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**Historicising the Development of the Flute:
Three Case Studies, 1785–1837**

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Abstract

This thesis approaches the technical development of the flute between the years 1785 and 1837 by focusing mainly on the relationship between the instrument and the broader social, cultural and aesthetic contexts in which developments arose. Using a wide-angled lens to examine the history of the flute allows for consideration of the impact of extra-musical circumstances, a subject often relegated to the sidelines of flute history. Three case studies apply a “culturalist” perspective to the subject in question, situating specific instrumental developments alongside contemporaneous cultural and national trends, debates and broader strains of influence. Studying the flute in this way enables an exploration of how the instrument’s technical development reflected and embodied decisive historical and cultural currents.

The first case study examines Johann George Tromlitz in Leipzig between 1785 and 1805 in order to trace the impact of new philosophical ideas on the flute’s intonation and sonority. The second considers Claude Laurent and his glass flutes made in Paris between 1806 and 1815, with the goal of exploring the impact that economic policy and changing labour relations may have had on Laurent’s designs. The final case study explores Charles Nicholson in London between 1815 and 1837 and aims to situate his famously forceful yet sensitive tone in the context of British notions of power, masculinity, and nationalism. A conclusion summarises the research and methodology.

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Introduction

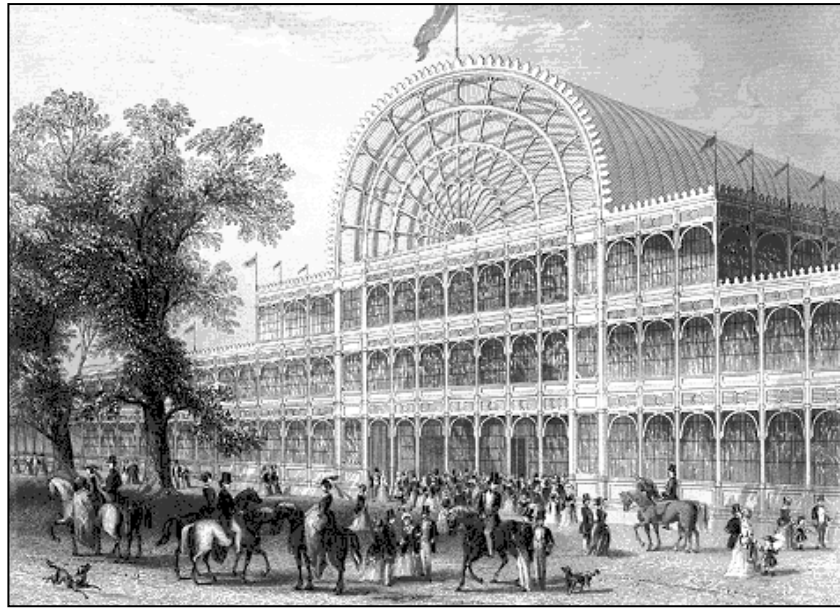
If you were a visitor to London in 1851 you would have found yourself in the middle of one of the largest International Exhibitions ever staged. Hosted at the peak of the Victorian period, this monumental event saw people from Britain, her colonies and some thirty independent nations descend on the capital city bringing with them examples of the latest advances in technology, machinery and science, as well as works of art and textiles.¹ The purpose-built and aptly named Crystal Palace, built of iron and glass with wooden flooring housed the approximate 100,000 items. A feat of nineteenth-century engineering, the Palace was completed in only nine months using over 900,000 square feet of glass and with some 2,000 workers on site. It was doubtless a fitting centrepiece for the regalia displayed within (see Figures 0.1 and 0.2).

Figure 0.1: Queen Victoria opening the 1851 Universal Exhibition, Thomas Abel Prior



¹ Germany is included as a single nation although in 1851 it was not yet a unified state.

Figure 0.2: The Crystal Palace, John Tallis



Upon venturing into the Crystal Palace you would have been astounded by the building and the items contained within. There were four main categories of items – Raw Materials, Machinery, Manufactures, and Fine Arts – and thirty subject classifications ranging from chemical and pharmaceutical processes (in Raw Materials) to watches and clocks (in Machinery).² There were chocolates, cigars, artificial limbs, chronometers, distilling products, Wellington boots, and examples of taxidermy, if you cared to look.³ If you had wandered in from the south entrance you would have been immediately in the midst of items hailing from China and India on both sides, and a huge crystal fountain in front. Proceeding left you would have confronted the full display of British industry and technology, as naturally the host nation had accorded themselves prime position and

² *The Official Descriptive and Illustrated Catalogue of the Great Exhibition Volume I* (London: Spicer Brothers, 1851), 89.

³ Leslie Lewis Allen, *Recipients of Official Crystal Palace Medals Awarded by Her Majesty's Commissioners at the Great Exhibition of 1851 and the South Kensington Exhibition of 1862* (rpt. in two volumes, Volume I: 1851, London: Crystal Palace Foundation, 2012), various pages.

about half of space allotted. Even New Zealand was accorded a small space, as a British “dependency”.⁴

If your interest extended beyond the British territory and you were disenchanted by manufacturing and industry, you may have found yourself drawn to the musical instruments on display. Short of wandering until you happened to stumble upon a piano or a horn, you may have consulted an official catalogue of the musical instruments. You would have noticed that the collection of instruments brought by the Zollverein, the collective German states, was perhaps the largest and most impressive.⁵ Among the bassoons, clarinets, harps and guitars, one instrument may have caught your eye, an example of a major advance to musical technology: Theobald Boehm’s solid silver flute, of entirely new design and with a revolutionary new key mechanism.

This thesis revolves around a premise: that what we tend to think of as the specific technical developments of a musical instrument – its keys, materials, outward design and basic body shape – were influenced by the historical conditions of their invention. This is not a new approach per se, but applying the contextual history to the technical development of the flute is unique. At the turn of the nineteenth century, the flute was unlike the instrument we know today. Its evolution to a modern design can be traced back to a variety of players, makers and teachers. In this thesis, the contributions of three men – Johann George Tromlitz (Leipzig, 1725–1805), Claude Laurent (Paris, unknown–1857) and Charles Nicholson (London, 1795–1837) – will be examined in light of their social and cultural settings.

In order to consider this approach in full, first I will outline the story of Theobald Boehm (1794–1881), who, more than anyone else in the flute’s history,

⁴ The display from New Zealand would have been quite small, consisting only of hemp and flax. *The Official Descriptive and Illustrated Catalogue*, 91.

⁵ The collective German states included in the exhibition were Prussia, Bavaria, Saxony, Württemberg, Frankfort-on-the-Main, Grand Duchy of Hesse, Luxembourg and Nassau.

rethought and consolidated the design of the flute to be nearly identical to the model still in use today. Boehm is considered by some to be the end point of most of the flute's technical development. Indeed, his name should be a familiar one to those acquainted with the modern flute. His experiments with the early nineteenth-century instrument – already popular – redesigned the flute into a modern machine, similar to the models used today. It is for good reason that the flute today is still referred to as the “Boehm flute” or “Boehm-system flute”.⁶

If his name is familiar, so too may be his story. Born in Bavaria as the son of an iron and steel worker, Boehm began to play the flute at the age of eleven and had lessons with a member of the Bavarian Court Orchestra, Johann Nepomuk Kapeller.⁷ At the age of 16 Boehm even built his own four-keyed flute in the workshop of Karl August Grenser, a famous flute maker in Dresden. By the age of 18 he was playing principal flute in the orchestra of the new court theatre at the Isargate in Munich.⁸ He was very much an industrial man, founding a flute workshop in 1828 and continually travelling overseas to Vienna, Paris and London on concert tours or to search for wooden materials from which to build his flutes. He saw Nicolo Paganini perform, one of the most famous virtuosi of the day, and would have witnessed a new style of performance and composition. Indeed, Paganini was renowned for incredibly passionate and virtuosic performances all over Europe during the early nineteenth century. Some of the public attributed his playing and demeanour to a pact he supposedly made with the Devil in order to gain skills of such magnitude. Paganini took advantage of new violin techniques such as *jeté* and *ricochet* to give the impression of more than one instrument playing,

⁶ Often these terms are used in opposition to the Baroque flute, single-keyed flute or simple-system flute. Simple-system flutes were still being designed and built up until c. 1900.

⁷ The court was that of the King of Bavaria, Karl Theodor.

⁸ Christopher Welch, Karl Emil von Schafh autl and Emil Reich, *History of the Boehm Flute: With Illustrations Exemplifying its Origin by Progressive Stages and an Appendix: Containing the Attack Originally Made on Boehm, and Other Papers Relating to the Boehm-Gordon Controversy* (London: Rudall, Carte & Co., 1883; rpt., Nabu Public Domains Reprints, 2013), 378.

astounding audiences.⁹ Likewise, Charles Nicholson, an extremely popular and beloved English flautist in Britain during the 1820s and 30s, impressed Boehm. Boehm was fascinated with Nicholson's ability to play louder than virtually any other flautist at the time. Nicholson designed and built his own flutes and – owing to his large hands – could enlarge size of the tone holes. These alterations allowed for a richer and more powerful sound.¹⁰

Boehm's experiences hearing the virtuosity of Paganini and the volume of Nicholson led him to pursue his flute making further. Specifically it seems he was interested in building a flute model capable of all difficult technical passages and a large, powerful sound. In 1832 he released a model with a new key mechanism called ring keys. This required an entirely new system of fingering but nonetheless quickly became popular in the United States, England and many countries in continental Europe.¹¹ Indeed, in 1837 Boehm's flute was introduced to the Paris Conservatoire and displayed at the English Academy of Sciences.¹² Between 1833 and 1841, Boehm focused on his family's steel- and iron-works business, as his father had passed away. However, the successful running of this business combined with his generous pension from the Royal Court Band in Bavaria meant that he was able to devote a year to the study of scientific-

⁹ Paganini's appeal perhaps was in the way he embodied "virtuosity as a performance aesthetic," something taken to an extreme in his case but perhaps indicative of the wider culture of virtuosity and performer malleability in the Romantic age; see Maiko Kawabata, "Virtuosity, the Violin the Devil . . . : What Really Made Paganini 'Demonic'?" *Current Musicology* 83 (2007): 101.

¹⁰ Boehm makes several references to his experiences of seeing Nicholson, saying "the Nicholson flute was the ordinary one; but the tall and vigorous Englishman, led by a true instinct, had the holes so increased in size as to suit his large and powerful fingers." (See Welch, *History*, 406.) In addition he comments "I did as well as any Continental flutist in London in 1831, but I could not match Nicholson in power of tone, wherefore I set to work to remodel my flute. Had I not heard him, probably the Boehm flute would never have been made"; See Theobald Boehm "An Essay on the Construction of Flutes" (1847, ed. and trans. by Walter Stewart Broadwood, Oxford: Rudall, Carte & Co, 1882; rpt., Kessinger Publishing, 2009), 59.

¹¹ Interestingly, the Boehm flute was less popular in Boehm's native Germany until much later. This may be because the large and powerful sound of Boehm's flutes, which increased their popularity in Britain and France, was not yet the desired tone in Germany.

¹² Welch, *History*, 51. Boehm's flute of 1832 was also adopted soon after by flautists such as Paul Hippolyte Camus of Paris, John Clinton of Ireland and London, Richard Carte of England, Anton Bernhard Fürstenau of Hanover, and Giulio Briccaldo of Italy; See Boehm, *Essay*, 13.

acoustical principles with his friend Dr. Karl Emil von Schafhäütl.¹³ Boehm wrote his first paper, “An Essay on the Construction of Flutes” in 1847, detailing his research and the acoustical designs of his flutes until that point.¹⁴ Boehm’s new understanding of basic acoustical principles and his subsequent empirical research into flute tubes led to the production of a new flute in 1847. It was this design that was perfected and displayed at the Great Exhibition in 1851. This 1851 flute is made from solid silver and includes a lip plate and embouchure hole that would later become a hallmark of the modern instrument. Its key mechanism, perfected by Boehm, uses a system of open keys to cover the enlarged tone holes, thereby enabling eight fingers and one thumb to close twelve holes, allowing the flute to play an even chromatic scale of over three octaves. This flute therefore might be considered an emblem of a new industrial age, using all of the advantages that science and technology had to offer.

In Boehm’s hands, the flute evolved from a Baroque instrument with a single key to a modern machine. Although countless players and makers were experimenting during these years, their manufacturing processes and results were neither uniform nor consistent. Some flute players designed their own instruments to meet certain criteria such as improved intonation on a particular note; others commented that current flutes were more than adequate.¹⁵ Some lamented the flute’s intonation problems, while others praised its sweet, mellow tone; sometimes in the same breath as they were criticizing it.¹⁶

¹³ The two had also previously researched and experimented in iron and steel production.

¹⁴ Boehm’s “Essay” was not published until 1882 and does not include details of Boehm’s flute of 1847. A second publication, (*The Flute and Flute Playing in Acoustical, Technical and Artistic Aspects*) was written in 1868 and first published in 1871, and provides an account, including experiments and research, undertaken by Boehm in his quest for an entirely new flute around 1847 and in the years after.

¹⁵ For examples of commentary regarding the positive capabilities of the flute see: Tromlitz, *The Keyed Flute* (1800), for details on his instrument designs which he claimed “lacked nothing,” 69; W. N. James *A Word or Two on the Flute* (1826); and anonymous commentator (“P”) in the *Quarterly Oriental Magazine, Reviews and Register* (1827).

¹⁶ For examples of the criticism of the flute’s intonation please see: William Bainbridge *Observations* (1823); letters by Heinrich Wilhelm Theodor Pottgiesser (1824) excerpted in Rockstro *The Flute*, 291; H. M. Fitzgibbon *The Story of the Flute* (1914). For examples of praise of the flute’s tone please see Fitzgibbon *Story*, 93; James *A Word or Two*, 95, 99; and anonymous review in *Quarterly Musical Magazine and Review* (1826): 497–8.

Flute models varied between nations but several travelling virtuosi – Boehm was among them, but he was by no means alone – disseminated ideas and shared inspiration, technology and new ways of flute-building across Europe.¹⁷ There is a record of composers with a negative view of the flute and these are often cited as evidence that the flute was viewed as a problematic instrument. The most famous of these criticisms was perhaps W. A. Mozart’s lamentation of amateur flautist Jean Dechamps. In a letter to his father, Mozart refers to the commission he was supposed to be working on, saying “you know that I become quite powerless whenever I am obliged to write for an instrument which I cannot bear”.¹⁸ However this statement can be somewhat tempered by Mozart’s enduring friendship with the famous flute player, Johann Baptist Wendling, and his praise of Wendling’s playing abilities.¹⁹ Indeed, the negative comments about the flute during this time are representative of only a small number of active composers during the late eighteenth and early nineteenth centuries. Therefore we should not take their criticisms as evidence of an overall dislike of the flute among composers.

Other historical sources authored by flute players paint a relatively clear picture as to the reasons why the flute underwent such drastic and rapid change during this time, and these mostly orbit around specific technical problems. Examples of the work being carried out in an attempt to remedy these problems abound in the form of original

¹⁷ Boehm meeting Nicholson and noting the increased size of the latter’s tone holes is an example of this.

¹⁸ Emily Andersen, *The Letters of Mozart and His Family* (Volume I, 2nd ed. prepared by A Hyatt King and Monica Carolan, New York: St. Martin’s Press, 1966), 481. There is some discrepancy with Andersen’s translation of this passage. In German it states: “Dann bin ich auch, wie Sie wissen, gleich stoff wenn habe ich immer für ein Instrument | dass ich nicht leiden kann :| schreiben soll.” Wilhelm A Bauer and Otto Erich Deutsch (eds) *Mozart Briefe und Aufzeichnungen* (Volume II, 1777–1779, Kassel: Bärenreiter, 2005): 281.

¹⁹ There are other composers who are credited with disparaging flute: Giuseppe Domenico Scarlatti is said to have commented upon meeting Johann Joachim Quantz in 1725 “I cannot endure wind-instrument players, they all blow out of tune”, Richard Shepherd Rockstro, *A Treatise on the Construction, the History, and the Practice of the Flute*, ed. and trans. by Georgina M. Rockstro (London: Musica Rara 1967), 543. Luigi Cherubini supposedly said “the only thing worse than one flute is two”, Macaulay H. Fitzgibbon, *The Story of the Flute* (London: William Reeves, 1914, rpt., London: William Reeves, 1928), 135. Even Ludwig van Beethoven weighed in on the discussion, saying in a letter to a Scottish publisher in 1809 that, “I cannot make up my mind to write for the flute because this instrument is too limited and imperfect”, Dr. A. C. Kalischer, *Beethoven’s Letters: A Critical Edition With Explanatory Notes, Volume I* (Translated with a Preface by J. S. Shedlock, New York: Books for Libraries Press, 1969), 106.

patents, commentary and prototypes.²⁰ In 1808 there were four new patents on a variety of mechanical devices for the flute, and that was only in England. Johann George Tromlitz was designing and building his own flutes at the turn of the century in Germany, but lesser-known makers such as the English player William Close, German scientist Dr. H. W. Pottgiesser and French watch maker Claude Laurent were all involved in the attempts to design a different flute. Often these flutes added an extra key to cover a new hole, meaning a player needed to learn a new fingering in order to play a particular note. Sometimes these flutes required an entirely new fingering chart.

On reading the secondary literature on the development of the flute, one senses a lack of attention paid to the period between the zenith of the Baroque flute in the mid-eighteenth century and the year 1832, when Theobald Boehm began his (ultimately successful) reconstruction of the instrument. The Baroque flute had poor intonation yet it was sufficient enough for composers such as Georg Philipp Telemann and J. S. Bach and his sons to write for it extensively. These composers instilled a variety of affections in their audience by manipulating the weak, problematic notes of the flute.²¹ It seems J. S. Bach, for example, deliberately wrote unstable notes on the Baroque flute in his sonatas, and in particular prominent flute parts in his Masses and the Magnificat.²² By the late eighteenth century, however, the unique sound and timbre of the Baroque flute (and its early cousins, the four- and six-keyed flutes) seems to have been no longer acceptable, as illustrated by the number of people working and writing about improving the flute, their respective output, and critical responses to their creations.

²⁰ For examples see Rockstro, *The Flute*, 253–401.

²¹ An example of Bach's use of these unstable notes can be found in his *Sonata in E Major* BWV 1035. In the opening movement the flute often has long held notes which were particularly weak on the Baroque flute, such as g# and f. Bach may have chosen these notes on purpose to attain a certain weak, pathetic sympathy in his audience.

²² Rachel Brown, *The Early Flute, A Practical Guide* (Cambridge University Press, 2002), 19. Brown points to the frequency of the g# in both flutes parts in "Esurientes implevit bonis" of the Magnificat, saying that these notes "give a luminous sparking quality perfectly suited to the words 'He hath filled the hungry with good things'".

Modern flute scholars acknowledge these other inventors on the timeline of flute development, but these inventors are often relegated to a small part in the overall story. Nancy Toff, in her book *The Development of the Modern Flute* (1986), states that “quite simply the flute’s inadaptability to the requirements of ensemble performance led to its disrepute among composers”, and that this in turn led players and makers to search for alternatives.²³ The requirements of ensemble performance to which the flute was unable to adapt remain unclear. In addition, Toff states, “contrary to the design of either composers or performers [...] the requisite technical gymnastics taxed the flute to such a degree that the technical defects of the instrument became all too obvious”.²⁴ Toff’s explanations are worth quoting at length:

The defects of the flute were also revealed in its growing role in the orchestra. In the course of Europe’s transition from an aristocratic to a democratic culture, music shifted from the salon to the concert hall; the chamber orchestra evolved into the full symphony orchestra. Force and power became the expressive outlets of musical compositions and performance. Brilliance, of which steadily rising pitch was only one symptom, was the tonal ideal of the era [...] the wooden flute clearly could not fulfil the requirements of the nineteenth century. Its intonation was uncertain; its tone, though mellow and even beautiful in chamber music, was relatively weak, better designed for tonal blending than for a solo role within the orchestra; and its dynamic capacity was not sufficient to compete with the improved brass section of the Romantic orchestra.²⁵

Here, Toff states that the flute could not compete in the orchestra, it could not play loud enough for large concert halls and it was not powerful enough to be considered a leading musical instrument of the time. She states that intonation was a problem, and indeed the entire character of the flute was “wrong” for the new musical ideas put forward in so-called “Romantic” musical compositions.

Toff’s approach can also be seen in the writings of other modern scholars. For example, Baroque flute specialist John Solum states in his book *The Early Flute* (1992) that “the nineteenth century brought the flute out of the drawing room into the concert

²³ Nancy Toff, *The Development of the Modern Flute* (New York: Taplinger, 1979), 24.

²⁴ *Ibid.*, 45.

