 44: View from the tail of the Bechstein 1903

Bechstein 1906*The Long Gallery, Upton House, UK*

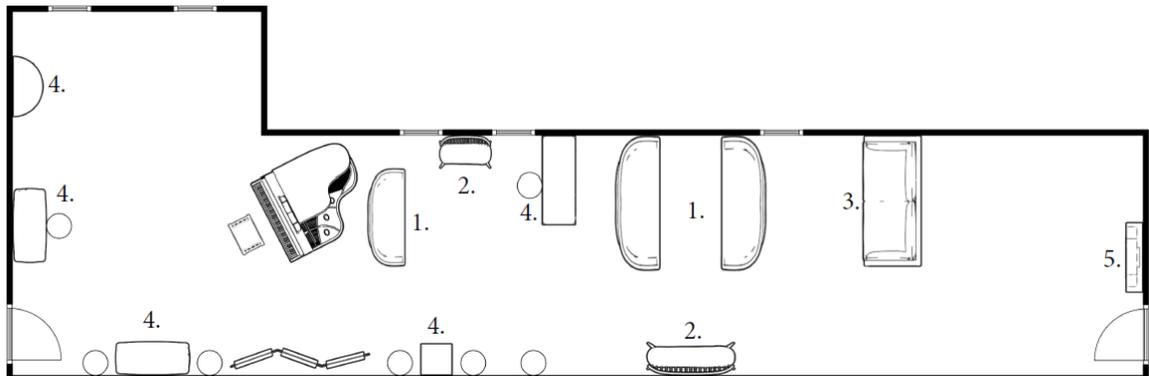
Piano	BECHSTEIN
Year	1906/7
Serial number	80489

Specifications of the pianoBechstein Model A, a drawing room grand: 6 foot⁹

Material: walnut veneer; black exterior

Room description

Long corridor. Wooden flooring, glass windows along left side of piano, a large chandelier, curtain drapery.



1. wooden lounge couch with leather covering
2. wooden chair
3. sofa with fabric covering
4. wooden tables and chairs
5. fireplace

History of Upton House¹⁰

The house was built for Sir Rushout Cullen in 1695. The mansion was bought by Francis Child in 1757 and remained in the Jersey family until the end of the nineteenth century. From 1927, the estate came under the possession of Walter Samuel, the second Viscount Bearsted, whose family founded the Shell Company. In 1948, Lord Bearsted donated the property and art collections to the National Trust, while the house continued to be lived in by his descendants, firstly by Lord Bearsted's son, the 3rd Viscount, from 1948 to 1986, then the 3rd Viscount's daughter, Mrs R. Waley Cohen until 1988.

Other sampled Bechsteins: Wightwick Manor (1892), Mottisfont Abbey (1903)

⁹ Notes by Michael Cole made upon assessing the piano in April 2019, deposited in the archive of Upton House.

¹⁰ David Ross, 'Upton House', <https://www.britainexpress.com/attractions.htm?attraction=191>. 'Upton House', <https://www.nationaltrust.org.uk/mottisfont/features/the-house-at-mottisfont>, consulted on 12 June 2019.



Figure 45: Side view of Bechstein 1906

Blüthner 1892*Music Room, Gunby Hall, UK*

Piano	BLUTHNER
Year	1892
Serial number	37404

Specifications of the piano

Blüthner Style 7 grand: 6 foot 3 inches¹¹

Materials: Ebonised case

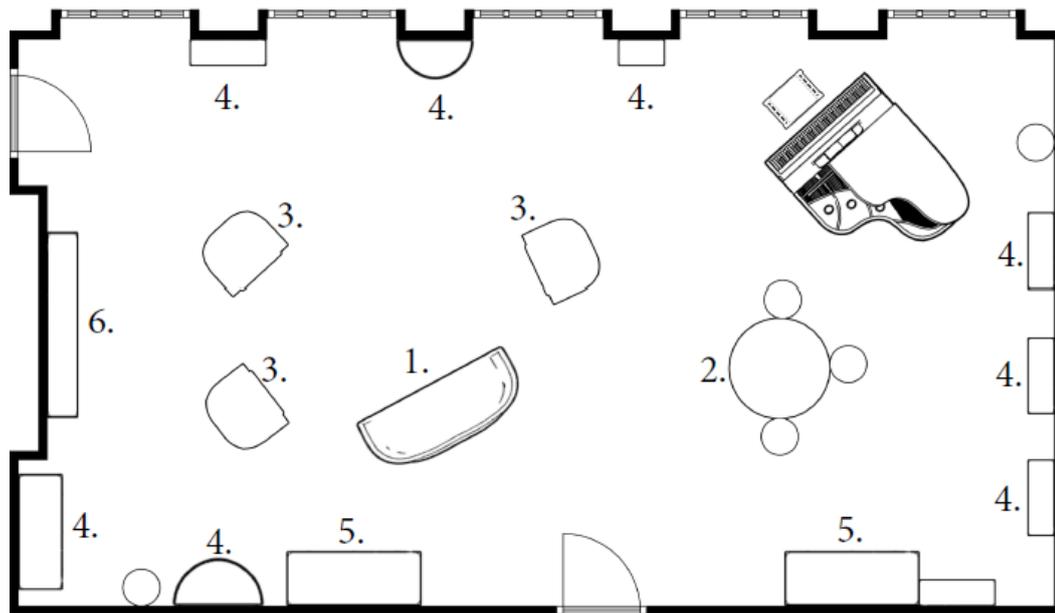
Room description

Rectangular room, a purpose-built room for musical (chamber) entertainment.

Mostly wooden flooring, wooden walls, ceiling.

Furniture spread out (for seating).

1. sofa with silk covering
2. wooden tables and chairs
3. wooden armchair with fabric covering
4. wooden table
5. wooden tall cabinet
6. fireplace

History of Gunby Hall¹²

Gunby Hall had belonged to the Massingberg family since it was built in 1700. The last Massingberd member to have lived in the mansion was Diana Langton, who married Archibald Montgomery. In 1944, the Hall was donated to the National Trust.

History of the piano¹³

The piano is likely to have belonged to Sir Archibald Montgomery, as the piano was supplied direct from the factory in Leipzig for his use abroad. Extra brass screws were included to strengthen the piano's case ('tropicalisation') for Montgomery's intercontinental travels.

Other sampled Blüthner: Wimpole Hall (1892); Author's possession (Aliquot, 1901)

¹¹ Style 7, <https://www.thepianogallery.co.uk/bluthner-pianos-for-sale.php>, consulted on 12 June 2019.

¹² David Ross, 'Gunby Hall', <https://www.britainexpress.com/attractions.htm?attraction=273>.
https://en.wikipedia.org/wiki/Gunby_Hall, consulted on 12 June 2019.

¹³ The account detailed by Andrew Garrett in his unpublished notes. Andrew Garrett observed that Blüthners in London have no record of the piano until it was shipped it to India for Montgomery in 1920.

Blüthner Aliquot 1894*Living Room, Author's possession, UK*

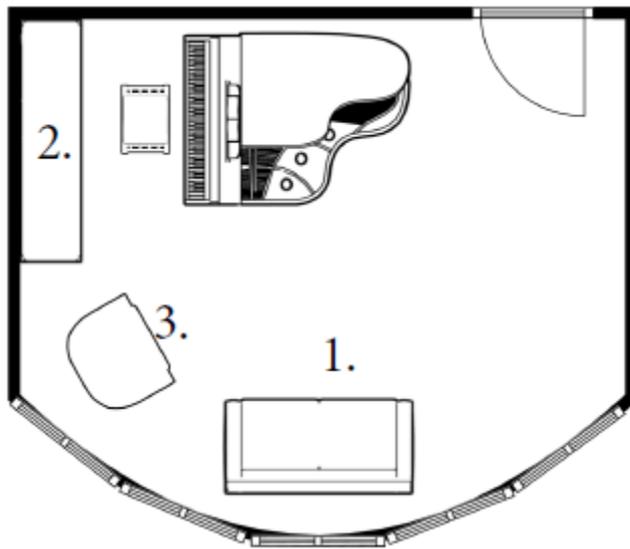
Piano	BLUTHNER ALIQUOT
Year	1894
Serial number	37963

Specifications of the pianoBlüthner Style 8 (Aliquot): 6 foot 3 inches¹⁴

Materials: Ebonised case

Room description

Semi-circular bay room, wooden flooring with wooden crate underneath the piano.



1. steelframe sofa with fabric covering
2. MDF open shelves
3. wooden armchair

History of the piano

The author of this thesis acquired the piano from a private residence of The Grand Hotel in Folkestone, UK, 2014. Before then, the piano belonged to the Folkestone Grand hotel.

Other examples of Blüthner: Gunby Hall (1892); Wimpole Hall (1901)

¹⁴ Style 8 (Aliquot), <https://www.thepianogallery.co.uk/bluthner-pianos-for-sale.php>, consulted on 6 June 2019.

Blüthner 1901*The Long Gallery, Wimpole Hall, UK*

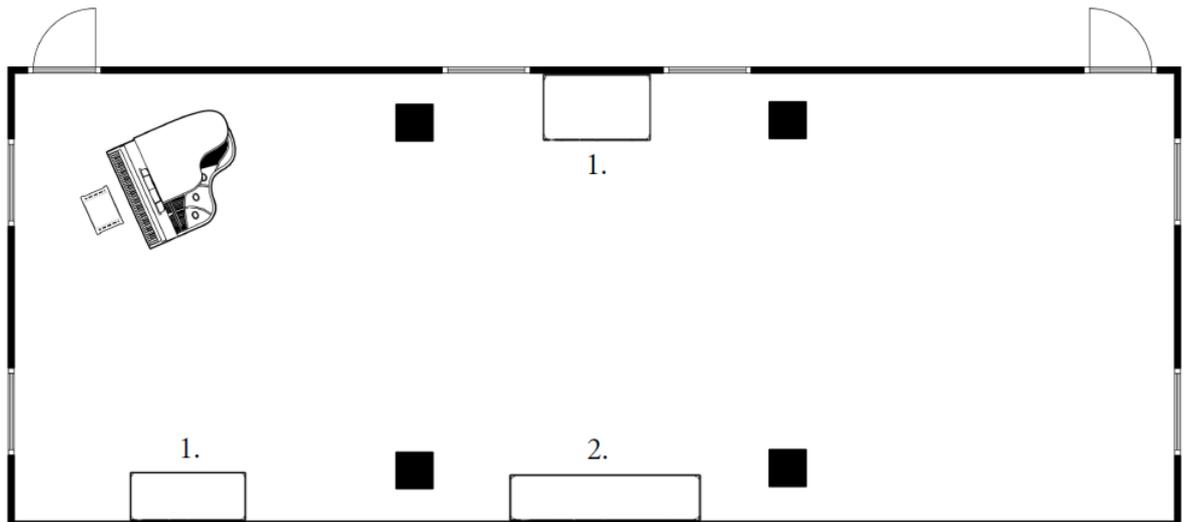
Piano	BLUTHNER
Year	1901
Serial number	59974

Specifications of the pianoStyle 5: 5 foot 9 inches¹⁵

Materials: Veneered in Brazilian rosewood

Room description

Oblong room. Low ceiling, wooden flooring. Window and curtain drapery is along the short-wall, on opposite ends.



1. wooden frame table with marble top
2. marble fireplace

History of Wimpole Hall¹⁶

Wimpole hall was built and completed in 1650 under the surveillance of Thomas Chicheley. The house passed through several different families, including Sir John Cutler, Edmund Boutler, John Holles, Robert Yorke, Thomas Agar-Robartes, and finally, to Geroge Bambridge and his wife Elsie Rudyard Kipling in 1938.

History of the piano¹⁷

The instrument was sold new in 1902. The piano had apparently been lent and consequently gifted to Wimpole in 1982 by Mr. C. A. Rose of Cromer, Norfolk.

Other sampled Blüthner: Gunby Hall (1892); Author's possession (1894 Aliquot)

¹⁵ Style 5, <https://www.thepianogallery.co.uk/bluthner-pianos-for-sale.php>, consulted on 12 June 2019.

¹⁶ David Ross, 'Wimpole Hall', <https://www.britainexpress.com/counties/cambridgeshire/houses/wimpole.htm>; Wimpole Estate', https://en.wikipedia.org/wiki/Wimpole_Estate, consulted on 12 June 2019.

¹⁷ The account detailed by Andrew Garrett in his unpublished notes, the record sale was also confirmed by Blüthner London.



Figure 50: Front view of Blüthner 1901

Broadwood 1881*Caricature Room, Calke Abbey, UK*

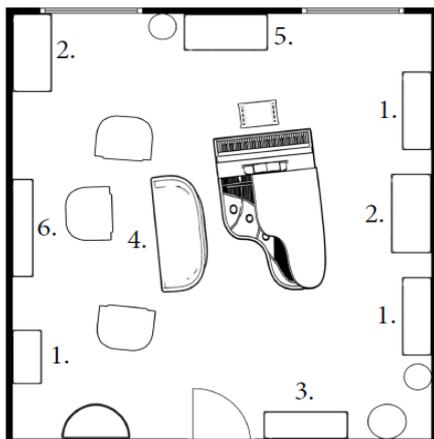
Piano	BROADWOOD
Year	1881
Serial number	21558

Specifications of the pianoFull sized grand: 8 foot 3 inches¹⁸

Materials: Rosewood; Straight-strung

Room description

Rectangular square room. Ceiling relatively low. Eighteenth century carpet, thin but covered the majority of the wooden flooring. Newspaper cuttings of satirical cartoons from 18th and 19th century.



1. wood and glass display cabinet
2. wooden table
3. wooden dresser
4. sofa and armchairs with fabric covering
5. wooden tall cabinet
6. fireplace

History of Calke Abbey¹⁹

This Baroque classical styled house was built initially for Sir John Harpur in 1701-1703. It was inherited by Henry Harpur (7th Baronet) in 1789, who introduced expansions and added several rooms. The rooms were relatively kept the same, and the house continued to be passed down through the Harpur Baronets to Sir Vauncey Harpur-Crewe (10th Baronet), then to his eldest daughter Hilda, and then to Hilda's son. The house was handed over to the National Trust in 1985, and today, it prides on the natural history collection belonging to Sir Vauncey.

History of the piano

According to the *Broadwood Archives*, the piano was finished on 15 September 1881 and was initially used for hire. For the first three months of 1882, it was at the 'National Training School for Music, Kensington Gore'.²⁰ On a subsequent occasion it was used at the Truro Music Festival. The entry recording its sale is dated 13 June 1883: 'Mr. J. Chishholm, 21 Thayer Street Manchester Sq., No 12 Grand Pf Rosewood a to a No. 21558 - 160 Guineas and Case addressed Miss Mosley, Thornhill, Derby, and delivered at St. Pancras to go by Mid Rl.' Calke inherited the piano in 1924.²¹

Other sampled Broadwoods: Penrhyn Castle (1903); Coughton Court (1908)

¹⁸ Full sized Grand 1875, http://www.broadwood.co.uk/serial_numbers.html, consulted on 13 June 2019.

¹⁹ David Ross, 'Calke Abbey', <https://www.britainexpress.com/counties/derbyshire/houses/calke.htm>; <https://www.nationaltrust.org.uk/calke-abbey/features/the-history-of-calke-abbey>, consulted on 12 June 2019.

²⁰ The school was renamed as the 'Royal College of Music', officially opened in May 1883.

²¹ Howard Colvin, *Calke Abbey, Derbyshire: A Hidden House Revealed* (The National Trust, 1985), pp. 22, 23, 74 & 111.



Figure 51: Broadwood 1881 in the room

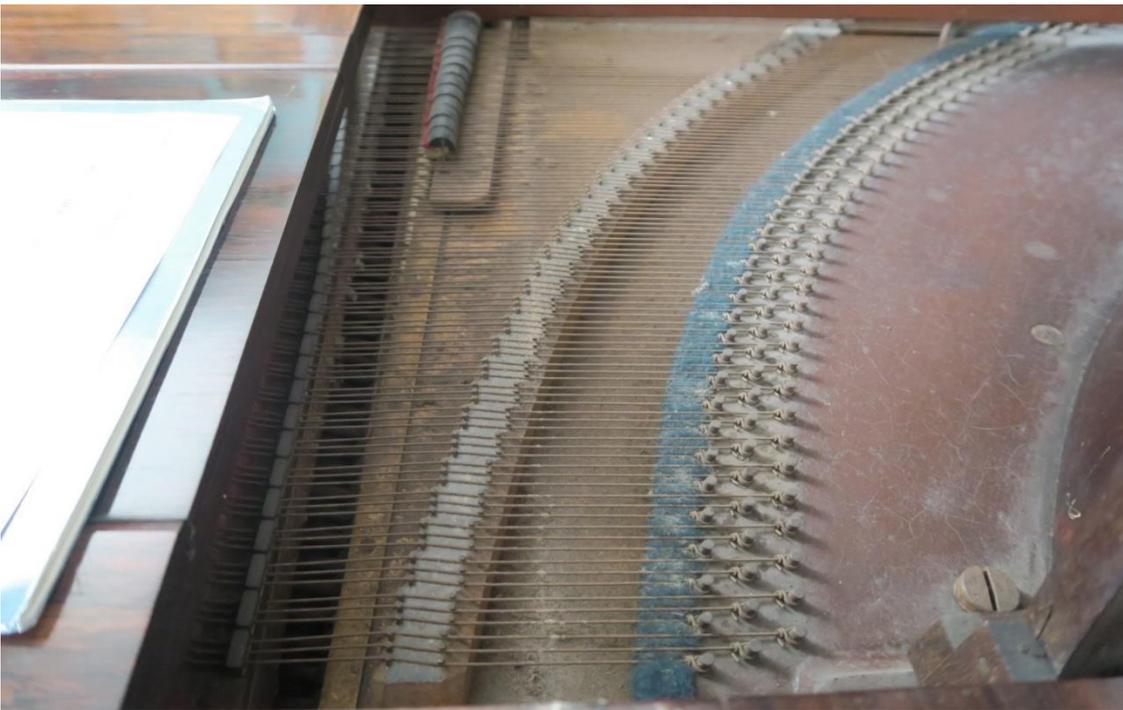


Figure 52: Inside view of Broadwood 1881

Broadwood Barless 1903*The Great Hall, Penrhyn Castle, UK*

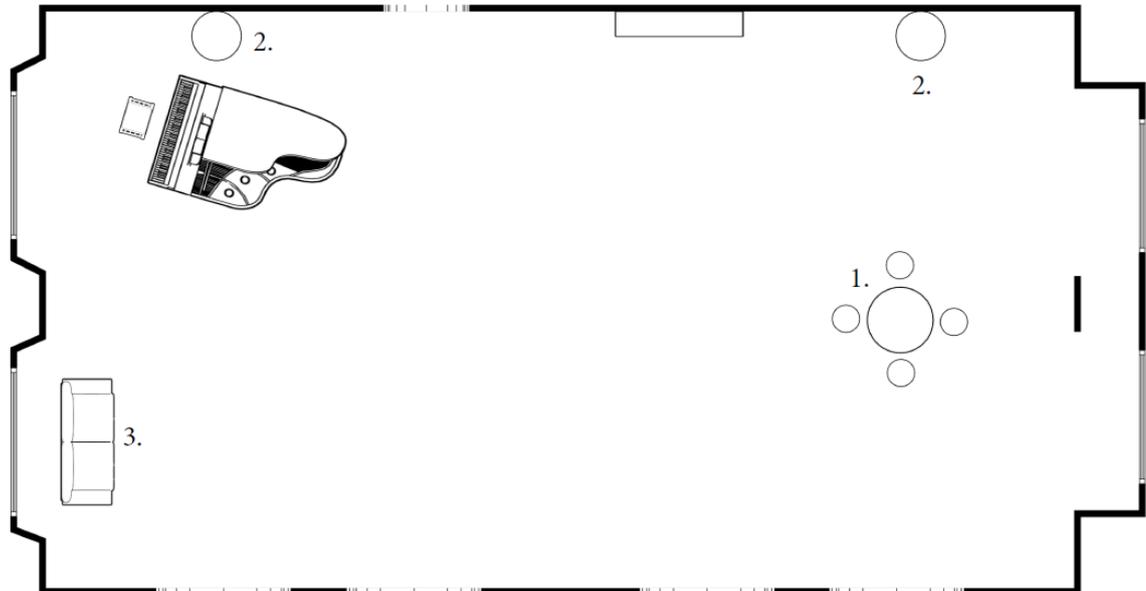
Piano	BROADWOOD BARLESS
Year	1903
Serial number	47778

Specifications of the pianoNo. 6 Full Size Steel Barless: 8 foot 9 inches²²

Material: Rosewood Veneer; French polished surface.

Room description

Gothic, cathedral-like hall. Extremely high ceiling. Stone walls and stone pavement.



1. wood table and chairs
2. stone sculpture for holding light
3. wooden lounge couch with fabric covering

History of Penrhyn Castle²³

Built in the early nineteenth century, the Neo-Norman, gothic themed castle is owned by the Pennant family. Richard Pennant's fortune was accumulated through sugar plantations in Jamaica that used slave labour, and the castle was one of examples which displayed his wealth.

Other sampled Broadwoods: Calke Abbey (1881); Coughton Court (1908)

²² Over-strung Barless Concert, http://www.broadwood.co.uk/serial_numbers.html, consulted 12 June 2019.

²³ David Ross, 'Penrhyn Castle', <https://www.britainexpress.com/attractions.htm?attraction=504>, consulted 12 June 2019. <https://www.nationaltrust.org.uk/penrhyn-castle>, consulted 12 June 2019.



Figure 53: (Left) front view of Broadwood 1903; (Right) Broadwood Crest

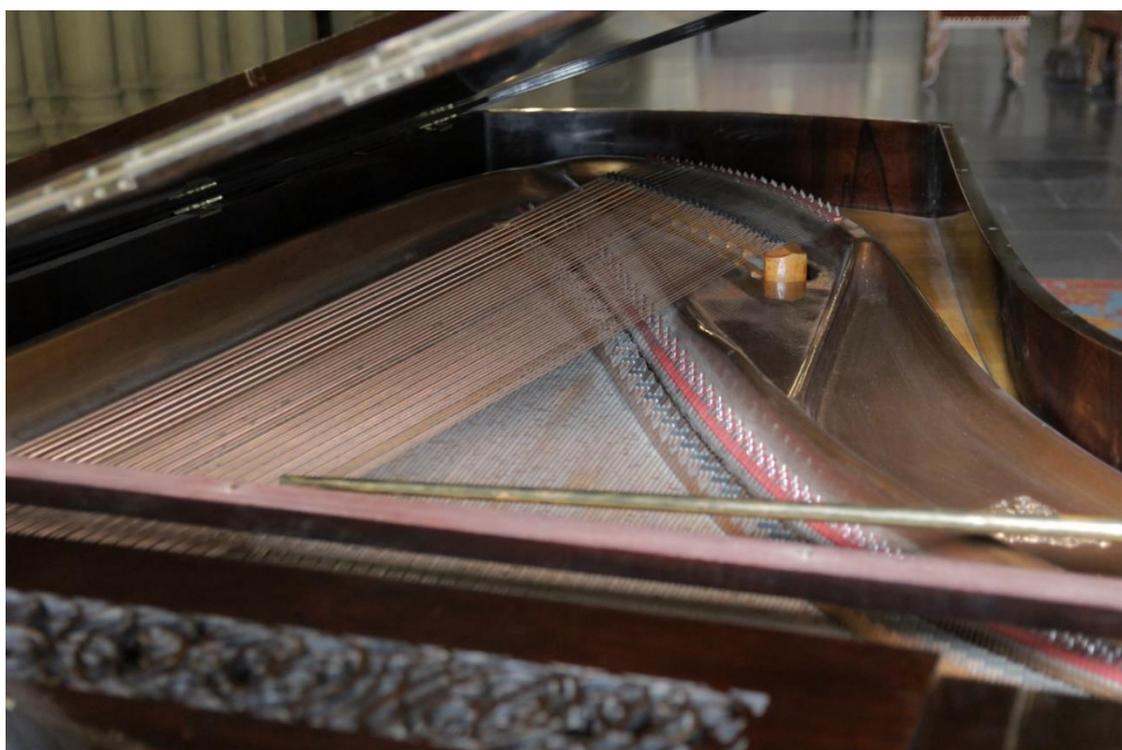


Figure 54: Inside view of Broadwood 1903

Broadwood Barless 1908
The Saloon, Coughton Court, UK

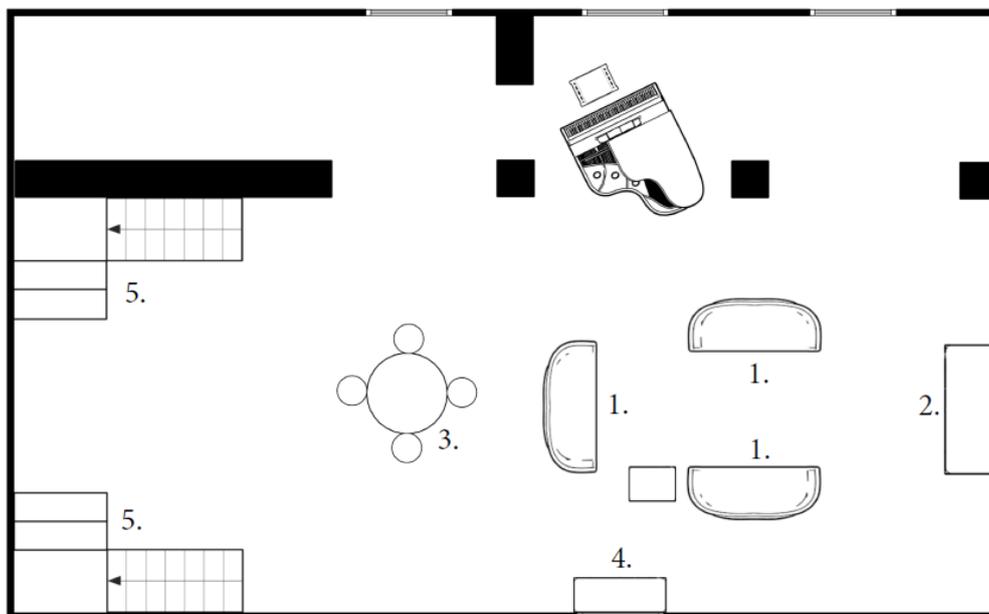
Piano	BROADWOOD BARLESS
Year	1908
Serial number	49610

Specifications of the piano

No. 3 Steel Barless Semi Grand: 6 foot 7 inches²⁴
 Material: Rosewood veneered

Room description

Rectangular room with a high ceiling. The piano is located between two pillars. Wooden flooring, mostly exposed. Carpet underneath the sofas.