²⁵ *Ibid.*

hall [...] The design of the flute had to be altered to produce a larger sound not only to project in the new, larger concert halls but also to hold its own in the expanding orchestra”.²⁶ In his book *The Flute* (1988), flautist and musicologist Raymond Meylan makes a similar reference:

The society that emerged after the French Revolution found musical expression in large instrumental and vocal worlds. In this new style the primitive flute and its lightly mechanized descendants no longer sufficed. Baroque instruments were too delicate and intimate to permit their use in such imposing masses of sound and thus new instruments had to be created.²⁷

These scholars take an interesting approach to the development of the flute, examining the flute’s development as stemming from some perceived problems in its design. This inference piques my curiosity. Indeed, there seems to be little evidence that flute performers in the nineteenth century, both amateur and professional, viewed their instrument as unable to perform the required “technical gymnastics”. While it seems correct that force and power were rapidly becoming expressive outlets for Romantic composers, scholars often do not venture into the murky relationship between the instrument’s design and what else might have inspired flute players and makers to experiment. In other words, explaining an historical pathway from a modern vantage point often leads to assumptions of causality and broad generalisations. Boehm’s redesign of the flute’s key mechanism, his bore and embouchure modifications and his experimentation with materials has indeed had a profound influence on the modern flute. Accordingly, it is Boehm that often fascinates and attracts players and scholars. Although the flute did develop into a multi-keyed powerful instrument, these specific outcomes were not necessarily inevitable. It seems to me that there was something more driving the development of the flute during this time, not simply technical or intonational problems.

²⁶ John Solum, *The Early Flute* (Oxford: Clarendon Press, 1992), 66.

²⁷ Raymond Meylan, *The Flute* (Translated by Alfred Clayton, London: B. T. Batsford, 1988), 118.

The evolution of the flute, when considered from a wide-angled perspective, can be seen to perhaps resonate beyond traditional approaches to flute history and flute players.

In his exhaustive history *The Flute* (2002), Ardal Powell offers another perspective on the flute's development. About the flute in the nineteenth century he states, "we must dispose of a modern fallacy which claims that the keyed flutes of [this] period were too defective to give an adequate account of the period's music, and not loud enough for the orchestras of their time [...] none of these claims has any basis in the historical record".²⁸ Powell's discomfort with claims from recent writers of the flute's defectiveness may be based on the lack of an obvious historical record in favour of this interpretive line of thought.

With this in mind, I believe we can explore the more nuanced reasons why the flute developed so rapidly during the nineteenth century. The flute's development was not a simple case of its inability to perform in ensembles, its intonation problems or its difficult keys and fingering patterns. Powell's claim inspired me to consider something that I hope to explore further in this thesis: that it was local political, cultural and social conditions that shaped the flute's overall developmental trajectory. Indeed, my research suggests that the flute's development during this time is related to the interconnected themes of innovation, technology, science, and culture, but these themes must be explored and fleshed out. Examining why so many flute players and makers were working to change an instrument that, not long before, had been perfectly acceptable is a missing piece of the history of the flute.

This project examines specific changes in the flute's development (1785–1837) by placing mechanical and tonal developments in a wider historical and cultural setting. I hope to suggest a richer and more nuanced story of the flute's development, a story embedded in

²⁸ Ardal Powell, *The Flute* (New Haven: Yale University Press, 2002), 144–5.

the social and cultural framework of the period instead of isolated from it. Rather than restate the traditional story of the flute, I would like to propose a new historical perspective of why the flute developed in the way that it did. I will purposefully move beyond the standard flute literature outlined in the previous sections and instead will attempt to draw upon the musical, technical, philosophical and industrial scene around the time that the flute was changing.

Each of the three case studies in this thesis focuses on a particular person, their social, cultural and political milieu, and their respective flute models or flute study books. So far, this introduction has suggested that the history of the flute's development cannot be compartmentalised. How, then, to divide these studies, (and, on a larger scale, this thesis) into a coherent structure? Given this subject's scope, the following case studies are discreet, designed to focus exclusively on one particular sphere of influence at a time.²⁹ Additionally, this thesis does not attempt to trace the flute's development from beginning to end: Powell's *The Flute* provides an overview of major developments and players. Instead, in the following pages I attempt to zoom in on a period that I believe witnessed a convergence of social and cultural strains of influence that enabled the flute's development in a compact period of time. As already stated, Boehm's flute at the Great Exhibition of 1851 remains very closely related to the model still in use today; the four-keyed flutes of the 1780s are related to the one-keyed flutes of the Baroque.³⁰ But the emergence of new philosophical concepts at the turn of the nineteenth century, followed by the upheavals of the French Revolution and the Napoleonic wars set the scene for these studies.

This thesis borrows from Yale musicologist Gary Tomlinson's "web of culture" idea, which he promulgated in 1984. In this theory Tomlinson argued "that in order to understand individual human actions we need to interpret the cultural context from

²⁹ In the conclusion, I will focus my attention on drawing parallels between the chapters.

³⁰ Likewise, these one-keyed flutes are a close cousin of the Renaissance flute that had no keys whatsoever.

which they arise [...] meanings arise from the connections of one sign to others in its context; without such a cultural context there is no meaning, no communication”.³¹ For Tomlinson, the search for meaning in music should take into account more than just the piece of music, composer, or, in our case, the instrument. Tomlinson was advocating a position on the study of music that “should be centred not just on music but also on musicians acting within a social and cultural environment. The shift from music as a product [...] to music as a process [...] has involved new methods, some of them borrowed from the social sciences”.³² This “new musicology” developed as a reaction against strictly formulaic approaches to music, where theory and analysis were thought to provide the true meaning of music. This new musicology perhaps began with University of California musicologist Joseph Kerman, whose 1980 article “How We Got Into Analysis, and How to Get Out” counters claims that music analysis is the only source of ‘truth’ about music.³³ Princeton scholar Kofi Agawu in his “Analyzing Music Under the New Musicological Regime” (1997) suggests that this approach offers a new way of considering cultural, and musical, objects: “charged, colourful, sometimes obscure sometimes playful, but never clinical or ‘scientific’ ”.³⁴

More recently, musicologists have continued to muse on the nature of this approach. University of Vienna professor Wolfgang Fuhrmann points out in an article of 2011 that rather than scholars reflecting on the dichotomy between music *and* society, they began considering music *as* society.³⁵ Fuhrmann argues that by adopting and applying sociological theories to the study of music, new musicologists may be able to

³¹ Gary Tomlinson, “The Web of Culture: A Context for Musicology”, *19th-Century Music* 7, no. 3 (1984): 351–2.

³² Stanley Sadie, ed. *The New Grove Dictionary of Music and Musicians* (2nd ed., executive editor John Tyrrell, Volume 17, Oxford University Press, 2001), 488.

³³ Joseph Kerman, “How We Got Into Analysis, And How to Get Out”, *Critical Inquiry* 7, no. 2 (Winter, 1980): 298.

³⁴ Kofi Agawu, “Analyzing Music Under the New Musicological Regime”, *Journal of Musicology* 15, No. 3 (Summer, 1997): 301.

³⁵ Wolfgang Fuhrmann, “Towards a Theory of Socio-Musical Systems: Reflections on Niklas Luhmann’s Challenge to Music Sociology”, *Acta Musicologica* 83, no. 1 (2011): 138.

integrate “the concept of music into a larger socio-theoretical framework”.³⁶ Indeed, interdisciplinary scholars have taken a similar outlook in their respective fields. For example, as an Assistant Professor of Film Studies at University of Wisconsin, Ben Singer introduces a “culturalist perspective” in his article “Introduction: Modernism, Modernity and the Senses” (2006). He states that this approach “highlights causal connections, or at least some sort of salient correspondence, between the prevailing lived experience of a society and the qualitative or textural make up of its aesthetic creations”.³⁷ In other words, to help us understand the musical output of a particular culture (or person, or people, at a particular time, in a particular place), Singer aims to highlight their “lived experience”, or the historical context in which they operated. Other modern scholars who have taken this approach in their own musical research include Cyril Ehrlich in his studies of British music in the nineteenth century; John Rosselli in his study of Mozart; the cultural sociologist Lawrence Levine in his American ethnic and religious projects; and Tim Blanning’s elaborate history of the ‘long eighteenth century’ in *The Pursuit of Glory* (2007). Each of these authors approaches his topic as embedded within and constrained by the historical conditions in which they arose and existed.

When it comes specifically to the study of musical instruments, Trevor Herbert in *The Cultural Study of Music* (2012) states that including social history in descriptions and discussions of music can and should “expose the interactions between the widest spheres of society and musical practices”.³⁸ By way of an example, Herbert cites the invention of the valve for brass instruments, which is believed to have occurred around 1814 in Prussia by “an otherwise obscure horn player”.³⁹ Herbert traces this invention from its blossoming in 1840s Britain to its marketing and promotion, closely related to the

³⁶ Ibid.

³⁷ Ben Singer, “Modernism, Modernity and the Senses”, *Monatshefte* 98, No. 2 (July, 2006): 175.

³⁸ Trevor Herbert, “Social History and Music History”, In Clayton, Herbert and Middleton *The Cultural Study of Music* (London: Routledge, 2003), 54.

³⁹ Ibid., 55.

flourishing of brass bands as a sort of exercise in British civic pride. Amateur musicians in these brass bands provided a perfect market for these instruments, and thus a new standard model of instrument was born. In this example, the musical history of the brass valve seems to be intricately intertwined with the beginning and subsequent flourishing of brass bands in nineteenth-century England. One might go one step further and argue that the flourishing of these brass bands was also dependent on the development of cultural and class identity in Britain in the mid-nineteenth century.

Likewise, ethnomusicologist Kevin Dawe points out that instruments can perhaps be considered as more just the sum of their parts. In *The Cultural Study of Music*, (2003) Dawe states in his chapter “The Cultural Study of Musical Instruments”:

Musical instruments are embodiments of culturally based belief and value systems, an artistic and scientific legacy, a part of the political economy attuned by, or the outcome of, a range of associated ideas, concepts and practical skills: they are one way in which cultural and social identity [...] is construed and maintained.⁴⁰

By examining not just flute music or flute builders but the instrument as well I hope to include a variety of social and cultural phenomena in my approach. We might ask ourselves, where is the locus of meaning in instrumental histories: in the physical developments themselves or in the web of culture in which they reside? Just as Lydia Goehr speculated on the nature of “the musical work” in her landmark book, *The Imaginary Museum of Musical Works* (1992), so I too hope to explore how the flute is both reflective of and reflected in the historical setting in which it existed.

The following three chapters will outline a series of case studies which, taken as a set, reveal multiple interconnections between the flute, the changing nature of music and performance and the changing industrial landscape of the nineteenth century. My hope is that, although conclusive evidence of “why” may not be obvious or certain, the process

⁴⁰ Kevin Dawe, “The Cultural Study of Musical Instruments”, In Clayton, Herbert and Middleton *The Cultural Study of Music*, 155.

of digging through the historical record will allow a series of perspectives and connections to emerge, ones that have not yet been investigated thoroughly.

The three case studies all highlight an important aspect of the flute's development: the first investigates the flute's intonation and timbral qualities; the second explores the development of the key attachment mechanism; and the third examines the development of the flute's robust sound. This thesis will not only survey the relevant people, literature and flute designs, but will also rely on sources which traditionally lie outside of consideration for modern scholars, offering a fresh perspective on agents and activities outside the sphere of flute history. My approach, therefore, is mainly historical. The broader scholarly significance of a project such as this is to bridge the gap between "flute history" on the one hand, and "cultural history" on the other. The interdisciplinary significance of this project is to encourage not only modern flute performers but also flute historians and general historians to consider the interweaving of social and political change, or the "prevailing lived experience of a society", with that society's creative and cultural outputs.⁴¹

In my first case study, I attempt to chart the waters between philosophical values and ideas of the early Romantics and the development of the flute's intonation and sonority. With reference to the flute books and flute designs of Johann George Tromlitz of Leipzig (between 1785 and 1805), this chapter will seek to explore possible resonance between Tromlitz's prescriptions and flute designs and a set of new musical values based on the aesthetics of the *Friibromantik* (early Romantic philosophers). Mainly consisting of young men in Jena and Berlin at the turn of the century, this group is credited with articulating – often with plenty of discussion and contradiction – a new set of philosophical values, one inexorably tied to individual self-expression and freedom.⁴² Kantian hierarchies, aesthetic rules and formal ideas of perfection were seen as

⁴¹ Ibid.

⁴² These dates are purposely wider than the actual activities of the Jena group.

unnecessary constraints on individuals and “geniuses”. At the same time, these Romantics recognised that for self-fulfilment to be possible, the individual needed to be connected to a greater whole; the genius could only achieve fulfilment if he could share his ideas with others. Historian Warren Breckman sums up these seemingly opposed ideas in *European Romanticism* (2008): “we might say that Romanticism desired the individual freedom promised by modernity with none of its centrifugal, alienating, and divisive effects”.⁴³

The aim of this chapter is to sketch possible links between the philosophies of these early Romantics and new contemporaneous musical values: specifically, a more even sonority for instruments and more accurate intonation. Tromlitz designed a flute that adhered to these new musical values and his treatises emphasise their importance. In addition, although Tromlitz’s compositions are relatively unknown, the work of other proto-Romantic composers may be indicative of the ways in which Romantic aesthetical ideas influenced music being written for the flute. I will examine the *Flute Concerto in D Major* (K. 314) by W. A. Mozart as an example of the importance of intonation for composers and performers at the turn of the century.⁴⁴

In the second study, I shall contextualise the watch-making industry and its innovations in France at the turn of the century in order to explore simultaneous and perhaps similar technical innovations in the design of the flute. In 1806, a horology mechanic cum flute-builder, Claude Laurent, patented a glass flute featuring an original mechanism used to attach flute keys to the body of the instrument. This mechanism is still in use today. The use of glass for the body of these flutes necessitated this invention, since it was impossible to attach keys to the body of the instrument in the traditional way: by carving the necessary attachment point out of the wood of the body. Laurent’s

⁴³ Warren Breckman, *European Romanticism: A Brief History With Documents* (Indianapolis: Hackett, 2015), 4.

⁴⁴ This composition was originally written for Oboe: *Concerto in C Major* (1777) K. 314. However Mozart made several interesting changes to his later flute edition, including some articulation and rhythmic changes.

silver pillars held the key mechanism securely and could be screwed directly to the instrument wherever they were needed.

While his personal ingenuity is impressive, the milieu of this invention – Paris after the French Revolution, during the reign of Napoleon I – may also provide a historical context for his inventions. The war, especially with old rival England, spawned technological and economic competition in France. Pride in French materials and workmanship took on new meaning as English goods were prohibited under the Continental System from 1806. Many people were encouraged to up-skill or change professions into more economically rewarding, and potentially patriotic, careers. In addition, Napoleon’s focus on the development of elite consumer goods – specifically those that functioned as both aesthetic *objets d’art* and utilitarian products – may have encouraged Laurent in his development of his glass flutes. This backdrop may enlighten our understanding of the ways in which Laurent took advantage of the economic opportunities proffered by the new regime. His flute building business – and therefore his key mechanism invention – may not have developed in the same way under different conditions.

In the final case study, I focus on the period both during and after the Napoleonic wars and the British flute virtuoso Charles Nicholson. Britain during this time was still reeling from its previous encounters with Napoleon I. If Napoleon was a hero for France, he was a devil for Britain. The British notions of heroism, manliness and leadership were solidified in the contrast with a dangerous French “other”. Moderation (as opposed to Napoleon’s notorious excesses) and restraint (in contrast to the French forces in Europe) were considered the desired qualities that a British man could acquire, and helped form a national identity during this time.

Nicholson exemplified a British “hero” not only in his stature, which was large and imposing, but also in his flute compositions and flute design. His emphasis on the

quality of flute tone is clear: “the tone ought to be as reedy as possible, as much like that of the hautboy as you can get it, but embodying the mellowness of the clarionet [sic]”.⁴⁵ He advocated a strong, powerful, metallic sound. His flute designs took advantage of his physical stature with oversized tone holes for his large hands and a metal-lined head joint, both of which contributed to his powerful sound. His virtuosity lay as much in rapid scale and arpeggio passages (heroic when required) as in the slow, “pathetic” sections of his compositions (tender and restrained). As a composer he wrote prolifically, often arranging popular tunes or national songs, and this made him immensely popular in Britain. Nicholson inspired a young Boehm at a concert in England, and the latter never forgot the encounter. Nicholson’s large tone holes and metal-lined head joint in addition to his compositions can perhaps shed new light on the relationship between the flute’s tone and the larger British identity during this time.

These three case studies are organised chronologically. They can function independently as brief snapshots of a particular flute model in a specific time and place, but they also showcase the ways in which political, social and cultural events impact on the development of an instrument’s design. There is necessarily, therefore, some overlap in these chapters. In particular the first, on Tromlitz, and the third, on Nicholson, are both devoted to some aspect of the sonority or tone of the flute. In Tromlitz’s case I suggest that his interest in intonation and the connections between the notes stemmed perhaps from larger philosophical ideas, where in Nicholson’s case I consider the impact of identity and culture. I do not mean to dispose of the similarities between these two men, their flutes and their contexts; I have simply taken a separate approach to each. In this way I hope to highlight the myriad and complex pathways of instrumental development.

⁴⁵ Charles Nicholson, *School for Flute* Volume I (London: Cramer, Addison & Beale, 1836, Facsimile of the original, anonymous, 2012), 3.

This conclusion will reflect on the individual case studies and the relationship between them. I will consider the extent to which the methodology outlined in this introduction has been successful. To address more modern developments of the instrument would go beyond the scope of this thesis, but I will also suggest avenues for further research using a similar approach.

When we consider Britain's Great Exhibition of 1851, Boehm's flute stands out as an important "arrival point" in the development of the instrument. Indeed, the jury of the Exhibition awarded him a Council Medal for Innovation for his design: one of the highest awards available. From this point onwards, the design, structure and tone of the flute was all but guaranteed. It is tempting, therefore, to conclude that the developmental experiments before this date were only leading up to Boehm's now famous model. However, by placing Boehm at the finale of the flute's story, we risk not only isolating the modern flute from its historical roots, but also isolating it from any exploration of what may currently be influencing its design and tone. This thesis may help provide a new direction, and a new story of the development of the flute.

Chapter 1

Freedom and Unity: Johann George Tromlitz in Leipzig, 1785–1805

In 1800, a flute study book, *Über die Flöten mit mehrern Klappen*, or *The Keyed Flute*, was published in Leipzig. This in itself was hardly unique: between 1750 and 1800 both well-known flute players and anonymous authors published numerous pedagogical texts. The flute during this time was a popular instrument among gentlemen and amateurs, and throughout Europe there was on-going demand for instruction manuals for playing the instrument “tastefully”.¹ Another reason that so many study books were published during this period may be because the flute was undergoing recurrent reconstruction and new books were written with reference to the variety of new instrumental models available. Especially during the final few years of the eighteenth century, flutes with anything from two to twelve keys were being made across Europe.

In this particular study book, the author Johann George Tromlitz details a new flute design with eight keys, providing lengthy instructions on how to play his instrument. The majority of Tromlitz’s book is devoted to scales and melodies in each key, specifically the practical requirements for keeping each interval in the scale in tune and playing each note with the same sonority (tone colour and dynamic). He is concerned mainly with both intonation and the relative sonorous strength between the notes. His book opens with a lament on older flute models in general:

For a long time now, discerning flautists have been remarking on the deficiencies of various sorts on this instrument, which have been the cause of many impediments and imperfections in playing; but no means have been presented of alleviating these deficiencies. In fact it has been maintained that they were natural faults of the instruments which could not be eliminated. So people did not concern themselves with them, and just let them pass [...]²

¹ Johann George Tromlitz, *The Keyed Flute* (1800); rev. ed. Ardal Powell (Oxford: Clarendon Press, 1996), 4. It should be noted that the flute has historically been considered a gentleman’s instrument; for more on these gendered associations see Powell, *The Flute*, 26–48; Toff, *The Flute Book*, 238.

² Tromlitz, rev. ed. Powell, *The Keyed Flute*, 71.

He explains that these historical imperfections in the instrument are in fact correctable. By designing and building a flute with eight keys, Tromlitz claims to have engineered a flute capable of accurate intonation and an evenness of sonority on all notes. He finishes his introduction by stating:

Thus a flute with eight keys comes into existence; to wit E \flat , D \square , F, F, G \square , B \flat , B \flat and C $\prime\prime$. And indeed this is the most perfect method of doing everything that the nature of the matter permits. All the scales are correct, bright, and fine; it allows everything that is not possible on a flute with fewer keys; least of all on a one-keyed flute.³

Tromlitz's invention is an example of the widespread activity in instrumental development at the turn of the nineteenth century. But why were Tromlitz and others so interested in improving the flute and so critical of older models? In this chapter, my primary aim is to explore how intonation and sonority came to be among the instrument's necessary and most valued potential features. I will first summarize Tromlitz's innovations in design: the details of his flute models, their technical advantages, and in particular what Tromlitz wrote about them and how they contrasted with other contemporaneous models. I will then set Tromlitz's prescriptions for improved intonation and sonority in a series of historical contexts. This second section will examine contemporaneous developments in other instruments (wind and strings), demonstrating that while Tromlitz and others were changing the flute, other instruments were also undergoing, or were soon to undergo, their own changes along the same lines of development. In the third section, I will examine musical style: the Gallant Style and the *empfindsamer Stil* (sensitive style) may help us further understand and appreciate the relevant changes in instrumental design. Finally, I will take an additional step outwards in this exploration of Tromlitz's designs by placing his determination for correct intonation and an even sonority in the context of changing philosophical values articulated by early

³ Ibid., 72–3.