1. sofa with fabric covering
2. fireplace
3. wooden table and chairs
4. wooden table
5. wooden staircase

History of Coughton Court²⁵

Home to the Throckmorton family since 1409, the present building was built in the fifteenth century, and is largely in a Tudor style. The house has been owned by the National trust since 1946, but the family still lives on site.

History of the piano

The piano was completed on the 18 July 1908 at the Stour Road workshops, Hackney, London. It was sold for 160 guineas (£168) to Mrs. Sandbach Percy Harrison in Devon.

Other sampled Broadwoods: Calke Abbey (1881); Penrhyn Castle (1903)

²⁴ Letter from Broadwood & Sons' archivist, Andrew Chase to Mary Addyman, House steward of Coughton Court, sent on 3 November 2018.

²⁵ David Ross, 'Coughton Court', <https://www.britainexpress.com/counties/warwickshire/houses/Coughton.htm>, consulted on 12 June 2019. 'Coughton Court', <https://www.nationaltrust.org.uk/coughton-court>, consulted 12 June 2019.



Figure 55: Broadwood 1908 in its surroundings



Figure 56: Inside view of Broadwood 1908

Collard & Collard 1870*Staircase Hall, Arlington Court, UK*

Piano	COLLARD & COLLARD
Year	1870 / 1872 ²⁶
Serial number	91550

Specifications of the piano

Grand piano: 6 foot 1 inch

Materials: Rosewood veneer, iron-framed (frame painted gold); Straight-strung

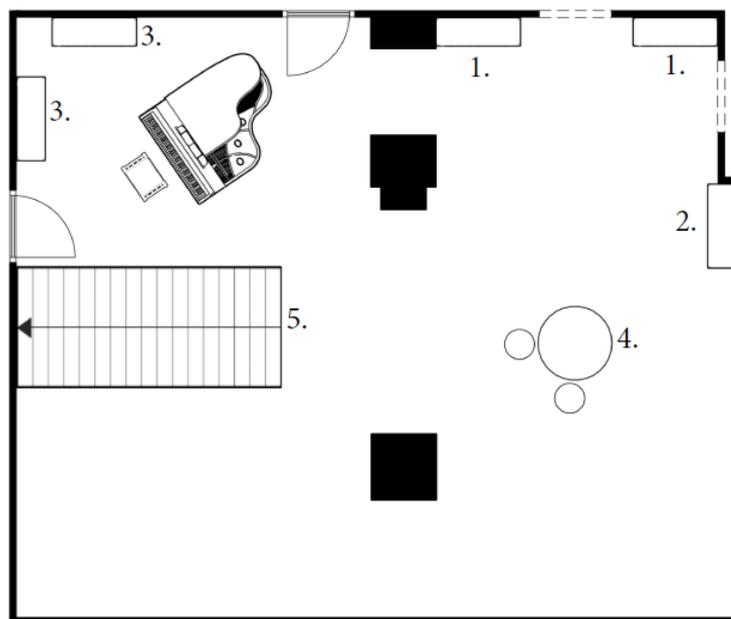
Room description

A square room with a high ceiling, accessing to the second floor.

The piano was placed next to the staircase.

Wooden flooring. First flight of stairs is made of marble, the second flight of stairs is wooden.

Various ship models on display inside glass cabinets.



1. wooden display table
2. wooden cabinet
3. wood and glass display case
4. wooden table and chairs
5. wooden staircase

History of Arlington Court²⁷

Built by Thomas Lee for John Chichester in around 1820, Arlington Court is an intimate regency house for the Chichester family. The house was left to the National Trust following the death of Rosalie Chichester in 1949.

History of the piano

The piano is believed to be indigenous to the house. It was sold by the National Trust in 1970 to Miss Boyle of Westwood House, but subsequently given back to the Trust.

Other sampled Collard & Collards: Beningbrough Hall (1905)

²⁶ All of Collard & Collard's records were destroyed in the fire at Chappell's in 1963. According to the *Musician's piano atlas*, by 1870 the serial number was at 90099, and by 1875, 102920. Although the National Trust's website dates the piano to 1872, a more tentative date could be 1870, <http://www.nationaltrustcollections.org.uk/object/985844>, consulted on 12 June 2019.

²⁷ David Ross 'Arlington Court', <https://www.britainexpress.com/counties/devon/houses/Arlington-Court.htm>. 'Arlington Court', <https://www.nationaltrust.org.uk/arlington-court-and-the-national-trust-carriage-museum>, consulted on 12 June 2019.



Figure 57: Front view of Collard & Collard 1870

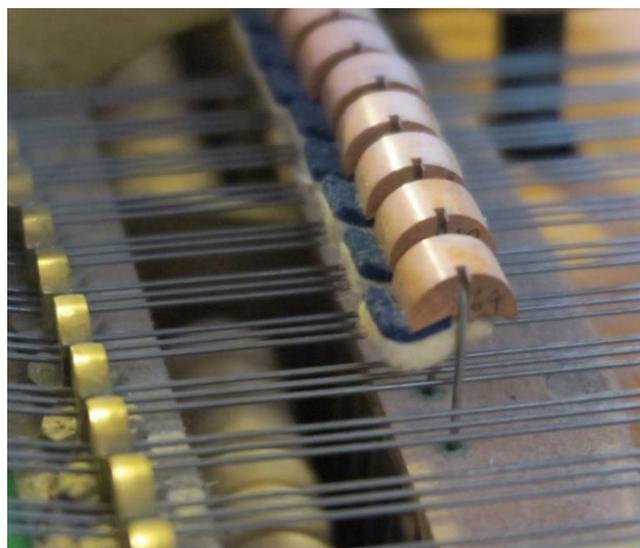


Figure 58 (left): Collard & Collard 1870, black keys with a rounded front.²⁸ (Right): Dampers

²⁸ This design is dated from 1855 for 'the purpose of giving to the performer increased facility for rapid execution, and imparting to the keyboard a more pleasing appearance.' 'Class XVI, Musical Instruments (1862 London Exhibition), Collard & Collard entry', in *The International Exhibition of 1862: the illustrated catalogue of the Industrial Department. Volume 2 British Division 2* (Cambridge: Cambridge University Press, 2014), p. 101.

Collard & Collard 1905*Great Stairwell, Beningbrough Hall, UK*

Piano	COLLARD & COLLARD
Year	1905
Serial number	170660

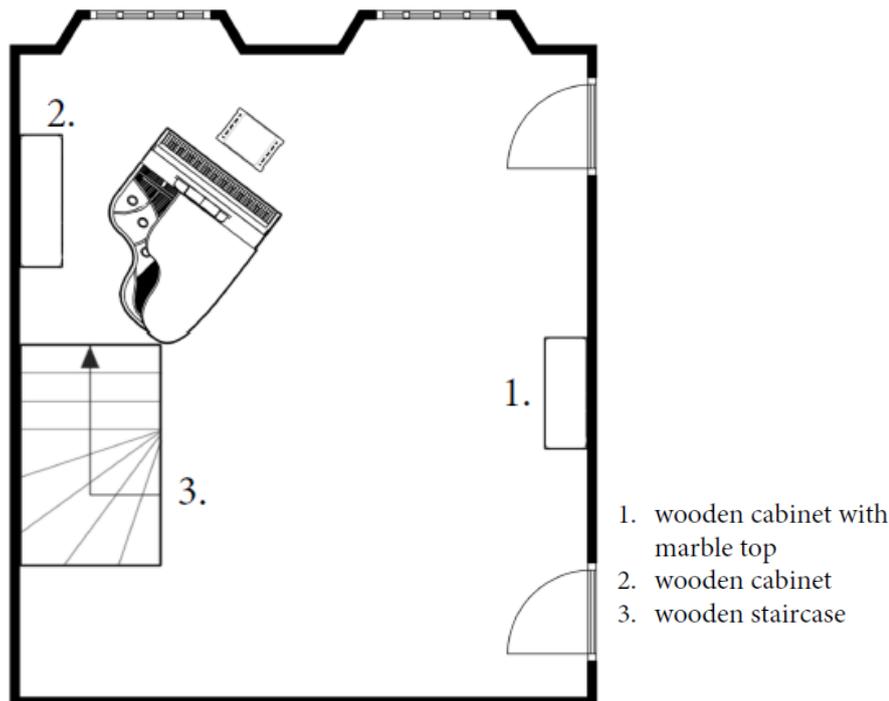
Specifications of the piano

Grand piano: 6 foot 3 inches

Materials: Satinwood

Room description

The piano is located underneath a cantilevered, Baroque-wooden staircase. Marble Statue, Ceramic flooring. The room located next to the entrance hall, and there are no closed door connecting the corridors.

**History of Beningbrough Hall²⁹**

Built and owned by John Bouchier in the eighteenth century, Beningbrough Hall is a mansion in an Italian-Baroque Style. The house was in possession of the Bouchiers for 100 years, before it was passed to a distant relative, Rev. William Henry Dawnay. It was then neglected for several years before it came into the possession of Enid Scudamore-Stanhope, Countess of Chesterfield. In 1958, Beningbrough Hall was handed over to the National Trust.

Other sampled Collard & Collard: Arlington Court (1870)

²⁹ David Ross, 'Beningbrough Hall', <https://www.britainexpress.com/attractions.htm?attraction=234>.
<https://www.nationaltrust.org.uk/beningbrough-hall-gallery-and-gardens#Overview>, consulted on 12 June 2019; 'Beningbrough Hall', https://en.wikipedia.org/wiki/Beningbrough_Hall, consulted on 12 June 2019.

Erard 1870*Entrance Hall, Lyme Park, UK*

Piano	ERARD
Year	1870
Serial number	12294

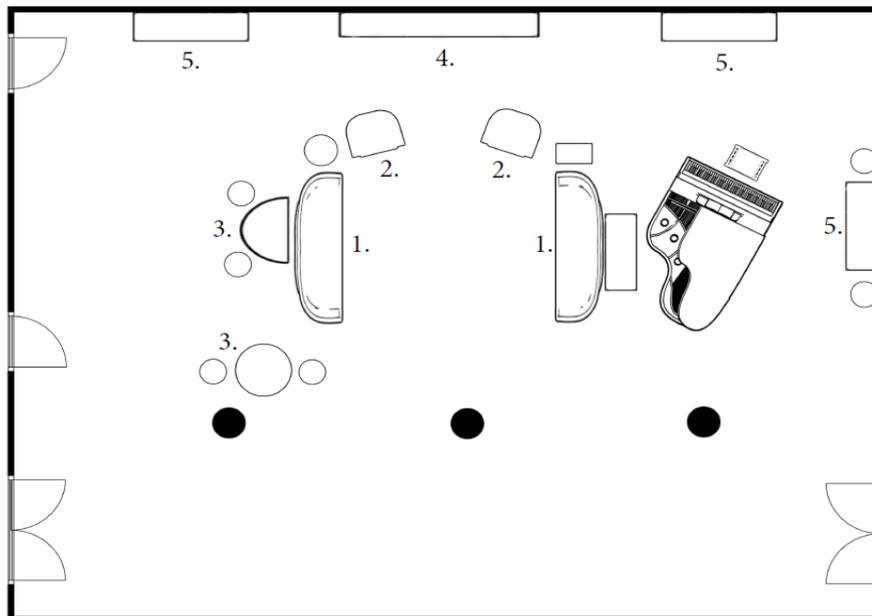
Specifications of the piano

Full sized grand: 8 foot 3 inches

Materials: Brass frame, ebony, Ivory, walnut; Straight-strung; under damping

Room description

Grand space, high ceiling, rectangular hall. Mixture of tapestry, carpet, and wooden flooring. Stone columns.

**History of Lyme Park**³⁰

Dating back to the Tudor period, the estate was modified by Giacomo Leoni in the 1720s, who retained some of its Elizabethan features. Leoni's contributed styles were both Palladian and Baroque. The interior was further transformed by Lewis Wyatt in the nineteenth century. The house belonged to the Leghs family since 1388, a family who had been for generations British soldiers. In 1946, the house was given to the National Trust.

1. wooden lounge couch with silk covering
2. wooden armchair with fabric covering
3. wooden table and chairs
4. fireplace
5. wooden table with marble top

History of the piano

According to Bill Kibby, he gives 12200 for 1870 and 13100 for 1872, so the year of the Erard is estimated for 1870.³¹ The piano was the gift of Miss Grace Lewis of Halifax in 1983 and was housed initially at Attingham Park. By January 1985, it had been moved to Lyme Park.

Other sampled Erards: Kingston Lacy (1896); Berrington Hall (1901)

³⁰ David Ross, 'Lyme Park', <https://www.britainexpress.com/counties/cheshire/houses/lyme-park.htm>. 'Lyme Park', https://en.wikipedia.org/wiki/Lyme_Park, consulted on 12 June 2019.

³¹ 'Erard London Numbers', <http://www.pianohistory.info/numbers.html>, consulted on 17 June 2019. The Lyme Park Erard is an instrument from the London factory for which no archives survive.



Figure 61: Erard 1870; Left: Logo; Right: Pedals



Figure 62: Inside View of Erard 1870

Erard 1896*Drawing Room, Kingston Lacy, UK*

Piano	ERARD
Year	1896
Serial number	74405

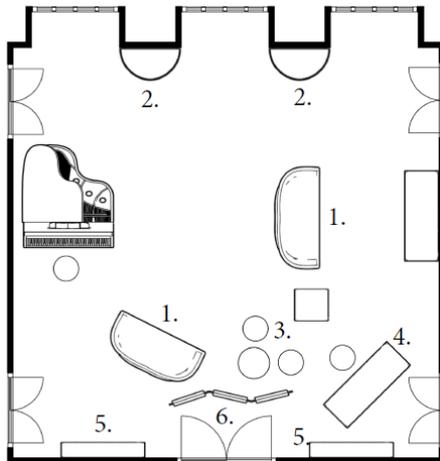
Specifications of the piano

Grand Piano: 6 foot

Materials: Oak case, pine frame, and use of rosewood. Ivory; Straight-strung; under damping

Room description

Cube room, the ceiling height appears the same as its width and depth. Thick carpet covered almost entire floor.



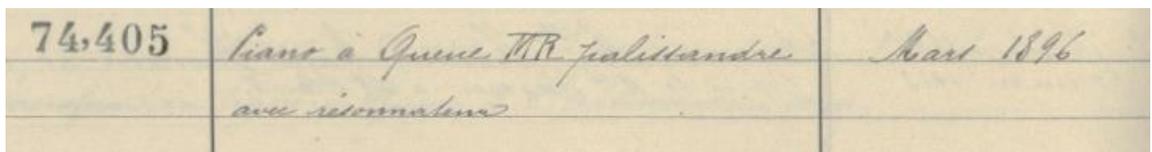
1. wooden lounge couch with silk covering
2. wooden display table
3. wooden table and chairs
4. wooden desk
5. marble display table
6. wood frame with silk screen

History of Kingston Lacy³²

Dating back to the Saxon era, the country house of Kingston Lacy predominantly belonged to the Bankes family. Following the death of Henry John Ralph Bankes in 1982, the house was left to the National Trust.

History of the piano

The piano as found in the Erard archives [Figure 63] was originally fitted with a metal resonator, however this is now missing. The piano was sent to Erard's London showroom on 25 June 1896. The piano is believed to be indigenous to the house and was for many years in the grand Saloon before being moved to the drawing room.

Figure 63: Piano 74405 in the Erard archives³³**Other sampled Erards:** Lyme Park (1870); Berrington Hall (1901)

³² David Ross, 'Kingston Lacy', <https://www.britainexpress.com/counties/dorset/houses/kingston-lacy.htm>. 'Kingston Lacy', https://en.wikipedia.org/wiki/Kingston_Lacy, consulted on 12 June 2019; <https://www.nationaltrust.org.uk/kingston-lacy/features/discover-the-house-at-kingston-lacy>, consulted on 12 June 2019.

³³ Piano 74405 in Erard Archives, https://archivesmusee.philharmoniedeparis.fr/exploitation/Infodoc/digitalcollections/viewerpopup.aspx?eid=E_2009_5_73_P0001, p. 167, consulted on 12 June 2019.



Figure 64: Front view of Erard 1896



Figure 65: Under dampers of Erard 1896

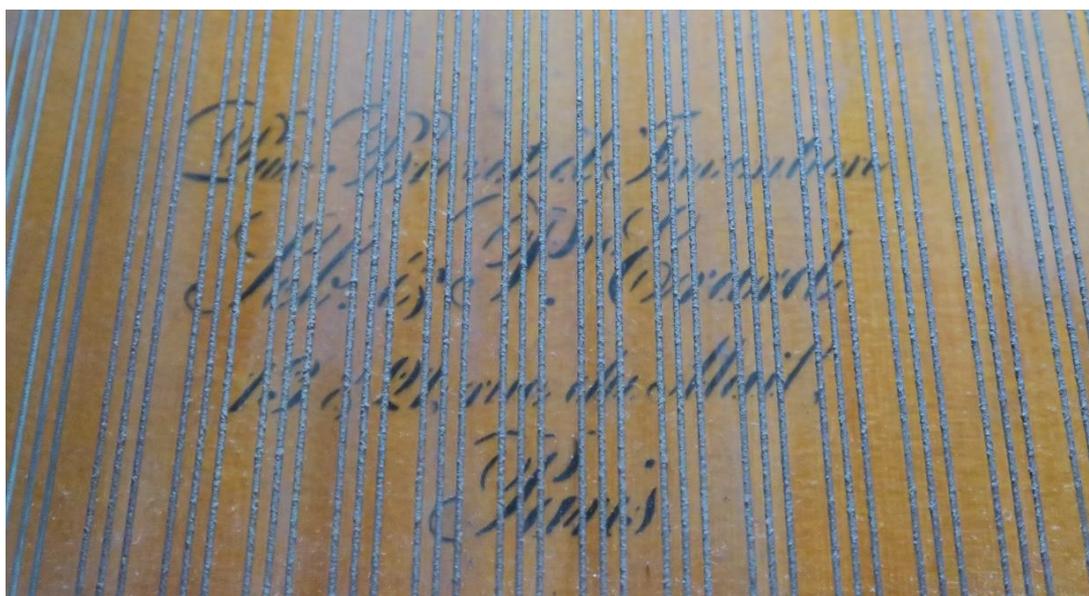


Figure 66: Erard 1896 strings: straight, heavily deposited

Erard 1900*Drawing Room, Berrington Hall, UK*

Piano	ERARD
Year	1900 ³⁴
Serial number	80479

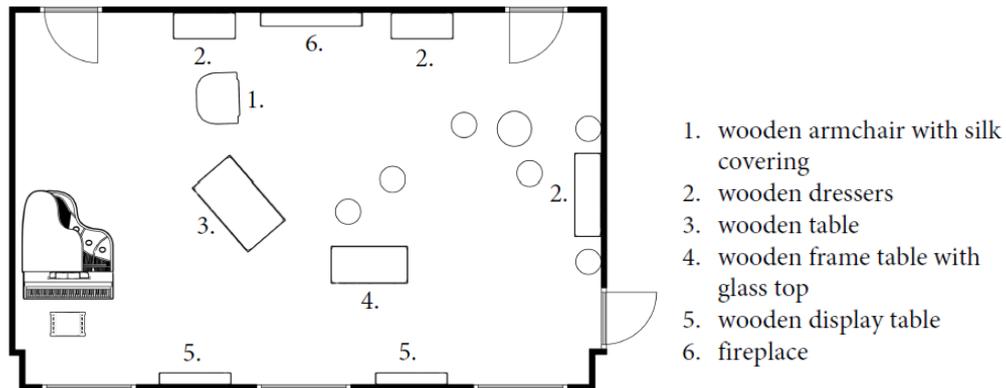
Specifications of the piano

Grand piano: 6 foot

Materials: Mahogany Ormolu; Straight-strung; under damping

Room description

Rectangular room, generous amount of ceiling space. Light carpet throughout. Light curtain drapery.

History of Berrington Hall³⁵

Designed in the manner of Louis XVI by Henry Holland and built in 1788 to 1881, the mansion at Berrington Hall belonged to Thomas Harley, son of the third Earl of Oxford.³⁶

History of the piano

The record of the piano is found in the Erard archives [Figure 67]. The piano is in the style of Louis XVI, varnished spotted mahogany decorated with gilded bronze. The piano was sent to Erard's London showroom on 24 September 1900. The sticker of 'sole agent, Rushworth & Draper Ltd (11-17 Islington Liverpool)' was found on the piano. The piano was gifted to the mansion by Mr & Mrs Findley of Cheltenham Road, Cirencester.

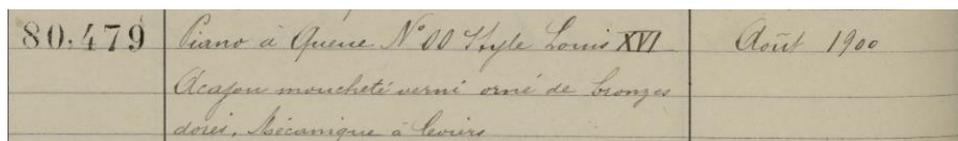


Figure 67: Piano 80479 in the Erard archives³⁷

Other sampled Erards: Lyme Park (1870); Kingston Lacy (1896).

³⁴ 'Erard at Berrington Hall', <http://www.nationaltrustcollections.org.uk/object/617711>, consulted on 12 June 2019. According to the number 80,479 as found on the soundboard, I believed that this is an Erard dating 1900, not 1914 as said on the website.

³⁵ David Ross, 'Berrington Hall',

<https://www.britainexpress.com/counties/hereford/houses/Berrington.htm>, consulted on 13 June 2019.

³⁶ <https://www.nationaltrust.org.uk/berrington-hall/features/the-mansion>, consulted on 13 June 2019.

³⁷ Piano 80479 in Erard Archives, '*Piano à queue No.00 Style Louis XVI Acajou moucheté vernis orné de bronze doré. Mécanique à levier*', https://archivesmusee.philharmoniedeparis.fr/exploitation/Infodoc/digitalcollections/viewerpopup.aspx?soid=E_2009_5_76_P0001, p. 33, consulted on 13 June 2019.



Figure 68: Front view of Erard 1900

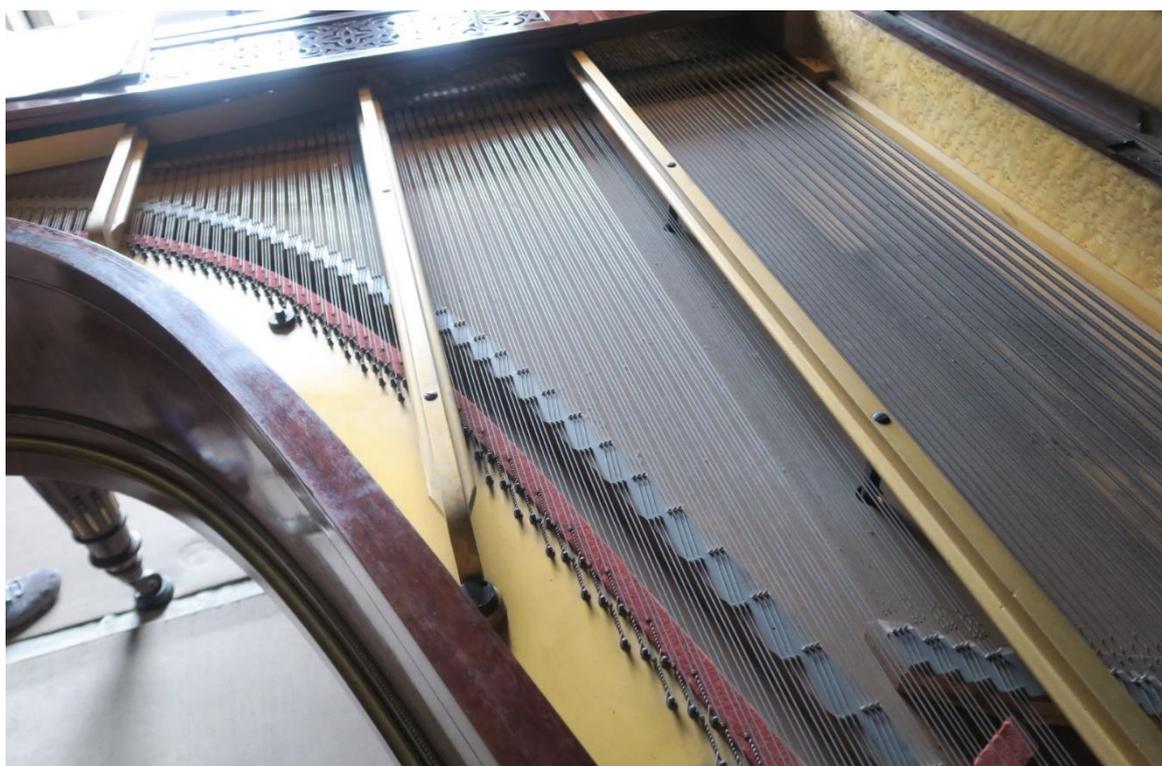


Figure 69: Inside view of Erard 1900

Pleyel 1909*Gallery, Musée Louis-Philippe, Château d'Eu, France*

Piano	PLEYEL
Year	1909
Serial number	145996

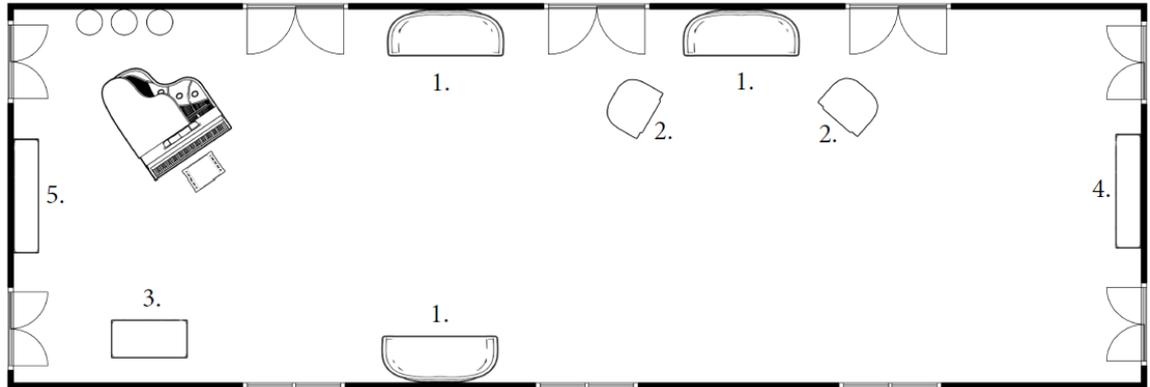
Specifications of the piano

Model 3bis: 5 foot 6 inches

Material: Rosewood veneer

Room description

Oblong room. Large placard placed next to the piano during the recording. Wooden flooring.