Romantic scholars, the so-called *Frühromantik*. By contrasting these scholars' writings with earlier philosophical ideas, namely those of the *Aufklärung* (enlightenment) and *Sturm und Drang* (storm and stress), I will suggest more nuances behind Tromlitz's redesigns of the flute. His chief demands of flute players were based not only on his personal opinion and approach to flute playing, but also on a new set of musical values being promoted in the public realm, values associated with the philosophical movement known as Absolute Idealism and its primary focus on the concepts of freedom, organic unity, and a constant striving for education and perfection, or *Bildung*.

Tromlitz and his exacting standards

As a performer Tromlitz made a name for himself by playing regularly in the *Grosses Konzert*, a musical organisation founded in 1743 in Leipzig.⁴ He travelled on several international concert tours that were generally met with great success. Indeed, in the introduction to *The Keyed Flute*, Ardal Powell provides evidence that reviews of Tromlitz's performances were almost uniformly positive. By 1776 Tromlitz had resigned from his position at the *Grosses Konzert* and began devoting himself exclusively to flute building and writing flute tutors.⁵ He wrote three flute tutors in total, first releasing the concise *Kurze Abhandlung von Flötenspielen* (*Short Treatise of Flute Playing*) in 1785.⁶ In 1791 he published the first of two major works, *Ausführlicher und gründlicher Unterricht die Flöte zu spielen* (*Detailed and Thorough Instructions on How to Play the Flute*, translated later by Ardal Powell as *The Virtuoso Flute Player*). This is an impressive work that details proper playing technique for the aspiring virtuoso flautist. He includes general music theory such as time signatures, key signatures, and rhythms. Other chapters are concerned with the

⁴ Eileen Hadidian, "Johann Georg Tromlitz's Flute Treatise: Evidences of Late Eighteenth Century Performance Practice", D.M.A. Diss., Stanford University, 1979, Facsimile of typescript, xvi.

⁵ *Ibid.*, xvii.

⁶ He also published a number of articles, mostly regarding his flute models.

embouchure, fingerings, intonation, articulation and the use of tasteful, stylistically appropriate ornaments. His second major publication was *Über die Flöten mit mehrern Klappen* or *The Keyed Flute* (1800). Designed for the more advanced player, the bulk of this treatise is dedicated to specific playing instructions for an eight-keyed flute of Tromlitz's own design. In his final flute design of 1796 (detailed in *The Keyed Flute*, 1800) he specifies a flute with an open C-key, an open B \flat -key for the left hand thumb, and two fingerings for F: one with a key and the original fingering with the little finger of the left hand, depending on the required playing patterns.⁷

Tromlitz's obituary recalls his pure intonation and strong, secure, cutting tone, and a review of his 1800 treatise described his tone as a blend of the flute and oboe.⁸ He had a firm idea of the proper tone quality of the flute:

If the tone is clear, resonant and pleasing, it will indeed please the majority [...] the only model on which an instrumentalist should form his tone is a beautiful human voice [...] one that is bright, full and resonant, of masculine strength, but not shrieking; soft but not hollow; in short [...] full of timbre, rounded, singing, soft and flexible.⁹

By contrast, a poor tone might be:

Uneven, limping, or bright or dull by turns, the notes when joined up cannot be otherwise than limping [...] either sticky and droning or lumpy and stumbling [...] For the most part [the untrained flute player's] tone is wooden, hissing or bungling, without marrow, shrieking in the high register and practically inaudible in the low [...] they also play always in one colour.¹⁰

There is clear preference in his descriptions for an even sonority and a full sound. Tromlitz admits that the flute does not naturally have an even sonority, not even his own models, as he states in his treatise of 1800: "there were complaints about the weak note E', but to date there has been not notable improvement. I have made numerous experiments to improve the design without adding a key, but none quite satisfied my

⁷ Tromlitz, rev. ed. Powell, *The Keyed Flute*, 72.

⁸ Powell, Introduction to *The Keyed Flute*, 50. It is interesting to note that Nicholson asked players to make their tone as much like the clarinet as possible.

⁹ Tromlitz, rev. ed. Powell, *The Keyed Flute*, 111.

¹⁰ *Ibid.*, 5.

requirements”.¹¹ The rearrangement of the keys on the Tromlitz flute fixed some problems but often introduced others. For example by adding the F-key to help a “dull and feeble note”, Tromlitz inadvertently altered the fingerings of other notes.¹² To remedy this he added a second F-key, allowing players to choose which fingering to use for each passage that contained that note.

In terms of intonation, Tromlitz admits in his tutor book (1791) that the flute does not naturally play in tune, no matter how well it is built or what its general timbral quality. Indeed he states, “I do not believe that there exists an instrument on which it is more difficult to play in tune than the flute”.¹³ He admits that perhaps the reason that the instrument is played out of tune so often can at least be partially because of its popularity. The greater number of amateur gentlemen players, the more one would hear the instrument played improperly: “True, a great number of people play this instrument, but anyone who knows how to judge even a little and without partiality can see at once that there are only a few who understand how to make proper use of it”.¹⁴ Contributing factors to performance problems on the flute include the flute’s natural unevenness of tone, the player’s blowing abilities, a poor embouchure, a poorly trained ear and occasionally a poor instrument. The implication in his first major treatise (1791) is that poor intonation lies mainly with the player rather than the instrument. It is often in attempting to remedy the unevenness of tone between notes that the player gets into trouble with intonation, blowing too hard and going sharp, or too weakly and going flat. By his second treatise (1800), he admits that perhaps the instrument itself prohibits correct intonation and an even sonority. With the new eight-keyed flute and explicit instructions on how to play it, Tromlitz claims to have solved the problems inherent in

¹¹ Tromlitz, *The Keyed Flute*, 71.

¹² *Ibid.*, 71-2.

¹³ Johann George Tromlitz, *The Virtuoso Flute-Player*. (Leipzig: Adam Freidrich Böhme, 1791. Reprint, translated and edited by Ardal Powell. Cambridge University Press, 1991), 115.

¹⁴ *Ibid.*, 5.

the instrument, and provides the player with the tools needed to overcome their own deficiencies. For Tromlitz, the “correct intonation” was a modified system of just intonation, whereby each octave could be separated into twenty-four notes.¹⁵ As Ardal Powell describes in an article on Tromlitz’s tuning system, “the octave contained not twelve but twenty-four notes, with distinct fingerings for every enharmonic pair”.¹⁶ Tromlitz differentiated between flattened notes and sharpened notes and further distinguished between the perfect intervals required in each key signature. That is, Tromlitz believed that each interval on the flute, or the intervals between a flute and an accompanying instrument (assuming that the accompanying instrument has flexible pitch) should be pure.¹⁷ Tempering any of the intervals (unless playing with a keyboard) was discouraged. Perhaps this is part of the reason that so many of Tromlitz’s compositions are written for solo flute or flute and strings.

Changes in other musical instruments: violin and oboe

Tromlitz’s prescription for correct intonation and sonority can be summed up as follows: a strong, metallic tone, somewhat blending the sound of the flute and the oboe; an even sonority between the notes, with no noticeably weak or unintentionally soft notes, and no overly strong and loud notes; and perfect (just) intonation. The intonation and sonority of the flute were important to Tromlitz, but his concern with these issues existed among other instrument-makers as well.¹⁸

The violin, for example, underwent significant developments during the eighteenth century. That a stronger tone was desired was understood by many violin-

¹⁵ Powell, “Introduction”, *The Keyed Flute*, 50.

¹⁶ Ardal Powell, “Mozart and the Tromlitz Flute”, first published as “Mozart und die Tromlitz-Flöte” *Tibia* 26, 3 (2001): 4.

¹⁷ *Ibid.*, 3.

¹⁸ For more examples of flute-makers, see the introduction of this thesis for details; also Powell *The Flute* (2002) 127–163, and Rockstro, *The Flute* (1890) 242–286.

makers of the time. The modern body of the violin developed comparatively early to the flute; by the early seventeenth century, Nicolo Amati was building wider-bodied violins which were designed to be louder, and these were popular and influential.¹⁹ About the same time, famous violinmaker Antonio Stradivari was working in a similar vein, and his models would become hugely desirable and valuable in the late-eighteenth century as players were looking for increased tonal depth.²⁰ The desire for more brilliance prompted makers at the end of the eighteenth century to lengthen the neck and fingerboard. A longer neck provided longer playing length in the strings, while a longer fingerboard facilitated higher passagework, increasing the instrument's range.²¹ Interestingly, the body of the violin did not change shape much during the eighteenth century, and it remains in a similar state today.

The longer strings enabled by a longer neck facilitated a more powerful sound, as did longer bows with increased hair tension. The Tourte bow, developed by François Tourte (1747–1835) derived the ideal bow length and optimum weight and standardised them for the time, adding hair to the bow and increasing the width of the hair across the bow.²² Importantly, Tourte's bows allowed performers not only a stronger tone, but also smoother bow changes. As Robin Stowell sums up, “[the Tourte bow's] ability to make smooth bow changes with the minimum differentiation, where required, between slurred and separate bowing brought the later ‘seamless phrase’ closer to reality”.²³ The desire for a smoother sonority between notes was seemingly a concern for Tourte, much as it was for Tromlitz. Although Tourte's instrumental changes were slow to be adopted, several

¹⁹ Robin Stowell, *The Early Violin and Viola* (Cambridge University Press, 1994), 31. The flute, by contrast, had probably not yet added its first key.

²⁰ *Ibid.*, 33. Stradivarius violins are still both desirable and extremely valuable today.

²¹ *Ibid.*

²² Tourte is also interesting as he apprenticed as a clock-maker before joining the family business, similarly to Claude Laurent in chapter two.

²³ Stowell, *The Early Violin and Viola*, 46.

famous musicians were known to have purchased one of his creations, notably the composer and violinist Louis (Ludwig) Spohr in 1803.²⁴

Additionally, a change from pure gut to wire covered strings (steel or brass) and the increased tension of the strings and bows provided a more powerful sound.²⁵ Other developments such as the mute came into use during the eighteenth century, while the chin-rest and shoulder pad came into use in the early nineteenth. While string players struggled with intonation, adjusting the pitch of a note on a bowed instrument has historically been less difficult than on the wind instruments.

Another example of instrumental change is the oboe, which underwent a similar process of transformation as the flute between 1760 and 1830. By about 1690, the oboe had settled into a single generic form, but during the 1730s new types of instruments were being designed and built. The “Classical hautboy” finally emerged in about 1760.²⁶ This instrument, like the Baroque flute, required cross-fingering to produce many notes.²⁷ The hautboy was generally made of boxwood, had a narrow bore and small tone holes which contributed to a bright but soft sound.²⁸ It had several changeable middle sections.²⁹ Compared to its earlier Baroque cousin, the oboe of the eighteenth century was flexible and gentle, perfectly suited to the musical tastes of the period. There were many variations on this oboe as various makers and players often built their own instruments. Many well-known instrument-makers built both flutes and other woodwinds: the names of Augustin Grenser and Thomas Lot recur in histories of both the flute and the oboe.

²⁴ Ibid., 47.

²⁵ These changes occurred relatively unevenly between countries; gut strings were used in Italy and Germany into the eighteenth century, but the French and English were replacing open gut strings with wound strings; see Stowell *The Early Violin* (35) for details.

²⁶ Bruce Haynes and Geoffrey Burgess, *The Oboe* (New Haven and London: Yale University Press, 2004), 85.

²⁷ Ibid., 111.

²⁸ Ibid., 86.

²⁹ Ibid., 96.

Classical hautbois generally had only two keys, depending on specific type, but more keys began to be added in the 1820s and 30s.³⁰ Professor of Oboe at the Vienna Conservatory Joseph Sellner (1787–1843) along with Viennese instrument builder Stephen Koch built a ten-keyed oboe in the early 1820s that was designed to improve the evenness of the notes, slurring, pitch (especially on trills), finger facility, the ability to play in more difficult key signatures and with a larger range.³¹ Interestingly, oboe makers added keys to their instrument relatively late compared with flute-makers, and it was not until Theobald Boehm redesigned the flute in 1831 that oboe makers took advantage of his example and built a new key system for the oboe. However, unlike the flute, the tonal characteristics of the oboe seem to have been established earlier, as the shape of the oboe and the materials used to build it have remained relatively consistent since the early nineteenth century.³²

The violin and the oboe are examples of the ways in which instrument builders were responding to a variety of influences placing new demands on instrumental players. It is interesting to note that while the addition of keys on both the oboe and the flute were designed to improve intonation and sonority, this focus on these particular qualities may have been a contributing factor to the establishment and acceptance of equal temperament later in the nineteenth century. The multitude of keys made it difficult to retain distinct enharmonic pairs of notes. If each note needed a specific tone hole, and each tone hole a key, then an instrument would need almost twice the number of keys to play enharmonic pairs as in equal temperament.³³

³⁰ Ibid., 108–9.

³¹ Bruce Haynes, “The Addition of Keys to the Oboe, 1790–1830”, *The Journal of the International Double Reed Society* 22 (July 1994).

³² The shift from boxwood to more dense materials such as granadilla, ebony and rosewood in the nineteenth century was probably because the more porous boxwood could not support the heavy and complex key mechanism; see Haynes, “The Addition of Keyes to the Oboe”.

³³ Today, suffice to say that the differences in pitch required for, say, an A as the fifth of a D major chord versus an A as the third of an F major chord are managed on the flute by the embouchure, air pressure, or air direction.

In some respects, then, Tromlitz's prescriptions for improving the intonation and sonority of the flute can be understood as part of a larger trend of instrumental change in the last decades of the eighteenth century. Many study books described the best way to play smoother phrases, and many instrument builders were concerned with intonation and technical finesse. Violin players were impressed with the stronger sound and smoother texture of the Amati and Stradivari models, and some oboists took advantage of the keyed instruments of Sellner and Koch. It would seem that there might be a variety of reasons why both even sonority and perfect intonation were of more concern at the turn of the century. Another contributing factor may be that the generic compositional style was changing in such a way that made an even sonority more desirable and accurate intonation more important. This hypothesis forms the basis of my next section.

Changes in musical style

The composers generally associated with the decades before the nineteenth century – so-called “Classical Composers” – include Mozart, Haydn, Ignaz Pleyel, and Carl Stamitz, to name only a few. However, this delineation does disservice to the many national and even regional differences in musical style, performance practice, and instrumentation during this period. Eileen Hadidian's doctoral thesis *Johann Georg Tromlitz's Flute Treatise: Evidences of Late Eighteenth Century Performance Practice* (1979) includes a brief overview of the varying trends. She points out:

The principal stylistic possibilities prevalent in Europe at the time [1755–1775] are best exemplified by the children of Bach: J. C. Bach represented the rococo or style gallant, formal, sensitive, charming and elegant; the Empfindsamkeit, violent, expressive, continually surprising, often incoherent, was exemplified by C. P. E.

Bach; and the late baroque contrapuntal style was used in a personal manner by W. F. Bach.³⁴

Early keyboard specialist David Schulenberg contends that Friedemann's music had many elements of the *empfindsamer Stil*, but generally his music is more contrapuntal than any of Bach's other sons.³⁵ His repetition of musical motives echoes the style of his father, and his frequent recycling of musical ideas between works might hint towards a man more interested in free improvisation than notes on a page.³⁶ This "learned style" was also used by Johann Joachim Quantz, although Quantz embraced the style gallant as well, claiming the latter was agreeable in the salon or chamber.³⁷

The Style Gallant developed at the court of young Louis XIV as early as the seventeenth century, but was generally used to describe a particular social aesthetic, namely spontaneous courtesy and light-hearted interactions between men and women.³⁸ By the eighteenth century, particularly in France, it had also come to be associated with a particular musical style: light and charming, with tasteful embellishments, free from the serious rules of counterpoint, and generally in major key signatures.³⁹ This gradually gave way to the more traditionally "Classical" composition styles of Haydn and Mozart, where simplicity, clarity, control, restraint, balance and order were the signifying characteristics.⁴⁰ There is a consistent return to the tonic key signature in both Mozart's and Haydn's works generally, and the balanced structure of phrases extends to entire pieces.⁴¹

Empfindsamer Stil developed in the early eighteenth century as a more explosive, melancholy and surprising response to the style gallant. Musical examples of this style

³⁴ Hadidian, "Johann Georg Tromlitz's Flute Treatise", 292.

³⁵ David Schulenberg, *The Music of Wilhelm Friedemann Bach* (University of Rochester Press, 2010), 19.

³⁶ *Ibid.*, 20.

³⁷ John A. Rice, *Music in the Eighteenth Century* (New York: WW Norton, 2013), 24.

³⁸ Georgia Cowart, "Critical Language and Musical Thought in the Seventeenth and Eighteenth Centuries", *College Music Symposium* 27 (1987): 15.

³⁹ *Ibid.*, 17–18.

⁴⁰ Donald H. Van Ess, *The Heritage of Musical Style* (Lanham, MD: University Press of America, 2006), 74.

⁴¹ *Ibid.*

abound, but its main proponent was C. P. E. Bach. Indeed, C. P. E. Bach's favourite instrument– the clavichord – was intensely expressive, capable of nuanced shadings of colour, and vibrato.⁴² What C. P. E. did very well, it seems, was to emulate the style of the spoken word in poetry and the sung word in songs in his instrumental compositions.⁴³ His use of an instrumental recitative in, for example, his *Prussian Sonata* (c. 1742) was designed to elicit an emotional response in his audience.⁴⁴ Dramatic melodic leaps, sudden dynamic changes, unexpected silences and appoggiaturas (invoking a sigh) were all compositional devices in this style.⁴⁵ Use of chromaticism was common – although many earlier composers used chromatic passages to various effect, the frequency of its use in compositions coupled with leaps, dramatic dynamics and appoggiaturas resulted in a more *Empfindsamer* work.⁴⁶

C. P. E.'s *Versuch Über die wahre Art das Clavier zu spielen* (*Essay on the Proper Manner of Playing a Keyboard Instrument*, published in two parts, 1753–62) provides instructions on all aspects of practice and performance. This book focuses on playing embellishments correctly, the nature of various intervals and how to accompany. C. P. E. seems focused on the expressivity of playing, stating that a good performance is one in which “the rounded, pure, flowing manner of playing [...] makes for clarity and expressiveness”.⁴⁷ He laments the fact that many keyboard players seemed incapable of sustaining the notes, commenting:

The keyboard lacks the power to sustain long notes and to decrease or increase the volume of tone or, to borrow an apt expression from painting, to shade. These conditions make it no small task to give a singing performance of an adagio without creating too much empty space [...] the deficiencies of the keyboard can be concealed under various expedients such as broken chords.⁴⁸

⁴² Rice, *Music in the Eighteenth Century*, 136–7.

⁴³ Schulenberg, *The Music of Carl Philipp Emanuel Bach* (University of Rochester Press, 2014), 9.

⁴⁴ *Ibid.*, 80.

⁴⁵ *Ibid.*, 136.

⁴⁶ *Ibid.*, 8.

⁴⁷ C. P. E. Bach, *Essay on the True Art of Playing Keyboard Instruments*, (1753–62, ed. and trans. by William J. Mitchell, London: Cassell, 1951), 148.

⁴⁸ *Ibid.*, 149–50.

It seems here that C. P. E. has similar a complaint of keyboard players as Tromlitz of flute players: the difficulty in playing connected phrases, or connecting notes together. One of the best ways around this difficulty for C. P. E. is playing particular chords broken, or spread throughout the bar. He comments on another device, the *appoggiatura*, that can help sustain the sound, where the main purpose is to connect notes, even when a slur is not marked in the part.⁴⁹ Musicologist and historian Richard Taruskin sums up the differences between the *style galant* and the *empfindsamer Stil* in his *Oxford History of Western Music* (Volume 2),

The one [*empfindsamer Stil*] explores personal, private, even unexpressed feelings; we easily imagine it performed for an audience of one (or even none but the player, seated at the clavichord), late at night, in a mood of emotional self-absorption. It implies a surrounding hush. The other [*style galant*] is party music, implying bright lights, company, a surrounding hubbub of conversation. That about sums up the difference between *Empfindung* and *galanterie*, and it is no accident that the one word is German and the other French.⁵⁰

What might happen if we follow this line of reasoning a bit further, stepping from the changing musical style of this time into the changing nature of philosophy itself? If musical style may inform our study of Tromlitz's fascination with intonation and sonority, might the larger philosophical picture – concerning man's place in the world – perhaps have played a part in the development of music, musical instruments and musical values? In the next section I will outline the development of a philosophical Romanticism, specifically the evolution of Absolute Idealism, in order to set the stage for examining Tromlitz in a new way: one that considers his place in emerging social and cultural trends, not just in musical contexts.

⁴⁹ Ibid., 88.

⁵⁰ Richard Taruskin, "Sociability Music" in *Music In The Seventeenth And Eighteenth Centuries*, the Oxford History of Western Music, Volume II (New York: Oxford University Press, 2010).

The development of a philosophical Romanticism

If the sons of J. S. Bach represent three different musical styles of the late eighteenth century, they can also be thought to represent different philosophical trends in a larger cultural sense. Germany had been completely decimated in the Thirty-Years War, which ended in a peaceful exhaustion in 1648.⁵¹ Between six and seven million people had perished in the previous decades, two-fifths of the rural population and a quarter of the urban dwellers.⁵² In the century and a half that followed, the ideas that formed the basis of the *Aufklärung* (German Enlightenment) gradually took root in literature and universities. The influence of mathematics, science and the increasing literacy rate encouraged the development of new ideas and perspectives, where man's irrationalities were acknowledged but did not doom him to a life of religious repentance.⁵³ Within the pursuit of "the common good", man could conduct his life in a moral way, relying on a set of natural laws discovered through science and rationality.

There was difficulty in reconciling the criticisms posed by new branches of mathematics, reason and empiricism with the traditional moral compass of God.⁵⁴ Christian Wolff, a key figure in the early period of German Enlightenment, edged towards heresy by attempting to rationalise theological truth by using mathematics. He failed to truly conceptualise the problems that arose between the advancement of science and the religious authority; this task instead fell to Immanuel Kant.⁵⁵ Kant's belief that the foundation for social good came from an individual's capacity for reason and

⁵¹ Raymond Birn, *Crises, Absolutism, Revolution, Europe and the World, 1648–1789* (Peterborough, ON: Broadview Press, 2005), 7.

⁵² *Ibid.*, 149–50.

⁵³ Roderick Cavaliero, *Genius, Power and Magic. A Cultural History of Germany from Goethe to Wagner* (London: I.B. Tauris, 2013), 44.

⁵⁴ *Ibid.*, 47.

⁵⁵ *Ibid.*, 44. Kant was promptly removed from his offices in Halle by King Frederick William I.

judgment was the foundation of the Enlightenment in Germany.⁵⁶ To live a life with intention, man might acquire a goodness, which was not innate in his nature.⁵⁷ Towards the end of the eighteenth century, Kant's firm belief was that "God, Freedom and Immortality" were the realities in which man necessarily operated.⁵⁸

While Kant spent his life attempting to articulate a common good based on rational judgment, reality seemed to operate instead in the messy world of *Sturm und Drang* (storm and stress).⁵⁹ Where Kant was focused on how to live according to the common good (via rationality) the *Sturm- und Dranger* focused more on the innate freedom of man, and it was in this freedom that man existed and excelled.⁶⁰ The world of literature and poetry in which the *Sturm- und Dranger* operated was closely related to the philosophies being espoused by Kant. These early Romantic Idealists, in the words of David Blackbourn (*History of Germany 1780–1918*), "looked to break through the confines of desiccated, well-tempered reasonableness (they called it mediocrity) in the name of individual genius, inspiration and feeling".⁶¹ Accordingly, it was the natural world in its chaotic state which was exciting, with an allusion to man's unceasing and unwinnable struggle against nature. Johann Wolfgang von Goethe personified this literary branch of the new philosophy, in which rationality alone was not enough to secure true living. When Goethe and Johann Gottfried Herder both headed towards positions with the new enlightened court in Weimar, it was the beginning of Weimar's evolution from a small

⁵⁶ Jane V. Curran, "Oral Reading, Print Culture, and the German Enlightenment," *The Modern Language Review* 100, No. 3 (July 2005): 695.

⁵⁷ Cavaliero, *Genius, Power and Magic*, 48.

⁵⁸ *Ibid.*

⁵⁹ Within this chapter, *Sturm und Drang* is used to describe the philosophical and literary movement in Germany from about 1760–1780. While the term is also often used to describe the music of several of Beethoven's contemporaries – Vanhal, Stamitz, and even several Haydn symphonies in this thesis I will use its philosophical and literary context to understand what I see as the related musical development, namely *Empfindsamkeit*.

⁶⁰ *Ibid.*, 49.

⁶¹ Blackbourn, *History of Germany 1780–1918: The Long Nineteenth Century* (Blackwell Classic Histories of Europe Series, 22nd ed., United Kingdom: Blackwell Publishing, 2002), 28.

duchy to the enlightened capital of Saxony, under Charles-Augustus (1757–1828).⁶² Literature was a major part of the life of Goethe, Herder and this first generation of German Romantics; indeed it was the main vehicle for exploring and explaining man's nature, his place in the world and his pursuit of a well-lived life.

By the last decade of the eighteenth century, Romantic philosophy in Germany was evolving with the so-called *Frühromantik* (early Romantics). This group is difficult to define, and historical attempts to synthesize its “essence” have fallen short. Roderick Cavaliero's general definition in his authoritative book on German history and culture *Genius, Power and Magic* (2013) is probably best:

From the ashes of *Sturm und Drang*, the new Romanticism explored man's relations with God and the world around him, not abolishing the rules of literary behaviour, like the *Sturm und Drangers*, but exercising the same freedom to explore what that relationship might be, in a new pantheism and the spirituality of all things.⁶³

It is the philosophical ideas espoused by this next generation of Romantic thinkers that may allow for a more specific analysis of the relationship between changing musical values and changing philosophical ideas. Cavaliero provides a basic tripartite approach to the concepts that were being developed at the turn of the century, which can loosely be termed Absolute Idealism. Cavaliero states that Absolute Idealism can be understood as the combination of three themes, which he summarises thus:

The first thesis is straightforward *monism*: that the universe consists of not a plurality of substances but a single substance; in other words, the only independent and self-sufficient thing is the universe itself. The second thesis is a version of *vitalism*: that the single universal substance is an organism, which is in a constant process of growth and development. The third thesis is a form of *rationalism*: that this process of development has a purpose, or conforms to some form, archetype, or idea. Putting these theses together, absolute idealism is the doctrine that everything is a part of the single universal organism, or that everything conforms to, or is an appearance of, its purpose, design, or idea.

In other words, proponents of Absolute Idealism wanted to unite the previously separated dualism of Kant (mental and physical, real and unreal) into a single concept of

⁶² Ibid., 56.

⁶³ Cavaliero, *Genius, Power and Magic*, 187.

oneness. Absolute Idealism also put a greater emphasis on nature, the natural world, and naturalism, but also believed that everything could be explained via natural laws.⁶⁴ The main proponents of Absolute Idealism in its early form included Johann Christian Friedrich Hölderlin (1770–1843), Georg Philipp Friedrich Freiherr von Hardenberg (1772–1801, best known by his pseudonym, Novalis), the Schlegel brothers August Wilhelm (1767–1845) and Karl Wilhelm Friedrich (1772–1829) Friedrich Wilhelm Joseph Schelling (1775–1854) and Georg Wilhelm Friedrich Hegel (1770–1831).⁶⁵ Working in and around Jena and Berlin around the turn of the century, these men not only dictated new perspectives on man and his place in the world, they also echoed and solidified views that were held by others. Perhaps it was that youths in the German states were acutely aware of the rigid hierarchy of social and political norms at the time, and found them stifling. Individual sentiments were submerged in out-dated precepts, limiting political, social and sexual freedom.⁶⁶ The yearning for individuality became a focal point of these young Romantics, and the rhetoric reflecting this expresses not only what they were trying to accomplish but also what they were rebelling against.⁶⁷

The leader of this group was indisputably Friedrich Schlegel. He was the creative force behind the *Athenäum*, a literary journal published by the Jena Romantics briefly 1798–1800. At the heart of Schlegel's approach, both in his early writings and later, was the Romantic concept of *Bildung*, meaning at various times different things: education, culture, formation or the process of development.⁶⁸ It was Schlegel's belief that the modern man was divided. Not only was he divided from himself, but also from others,

⁶⁴ *Ibid.*, 355.

⁶⁵ These men formed an easily identifiable group operating within a specific timeframe. They collaborated in projects and were known to meet and travel together.

⁶⁶ Terry Pinkard, *German Philosophy, 1760–1860, The Legacy of Idealism* (Cambridge University Press, 2002), 136.

⁶⁷ *Ibid.*

⁶⁸ Frederick Beiser, *The Romantic Imperative: The Concept of Early German Romanticism* (Cambridge: Harvard University Press, 2006), 26.

and from nature.⁶⁹ Wholeness, which had existed in classical antiquity, could now only be rediscovered through man's conscious actions resulting in freedom and equality for everyone.⁷⁰ Only through developing his entire human powers equally (*Bildung*) could he integrate himself into a harmonious whole. The way to achieve this was through the creation of a work of art, hence many of the writings and criticisms of these early Romantics was concerned with art and poetry. The concept of human unity is inherently related to Schlegel's emphasis on the sovereignty of individuals to do as they pleased, regardless of norms, opinions and the law.⁷¹ While it seems that unity is diametrically opposed to the concept of individual freedom, however, the form of individuality to which these Romantics ascribed was closely related to the unity of the individual: his consciousness and his self-awareness, and his existence as part of the world.

Tromlitz's instructions in light of Absolute Idealism

Changing musical style of the late eighteenth century and emerging philosophical trends appear to have some relationship to each other. W. F. Bach and J. C. Bach might be understood to best reflect the *Aufklärung* in their compositions. The rationality of science and mathematics in the academic and philosophical scene perhaps influenced musical works that were rationally organised, light and charming and tastefully embellished. Likewise, C. P. E. Bach is perhaps best understood through this lens of *Sturm und Drang*, with his explosive changes in dynamics, strange chord progressions and nuanced shadings on his instrument. Therefore, if we acknowledge the affinity of J. C. Bach to the gallant style and the *Aufklärung* and C. P. E. Bach to *Empfindsamkeit* and *Sturm und Drang*, where in this picture might we find Tromlitz?

⁶⁹ Ibid., 31.

⁷⁰ Ibid., 12.

⁷¹ Frederick Beiser, *Enlightenment, Revolution and Romanticism: The Genesis of Modern German Political Thought, 1790–1800* (Cambridge: Harvard University Press, 1992), 260.

Hadidian points out that Tromlitz's compositions tend to be *galant* in style, adopting the tonic-dominant-tonic form of the period, although his sonatas often use the fast-slow-fast form borrowed from *Empfindsamkeit*.⁷² I have no objection to Hadidian's assessment; indeed, Tromlitz's compositions are generally in major keys with balanced phrases and simple melodies. Rather, what is more alluring is the question of the relationship between Tromlitz's prescriptions for proper playing and the emerging philosophical trends that seemed focused on humanity's individual and cultural development. Tromlitz's treatise of 1800 is really the culmination of his life's work, and his focus on intonation and sonority can perhaps be understood in the historical context of the emerging trend of Absolute Idealism. At the time at which Tromlitz was playing the flute and writing his tutors, Kant's rational philosophical ideas had permeated the universities but were on the wane. Composers influenced by this focus on balance and rationality – J. C. Bach, W. F. Bach, and of course, the more traditional "Classical" composers – were still popular of course, but new ideas of freedom and unity were taking root among critical thinkers of the day. Despite the fact that his compositions seem to be *galant* in style, Tromlitz's demands of the performer and his own instrument designs might exemplify an emerging philosophical focus on unity, naturalism and *Bildung*.

Tromlitz's detailed intonation instructions in *The Keyed Flute* cover every note in the flute's range, every key signature, scale and combination of notes. It may be that the popularity of the instrument meant that Tromlitz saw a commercial opportunity to writing a flute tutor, or perhaps a disregard for intonation among amateurs irritated him. Whatever the reasons, it is clear that the modified system of just intonation advocated by Tromlitz, in which the enharmonic notes were not played the same, was of paramount importance to all musicians. This focus on intonation and his flute model's ability to play

⁷² Hadidian, "Johann Georg Tromlitz's Flute Treatise", 305–7.

all twenty-four notes in tune relative to the key signature can perhaps be likened to a certain sense of striving for musical *Bildung*.

If we recall that *Bildung* can have several different meanings, in the context of instrumental intonation it seems to mean education, with the purpose of self-betterment. As Professor of Philosophy at Syracuse University Frederick Beiser points out in *The Romantic Imperative* (2003), this drive for education stemmed from the French Revolution. The early Romantics were at first thrilled at the French Revolution – it stood for liberty, equality and fraternity for all men, and many greeted the revolution with joy, seeing it as the beginning of a true republic with equal political participation and an enlightened and humane society. However, it soon became clear that the French had attempted political and social revolution without first achieving the necessary shift in attitudes and assumptions. As life dissolved into chaos and violence, the Romantics quietly concluded that the revolution “was not a passing malaise but rather a pubertal crisis in the adolescence of the human race”.⁷³ Many across the Rhine in Germany became disenfranchised with it.⁷⁴ The solution to this dark and violent turn in France, as the early Romantics viewed it, was education:

If all the chaos and bloodshed in France had shown anything, they argued, it is that a republic cannot succeed if the people are not ready for it. A republic has high moral ideals, which are worthless in practice if the people do not have either the knowledge or the will to live by them. For a republic to work, it must have responsible, enlightened, and virtuous citizens.⁷⁵

It was this process of education for overall improvement which Tromlitz seems to have applied to his flute treatises. By educating flute players (with his detailed explanations) and providing them with the necessary tools (the eight-keyed flute), Tromlitz was achieving some sense of technical or musical *Bildung*: improvement through education

⁷³ Richard Littlejohns, “Early Romanticism”, in Dennis F. Mahoney (ed) *The Literature of German Romanticism: 61–78*”, 72, attributed to Novalis, *Blüttenstaub*.

⁷⁴ Frank Beiser, *The Romantic Imperative: The Concept of Early German Romanticism* (Cambridge: Harvard University Press, 2006), 88–9.

⁷⁵ *Ibid.*, 89.

and culture. No longer were uneven notes – more common on the Baroque flute – acceptable, and no longer should intonation be anything other than perfect. The development of each person’s individual human powers (or, in this case, his flute-related skills) was closely related to his consciousness and awareness of the world and his place in it. The striving for perfection – a noble goal but known to be unachievable, even to the early Romantics – would have made the striving for perfect intonation a worthy goal, even if it was impossible.⁷⁶ This struggle against nature while vying for betterment and understanding was fundamental to the Romantic’s worldview.⁷⁷

Tromlitz’s tuning system, the twenty-four part octave, may even have had contributed to the sense of striving that *Bildung* implied. Interestingly, at the time when Tromlitz was developing his flute models, W. A. Mozart was advocating a similar tuning system to a student c. 1785.⁷⁸ We can find corrections in Mozart’s own hand indicating his firm stance on the twenty-four-part octave.⁷⁹ Powell enlightens us as to the significance of this tuning system:

A chromatic scale played with Tromlitz's fingerings sounds very different from the smooth, homogenized sequence of intervals we are accustomed to hearing. And passages containing the kind of chromaticism Mozart uses to paint melodies and enhance their features seems much stronger and more challenging when interpreted as Mozart imagined them compared to the comparatively bland effect when played with equal-sized semitones. In ensemble music the contrast between concords that sound perfectly in tune and discords that sound jarring greatly increases the tonal pull of the music as well as its dramatic power. [...] Indeed, playing Mozart's music according to his own specifications as to intonation practice can have a dramatic result on its expressive quality.⁸⁰

By way of an example, Powell cites the second movement of Mozart’s *Concerto in D major* K. 314 for flute and orchestra, *adagio ma non troppo*. The leading notes in the appoggiaturas should in fact sound much lower than they are traditionally heard today, owing to the

⁷⁶ All tuning systems require some compromise.

⁷⁷ Ibid., 90.

⁷⁸ Ibid., 4.

⁷⁹ Ibid.

⁸⁰ Ibid., 7.

dictates of the twenty-four part octave. The interval of G# to A in measures 12 and 13 and the A# to B in measure 14 would have ideally been played wider than is the norm today, for both Tromlitz and Mozart. This is because an A# was lower in pitch than a B♭ in relation to a B (Example 1.1).⁸¹ When played correctly (in Tromlitz's tuning system), this would increase the tension of the beat and its resolution.⁸²

Example 1.1: "Adagio" from Flute Concerto in D Major K. 314, mm 11-14

Similarly, the A on beat two of measure 12 is preceded first by a circle of G#-A-B-A. The circular embellished appoggiatura is used throughout this movement. As appoggiaturas induced a longing or sighing effect and were often utilised by *Empfindsamkeit* composers such as C. P. E. Bach, their use in Mozart's *adagio* could be related to a sense of striving or longing for unity, or for freedom (Example 1.2).

⁸¹ The difference is 5 commas with an A#, and only 4 commas with a B♭, according to Quantz; Johann Joachim Quantz, *On Playing the Flute* (2nd ed., translated with notes and an introduction by Edward R. Reilly), Boston: Northeastern University Press, 1985), 46, first published as *Versuch einer Anweisung die Flöte traversiere zu spielen*, 1752.

⁸² Ibid. Powell provides other examples of Mozart's flute concertos and flute quartets.

Example 1.2: "Adagio" from Mozart Concerto in D Major K. 314, mm 9–10; mm 84

The image displays two musical excerpts from Mozart's Concerto in D Major K. 314. The left excerpt covers measures 9-10, and the right excerpt covers measure 84. Both excerpts are for Violino I, Violino II, Viola, and Violoncello e Contrabasso. The score includes dynamic markings such as 'cresc.', 'f', 'p', and 'f'.

The appoggiatura was used often in music as early as the seventeenth century, and Mozart – that most “Classical” of composers – is certainly known to have used them often. Likewise, the frequent use of chromaticism in the *adagio ma non tanto* may hint towards a more “Romantic” Mozart. For example, there is a strong chromatic line in Violin I in measure 9 and again at measure 84. While this hardly constitutes “frequent” use, the sheer number of semitones, appoggiaturas and Mozart’s use of chromaticism perhaps belies an emerging Romantic musical aesthetic: this despite the balanced phrases and the major key signature which imply a simple, free elegance often associated with the *style galant*.⁸³

Another interesting argument about Tromlitz’s writings and the larger philosophical sphere stems from the desire for a more even sonority on the instruments of the early nineteenth century. As we have seen, Tromlitz’s wish for a more even sonority is closely related to the changes occurring on other instruments as well, such as the violin and oboe. Attempts to improve the sonority of the flute through both Tromlitz’s instrument designs and his instructions for individual notes and scales can be related to concepts in the Absolute Idealism of the *Frühromantik*. Firstly, it would seem that the desire for unity was an overarching theme of the early Romantics. *Bildung* refers to the need for humans to develop all of their capacities; and while the individual takes

⁸³ If Mozart had lived past 1791 we can only imagine how his style might have changed in the early decades of the nineteenth century.

precedent, it is in the individual's relationship to the greater whole – both within himself and with the world – where the unifying characteristics of Absolute Idealism can be clearly seen. Self-realisation and self-reflection were possible through education and the unifying power of the sovereignty of the individual. Likewise, the belief that the world existed as a single organism made of many smaller organisms developed, as Beiser states in *The Romantic Imperative*, out of “the firm belief in the unity of nature, in the oneness of the subjective and objective, the ideal and real”.⁸⁴ The unification of instrumental tone – from one note to the next – may have developed out of this concept of unity of oneself both internally and externally.

Closely related to *Bildung* was the inherent desire for freedom among the early Romantic writers. This freedom may have stemmed from the rigid social and political hierarchies in Germany at the turn of the century, but it developed a more complex meaning. If nature was divine and unified, it was also free because nature acted as out of its own necessities only.⁸⁵ This acting out of necessity was the ultimate freedom according to the early Romantics, and only nature was therefore absolutely (completely) free.⁸⁶ Individuals were not free in and of themselves; they were only free in their unity with nature. These complicated ideas seem to have influenced Tromlitz (and others) on the ideal flute tone. Tromlitz describes the best qualities of tone as “free” on many occasions.

Finally, the association of the flute's tone to the human voice is an interesting claim to examine. Not only Tromlitz made this comparison, but many others as well, both to the flute and to other instruments. Presumably the human voice when singing did not have as many noticeable weak notes and strong notes unintentionally.⁸⁷ While

⁸⁴ Beiser, *Romantic Imperative*, 149–50.

⁸⁵ *Ibid.*, 151.

⁸⁶ *Ibid.*

⁸⁷ It should be acknowledged that head voice versus chest voice would have created some variances in sonority.

singers may have struggled with the correct pitch, there was nothing inherently wrong with a singer's "instrument" which would cause these problems.⁸⁸ In some ways, then, it seems logical that instrumentalists would hold up the human voice as the standard to emulate. Indeed, C. P. E. Bach mentions that:

All other instruments have learned how to sing. The keyboard alone has been left behind, its sustained style obliged to make way for countless elaborate figures. The truth of this is attested by the growing beliefs that to play slowly or legato is wearisome, that tones can be neither slurred nor detached, that our instrument should be tolerated only as a necessary evil in accompaniment [...] I fear that the skill, already waning, which has been brought to us chiefly by great performers, will suffer an even worse decline.⁸⁹

Here C. P. E. seems to equate a style of playing slowly with the "singing" qualities of the human voice. He laments the fact that keyboard players in general could not seem to manage legato. The human voice is held in the highest esteem, as an example which one should emulate. This concept seems to reach far beyond mere timbre. Indeed, this desire to imitate the human voice seems to have contributed to the desire for longer phrase lengths in works from the late eighteenth century.