1. wooden lounge couch with fabric covering
2. wooden armchair with fabric covering
3. glass display
4. wooden full height cabinet
5. fireplace

History of Musée Louis-Philippe³⁸

Château d'Eu was built as a royal residence in the sixteenth century in the town of Eu, in Normandy, France. The château became a property of the Orléans family in years between 1830 and 1848, and had primarily been King Louis-Phillippe's summer residence. Since 1964, the city of Eu acquired the place, and on it founded the Musée Louis-Philippe.

History of the piano

The record of the piano is found in the Pleyel archives [Figure 70]. The ledger revealed that the piano was sold to the Lady of the castle d'Eu in 1909. The prize of the piano was 2000 Franc germinal. Before 1914, the conversion rate between the Franc germinal to pounds sterling was 25.23 GF = 1 sterling pound, therefore the piano was sold for approximately 80 sterling pounds.

Numéros de Sortie	Numéros de Fabrication	Dates D'arrivée de l'instrument	Désignation des Modèles	Dates des Ventes	5 ^{es} au Compte Courant	Force	Noms	Villes	Prix Nets	5 ^{es} au Compte Courant	Observations
145 995	345 115	25/11/09	3 ^{bis} Palais. Ver. Nat.	29/Jan. 1909	90	32	A. Maillot	Nice	1275		
145 996	345 116	29/11/09	3 ^{bis} —	29/Jan. 1909	215	22	M ^{lle} Comtesse d'Eu	Eu	2000	110	50
145 997	345 117	29/11/09	3 ^{bis} —	30/Jan. 1909	22	22	M ^{lle} Comtesse d'Eu	Eu	1250		luis naturel

Figure 70 : Piano 145996 in the Pleyel archives³⁹

³⁸ https://en.wikipedia.org/wiki/Ch%C3%A2teau_d%27Eu, consulted on 13 June 2019.

³⁹ Piano 145996 in the Pleyel archives, 'Piano à queue 3 bis palissandre vernis naturel', https://archivesmusee.philharmoniedeparis.fr/exploitation/Infodoc/digitalcollections/viewerpopup.aspx?s eid=E_2009_5_19_P0001, p. 86, consulted on 13 June 2019.



Figure 71: Pleyel 1909 logo



Figure 72: Pleyel 1909 view into the strings from the tail



Figure 73: Pleyel 1909 front view of keys

Steinway & Sons 1889
The Saloon, Stourhead, UK

Piano	STEINWAY & SONS
Year	1889
Serial number	68647

Specifications of the piano

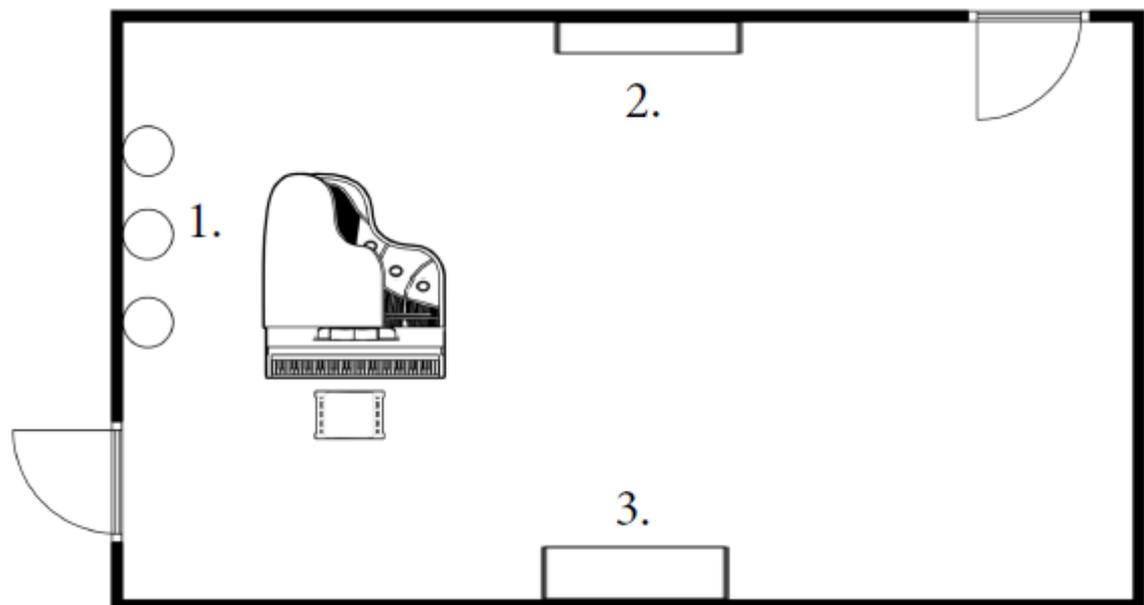
Steinway Model B: 6 foot 11 inches⁴⁰

Materials: Rosewood, frames & rims on the soundboard were painted gold, with inscriptions of all inventions by Steinway to date:

Steinway faundry steel casting; Over-strung scale Dec 20, 1859, May 28, 1872, New York; Tubular metallic action frame pat Aug 18, 1868, Aug 10, 1869; Duplex scale pat May 14, 1872; Repetition action pat 30, 1875; Capo dastro bar pat Nov 30, 1875. Pat Nov 29, 1859, Dec 14, 1869, Jun 1, 1875, June 13, 1875, Aug 1, 1876, Nov 13, 1877; Acoustic dowel pat Apr 6, 1969, Ornamental design pat Nov 9, 1875.

Room description

Rectangular room, the ceiling not particularly high. Various large paintings on walls. Lighting was particularly dimmed. Thin carpet, exposing bits of wooden flooring underneath.



1. wooden chairs with fabric covering
2. wooden display table
3. fireplace

History of Stourhead⁴¹

Built in the eighteenth century, Stourhead belonged to the Hoares, a banking family. The house was designed by Colen Campbell in 1721. It remained in the possession of the Hoare family until 1947, when it was passed onto the National Trust.

Other sampled Steinways: Polesden Lacey (1905)

⁴⁰ Model B, <https://shackellpianos.co.uk/steinway-models>, consulted on 12 June 2019.

⁴¹ David Ross, 'Stourhead', <https://www.britainexpress.com/counties/wiltshire/gardens/stourhead.htm>. 'Stourhead', <https://www.nationaltrust.org.uk/stourhead/features/the-hoare-family-at-stourhead>, consulted on 12 June 2019.



Figure 74: Side view of Steinway 1889

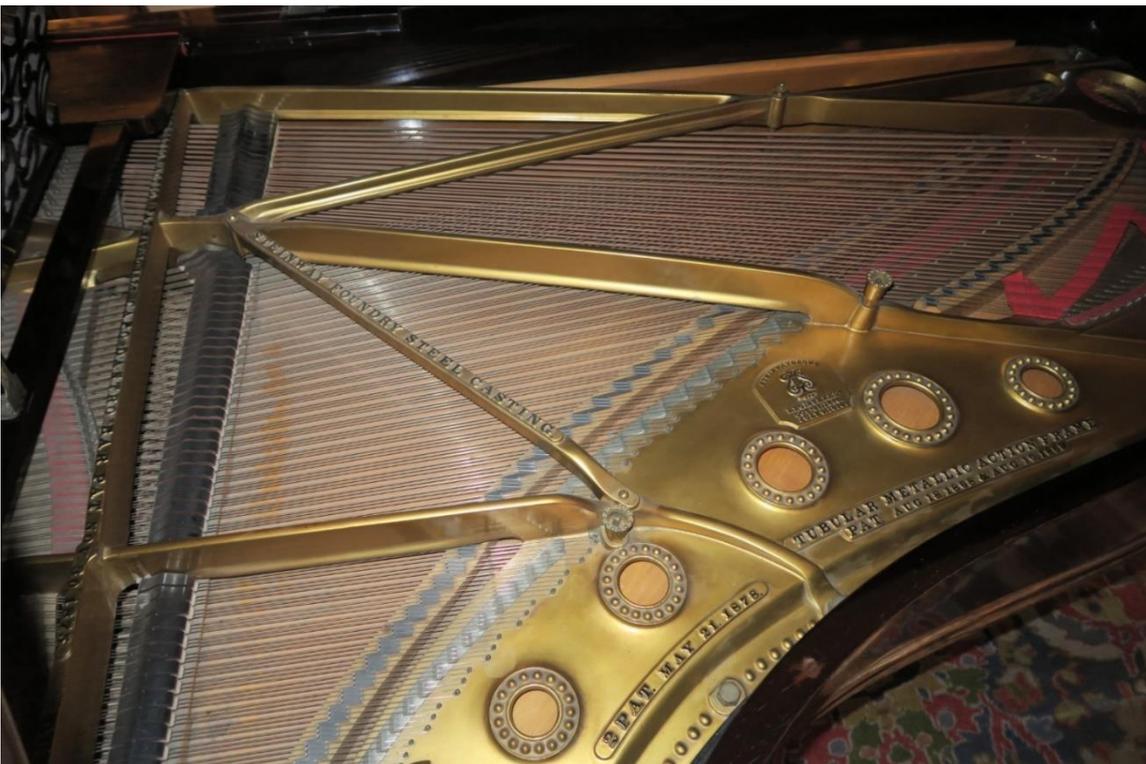


Figure 75: Inside view of Steinway 1889

Steinway & Sons 1905

Gold Room, Polesden Lacey, UK

Piano	STEINWAY & SONS
Year	1905
Serial number	114649

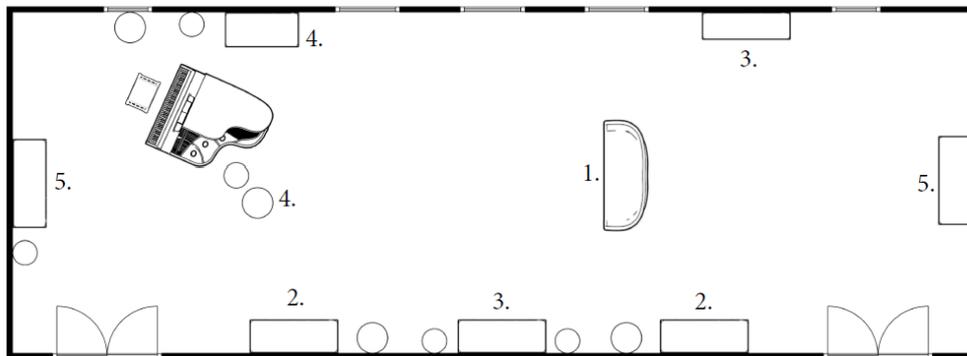
Specifications of the piano

Model A: 6 foot 2 inches⁴²

Materials: Rosewood, frames & rims on the soundboard were painted gold, with inscriptions of all inventions by Steinway to date: Same as those found on the Steinway 1889.

Room description

An oblong room in lavish gold edging, juxtaposing with red panel containing portraits. Wooden flooring, mostly covered by pieces of carpet throughout. A large chandelier in the middle of the room. Ceramic vases of varying sizes.



History of Polesden Lacey⁴³

Bought in 1906, Polesden Lacey is a Regency house transformed into an Edwardian mansion by the brewery heiress, Mrs Ronald Greville. The estate was left to the National Trust in 1942.

1. wooden lounge couch with leather covering
2. wood frame glass display
3. wooden dresser
4. wooden table and chairs
5. fireplace

History of the piano

The piano is not indigenous to the house, although Mrs Greville's piano in the Saloon was also a Steinway. The present piano was bought by Denis Walker, who was a volunteer at Polesden Lacey. The piano was previously owned by the concert pianist Rose Keen.⁴⁴ The origins of this piano can be traced in Steinway's archives: 'It was shipped to the London showroom from Hamburg on the 12th April 1905.'⁴⁵ The instrument was received into UK stock from Steinway & Sons Hamburg on April 12th 1905. Steinway & Sons UK then sold it onto Seadding and Sons in Newport. Our next record shows that it was then sold onto Mrs Suison of Homefield, Coulsdon, W. Caterham on September 22nd 1905.⁴⁶

Other sampled Steinways: Stourhead (1889)

⁴² Andrew Fetherston, 'Polesden Lacey at National Trust', <http://www.nationaltrustcollections.org.uk/object/1246441>, consulted on 12 June 2019.

⁴³ David Ross, 'Polesden Lacey', <https://www.britainexpress.com/attractions.htm?attraction=308>, consulted on 12 June 2019.

⁴⁴ Information found on the donation board next to the piano at Polesden Lacey, 21 May 2019.

⁴⁵ Model A, <https://shackellpianos.co.uk/steinway-models>, consulted on 12 June 2019.