While Tromlitz's compositions and musical style seem to emulate the more *galant* musical aesthetic (and therefore we may be tempted to associate him with the *Aufklärung*), his flute models and his emphasis on correct (just) intonation and an even sonority can be considered an early indication that musical aesthetic values were changing. Intonation and sonority were becoming more important, and a new flute model was needed (in the coming decades as well) in order to encapsulate these values. The early Romantic aesthetic in music included longer, more connected phrases, appoggiaturas and chromaticism alongside pitching notes correctly for maximum dramatic effect and ensemble playing. Absolute Idealism may be considered the foundation of this musical aesthetic. The flute, therefore, has developed alongside

⁸⁸ Surely bad singers were numerous, those who did not sing in tune or had particular weak notes, but the human voice in general does not have the same potential for inbuilt problems as the flute or oboe.

⁸⁹ Bach, *Essay on the True Art of Playing Keyboard Instruments*, 30.

changes in musical style and ideology, as well as in the larger cultural and philosophical scene. The implications for these associations would appear to be far ranging, as historically instrumental development has been closely tied to the changing nature of music. This chapter has suggested that rather than compositional style being the main or only influence on the flute's designs, the development of the instrument might also be more directly related to prevalent philosophies.

Chapter 2

Industrial Trade Wars: Claude Laurent in Paris, 1806–1815

In the early nineteenth century, United States President James Madison received a gift from France: an extraordinary “flûte en cristal” (crystal flute).¹ The flute was made of clear faceted glass, with four silver keys. The inscription on the uppermost silver sleeve of the body dedicates the flute to “A. S. E. James Madison / Président des États-unis” (see Figure 2.1).² The maker’s stamp is on the lower silver sleeve, and reads “Laurent, à Paris” (Figure 2.2).³ There are no extant historical details of Madison’s reaction to this seemingly unusual present, and no indication that he knew the sender. However, a letter recently discovered in the Madison Papers at the Library of Congress confirms that the flute was built and sent by Claude Laurent, a flute maker in Paris. In this letter Laurent asks whether his gift had been received and whether it was found “agreeable”.⁴

Figure 2.1: Dedication inscription



Figure 2.2: Maker's stamp



¹ Janet L. Smith, “Music Professor Plays Crystal Flute”, *Montpelier* (Spring 2001).

<http://www.jmu.edu/montpelier/issues/spring01/flute.htm>. Madison’s flute is now housed in the Dayton C. Miller Instrument Collection in the Library of Congress, along with several other glass flutes made by Laurent.

² “DCM0378: Claude Laurent/Flute in C”, The Dayton C. Miller Flute Collection, The Library of Congress, Washington, DC.

³ *Ibid.*

⁴ *Ibid.*

From today's point of view, we may question Laurent's choice of glass as the material with which to build his flutes, given the obvious problem of the material's delicacy. In a patent of 1806, still on file at the Paris Patent Registration Office, Laurent claims that his glass flutes – unlike their wooden counterparts – were less susceptible to temperature and humidity changes, and therefore more likely to play in tune.⁵

Little is known of Laurent's career before 1806, but by 1847 his workshop employed five workmen and had an annual turnover of 30,000 francs – more than five times the amount that Parisian makers Godfroy and Lot paid Theobald Boehm for the license to manufacture his cylindrical flutes in the same year.⁶ Interestingly, Madison was not the only public figure who owned one of these Laurent flutes: Emperor Napoleon I of France, King Louis Napoleon of Holland, King Joseph Bonaparte of Spain and Emperor Franz I of Austria were all known to have owned one of Laurent's instruments.⁷ There is also historical evidence that these flutes were played in public concerts from time to time: for example, French flautist Louis Drouet is thought to have played one in 1816 in a Covent Garden concert for John Quincy Adams.⁸ Laurent continued his flute-building business until his death in 1857, when his former student and apprentice J. D. Breton took over and continued to make glass flutes until 1874.⁹ The longevity of the company, especially in the face of competition from German and British flute-makers, is impressive. Indeed, as the forthcoming pages will explain, Laurent's use of glass resulted in the development of a new key mechanism.

⁵ Claude Laurent, "Flûtes traversières en cristal", Paris Patent filed 1806.

⁶ Ventzke, "Kristallglas Flöten im 19 Jahrhundert", *Tibia* 4 (1979), quoted in Powell, *The Flute*, 147.

⁷ André P Larson and John Koster, *Beethoven & Berlioz, Paris & Vienna: Musical Treasures from the Age of Revolution & Romance 1789–1848* (Vermillion: National Music Museum, 2003), 41.

⁸ Powell, *The Flute*, 147. French flautist Dubois apparently played a glass flute in a concert in Amsterdam in 1808 whilst over in Zurich amateur Swiss flautist Johann George Bürkly is thought to have used one in 1824, see Powell, *The Flute*, 147.

⁹ Dayton C Miller, "Flutes of Glass", *The Flutist* 6, no. 7 (July, 1925): 152.

<http://memory.loc.gov/ammem/dcmhtml/0011a.html>; Laurent apparently only ever made glass flutes, but Breton also made wooden flutes.

Laurent's flutes seem to illustrate a dichotomy in the purpose of flutes in France during the first decades of the nineteenth century. On the one hand, these flutes are practical musical instruments, designed for use in homes, salons, concert-halls and music theatres. On the other hand, they are aesthetically pleasing and valuable works of art, presented to some of the most famous people of the time as highly-prized luxury gifts. Historically, these two purposes appear indicative of the process of industry in France during the rise of Napoleon I. Economic policy during the early years of the Republic focused on the development of low-cost every-day consumer goods to replace those that were banned under trade restrictions with Britain. When Napoleon crowned himself Emperor in 1804, he instead began to promote the development of luxury consumer goods. Might the flute during this era have been understood and manufactured as much as a practical musical instrument as an ornamental *objet d'art*? How did political and economic policy encourage the development of the instrument along these two tracks, and how can we understand the impact that these specific developments had on the flute's overall trajectory?

This chapter addresses these questions. The first section will focus on Laurent's key mechanism, which was supremely practical, and the similarities between flute-making and watch-making. Indeed, watch-making may in fact prove particularly relevant: before he was a flute-maker, Claude Laurent was a horological mechanic, a watch repairman; and his background in this area may well have inspired his key mechanism. The second section will examine the changing nature of French economic policies during this time with the aim of detailing economic development during and after the French Revolution and how these policies began to shift under Napoleon. Of particular interest is Napoleon's focus on elite, elegant consumer goods, often at the expense of cheaply produced everyday items. The third section examines the relationship between Napoleon's economic policies and the watch-making and flute-making industries during

this time. This section will also examine Laurent's flutes as *objets d'art*. Finally I will ponder the extent to which Laurent's flutes can be considered both practical objects and *objets d'art*, and why these considerations are timely in our examinations of the flute today.

Key mechanism and horology

One of the reasons that Laurent is such an interesting character in the story of the flute is his invention of a new key mechanism, one that is still used today. A large variety of flute models were in use at the turn of the eighteenth century and there was virtually no standard model. Bore dimensions, the number of keys, the size and placement of the tone holes and the embouchure holes varied between cities and countries. However, flutes during this time were generally built of wood, and flute-makers applied a similar technique to attach a key to the body of the instrument. Wooden flutes were carved with a lathe from a solid piece of material. The lathe-worker would then intentionally leave "bumps" in the body of the flute as it began to take shape. A flute maker would then drill a small hole and thread a pin through the hole and the key (Figure 2.3).

Figure 2.3: Block mounted keys on a Potter flute c. 1745



Laurent, however, could not attach keys to the body of his flutes in this way, as his use of glass did not allow for the necessary "bumps". Instead, he soldered silver sleeves or plates onto the bodies of his flutes in places where he desired a key. These

silver sleeves and plates provided stability and prevented wiggling or cracking when the key was in use. Laurent then drilled two holes through the plates and the glass and screwed in two posts, between which he would thread a pin and a key (Figure 2.4). This concept was later adopted by Boehm on his flute models and was the basis for his new key mechanism and scale system. Today, plates (now called “ribs”) are soldered to the tube of flutes and series of rods holds the entire key mechanism (Figure 2.5).

Figure 2.4: Silver sleeves and keys on a Laurent flute, 1813

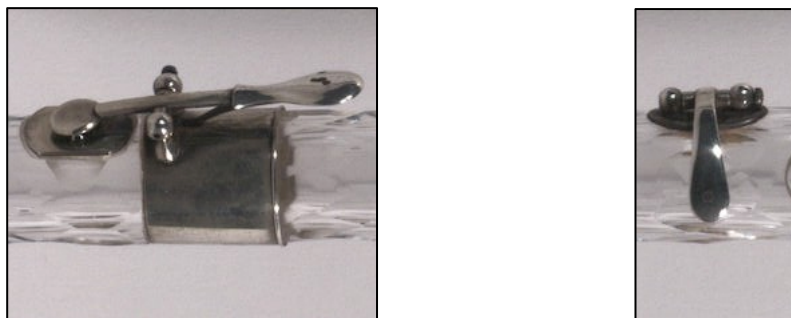
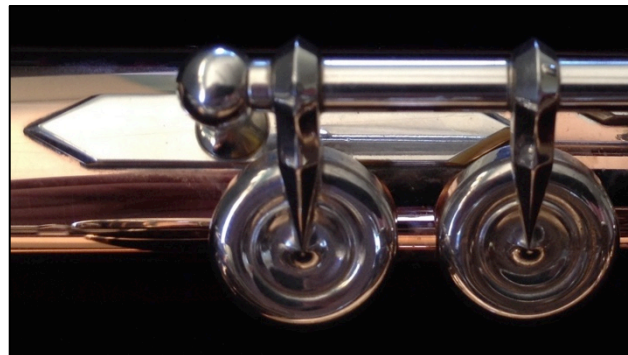


Figure 2.5: Modern silver rib on gold flute



Laurent’s ingenuity in this regard seems remarkable: he is believed to be the inventor of this mechanism, now so widely used on woodwind instruments.¹⁰ However, an as-yet-

¹⁰ In her book *Great Flute Makers of France* (1993) Tula Guannini suggests that a drawing in French flute treatise *Méthode de flûte de Conservatoire* (1804) by French flautists Antoine Hugot and Johann Georg shows a four-keyed flute drilled with posts, in the manner of Laurent’s mechanism. As this book was printed two years before Laurent’s patent, Guannini speculates that this might be evidence that this key mechanism was in use in 1804 and therefore Laurent was probably not the inventor. However, Powell (2002, 316) disagrees and points out that the keys in the drawing seem to be mounted on saddles with brackets rather than onto posts. Having viewed the sketch in question, I am inclined to agree with Powell in this regard, and attribute

unexplored topic of interest is the impact Laurent's former career may have had on his flute designs. While, as stated earlier, little is known of Laurent, in 1806 his "Profession du déposant" was listed as a "horloger mécanicien", an engineer traditionally trained to repair watches and clocks.¹¹ It is not hard to imagine that the foundation of Laurent's key mechanism may lie in his previous experience working with watch and clock parts.

Laurent's experience as a horology mechanic is unknown, and therefore it is unclear if he was successful as a horologist, what his skill level was, where he might have been trained or even how old he was when he began.¹² The obscurity of Laurent's early career is compounded by the complicated and varied nature of watch-making during this time, in France and elsewhere in Europe. Drawing parallels between the wider French horological industry and Laurent's glass flutes thus proves challenging.

There are several examples of similarities between the watch-making and flute-making in France at the turn of the century. Firstly, there is some evidence that watch-makers during this time may have had the means and skills to manipulate glass, but this was mostly in relation to watchcases, and evidence suggests that even this was a risky endeavour.¹³ This process therefore was often outsourced. The flute-making business likely operated in a similar manner, with Laurent as a "master flute builder", directing and overseeing the production of his flutes but using outside specialists to build the necessary parts.¹⁴ It is probable that Laurent himself did not make the glass of his flutes, and possible that that the glass was not even made in his workshop.¹⁵ However, it seems likely that Laurent or those in his flute workshop drilled holes for the keys and posts, as

the invention of the key mechanism in question to Laurent. In addition, curators at the Dayton C. Miller Flute Collection at the Library of Congress are in consensus that Laurent was the original inventor.

¹¹ Laurent, "Flûtes Traversières en Cristal", 1806.

¹² No archival sources have yet been found.

¹³ *Ibid.*, 5.

¹⁴ Clock and watch historian Theodore Crom points out in *Horological Shop Tools 1700–1900* (1980) that "perhaps forty to fifty people would be involved in the production of the finished watch" during the eighteenth and nineteenth centuries, but "the master horologist set the standard of workmanship and quality of the finished product", 413.

¹⁵ Curators at the Dayton C. Miller Flute Collection at the Library of Congress are unsure of how Laurent made or shaped the glass, but suggest that he probably did not have the skills to do it himself.

this was an important part of the flute building process and one which would have required specialist flute-making skills.

Likewise, we cannot be certain how much of the soldering and silver-smithing Laurent undertook himself. Soldering is an intricate part of Laurent's flutes as the plates were soldered onto the body of his instruments. It is unknown what types of solder Laurent used in this regard, but we are able to speculate on its composition based on a French horology treatise *Horlogerie pratique (Practical Watchmaking, 1788, second edition 1802)* by the now unknown maker Pierre Vigniaux. Vigniaux includes instructions on using silver solder to fuse steel to brass or brass parts together. Variations on this technique combined the soldering materials of silver, brass and tin in differing amounts.¹⁶ Vigniaux recommends that the maker purchases the soldering materials from a reputable goldsmith, and this is most likely what Laurent did.

We can see that the silver parts and keys on several Laurent flutes bear hallmarks, indicating that a variety of smiths or companies were involved in the casting of the silver sleeves and keys. The current consensus is that the silver sleeves and plates of Laurent's flutes were cut from solid sheets of silver, much the same way as a watch-maker would have done in the building of watch plates.¹⁷ In Figure 2.6 there are two hallmarks stamped into silverwork of a Laurent flute. The diamond hallmark appears to be that of Jean Dupin and Son, who worked near Laurent on the Palais Royal. The other is perhaps the silver stamp and quality assigned to a certain purity of silver during this time.¹⁸

¹⁶ Vigniaux, *Horlogerie pratique a l'usage des apprentis et des amateurs*, 2nd ed., (A Toulouse: Chez Bellegarrigue, 1802, ed. and trans. by Richard Watkins, Kingston, Tasmania 2011), 31. Again there is no consensus on the types of solder Laurent used, but he was probably the first to use solder on a flute.

¹⁷ Eugene Jaquet and Alfred Chapuis, *Technique and History of the Swiss Watch*, rev. ed. (Littlehampton Book Services, 1970), 176. Jaquet and Chapuis refer several times to sheets of various metals from which watch parts could be cut. Curators at the C. Miller Flute Collection at the Library of Congress suggest that the silver sleeves and plates of Laurent's flutes were formed from similar sheets of silver.

¹⁸ This is speculative, there is limited information available on the hallmarks of Laurent's flutes. However it does seem clear that the silver work was probably made outside of his shop in most, if not all, instances.

Figure 2.6: Hallmarks on a Laurent flute c. 1822



It seems clear that Laurent's key mechanism was of a simple, practical design – a solution to the problem of attaching keys to a delicate instrument that could not be manipulated in the same way as a wooden counterpart. While the specific relationship between Laurent's flute designs and the horology industry at the turn of the century is unclear, it seems likely that his original career informed his eventual pathway, perhaps in his design of the keys themselves, the outsourcing of skills or even the flute's mechanism. Laurent's inspiration for his key mechanism may have come from his previous work as a watch mechanic, but one senses that the changing nature of the French economy may have been the catalyst for the creation of a new business and the development of glass flutes. Indeed, the similarities between watch-making and flute-making go beyond the technical skills and processes seemingly shared between the industries. Comparing the development of watches and flutes as both practical items and *objets d'art* proves an interesting exercise.

In the previous chapter, I examined why Tromlitz was so focused on intonation and sonority by placing his writings and flute models in the development of a philosophical Romanticism during the late eighteenth-century in and around Jena and Berlin. Similarly, it seems that by exploring Laurent's historical settings – France in the first decades of the nineteenth century – we may be able to understand his motivations. What was Laurent's reasoning behind the development of his flutes? Why might he have

viewed flute building as a more successful enterprise than his work as a horologist? There are several possible factors to consider, and these generally revolve around a new level of government involvement in French industry and trade brought about by the Revolution, wars with England, and trade barriers. These factors impact where a government spends its money, and how it motivates its population to apply itself to a national cause. Indeed, the support for the development of new French industries and processes differed greatly from that of the British industrial experience. It is in this aggressive and competitive relationship with Britain that French economic and industrial policy was born, with potentially important ramifications for both flute-making and watch-making in early nineteenth-century France.

The rise of industry

The economic relationship between Britain and France during the decade before and after the turn of the century was both erratic and lopsided. From the 1770s, English goods had swamped French markets and, coupled with Britain's victory in the Seven Years War, shook France into a state of national trauma.¹⁹ Historically, the French economy had rewarded specialisation; artisanal excellence resulted in complicated inventions instead of products that could be made by a largely unskilled labour force and used by many. While artisanal specialisation was also the historical norm in Britain, the decades before the turn of the century saw the mechanisation of manufacturing processes in Britain and changed the face of industry. This change can especially be seen in watch-making, where a new division of labour enabled Britain to turn out tens of

¹⁹ Daryl M Hafter, "The Business of Invention in the Paris Industrial Exposition of 1806", *Business History Review* 58, no. 3 (1984): 317.

thousands of time-pieces each year: about half of European total production.²⁰ The brass sheets used on watch faces could be rolled instead of hammered by hand, pinions could be drawn rather than cut from wire, and, according to historian David S. Landes (*Revolution in Time*, 1983), “drills, presses, lathes, wheel cutters, fuse cutters and other special-purpose machines [...] could turn out uniform, if not identical, components by the batch”.²¹ The use of crucible steel in the British industry allowed for the production of fine files and springs, which were in high demand all over Europe. The French did not have the knowledge to use crucible steel in this way until after the turn of the century.²²

The competition between the British and the French for everyday items such as time-pieces can be seen as early as 1711, when a decree from King Louis XIV’s banned English watches and clocks in France. This was apparently to protect the French watch industry but also because, he claimed, English watches did not appeal to French tastes.²³ He may have been mistaken in his latter assertion, as timepieces from Britain proved popular among those who could afford them.²⁴ The smuggling of British watches into France was rife but is hard to quantify.²⁵ The desire for British time-pieces in France may have been due to the improved industrial techniques in Britain, which resulted in more accurate and reliable watches in the latter half of the eighteenth century.

While the British emphasised the mass production of low-cost everyday items, the French, by contrast, continued to invest in gilded elegance, even after the fall of the

²⁰ David S. Landes, *Revolution in Time, Clocks and the Making of the Modern World* (Cambridge, MA: Belknap Press of Harvard University Press, 1983), 231.

²¹ Ibid.

²² Ibid., 232. We should note that crucible steel began to be made in France after 1816, when James Jackson of Birmingham set up a plant at La Trablaine with support from Louis XVIII; see Michael Stephen Smith, *The Emergence of Modern Business Enterprise in France, 1800–1930* (Cambridge: Harvard University Press, 2006), 187.

²³ Jacques Savary des Brûlons, *Dictionnaire Universel de Commerce*, col. 334. Quoted in Koeppe, Wolfram, Clare Le Corbeiller and William Rieder, *The Robert Lehman Collection at the Metropolitan Museum of Art: XV, Decorative Arts* (Princeton University Press, 2012), 86.

²⁴ Landes, *Revolutions in Time*, 224.

²⁵ Smith, *Emergence of Modern Business Enterprise in France*, 230.

monarchy in 1792.²⁶ Historian and philosopher Daryl Hafter, in his 1984 article “The Business of Invention in the Paris Industrial Exposition of 1806” explains:

While it was easy to agree that speed, precision and simplicity produced great results for the English, these characteristics were not so easily reproduced in France. For centuries, French industry had emphasized all the opposite tendencies. Their tradition of artisanal excellence fostered complex individual innovations rather than simple devices appropriate to unskilled workers.²⁷

There seems to have been a push by Louis XV, and later in the early days of the Republic, to emphasise and support quality, cost-effective, everyday goods in order to limit those imported from England. However, with high unemployment, naturally the French recoiled from labour-saving machinery and sceptical businessmen also avoided new economic ideas.²⁸ Specifically, once Napoleon gained control, his emphasis on luxury consumer goods influenced both the artistic and industrial manufacturing processes in France. While Laurent’s key mechanism was practical, why did he choose to build flutes of glass? By examining economic reform both during and after the French Revolution, we may be able to discover the influence of industry and trade relations on the development of the flute during these early years of the nineteenth century.