⁴⁶ John M. Ross, National Manager of Technical Services, Steinway & Sons, letter of correspondence from Andrew Garrett, 6 December 2004.



Figure 76: Front view of Steinway 1905

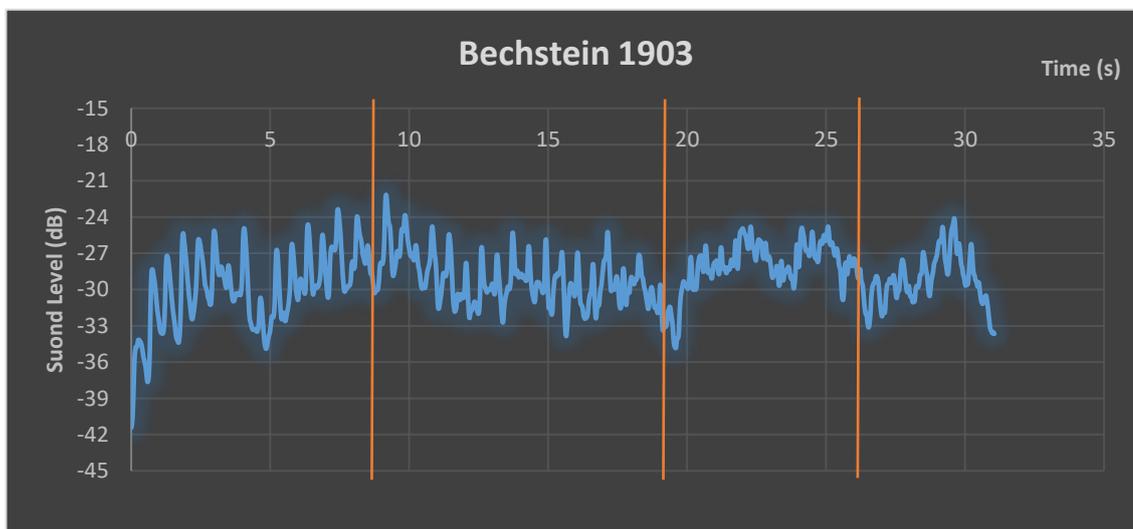
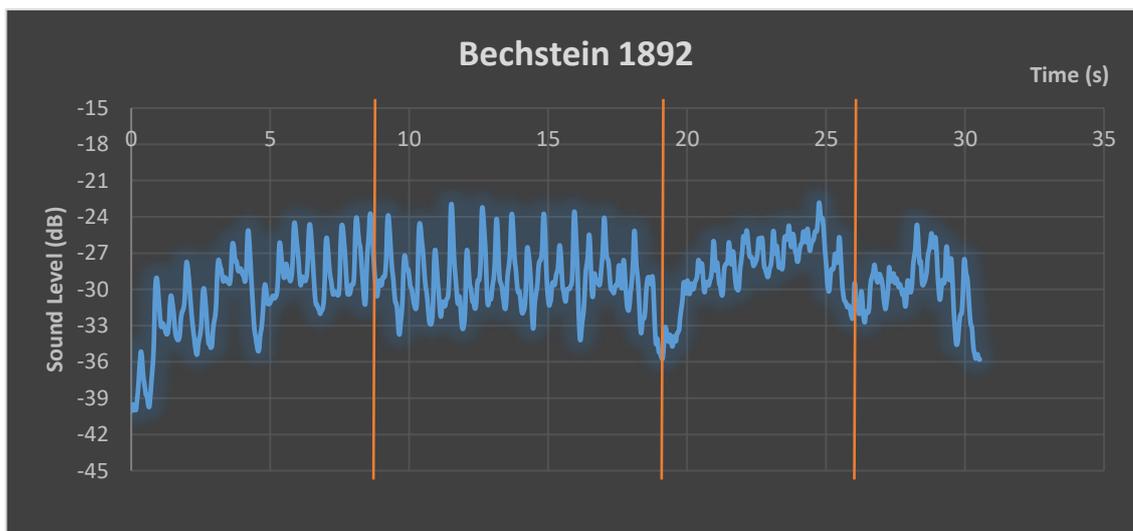
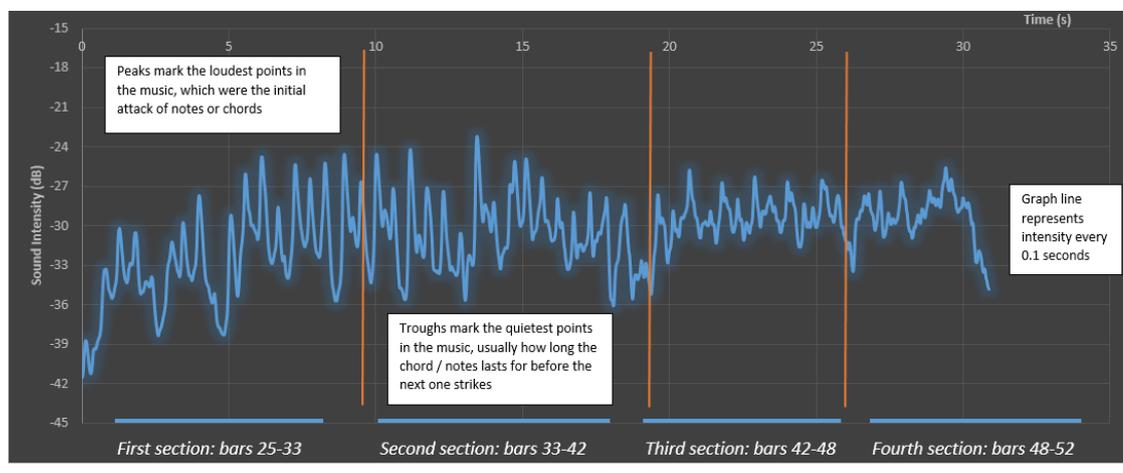


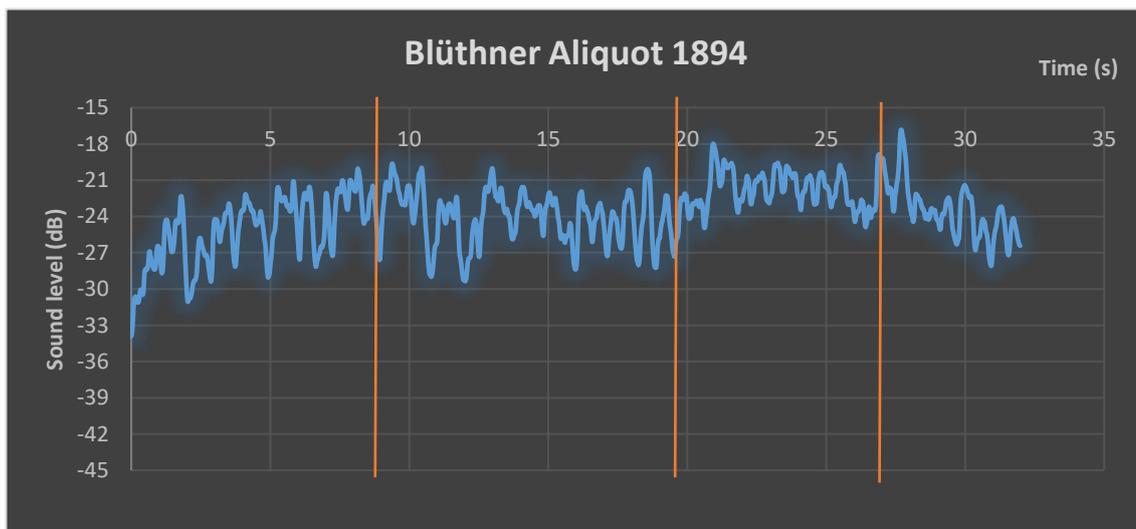
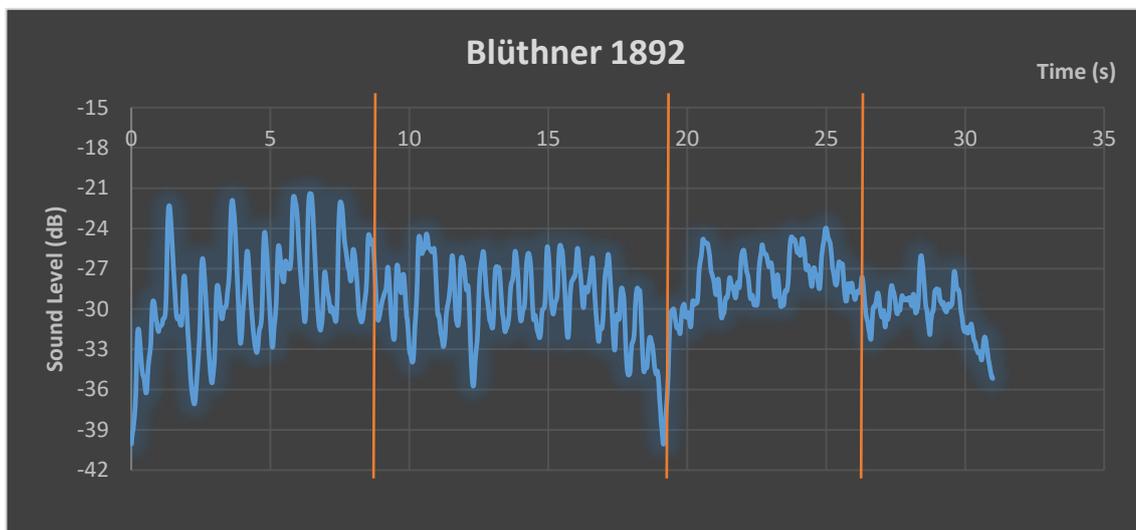
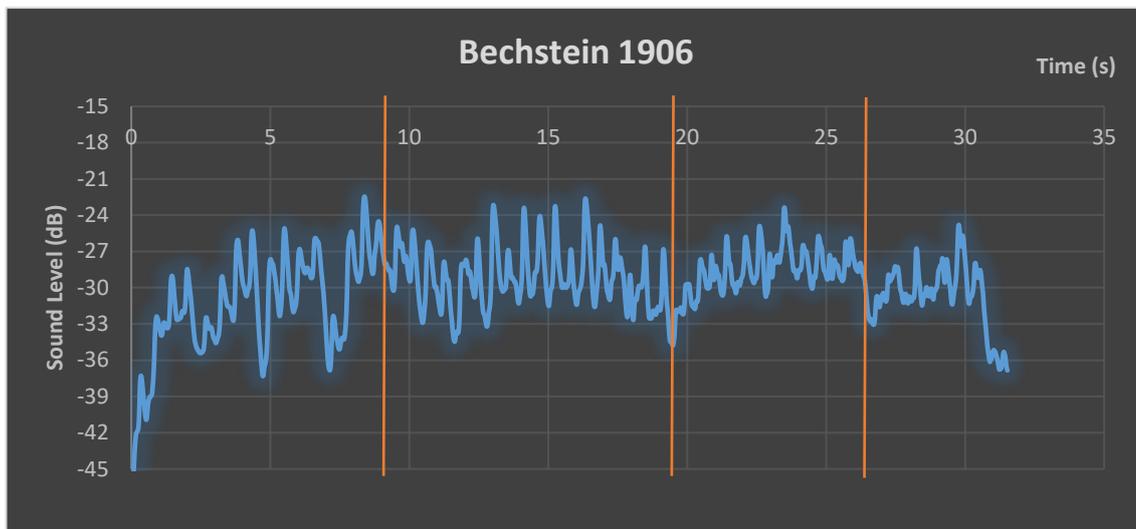
Figure 77: Inside view of Steinway 1905

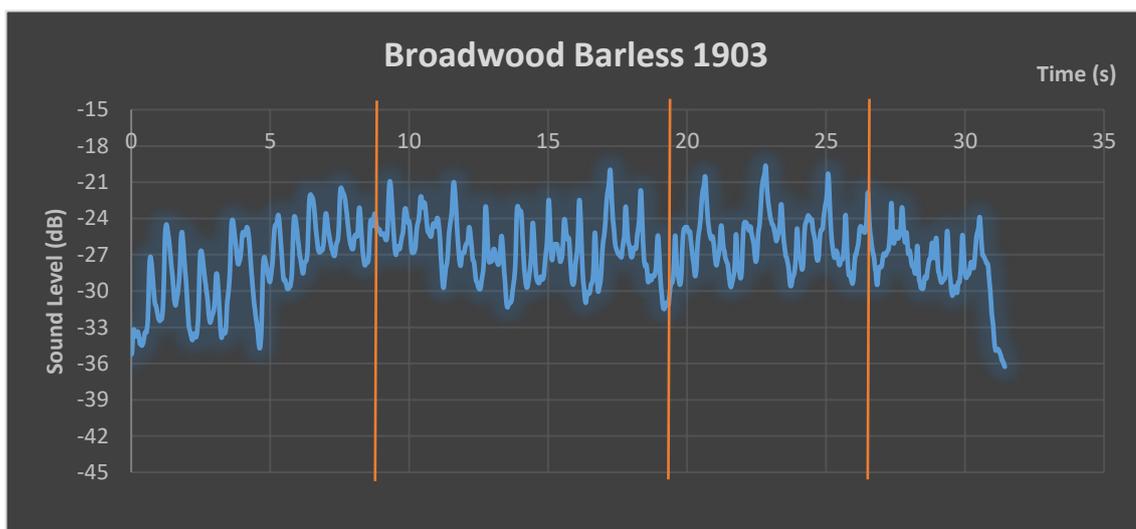
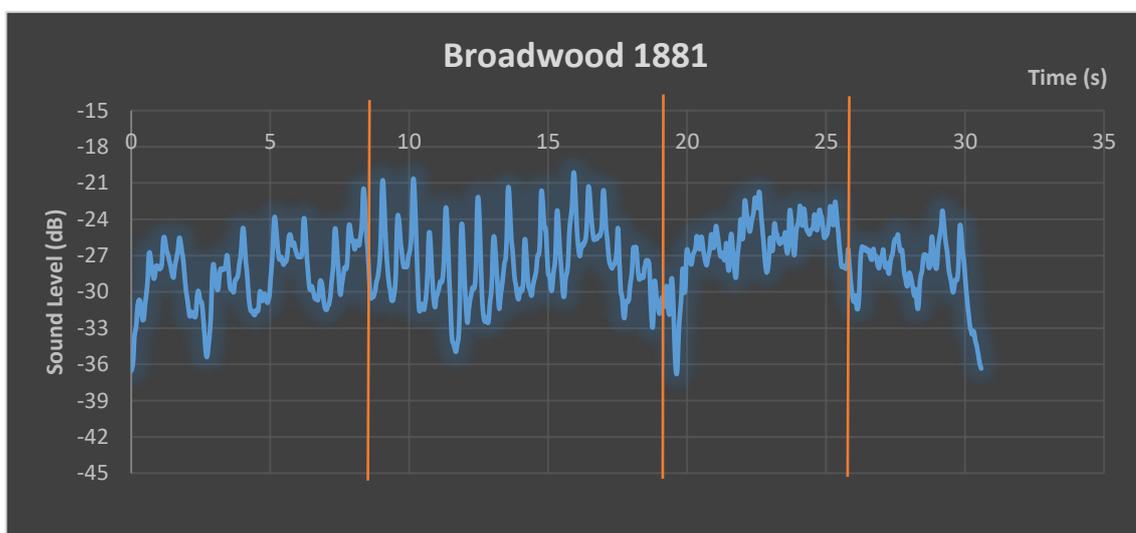
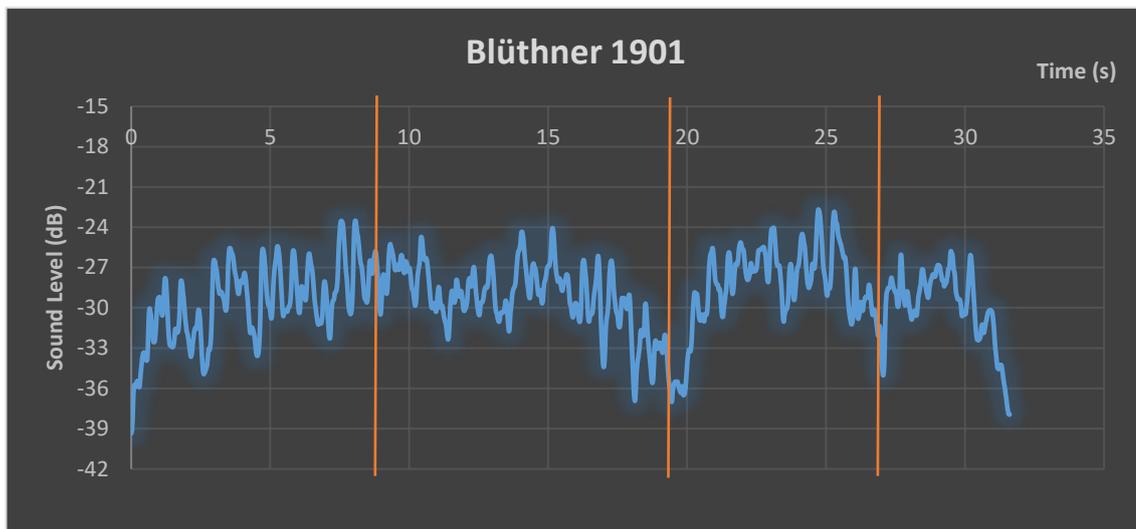
Appendix E Analytical graphs from Sonic Visualiser

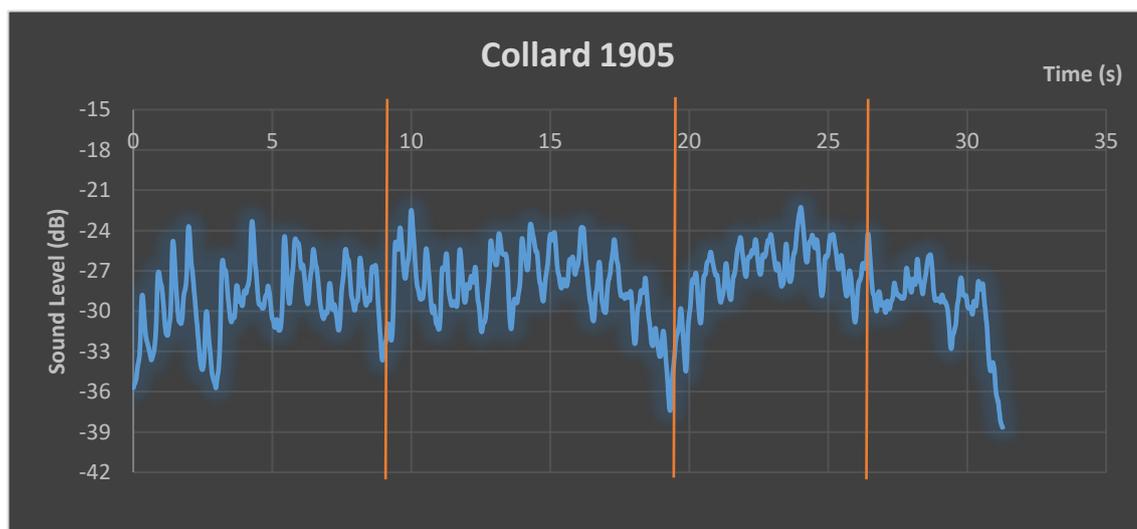
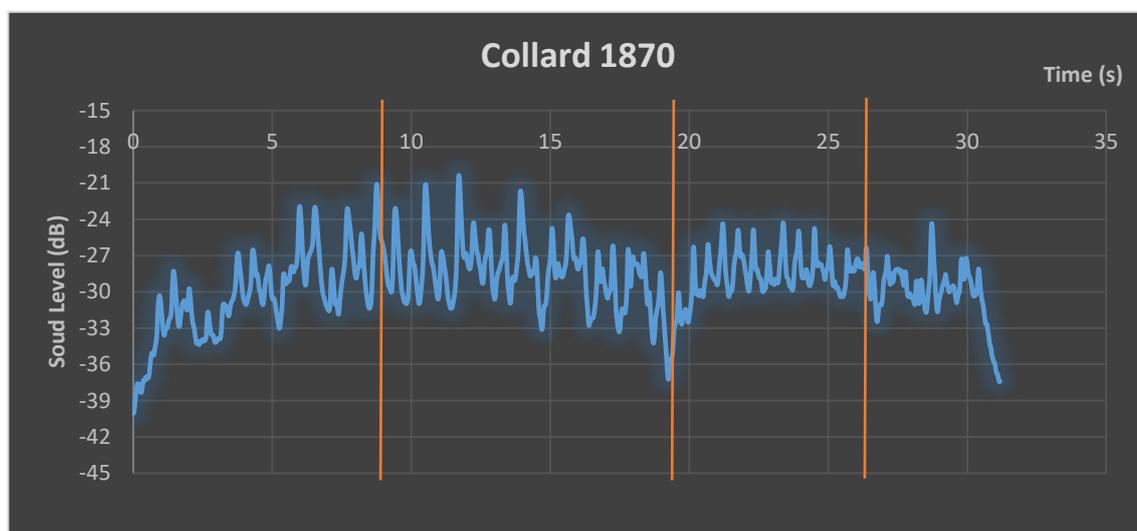
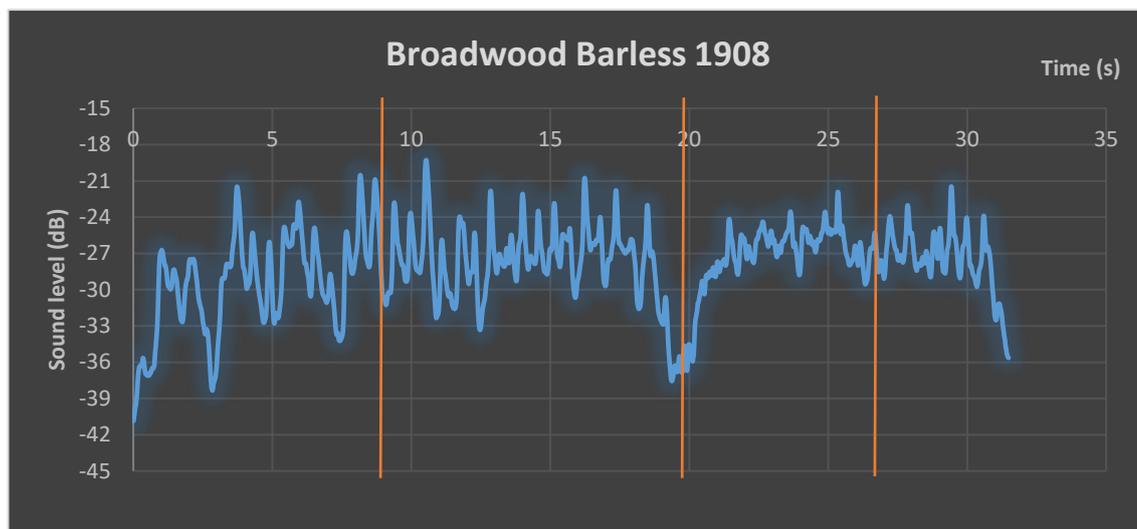
Beethoven Sonata Op. 109i bars 25 to 52

An example of how to interpret the graphs:

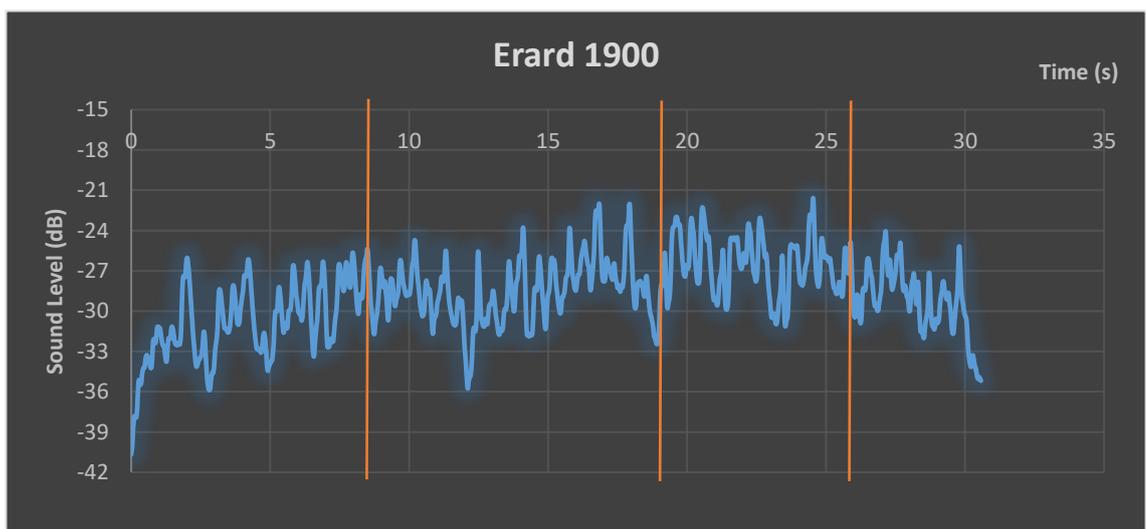
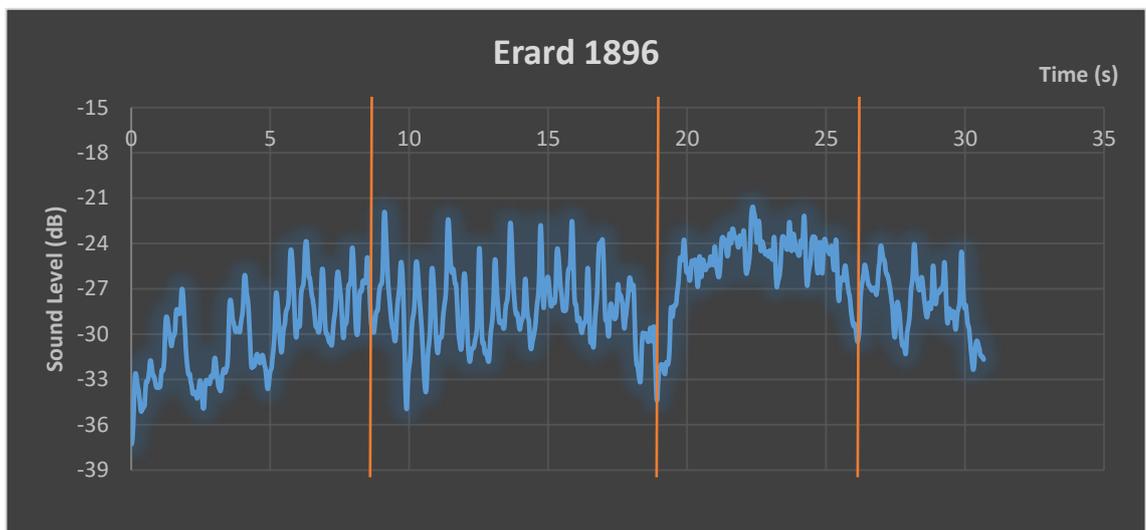
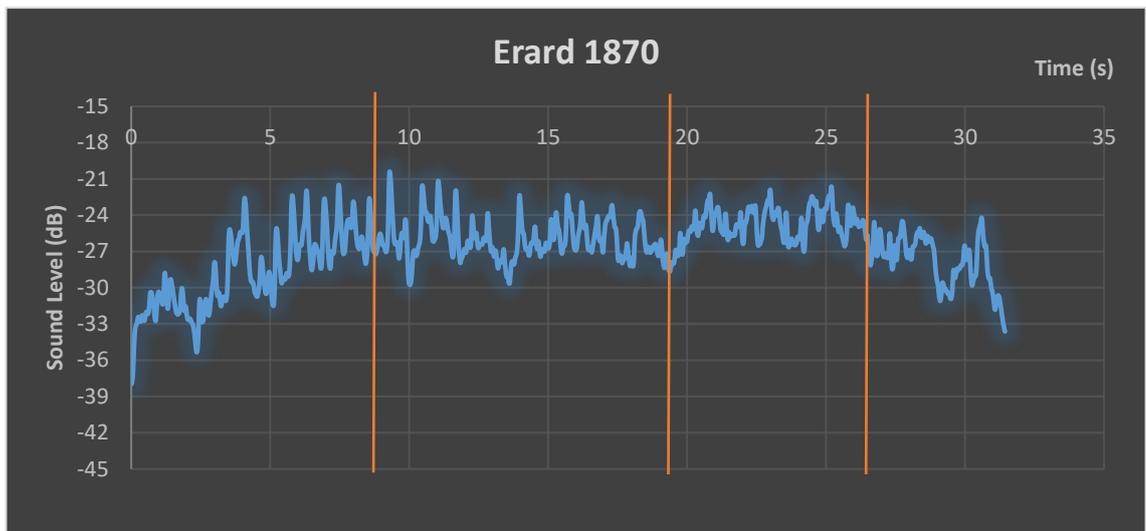