Trade relations

Much of French economic policy during this time revolved around war, sanctions and competition with Britain. By the 1780s protectionist trade barriers were already in place between the two nations. In an attempt to avoid the continual erection of these brutal barriers, the Eden Treaty agreement with Britain in 1786 saw a reduction in customs

²⁶ Ibid.

²⁷ Hafter, “Business of Invention”, 317.

²⁸ Ibid., 318.

duties.²⁹ However, this agreement was thought to have heavily favoured Britain. A fall in French production in 1788 meant that the agreement quickly grew unpopular in the French Assembly. Impressive inventions from Britain such as the mule jenny were cheap and plentiful. Despite the political and social chaos of France from 1789 onwards, those in a position to influence the French economy attempted to do so. Support for the development of French industry during and after the French Revolution but before Napoleon crowned himself Emperor in 1804 took the form of government policies designed to foster innovation.³⁰ These policies came in the form of patent protections, changed labour relations, and Industrial Expositions. These policies were all designed to help France catch up with the productivity and economic power of Britain, with profound impact on a variety of industries in France, including, it would seem, Laurent's watch- and clock-repair shop, and later, his flute-making business.

Although the *ancien régime* had recognised the importance of the British patent system in fostering innovation and protecting new inventions, the French had failed to implement systematic changes. A new patent system was implemented in 1791 under the Constituent Assembly and featured a more open and centralised system. This new system allowed for five-, ten-, or fifteen-year protection, and created a master list with descriptions and patent-holder details to prevent infringement.³¹ Around 750 patents were registered in the following 20 years.³² Furthermore, when the Legislative Assembly took over from the Constituent Assembly in 1791 the former established a generous compensation fund for those inventors who agreed to release their inventions into the public realm.³³ A thirty-member Bureau of Consultation consisting of learned societies

²⁹ Lance E. Davis and Stanley L. Engerman, *Naval Blockades in Peace and War: An Economic History Since 1750* (Cambridge University Press, 2006), 26.

³⁰ During these turbulent years France had a series of government structures.

³¹ Laurent had five-year protections on both his 1806 and 1834 patents.

³² Jeff Horn, *The Path Not Taken: French Industrialization in the Age of Revolution, 1750–1830* (Cambridge, MA: MIT Press, 2006), 173.

³³ *Ibid.*

and the Academy of Science investigated all patents and divvied up the money – about 1,157,100 *livres* – to almost 300 patentees from 1791 to 1797.³⁴ These patents helped encourage citizens not only to create new processes and goods but also to share their inventions with the public.

In addition to patent protection, a new system of labour relations was instituted, designed to free men from the rigid constraints of guilds and corporations. The economic hierarchy of the *ancien régime* was overturned in 1791 with a series of laws: the d'Allarde Law abolished guilds and allowed anyone who paid a fee for an occupational license to trade under a chosen title; and the Le Chapelier Law forbade anyone in the same trade from forming associations or meeting to discuss their common interests.³⁵ An example concerns the change in the strict French system of silver guilds in the seventeenth and eighteenth centuries. These guilds had traditionally allowed only a rare few to earn the title of “master” in silverworks. A required apprenticeship of around eight years was followed by a two- or three-year stint as a journeyman; to be recognised as a master, the journeyman would then submit a trial work to be judged by a guild. Only after its successful judgment and a final exam would he be admitted.³⁶ During the Revolution, these guilds were abolished, and anyone could work with silver and sell their wares.

The impact that changed labour laws had on trades and industries in Paris were immense. Problems arose quickly after the passage of the laws when the public began to associate poor workmanship with the abolishment of the guilds. When Napoleon overthrew the Directory in 1799, he was concerned about civil unrest stemming from the

³⁴ Ibid., 174.

³⁵ Michael David Sibal, “Corporatism after the Corporations: The Debate on Restoring the Guilds under Napoleon I and the Restoration”, *French Historical Studies* 15, no. 4 (1988): 719.

³⁶ Jeffrey Munger, “French Silver in the Seventeenth and Eighteenth Centuries”, *Heilbrunn Timeline of Art History* (New York: The Metropolitan Museum of Art, 2000).

disaffection of workers and unemployment.³⁷ Despite attempts by various parties to implement a reformed guild system, such measures did not pass the Directory and, later, the Consulate. Finally in 1803 a law was passed to address the most grievous problems resulting from the new labour policies, but it did not re-establish guilds or allow any form of corporation at all.³⁸

Additionally, a series of Industrial Exhibitions began in France as a way for French officials to manage the market and control the direction of inventions. The first was in 1798 (Year VI) under the Directory, and was intended to mark the anniversary of the Republic. Minister of the Interior, François de Neufchâteau (1750–1828), believed that a festival marking the French advancements in industrial and mechanical processes was the best way to do this.³⁹ The aim of this Exposition was to encourage workers to focus on technological solutions, improvements and industrial creations. This was essentially government-mandated and intended to encourage innovation. Indeed, Neufchâteau instructed a jury to award prizes “which will strike the most deadly blow to English industry”.⁴⁰ Steel featured at this first exhibition, as did machine-spun cotton, precision metalwork, iron, and several safety mechanisms for industrial processes.⁴¹ Everyday products at reasonable prices were acknowledged ahead of one-of-a-kind luxury items.

In 1801 (Year IX), Jean-Antoine Chaptal (1756–1832) took over as Minister of the Interior and continued to promote these Expositions. The Exposition of 1801 highlighted economic efforts to improve French competitiveness. It featured 243 exhibitors and over 400 different products. A few months later Chaptal was instrumental

³⁷ Michael P. Fitzsimmons, “The Debate on Guilds Under Napoleon” (Proceedings of the Western Society for French History, Volume 36, 2008): 123.

³⁸ *Ibid.*, 128–9.

³⁹ Horn, *Path Not Taken*, 187–8.

⁴⁰ Neufchâteau, *Circulaire aux Administrations centrales de Département aux Commissaires de Dierctoire exécutif près de ces Administrations et aux Bureaux Consultatifs de Commerce* (24 Vendémiaire, Year VII [15 October, 1798] AN F12), 985, Quoted in Horn, *Path Not Taken*, 189.

⁴¹ Horn, *Path Not Taken*. 190.

in founding the Société pour d'encouragement de l'industrie nationale, the aim of which was to disseminate inspiring ideas and inventions.⁴² The Exposition of 1802 had 540 exhibitors. Chaptal recognised “that dynamic entrepreneurship was essential to fostering economic growth and that effective state involvement was necessary to industrial development”.⁴³

In 1804 Napoleon crowned himself emperor and the laissez-faire politics of Chaptal were dismissed for more active political and military goals.⁴⁴ Napoleon encouraged the development of French industry with a series of increasingly severe restrictions on trade between France and Britain. In 1806 Napoleon implemented the Continental System.⁴⁵ Commercial peace between the two nations only lasted seven years – from the Eden Treaty of 1786 to its repeal in 1793.⁴⁶ The British were the first to impose restrictions on sea trade in May 1806, eventually leading to an almost complete collapse of a large sector of the continental economy, which depended on overseas trade.⁴⁷

In response, Napoleon's Berlin Decree (November 1806) forbade any commerce or communication between France, her allies and the British islands, and subsequent rules forced neutral ships into a British port for inspection.⁴⁸ The Berlin Decree was Napoleon's most uncompromising policy, essentially prohibiting British goods from the French marketplace. The policy was designed to protect French industry from everyone, friend or foe, in a complicated system of political and economic policies that banned

⁴² Hafter, “Business of Invention”, 332.

⁴³ Ibid., 195.

⁴⁴ Ibid., 211.

⁴⁵ Ibid., 319.

⁴⁶ Alan S. Milward and Prof. S. B. Saul, *The Economic Development of Continental Europe, 1780-1870* (London: George Allen & Unwin, 1979), 67.

⁴⁷ François Crouzet, “Wars, Blockade, and Change in Europe, 1792–1815”, *The Journal of Economic History* 24 no. 4 (December 1964): 568.

⁴⁸ Geoffrey Ellis, *The Napoleonic Empire*, 2nd ed., (Basingstoke: Palgrave MacMillan, 2003), 110.

British goods not only from France but also from any country in alliance with France.⁴⁹ Not only did these barriers necessitate the development of French industry and technology, but a series of government policies also encouraged and stimulated industry and innovation.⁵⁰

Rather than focusing on low-cost every day items, Napoleon apparently had a fondness for elite, luxury goods. This fondness can be seen in an industrial Exposition in 1806 – the first at which Napoleon presided over as Emperor. This Exposition was ultimately designed to celebrate Napoleon’s latest military victory and acknowledge the opportunities it presented.⁵¹ Unfortunately, for some participants at the 1806 Exposition, Napoleon directed the jury to award medals to luxury goods instead of every day items. Rather than small industries spreading knowledge, innovation and best practice, the Empire favoured only products capable of large-scale commerce.⁵² This meant that the Exposition was more of a trade fair than a showcase of innovative machines and processes. An apparent miscalculation by Napoleon resulted in an industrial economy that focused on elite products. Encouraging expensive products capable of large-scale export came at the expense of crucial manufactured goods that could have replaced locally those that were strangled by trade barriers with Britain.

Flutes, watches and the development of luxury goods

Laurent was only one of many who showcased an item at the 1806 Industrial Exposition: his glass flute won a silver medal. His award came at the first Exposition under Napoleon’s control, and it is not hard to imagine that Laurent’s aesthetically pleasing

⁴⁹ Alan S. Milward and Prof. S. B. Saul, *The Economic Development of Continental Europe, 1780-1870* (London: George Allen & Unwin, 1979), 268. This policy was never fully effective except for short periods. Also see Crouzet, “Wars, Blockades and Change”, 574.

⁵⁰ *Ibid.*, 269.

⁵¹ *Ibid.*, 212.

⁵² *Ibid.*, 215.

flutes would have caught his eye, or the eye of a judge who had been instructed to award medals based on their commercial export potential. It seems likely that the two interweaving pathways of the flute in France – its practical evolution alongside its aesthetic development – cohered with the economic policies of the Republic, and later those under Napoleon. Historically, as previously stated, Britain and France had relied on artisanal excellence for the production of goods, both everyday consumer items and more decorative pieces. However, by the early nineteenth century, Britain had streamlined manufacturing processes while France, in the throes of political and social upheaval, remained focused on the individual production of goods.

Flutes and watches can be used as evidence of these different processes. A Laurent flute dated c. 1818 (Figure 2.7) is an example of how Laurent’s glass flutes seem to be built with lavish and decadent detailing, are works of art to be admired more than they are musical instruments for performance.

Figure 2.7: Laurent flute c. 1818



This particular flute has four keys, each of them inlaid with a purple jewel.⁵³ In addition the facets cut into the glass create a certain embellished effect. The fact that Laurent’s flutes were exorbitantly expensive, encrusted with jewels and often prized by famous heads of state lends to them a certain air of luxury and rarity. As museum curator Dayton C. Miller says in an 1925 article on Laurent’s flutes, “these flutes were beautiful to look

⁵³ Curators at the Dayton C. Miller Flute Collection at the Library of Congress are uncertain whether these gems are amethyst or garnet.

at, were rare and unique, and relatively costly; therefore, they were aristocratic instruments and were used for presentations and exhibitions”.⁵⁴

An English flute by the maker Rudall & Rose c. 1824 is an interesting counterpart (Figure 2.8). Rudall & Rose built flutes in London for more than a century and a half beginning in the 1820s.⁵⁵ It was when Richard Carte joined the company in 1843 that the company began innovating flute designs; before this date, they built high quality flutes but of a standard design with several different numbers of keys.⁵⁶ The flute pictured in Figure 2.8 has eight silver keys and square plates for the lower notes, and a metal-lined headjoint.⁵⁷

Figure 2.8: Rudall & Rose flute c. 1824



When compared side-by-side, Laurent’s flute seems more aesthetically pleasing in many ways. The faceted glass would catch any light, whether candle or sunbeam, while the wood of the Rudall & Rose flute seems dull by comparison.⁵⁸ Laurent’s keys are inlaid with jewels, while the keys of the English counterpart – while detailed – do not shine in the same way. The simplicity of Laurent’s key attachment design also appears streamlined and neat next to the wooden bumps on the Rudall & Rose flute. The English

⁵⁴ Miller, “Flutes of Glass”, 154.

⁵⁵ Robert Bigio, *Rudall, Rose & Carte, The Art of the Flute in Britain* (London: Tony Bingham, 2011), 1.

⁵⁶ Ibid. The company was renamed “Rudall, Rose & Carte” in 1852.

⁵⁷ “DMC 0216: Rudall & Rose/Flute in C”, The Dayton C. Miller Collection, The Library of Congress, Washington, DC.

⁵⁸ The facets in the glass were apparently to reduce the weight of the flute, as Laurent’s flutes were generally heavier than their wooden counterparts. See Dayton C. Miller’s article “Flutes of Glass”, 152.

model may appear more practical, or more advanced, with eight keys to Laurent's four, but as a work of art Laurent's flute is more extravagant.

These differences can also be seen in timepieces from this period. Watches produced in France during this time, as Landes points out, were often:

cased in gold, often with laid-on decoration in golds of different colors, yellow, red, green, and white, or centered with miniature polychrome enamel portraits [...] Such watches were more adornments than instruments.⁵⁹

A major figure in the making of these ornate timepieces, from 1780 onwards, was Frenchman Abraham-Louis Breguet (1747–1823).⁶⁰ His pieces were (and still are) in immense demand. As Landes notes: “The crowned heads and wealthiest businessmen of Europe beat a path to Breguet's door, waiting sometimes months or years for the watch of their desire and specification”.⁶¹ However, even Breguet's cheapest watches sold for about the same as a year's wages of a French labourer. Despite their popularity and quality, Breguet timepieces were made for the rich.

An example of a high-end watch designed to be a working instrument but also an *objet d'art* is a Breguet timepiece from 1800, Nr. 611 (Figure 2.9). Made for Madame Bonaparte and given to her in 1800, it reflects the utmost luxury and decadence that Breguet displayed on his special commissions.⁶² Consisting of 18k gold, enamel and diamonds, it is truly a spectacular example of craftsmanship, made for an elite client as only the best watch-maker in France could. When we compare Breguet's watch to an English watch from 1797 by the maker Thomas Cragg (Figure 2.10), there are notable differences. Cragg's watch has a simple silver and glass case with Roman numerals and would have fit easily into a pocket and sufficed for telling the time – its main purpose.

⁵⁹ Ibid.

⁶⁰ Ibid. 225.

⁶¹ Ibid.

⁶² It was commissioned by Josephine Bonaparte for her daughter, Hortense de Beauharnais, Queen of Holland.

Although Cragg's watch was surely not intended for royalty or an emperor's wife, its basic practicality is obvious.

Figure 2.9: Front and back of Breguet Nr. 611



Figure 2.10: Thomas Cragg Watch



Even in the first decades of the eighteenth century Breguet's watches and Laurent's flutes signal a French elite that is more interested in expensive elegant *objets d'art* for their own collections than practical, every day items for the newly endorsed citizens. It seems some industries benefitted from the economic policies of Napoleon, especially those that chose to manufacture elite, one-of-a-kind products, destined for overseas markets.

The relationship between flute-making and watch-making was examined in the previous sections. Even today, a move from clock or watch technician to flute-maker does not seem far-fetched. Various skills seem to be transferable between the industries, for example, soldering techniques or the casting of parts. It is interesting to note that other famous instrument-makers had their beginnings in horology, namely, the revolutionary bow-maker, François Xavier Tourte (1747–1835). While Tourte spent the majority of his life in bow-making, it was not until the first years of the nineteenth century that he made his most revolutionary design changes. His background in watch-making seems to have encouraged him to decorate his bows with metal or ivory.

It may be that in the face of rampant smuggling of British clocks and watches, Laurent opted to learn a new trade rather than attempt to compete with British imports. Or perhaps new patent protections offered by the Patent Office in Paris convinced Laurent to risk his reputation on an entirely new idea: glass flutes. Maybe the loosening of the guild laws in France resulted in a flood of would-be horologists to Paris, challenging Laurent's original business. It may have been that the Industrial Expositions and economic trade restrictions allowed Laurent to find an entirely new niche. The freedom that the elimination of guilds provided along with the industrial expositions may have encouraged Laurent to develop new products and processes based on a new set of priorities introduced by Napoleon: luxury items capable of widespread commercial export. While we consider Laurent in this way, his flutes still maintain their position in the history of the flute: the key mechanism that Laurent invented marks an important shift in woodwind-making techniques. However, by situating Laurent within the horological industry in which he forged his career, and alongside the economic policies of the new Republic and Napoleon, we are able to point to a relationship between the development of the flute and that of French industry more generally.

Traditionally, scholars have examined Laurent's flutes as an early example of the posts and pin mechanism, but by neglecting Laurent's historical position our understanding of this pivotal invention has often been downplayed. In this way Laurent is an ideal case study to explore the larger picture of how the flute came to be built the way it is today. While it is unclear whether or not his key attachment mechanism stemmed directly from his experiences as a horology mechanic, it seems likely that his familiarity with soldering processes, pillars and posts and small screws informed his flute designs. While the mechanism is mostly practical, it also lends a certain luxury aesthetic to his flutes. The silver of the keys and plates and the glass itself may have appealed to Napoleon. That this system would come to be standard on all woodwind instruments

seems testament to the close relationship flute-makers have historically had (and still have) to the jewellery and watch-making businesses.

Chapter 3

British Identity: Charles Nicholson in London, 1815–1837

On 18 March 1825, the Drury Lane Theatrical Fund of London hosted an Anniversary Dinner at the Freemason's Tavern. From its beginnings in 1766, this charity supported those working at the Theatre Royal, Drury Lane. Subscribers, made up of actors and musicians, paid an annual fee and were eligible to receive an Annuity upon retirement.¹ Incorporated by an Act of Parliament in 1775, the charity took subscription fees and paid them to retired members, and could also make small grants to those current members who fell on hardship or sickness. The fund struggled to survive during the Napoleonic wars; indeed, its very existence was in jeopardy as many members left to fight or flee between 1809 and 1812. However, by 1818, fund-raising dinners were again becoming regular annual events.²

At the anniversary dinner on 18 March, the Minutes were recorded in detail and published the next day in *The Morning Chronicle*, a daily London newspaper. Attended by “the President of the Institution, His Royal Highness the Duke of York,” the evening's events included several toasts, each followed either by a song (presumably sung by all in attendance) or “glee”, a song which would have been performed by a select group. Songs ranged from “God Save the King” to “Rule Britannia” and toasts were to “The Royal Family” and “The Army and the Navy”.³ There was much more singing – including the songs “The Duke of York's March” and “If a Bodie meet a Bodie” – toasting and applauding as the evening went on. There was an additional toast to the Fund's Chairman Mr. Kean (possibly Edmund Kean, a famous but controversial actor).⁴

¹ “Welcome”, Drury Lane Theatrical Fund, 2013, <http://www.drurylanefund.com/>

² “Archive”, Drury Lane Theatrical Fund, 2013.

³ “Drury-Lane Theatrical Fund”, *The Morning Chronicle* issue 17448 (19 March 1825).

⁴ “Members”, Drury Lane Theatre Fund, 2013.

The majority of the evening's musical events were sung. In fact, of the eight musical performances on record at this dinner, seven were vocal numbers.⁵ The single instrumental work – and the only performance to receive a full paragraph in the published Minutes – was “a fantasia [...] in a stile [sic] beyond all praise”.⁶ The Minutes continue:

The clearness of [his] note throughout, and the distinctness and precision with which he executed the whole of his range, drew down the most unqualified applause. In the course of his performance he introduced “Cease Your Funning”, from *The Beggar's Opera*, and “The Sprig of Shillelagh”. After what we have already observed, we need not say that the execution of these airs was equal to the other merits of his performance. His rapidity in the latter part of the “Sprig of Shilleah” was astonishing, and can only be compared to the true Irish way of fighting – one down, another come on.

Who was this extraordinary musician who so delighted those assembled, no small feat considering the attendees were mostly performing artists themselves? The man was Charles Nicholson, a flautist, composer, performer and employee of the Drury Lane Theatre. Nicholson was known for his published materials, both flute study books and compositions, his showmanship, performance virtuosity, and large, powerful tone.

Recent scholars such as Ardal Powell have sought a place for Nicholson among important flute players in the early nineteenth century. Powell writes: “the most noted characteristic of [Nicholson's] playing was his tone, which, as Theobald Boehm wrote after visiting London [...] in 1829, was so powerful that no continental player could match it”.⁷ This tone, Powell continues, is partly the result of Nicholson's flute designs.

In the following pages of this chapter I wish to take Powell's assessment of Nicholson one step further, by investigating how and why Nicholson became such a well-known musician in Britain between his arrival in London in 1815 at the age of 20

⁵ “Drury Lane Theatrical Fund”, 1825.