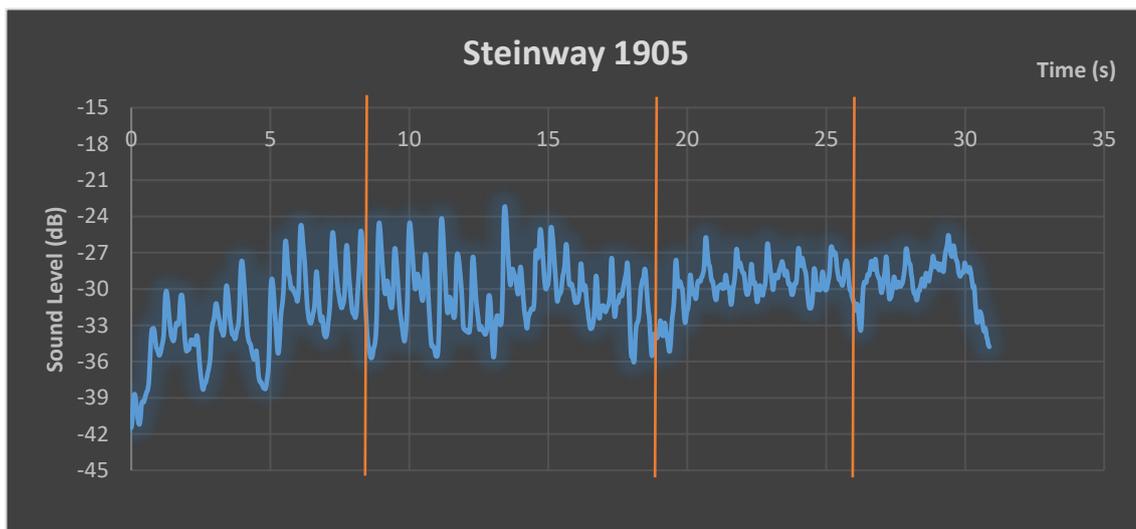
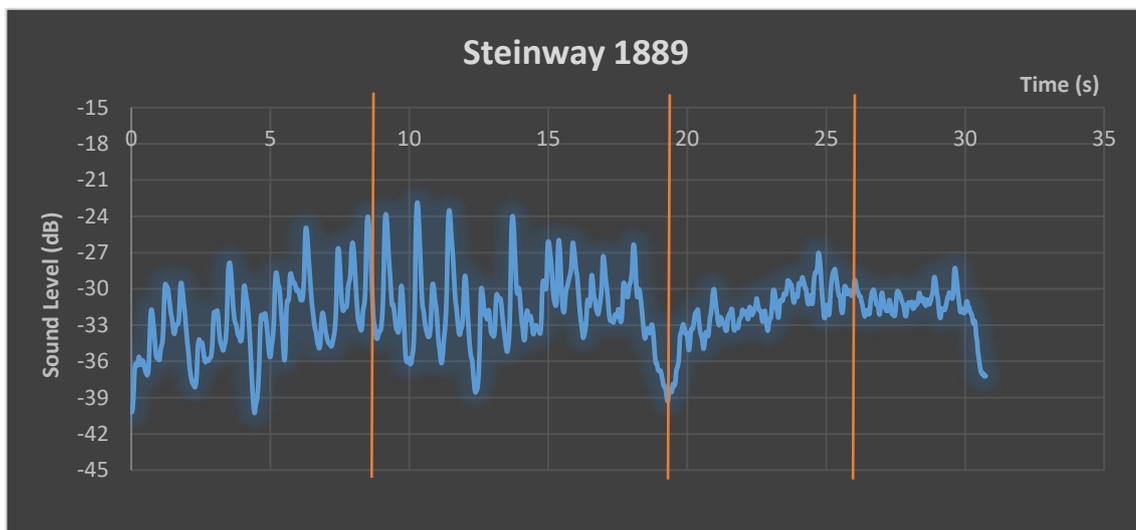
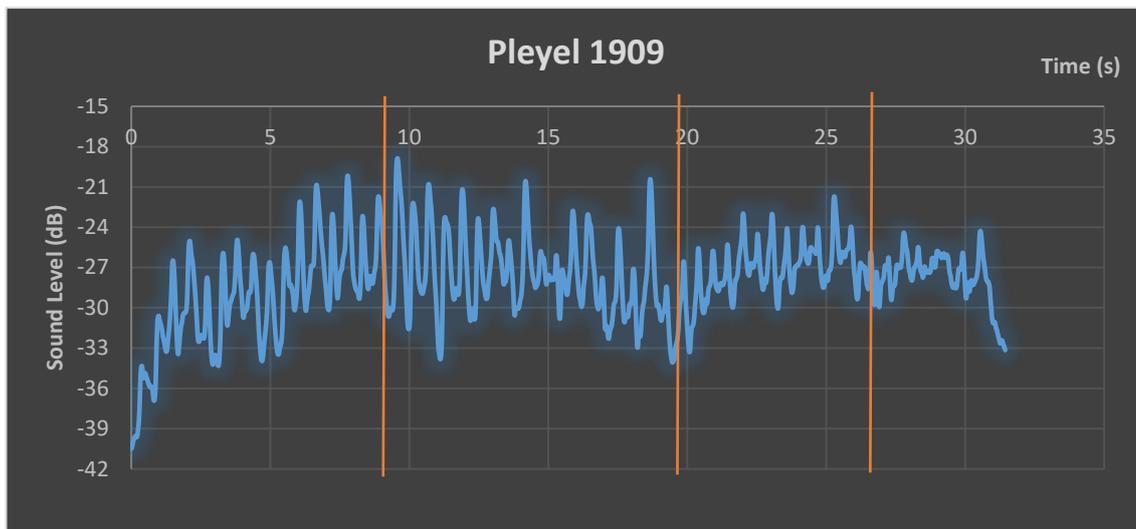






Appendix E: Analytical graphs from Sonic Visualiser for Beethoven Sonata Op. 109i mid-section





Appendix F Audio recordings on pianos (1870-1910)

<http://doi.org/10.5258/SOTON/D1745>

1. Beethoven_mashup.wav
2. Beethoven_Bechstein1906.wav
3. Beethoven_Bluthner1901.wav
4. Beethoven_Broadwood1881.wav
5. Beethoven_Broadwood1908.wav
6. Beethoven_Collard1905.wav
7. Beethoven_Pleyel1909.wav
8. BrahmsBallade_1to10_Broadwood1881.wav
9. BrahmsBallade_1to10_Steinway1889.wav
10. BrahmsIntermezzo_49to53_Broadwood1881.wav
11. BrahmsIntermezzo_49to76_Broadwood1903.wav
12. BrahmsIntermezzo_49to76_Broadwood1908.wav
13. BrahmsIntermezzo_49to76_Collard1870.wav
14. BrahmsIntermezzo_49to76_Erard1900.wav
15. BrahmsIntermezzo_54to64take1_Erard1896.wav
16. BrahmsIntermezzo_54to64take2_Erard1896.wav
17. BrahmsIntermezzo_Bluthner1894.wav
18. BrahmsIntermezzo_Erard1896.wav
19. BrahmsIntermezzo_Erard1900.wav
20. ChopinNocturne_Bechstein1906.wav
21. ChopinNocturne_Bluthner1901.wav
22. ChopinNocturne_Bluthner1894.wav
23. ChopinNocturne_Broadwood1903.wav
24. ChopinNocturne_Erard1870.wav
25. ChopinNocturne_Erard1896.wav
26. ChopinNocturne_Pleyel1909.wav
27. ChopinNocturne_Steinway1889.wav
28. LisztGnomenreigen_85to103_Broadwood1908.wav
29. LisztGnomenreigen_85to103_Erard1870.wav
30. LisztGnomenreigen_85to103_Erard1896.wav
31. LisztGnomenreigen_133to143_Bluthner1892.wav
32. LisztGnomenreigen_133to143_Broadwood1908.wav
33. LisztGnomenreigen_133to143_Collard1905.wav
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35. LisztGnomenreigen_133to143_Steinway1905.wav
36. LisztGnomenreigen_Broadwood1881_138bpm.wav
37. LisztGnomenreigen_Broadwood1908_138bpm.wav
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39. LisztGnomenreigen_Collard1870_160bpm.wav
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42. LisztGnomenreigen_Pleyel1909_146bpm.wav
43. LisztGnomenreigen_Pleyel1909_152bpm.wav
44. LisztGnomenreigen_Pleyel1909_160bpm.wav
45. LisztGnomenreigen_Bechstein1892.wav
46. LisztGnomenreigen_Bluthner1892.wav
47. LisztGnomenreigen_Pleyel1909.wav

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<https://archivesmusee.philharmoniedeparis.fr/pleyel/archives.html>

Ibbs & Tillett archive, Royal College of Music, London, UK

Monday Popular Concert. <Monday popular concerts.-Saturday popular concerts.> Programme and words <analytical remarks> for ... February 7th, 1859 <-March 7, 1904>, British Library, Music Collections d.480

The Bechstein archive, Royal College of Music, London, UK

The Broadwood archive, Surrey History Centre, UK

Unpublished notes by Andrew Garrett, Emeritus Adviser on Musical Instruments to the National Trust. Kindly supplied by Christopher Nobbs, the current adviser to the Trust.

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Bow bells: a magazine of general literature and art for family reading (London, 1864-1897)

Chicago daily tribune (Chicago, 1872-1963)

Daily telegraph & courier (London, 1850-1949)

Gil blas (Paris, 1879-1929)

Horsham times (Melbourne, Victoria, 1882-1954)

Le ménestrel (Paris, 1833-1940)

Le monde illustré (Paris, 1857-1938)

London and provincial music trades review (London, 1877-1915)

Musical opinion and music trade review (London, 1880-1906)

Musical times: musical times and singing class circular (London, 1844-1903)

Musical news, 1:1-19:513 (London, 1891-1900)

Musical standard, 1:1-38:991 (London, 1862-1912)

Piano and organ music trades journal (London, 1885-1900)

Earlier title: *The pianoforte dealers' guide: a monthly critical review and price current for the trade only* (1882)

Later title: *Piano journal* (1901-1904)

Saturday review of politics, literature, science and art (London, 1855-1938)

The academy and literature (London, 1869-1916)

Earlier titles: *The academy* (1869-1902)

The academy and literature (1902-1905)

The Argus (Melbourne, Victoria, 1848-1957)

The athenaeum (London, 1828–1921)

The etude (Pennsylvania, 1883-1957)

The globe (London, 1800-1949)

The magazine of music: for the student and the million (London, 1884-1897)

The monthly musical record (London, 1871-1905)

The musical herald (London, 1851-1920)

The musical world (London, 1836-1891)

The orchestra musical review (London, 1884-1887)

Earlier titles: *The orchestra* (1863-1881)

The orchestra and the choir (1881-1882)

The orchestra, choir and music educator (1882-1884)

The theatre: a monthly review of the drama, music and the fine arts (London, 1887-1897)

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(London, 1893-1907)

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