⁶ Ibid. Apparently Kean had a somewhat tumultuous personal life, including an affair where the husband of the woman sued him for damages amounting to £800. A fondness for stimulant drugs and a fraught relationship with the media tempered somewhat his apparent theatrical genius.

⁷ Powell, *The Flute*, 134.

and his early death in 1837. His popularity seems to be related to his powerful tone, but additionally I am interested in whether Nicholson's compositions can be understood in the context of the larger British experience during these years. Were his compositions and flute tone reflective of a particular cultural identity in Britain between 1815 and 1837?

This chapter begins with an examination of the general cultural identity of Britain before and after the Napoleonic wars, particularly the culture stemming from class and gender relations, the development of a British literary voice and the beginning of a British musical tradition. I will then discuss Nicholson's background as a performer and composer with the aim of placing him firmly in an emerging British musical identity. Finally I will examine both his tone and his compositions as being an integral part of his popularity. The aim here is to associate Nicholson's powerful tone and patriotism-themed compositions with the larger British culture of masculinity, Europhobia, and nationalism. By doing this I hope to show that Nicholson's tone and compositions made a direct contribution to the overall popularity of the flute as an instrument, and therefore encouraged the flute's developmental trajectory along a pathway of tonal prowess.

British cultural identity c. 1800: Class and gender relations

In the previous chapter, we specifically examined the nature of the economic tension that existed between France and Britain at the turn of the century. In this section I wish to explore the impact that the Napoleonic wars had on a sense of British cultural identity and nationalism. In 1791 the French Revolution erupted and the wars that followed consumed almost every country in Europe.⁸ Each nation involved had their territory reduced or their grasp on power weakened, underwent political or military changes, or

⁸ This was essentially a world war in all but name, Roger Knight, *Britain Against Napoleon: The Organisation of Victory, 1793–1815* (London: Penguin Books, 2014), xxii.

faced social and ideological upheaval: all, that is, except Britain. The country was not immune to political change and economic insecurity, but its resilience was unique.⁹ Somehow, Britain had emerged from this turmoil and the monarchy had kept their heads (literally, though George IV was to succumb to madness towards the end of his reign in 1820). There was a consolidated ruling class, and a governing structure intact and overseeing more than 200 million people across the globe: more than a quarter of the world's population.¹⁰

The French Revolution established a new meritocracy in France, and, as British historian Linda Colley aptly puts it, “cast doubt on the belief that men of land and birth were inherently more suited to the exercise of authority than any other group”.¹¹ The British gentry and ruling class saw these changing attitudes towards political power across the channel as a very real threat. The stress in Britain was notable among the ruling classes, and criticism of the elite that began as whispers behind closed doors materialised into full-blown pamphlets, cartoons and publications very much in the public sphere.¹² If the British ruling classes came to be seen as parasitic, feeding off the work of ordinary labourers, then they were essentially under the same threat as the ruling elite of pre-revolutionary France. Indeed, the British ruling classes already stood out as different: they wore French clothes, they ate French food and drank French wine, and they even spoke French at their parties.¹³ Traditionally, a selective acquiring of what was foreign had always been one way that the elite in many countries distinguished themselves.

As the Revolution progressed and war with France became increasingly likely, nothing could have set the British ruling class apart from the rest of the country more

⁹ Linda Colley, *Britons: Forging the Nation, 1707-1837* (New Haven: Yale University Press, 2009), 151.

¹⁰ *Ibid.*

¹¹ *Ibid.*, 152.

¹² The strain under which the British political elite struggled is evidenced by the nineteen Members of Parliament who committed suicide in the years between 1790–1820, and the over twenty members who went insane, as did King George III, see R. G. Thorne, (ed), *The History of Parliament: the House of Commons, 1790–1820* (Volume I, London: Secker & Warburg, 1986), 331–2.

¹³ Colley, *Britons*, 167–8.

than these decidedly French habits. Accusations of “cultural treason” were frightening enough, so that the imprudence of attaching value to French fashion, food and wine quickly began to be recognised among the ruling classes of Britain. Economic improvements from the increased profitability of land were not enough to convince the public that the ruling class was anything more than a burdensome growth, not a national asset.¹⁴ At the turn of the century, it seemed a cultural shift was taking place: a repackaging of the ruling classes to appeal to the wider public. Those in power in Britain wished to rebuild confidence after an American defeat and boost support for a prolonged conflict in France.

This is exactly what the British ruling classes managed to do. English literature specialist Daniela Garofalo succinctly puts it in her 2008 book *Manly Leaders*, that one response to the fear of political and social disorder, often seen as connected to economic liberalism of the free market, “was an interest in elite male power and in the unifying powers of a seductive virility”.¹⁵ Male bonding and the requirement of physical toughness began to accompany academic studies in Britain, and the British public education system, while still only for those with means, began to turn out a new class of citizen. This encouragement of young men in the public sphere was born out of modern-day British military victories in addition to Greek and Roman studies of heroism, masculinity, bravery and sacrifice. Men-only associations – guilds, glees, clubs, taverns and bars – had existed previously, but as British historian John Tosh claims, these associations “oiled the wheels of friendship, politics, and leisure” in nineteenth-century Britain.¹⁶ Newer landed gentry – those arising from increased rates of marriage between the elites of England, Scotland, Wales and Ireland – had a real interest in commerce and economics and were

¹⁴ Ibid., 163.

¹⁵ Daniela Garofalo, *Manly Leaders in Nineteenth-Century British Literature* (State University of New York Press, 2008), 134.

¹⁶ John Tosh, “What Should Historians Do with Masculinity? Reflections on Nineteenth-Century Britain”, *History Workshop* 38 (1994): 187.

particularly taken with anything that would enhance the British position on the world stage. War with France meant that young men often visited British rather than European locations while holidaying and sedentary pastimes (which formal French clothing all but ensured) gave way to active pursuits such as foxhunting.¹⁷

Further evidence of a repackaging of the ruling class can be seen in the changing dress modes of the time. Patriotism and heroism were now constantly on display, whether in formal military costume at a party or in full regalia on the battlefield itself. Put bluntly, British military wear replaced impractical French fashion. Members of Parliament – even peers – began to wear English-made clothes that, according to Aileen Ribeiro and Valerie Cumming in *The Visual History of Costume*, “evoked a plain, quasi-military masculinity”.¹⁸ Indeed, the contrast between the imported silks and lace from the continent – usually worn for special occasions only – and the plain clothes worn in the country or for sporting became more apparent in the late eighteenth century. A new and distinctly British education system and dress code emerged as a reaction to the rise of a new political system in France. Anxious not to be considered as friends of France, the ruling class in Britain encouraged their boys in rough and tumble local pastimes, and shunned French clothing for more subdued British alternatives.

Literature

Likewise, the shift in attitude regarding clothing and pastimes was confirmed by a shift in the way that British common soldiers – infantrymen – were regarded. Traditionally, early in the war, gentlemen military officers wrote war memoirs for an audience consisting mainly of their peers, detailing tactics and troop movements, for example. Thoughts and reflections from so-called common soldiers were rare, and the accounts from officers

¹⁷ Colley, *Britons*, 174.

¹⁸ Aileen Ribeiro and Valerie Cumming, *The Visual History of Costume* (London: Batsford, 1989), 31–2.

often disregard their poorer counterparts.¹⁹ However, by 1819 this had begun to change: the publication of a memoir by a common soldier, *Journal of a Soldier of the Seventy-First*, was extremely successful, and many more followed from other common soldiers.²⁰ These stories were accounts of the war itself but were also “conversion” stories, effectively documenting the terrible things that common soldiers had to do in war, and detailing the soldier’s need for redemption and forgiveness.²¹ While most of these books emerged after the end of the war, the public interest in them was very high.²² As Neil Ramsey points out in his historical account *Military Memoir and Romantic Literary Culture* (2011), “Rather than simply a response to victories, sentimental forms of memoir can be seen responding to the war as a new kind of military conflict. The dramatic events in Portugal and Spain [...] were a just and noble war against foreign tyranny”.²³ In other words, the public no longer saw war in strictly military terms – the movement of troops, military tactics, and approaches to battles – as published in officer memoirs. Instead, more sentimental and personal accounts often cited official reports and accounts to bolster their stories, while at the same time claiming to account for events of national and historical importance through the eyes of a common man.²⁴ Not only was Britain’s entry into the Peninsular War framed as a noble rescue mission against French tyranny, but the soldiers, even the common men, came to be viewed as British heroes, fighting for the cause abroad, in amongst almost unspeakable horrors. The sheer number of war travellers – British subjects who travelled to France later both during and after the war to

¹⁹ Neil Ramsey, *The Military Memoir and Romantic Literary Culture, 1780–1835* (United Kingdom: Ashgate Publishing, 2011), 41.

²⁰ Ramsey details this particular publication in *The Military Memoir*, Chapter 4, “‘An Atom of an Army’: The Sentimental Soldier’s Tale and *Journal of a Soldier of the Seventy-First* (1819)”.

²¹ Ramsey, *The Military Memoir and Romantic Literary Culture*, 42–3.

²² *Ibid.*, 34.

²³ *Ibid.*

²⁴ *Ibid.*, 36.

visit famous battle sites – attests to the level of interest in the memoirs, news, and reports of British activities overseas.²⁵

The public's general interest in soldier memoirs may have been compounded by the development of a somewhat distinct British Romantic ideology in literature around the turn of the century. British authors and poets attempted to distinguish themselves from their European – namely Prussian and French – counterparts. Indeed, the first wave of British Romantic writers was much more conservative than their later brethren and it was this tension between politically liberal European writers and conservative British writers that the latter highlighted and embraced. The influx of translated French and German texts was construed as a direct threat to British morality; they were politically and culturally threatening, much like the Revolution itself.²⁶ Historian Peter Mortensen states in his book *British Romanticism and Continental Influences* (2004), “One should not underestimate the extent to which some of the most prominent Romantic writers [Wordsworth, Coleridge, Scott and de Quincy] constructed their own public reputations in explicit opposition to the image of foreign writers”.²⁷

Mortensen argues that this move towards a considered and self-conscious identity among British writers perhaps stemmed from several complementary factors. Britain was fast emerging as a superior trading nation, increasing its influence abroad and defining itself as an island nation, robust with a variety of trade routes.²⁸ In addition, new forms of printing increased the number and size of published works. Combined with the wars with France these factors contributed to a sense of national unity between 1790 and

²⁵ War travellers were those who visited the battlefields either at the conclusion of the war or actually during battle itself. These young men (as they inevitably were) tended to be of the upper classes.

²⁶ See Peter Mortensen *British Romanticism and Continental Influences: Writing in an Age of Europhobia*, (Basingstoke: Palgrave MacMillan, 2004), 13–14. Note that Mortensen is careful to point out that the literature emerging from Europe was not homogeneous in the last decades of the eighteenth century, nor was the British response to it. However he does assert that the dominant literary voice between 1790 and 1802 was one of so-called Europhobia.

²⁷ Mortensen, *British Romanticism*, 12.

²⁸ For a more complete analysis of the significance of Britain's position as an island and the ways in which this fact was imbued in romantic literary texts, see Samuel Baker's *Written on the Water*, (University of Virginia Press, 2010).

1815.²⁹ Writer and politician Edmund Burke and Scottish author William Preston both featured in an early movement against foreign writers. Burke, in his *Reflections on the Revolution in France* (1790), painted a xenophobic image of France: cold and heartless on the one hand; manic and bloodthirsty on the other.³⁰ Preston's essay "Reflections on the Peculiarities of Style and Manner in the Late German Writers", appearing in 1802 in the *Edinburgh Review* and *The Transactions of the Royal Irish Academy*, is worth quoting:

I must own it has moved my bile to mark the growth and prevalence of the strange and preposterous partiality for the Gothic productions of the German school. The distempered rage for the gloomy, the horrible, the disconnected, the disproportioned, and the improbable [...] It is not less extraordinary, that amidst the prevalent affection of a prudish and sanctimonious morality, and a more than ordinary attention, on the part of the government, to correct and control the licentiousness of the press, writings of the tendency like that of the *German Dramas* and *Novels* should be suffered to spread, and propagate their poison, without molestation or reproof from the Pulpit or the Police.³¹

About this essay, Mortensen comments: "it would probably be difficult to find a more perfect summa of Europhobic grandiloquence than this long polemic".³² Although some English poets such as Wordsworth and Coleridge tread a dangerous line between promoting themselves as "English writers" and still being mesmerised by the essays and stories arriving from foreign lands, the general consensus in the public realm was that the German Romantic writers were contaminating British literary culture.

An alienation of all things "other" came to a head with the beginning of war in 1793, and subsequently a British national identity inexorably tied to the opposition to the seemingly war-hungry France and immoral Germany began to develop. The concept of a British hero, born on the front lines and spread through song and story, became a foundational identity for many young men. Alongside an emerging Romanticism in

²⁹ Ibid., 19. Incidentally, I might suggest that this national unity between 1800 and 1815 proved difficult to maintain after Napoleon's defeat, when questions of annexation, religion, culture and the economy were thrown into stark relief.

³⁰ Mortensen, *British Romanticism*, 20.

³¹ William Preston, "Reflections on the Peculiarities of Style and Manner in the Late German Writers Whose Works Have Appeared in English, and on the Tendency of Their Productions", *The Transactions of the Royal Irish Academy* 8 (1802): 17–18. Italics as in original.

³² Ibid.

literature, the British experience at the turn of the century was focused on masculine camaraderie, a Romantic heroic valour embodied in soldier memoirs, and a patriotism born out of the wars with a fervent European enemy.

Music

Concert and musical life in Britain reflected the social and cultural changes taking place during the late eighteenth and early nineteenth centuries.³³ A fear of all things foreign had yet to take on the sense of urgency that it did in later years. Indeed, foreign composers and performers were common in the British musical scene in the 1760s. Perhaps most telling is Haydn's popularity in London in the 1780s. Haydn was able to take immediate advantage of an early Romantic sentiment – coinciding with the ruling class's embrace of British fashion, education and holidays – by writing so-called “popular” symphonies, incorporating folk-like, pastoral material.³⁴ Alongside Haydn, many other foreign composers lived in London, and performances tended to feature music from Viennese composers, for example Johann Baptist Vanhal and Ignaz Pleyel, among others.³⁵ These composers awed elite audiences on the West End and the King and his retinue often attended one of these performances or a continental opera (generally Italian) at The King's Theatre. Newly emerging mercantile classes began attending the “Grand Miscellaneous Selection” concerts comprising excerpts from operas, oratorios, concertos and glees.³⁶ In general, these concerts still consisted of works by well-known European

³³ Simon McVeigh, *Concert Life in London from Mozart to Haydn* (Cambridge University Press, 1993), 124. This Baroque style included many performances of Handel's music.

³⁴ *Ibid.*, 135. McVeigh includes several musical devices in his assessment of Haydn's popularity in London: “disarming Allegretto variation melodies...lively rondo tunes, rustic minuets with trios in the Ländler style...a jaunty kind of regular secondary theme, marked by tonic and dominant harmonies, broken-chord accompaniments and pizzicato bars”.

³⁵ *Ibid.*, 122-3. Clementi was also exceedingly popular.

³⁶ These concerts were often called “Oratorios” but were in actuality a mixed bag. Glee clubs were a popular male-only social organisation which performed songs. By the mid-eighteenth century these clubs

composers such as Mozart, Beethoven, Handel and Hummel. Rossini was just beginning to make an impact in London, as was Mercadante. Haydn's works made appearances at many of these events.³⁷

Local demand for political and social reform in Britain during the last two decades of the eighteenth century faded as it became clear that war with a tyrannical emperor was inevitable, and a similar shift can be seen in the changing musical scene. In the early 1790s there seemed to be an equal split between, on the one hand, songs demanding internal British political and social reform, and on the other hand, an insistence on loyalty to King and country.³⁸ Those who had pushed for British political reform during the early days of the French Revolution soon realised that in the throes of war with a foreign enemy, reform at home was impossible. In the years between Haydn's final departure from London in 1795 and the founding of the Philharmonic Society in 1813, tensions with France inspired a patriotism and loyalty in the musical scene as well as the social and political realms.

That music was used to drum up loyalist support is perhaps no real surprise; the glorification of King and country also included tributes to soldiers and military victories. A strong interest in national and folk music began, especially among the working classes. Scottish, Welsh, Irish and English songs were often reworked into instrumental arrangements or ensemble pieces. Musical activities increasingly revolved around national songs, popular tunes and patriotism. Vocal music was exceedingly popular, and airs about lost love or strophic ballads were not uncommon.³⁹ Anything that was catchy and famous in the theatre, in public, or from military tunes was quickly absorbed, reworked,

were well established in England especially. For a concise description see John Shepherd (ed) *Continuum Encyclopedia of Popular Music of the World*, Volume XI, 30–1.

³⁷ Examples of these concerts abound in the listings of performances through the Philharmonic Concerts in February 1813.

³⁸ For more information please see Mark Philip, Roz Southey, Caroline Jackson-Houlston and Susan Wollenberg, "Music and Politics, 1793–1815", In Philip, *Resisting Napoleon*, 173.

³⁹ *Ibid.*, 122.

and published on a small scale for a single instrument or small group with accompaniment.⁴⁰ Music historian Nicholas Temperley is worth quoting at length:

Many of these arrangements were lacking in taste and even in musician-ship, but they must have been largely responsible for the musical education of the new middle-class families with their “cottage” pianos. It was in this way that the great [foreign] symphonic and operatic music of the classical period became widely familiar in England, among classes who could not yet afford the luxury of hearing it performed in its original medium.⁴¹

As Mark Philip (et. al.) points out, “the period 1793–1815 is distinctive for music not simply because Britain was at war with neighbouring France for most of the period, but because the war was linked to an unprecedented level of national mobilisation in which music and song played a major role”.⁴²

By the time the threat of a French invasion reached fever pitch, in 1803–5, loyalist songs were produced and distributed in large numbers alongside new songs about British naval and military victories. These new songs often featured familiar old tunes such as “Rule Britannia” and “Anachreon in Heaven”.⁴³ Volunteer Corps in regional centres around Britain often had associated local bands, which gave public concerts and full-scale concert series. The Volunteer Band of Newcastle-upon-Tyne was especially well recognised, and had a large selection of instruments at its disposal (flutes, clarinets, bassoons and horns rather than the usual single drum and fife).⁴⁴ This band was exceedingly popular; it performed for national occasions (royal birthdays and anniversaries) and played almost exclusively loyalist music. Local musicians occasionally wrote patriotic music for specific occasions, such as “General Suwarrow’s March” written for a Russian general.⁴⁵

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid., 173.

⁴³ Ibid.

⁴⁴ Ibid., 179.

⁴⁵ Ibid., 181.

While performances of complete operas, symphonies and oratorios were rare (parts of Handel's *Messiah* were repeated many times in many concerts), music intended for consumption by the general public became increasingly common. This music was rooted in the nationalism and "inward" trends that wars with France had perpetuated. Indeed, collective national identity continued to be entangled with ideas of patriotic defence right through to the mid-nineteenth century.⁴⁶ Not only were scores published rapidly but two British journals, the *Quarterly Musical Magazine and Review* and *The Harmonicon* were established in 1818 and 1823 respectively, and indicated a large interest in music making and composing. The emerging middle classes in London were responsible for the development of this new music scene, different from the traditional Italian Opera of the wealthy elite and the local military bands of the working classes. This new middle class had the financial resources to listen to new music from Europe, and they began developing musical preferences separate from those of the elites.⁴⁷

Charles Nicholson

By the time Nicholson arrived in London from Liverpool in 1815, musical performances were prolific and members of the general public were active participants – listeners and performers – in the local musical scene. Although Nicholson was only twenty at the time of his arrival in London, it was most likely he was influenced by the events of the preceding decades. Indeed, his formative early years provide a background to his activities in London.

His youth in Liverpool coincided with a period of heightened nationalism, military glorification, pride in the British homeland and a willingness to die defending

⁴⁶ Leanne Langley, "Sainsbury's *Dictionary*, the Royal Academy of Music, and the Rhetoric of Patriotism", in Bashford and Langley *Music and British Culture*, 66.

⁴⁷ Rachel Cowgil, "Wise Men from the East": Mozart's Operas and Their Advocates in Early Nineteenth-Century London", In Bashford and Langley, *Music and British Culture*, 62.

her. Liverpool was in the middle of an invasion scare; from 1803 military leaders and local authorities believed that the Port of Liverpool was a likely landing place for the French army.⁴⁸ Although the character of British music began to be uncoupled from a patriotic fervour at the end of the war with France, familiar melodies would continue to permeate the musical world in London for decades.

Nicholson seems to have been extremely busy, involved in performing and teaching commitments all around Britain. He was appointed flute professor on the founding of the Royal Academy of Music in 1822 and later became principal flute at the Italian Opera.⁴⁹ He was named “flautist to his majesty” in 1835.⁵⁰ Although exceedingly well known in Britain, he apparently never toured internationally. He was a sought-after teacher; he charged a guinea an hour and still had more students than he had time to teach.⁵¹ He turned some of his energy to writing and publishing flute tutors for amateurs, including his *Flute Preceptor* (1815, second edition 1816), his *Preceptive Lessons* (1–10, 1821) and his *School for Flute* (Volumes I and II, 1836). These books often included solo fantasias or airs, technical exercises such as articulation and scales, and information on intonation. He also published a variety of flute music, mostly for solo flute or flute and piano. Nicholson’s compositions were generally well reviewed at the time, and were usually in a simple form such as theme and variations or fantasias. It seems that although Nicholson wrote the flute parts for his published works, pianists – including organist and

⁴⁸ PRO, WO 30/65, D. Dundas, “Papers Connected With the Defense of Great Britain 1796–1804” cited in Navickas, “The Defense of Manchester and Liverpool”, 66.

⁴⁹ The Italian Opera could be called “The Italian opera in London”. E. J. Dent details the history of this tradition in his “Italian Open in London” from the *Proceedings of the Royal Musical Association* (1945). Dent dates the beginning of the Italian Opera in London to 1705 at Vanbrugh’s theatre in Haymarket. The first show was apparently *Gli Amori d’Ergasto* by Jacob Greber. At the time operas from Italy were a novelty to the public. During Nicholson’s life opera productions of Mozart and Rossini were quickly becoming popular, while the principal singers demanded enormous sums. Dent, “Italian Opera in London”, 19–24.

⁵⁰ “Odds and Ends”, *Sunday Times* 3 (August, 1835).

⁵¹ Rockstro, *The Flute*, 609.

composer John Burrowes, pianist and composer J. C. C. Clifton or harp virtuoso Robert Bochsa – often wrote the accompanying parts to his melodies.⁵²

Nicholson had a close relationship with the English company Clementi & Co. who published nearly all of his flute tutors and music collections. While the English flute maker Thomas Prowse manufactured Nicholson's flutes, Clementi & Co. became wholesalers. Nicholson's flutes were stamped "C. Nicholson's Improved", implying that Nicholson had personally overseen their manufacture, which was probably not the case.⁵³ The flutes sold by Clementi & Co. were highly customizable: buyers could choose the size of the tone holes, the number of keys, the choice of ivory on the embouchure hole or a silver lip plate.⁵⁴ Between his tutors, musical publications, lessons and flute models bearing his name, it is no wonder that Nicholson was so well known during his life.

The soldier and officer memoirs related stories of British military heroism; Nicholson, it might be said, stepped into a similar role after the wars as a musical hero. He was also popular, shrewd in his choice of material for his compositions, and clever with his flute models (and their marketing). How can the larger British experience in the post-war years inform our knowledge and understanding of Nicholson's experience in London? What new perspectives emerge when we place Nicholson's tone and flute compositions in the context of a new British identity, inexorably tied to Europhobia, war and nationalism? In this final section, I wish to examine Nicholson's status as a famous British musician as Britain emerged from war with new patriotism and national values.

⁵² Simon Waters, "Charles Nicholson and the London Flute Market in the Early Nineteenth Century", *The Galpin Society Journal* 64 (March 2011): 71. Occasionally Nicholson fails to acknowledge a contributor, and it is not clear whether in these cases Nicholson wrote the piano part himself or simply forgot to include his collaborator's name.

⁵³ Clementi & Co. details these models in an advertisement of 1840 in *The Musical World* 6 no. 202 (January 30 1840). In the ad it states that the flutes were unrivalled in terms of their tone and intonation. See also Waters, "Charles Nicholson and the London Flute Market", 73.

⁵⁴ *Ibid.*

Nicholson's Tone

Flute study books from the eighteenth century provide a varied account of the desired flute tone quality. In 1757 Ancelet stated in his *Observations sur la Musique* that “It will be admitted that the flute does not embrace all kinds and species of music [...] It is better placed in tender and pathetic pieces and the accompaniments of the little airs and *brunettes* in the sonatas and the concertos written by the best masters, who themselves, however, should not overdo it”.⁵⁵ It seems Ancelet advocates a subdued tone rather than a loud one.

However, some source material from the eighteenth century promotes a strong tone, well before Nicholson made his debut in London. For example, in Johann Joachim Quantz's indispensable instructions *On Playing the Flute* (1752), the author states: “in general the most pleasing tone quality on the flute is that which most nearly resembles contralto than a soprano [...] You must strive as much as possible to acquire [...] a clear, penetrating, thick, round, masculine, and withal pleasing sound from the instrument”.⁵⁶ The desire here is obviously for a powerful sound, not weak or thin but robust.

Other writing on the character of the flute from the eighteenth century include Antoine Mahaut's *Nouvelle Méthode* (1759) where he states: “The embouchure is good when the tone is round, well-nourished, even and pure. It is beautiful when over and above this the tone is mellow, refined, sonorous and graceful”.⁵⁷ Mahaut, then, advocates a full tone, but “mellow, refined, sonorous and graceful” imply a softer dynamic. In 1793

⁵⁵ Ancelet, *Observations sur la musique, les musiciens, et les instruments mécaniques*, cited in Louis Fleury and Frederick Martens “The Flute and Flutists in the French Art”, *The Musical Quarterly* 9, no. 4 (October 1923): 522.

⁵⁶ Johann Joachim Quantz, *On Playing the Flute* (2nd ed., trans. with notes and an intro. by Edward R. Reilly, Northeastern University Press, Boston, 1985), 50.

⁵⁷ Antoine Mahaut, *Nouvelle Méthode Pour Apprendre en peu de tems a Jouër de la Flute Traversiere* (Paris, M. De Lachevardiere, 1759), 6, Facsimile of the original, Daniel Van Gilst, 2013.

Scottish flute player John Gunn sums up this dichotomy in his *Art of Playing the German Flute* that:

Two opinions seem chiefly to prevail on the method in which this instrument ought to be played: the first is, that an equal fullness of tone ought to be aimed at throughout; and this, when acquired, is thought to be the greatest excellence of which the instrument is capable [...] The other opinion is in direct opposition to this: those who adopt it [...] say that this kind of tone is contrary to the very nature of the Flute; the character of which, from its affinity to the female voice, is softness, grace and tender expression [...] the latter of these two opinions is, in some respects, right; yet the principle is an improper one to proceed upon, as it will only terminate in a tame and uniform insipidity [...]

Gunn's description seems typical of the wide array of opinions concerning flute tone at the turn of the century. French flautist François Devienne in his *Nouvelle Méthode Théorique et Pratique* (1794) comments that: "The beauty of the low sounds consists in their being full and sonorous; that of the high tones in being sweet and clear".⁵⁹ In Leipzig, as has been previously noted, Tromlitz's *The Virtuoso Flute Player* (1791) describes the ideal tone as "full of timbre, rounded, singing, soft and flexible".⁶⁰

These differing descriptions help demonstrate that the very nature of flute "tone" during the eighteenth century depended on the location of the writer and the flute model, in addition to any personal or professional opinions offered by the players themselves. Nicholson's tone, as mentioned in Powell's *The Flute*, seems to have been the main reason for his popularity as a performer. While he was not the first player to illustrate and advocate a strong tone, he was perhaps one of the first to play an instrument that truly allowed for a noticeably strong tone, while still sounding unforced. The flute with which Nicholson arrived in London came to him from his father, and was probably built by the

⁵⁸ John Gunn, *The Art of Playing the German-Flute* (London, 1793, rpt., Marion, IA: Janice Dockendorff Boland, 1992), 1–2.

⁵⁹ François Devienne, *Nouvelle Méthode Théorique et Pratique pour la Flûte* (Paris: 1794, facsimile of the original, introduction, annotation and translation by Jane Bowers, commentary by Thomas Boehm, Aldershot: Ashgate, 1999), 92.

⁶⁰ Tromlitz, *The Virtuoso Flute-Player*, 111.

maker George Peter Astor.⁶¹ Apparently, Nicholson Sr and Astor had worked together to design a flute which was able to produce a much more powerful sound than was the norm in the late eighteenth century. Nicholson states that Astor, along with his father, “devoted much time and pains in the successful improvement of the instrument by enlarging the holes &c. With this flute, I came to London”.⁶² Soon after, as Nicholson’s fame grew, Clementi & Co. saw an opportunity to capitalise on the interest in Nicholson’s powerful tone, and began building and marketing large-holed flutes to the public. Nicholson himself acknowledged that this was no easy feat:

Mssrs Clementi and Co. were the first who undertook to manufacture flutes under my superintendence, and I had great difficulty in overcoming the prejudices of their workmen: the increasing demand, however, for their flutes satisfied them that amateurs began to think for themselves; and increased my confidence in the system I had adopted. The result is, that flutes with large holes are now recommended and played upon by the first professors and amateurs in this country and I have little doubt, that at no very distant period, they will be universally adopted.⁶³

The results of enlarging the tones holes are:

1st The tone is infinitely more powerful, still possessing the capability of being subdued to the utmost delicacy of those with small holes *(A great desideratum, when it is recollected that powerful expression depends on power of tone, for it is only its contrast that produces it) 2nd. The upper octave can be fingered (with a trifling difference) as the first and second – 3rd Where a glide is intended, its effect is improved because the score is greater from hole to hole. 4th – The vibrations are more obvious from the decided improvement in the tone.⁶⁴

An example of a so-called “Nicholson improved flute” built by Thomas Prowse can be seen in Figure 3.1, and Figure 3.2 is a regular four-keyed Prowse flute. The Nicholson

⁶¹ Nicholson states that he arrived in London with an Astor flute in *School for Flute* Volume I, 6. Kreitzer details the brothers in *Transverse Flutes by London Makers*, 84.

⁶² Nicholson, *School for Flute* Volume I, 6.

⁶³ Ibid.

⁶⁴ Ibid. The “glide” that Nicholson mentions was a technique whereby the player, when moving by step in a piece, could slide the finger off of the hole rather than lifting it immediately. The resulting effect, Nicholson says, is “one of the most pleasing expressions of which the Instrument is capable”. (Nicholson, *Preceptive Lessons* 1, 5.) In this paragraph alone Nicholson not only focuses on the important characteristics of a fine tone and the correct execution of several techniques, he also alludes to several flute characteristics that perhaps indicate the direction that the flute was taking at this time. Particularly interesting is his statement on ‘vibrations’ or vibrato that, as the result of the larger tone holes, are more obvious. Vibrato has a long and colourful history on the flute, and here is a small bit of evidence that in the early nineteenth century vibrato was something that Nicholson at least desired to see improved.

model was possibly built later than the four-keyed flute in Figure 3.2 – built in 1832 (flutes without a date stamp are often impossible to date accurately) – but it is clear that there are substantial differences between the two. Although the tone holes of the Nicholson flute are uneven in size, some of them are very large indeed. The tenons (where the joints attach) are metal as is the lip plate. The lip hole itself appears to be brushed with some type of animal horn that may also have contributed to his powerful tone quality.⁶⁵

Figure 3.1: Thomas Prowse, Nicholson Improved Flute in C



Figure 3.2: Thomas Prowse, Flute in C



In his flute study books, Nicholson makes clear that the desired tone on a flute must be “full, clear, steady and round”.⁶⁶ Particularly in his *Flute Preceptor*, Nicholson devotes an entire section to the subject. He describes the ideal tone as “firm and brilliant” in the first sentence of the section, words that both reoccur in the following paragraphs.⁶⁷ In his later work *School for Flute*, again he designates a section entirely to tone. He places a clear tone above the need for any fancy embellishments, and describes in great detail how one can achieve it.⁶⁸ He notes the differences between a simply “loud”

⁶⁵ “DCM0583: Thomas Prowse/Flute in C”, The Dayton C. Miller Flute Collection, The Library of Congress.

⁶⁶ Nicholson, “Preceptive Lessons”, Volume I, 4.

⁶⁷ Charles Nicholson, *The Complete Preceptor for the German Flute*, 2nd ed. John Richardson (London: Robert Cocks & Co), 3.

⁶⁸ See Nicholson, *School for Flute* Volume I, 1-6.

sound and a good tone, stating that “discordant harshness” and “roaring on the flute” are not the goal.⁶⁹ The dynamic of the tone seems less important than its quality; there is a section “On Playing Piano, or Subduing the Tone”, in which Nicholson advocates a similar quality of tone to the powerful and brilliant sounds of a forte, but on a more refined scale.

Concertgoers and commentators also acknowledged Nicholson’s powerful tone. For example, in an article in the *Quarterly Musical Magazine and Review* (1823) the author surveys and describes many continental flute players, dismissing them all eventually. The author endorses French player Louis Drouet in principle, but criticized him for “no volume of tone, and the absence of the richest notes of the flute rendered him unable to play an adagio with anything like the effect which such a movement requires”.⁷⁰ Another French player Jean-Louis Tulou also received some acclaim for his compositions but a “public already accustomed to the brilliancy and clear articulation of Drouet, and the masculine power and expression of Nicholson, was not easily satisfied”.⁷¹ Other flute players are similarly dismissed⁷² until the author begins a discussion on Nicholson, where the author clearly shows his bias:

The rich, mellow, finely graduated quality of tone which he now produces throughout the whole compass of the instrument, sufficiently evinces the success which has attended his exertions [...] His purity of intonation, his perfection of double-tonguing, and the rich contrast and variety of which he is enabled to avail himself, from the great power as well as delicacy and sweetness of his tone, are sufficiently known [...]⁷³

Clearly, no continental flautist could compare with Nicholson. Indeed, even the anticipation of a concert with Nicholson could excite the public, as an editorial states in

⁶⁹ Ibid., 3.

⁷⁰ “Twelve Select Melodies, with Variations, for the Flute and Piano; Composed by C. Nicholson and J. Burrows”, *The Quarterly Musical Magazine and Review* 5 no. 17 (January 1823): 84.

⁷¹ Ibid., 85.

⁷² Ibid., 84. Those not up to Nicholson’s standards evidently also included Gabrielsky, Berbiguier, Kuhlau (who was not a flute player but rather a composer) Schneider, and Weiss.

⁷³ Ibid., 85–6.

The Age (1828): “Charles Nicholson [...] we perceive announces his benefit at the Argyll on Friday week, when a coruscation of talent will be assembled together, that may challenge comparison with *all the world*”.⁷⁴

One might suspect that the appreciation of Nicholson’s tone and popularity of his flute models is indicative of a British culture preoccupied with heroism and heroic behaviour. The power of his sound metaphorically equates to the power of Britain, never afraid to heed the call of oppressed nations (Poland before the Peninsular War, for example) and ready to stand strong. In addition, Nicholson’s identity as a British musician, trained locally and touring only within Britain, seems to have placed him in an ideal position to capitalise on the public’s hunger for someone who exemplified all of the qualities of an ideal British man and musician.

The connection between the public’s positive reception and love of Nicholson and his powerful tone – aided by his flute design – may lie in the emerging British identity during this time. An appreciation of military power coupled with the growth of men-only associations such as foxhunting, sports and glee clubs may have allowed Nicholson to prosper as a musical example of power, masculinity and bravery. His tone represented some of these manly qualities: certainly his large physical stature would also have helped him fit this vision of power. Additionally, and in general, Nicholson was a distinctly British musician: born and raised in Liverpool and never touring outside of Britain. This may have contributed to his popularity as well: famous but locally-born musicians were rare during this time. Indeed, in a letter to the editor in 1821, the author, Vetus, acknowledges:

The rough stock of our native ability owes its principal improvements to the graftings of foreign genius. We have been and still continue to be advanced and excited by the competition with nations more musical than we are [...] Look at our Italian Theatre! The Opera concentrates the patronage of the Nobility and the great, while the amusements of the English Theatre devolve to humbler classes. Look at

⁷⁴ “Charles Nicholson”, *The Age* (4 May 1828), italics mine.

our concert bills! – They exhibit such a preponderance for foreign music, and such a list of Italian singers, as almost thrust poor England aside. Our very oratorios are sustained by Mozart’s and Rossini’s operas [...] If we examine the materials of private concerts in London, we shall also, I fear, find that English talent is nearly excluded, and that the English profession is discouraged [...]⁷⁵

Nicholson filled a niche market; there were very few British musicians at this time who were not only nationally popular but could also claim to be native to Britain.

Nicholson’s compositions

This sense of national pride formed in opposition to the threat of a French enemy may have made the public more receptive not only to Nicholson’s strong tone but also his compositional material. Nicholson’s compositions can be examined with consideration of a number of factors, but for the purposes of this chapter I will consider only two: the first is the ornamental style of his solo airs; the second is the material on which he bases his pieces, in this case British territorial sites or well-known popular or military tunes.⁷⁶

Many of Nicholson’s slow compositions are infused with embellishments and variations. Nicholson himself was particularly well known for his performances of airs or other adagio movements, which were usually heavily embellished. Nicholson’s own version of “Roslin Castle” is a good example of this; his edition is complex and varied.⁷⁷

The work itself is in the key of F minor, which was considered highly “pathetic” because – equal temperament not yet being widely established – the further a key was from C

⁷⁵ Vetus, “Encouragement of English Musical Talent”, *Quarterly Musical Magazine and Review* 3, no. 11 (July 1821): 275–6.

⁷⁶ The two pieces considered here were chosen because of they provide examples of Nicholson’s typical writing style. Not all of his music was based on military tunes or popular songs, and not all were highly embellished airs. However, by far the vast majority of his works were in these particular veins.

⁷⁷ Other editions included one by British flautist Thomas Lindsay who wrote *The Elements of Flute Playing* (1829). Lindsay’s version is far less embellished and is in the slightly less pathetic key of C minor. French flautist Louis Drouet (c. 1830) also wrote a version with an unadorned theme and three florid variations.

major, the more difficult it became to tune the intervals on the flute.⁷⁸ However, of the key signatures of A-flat major and F minor, Nicholson says:

Perhaps the most beautiful of which the Flute is capable; and that although Four Flats appear in the Signature [...] As, therefore, the Key of A-flat Major is so great a favourite with the Author, and is seldom employed in Compositions for the Flute, [...the author] has rather preferred giving such popular Airs as have from their acknowledged beauty of melody, long been established in public favour, conceiving them best calculated to insure the pupil's practice [...]

Of this piece itself, in his *Preceptive Lessons* No. 8 in 1821, Nicholson states:

The beautifully pathetic Air of “Roslin Castle” having been received at the Oratorios of Covent Garden and Drury Lane Theatres with the most enthusiastic applause & been rapturously encored in both places, the Author has endeavoured to preserve the Embellishments &c exactly as he performed them on those occasions, and begs that the particular marks of Fingering and Expression may be carefully observed.⁷⁹

He is indeed very explicit in the single-page piece. In the space of two beats in measure 6 there are dynamic markings, two fermatas, a mordent, grace notes, a trill and an alternate fingering (see Example 3.1).⁸⁰ Similarly towards the end of the piece, measure 30 contains no less than thirteen markings, including accents, dynamics, fermatas, trills, and grace notes (Example 3.2).⁸¹

Example 3.1: Roslin Castle, mm. 6



Example 3.2: Roslin Castle, mm. 30



⁷⁸ Equal temperament had yet to take a firm hold in Britain, and while Nicholson emphasises intonation in his tutors he acknowledges that intonation is dependent on key signature. In this case, the intervals in the key of F minor would have been more difficult to tune, and this difficulty resulted in a performance more expressive than if it had been written in A or B minor.

⁷⁹ Nicholson, *Preceptive Lessons* Nr. 8, 65.

⁸⁰ Ibid.

⁸¹ Ibid.

The plethora of embellishments and the remote key may have generally delighted audiences, but why? There is evidence that many appreciated, and indeed were in awe of, Nicholson's compositions and his facility on the flute. Nicholson's performances may have been associated with his ability to embellish, apparently on the spot, in a way that thrilled his audiences. Perhaps these embellishments, and even this piece in particular, can be associated with the larger Romantic sentiments of the new British literary culture, especially the redemption stories of common soldiers. The embellishments themselves were likely part of an overall musical trend; certainly Nicholson was not the only flute player writing embellished melodies in the first years of the nineteenth century. As the first chapter of this thesis demonstrated, the relationship between musical style and an instrument's development is nuanced and myriad. In Nicholson's case, the coupling of these embellishments with an emerging Romantic sentiment – based on British ideas of nationalism and sacrifice – alongside his large tone, perfect execution, and British nationality may have made him especially popular.

The second way to examine Nicholson's compositions is by focusing on their subject matter.⁸² Examples abound of compositions in which Nicholson takes popular tunes, military songs and traditional Irish, English and Scottish melodies and reworks them into pieces for flute and piano. Nicholson was one of many composer-performers to write a theme and variations on "O Dolce Concerto" from Mozart's *Die Zauberflöte*, owing to the aria's presumed popularity in London.⁸³ Nicholson reworked the military song "The Fall of Paris" into an introduction and variations as well. This is a particularly notable example, as the tune (although not Nicholson's version) was played at the Duke

⁸² The form of his pieces is less important: most of his music is structured as theme and variation, prelude, or air.

⁸³ Nicholson's edition is freely available from IMSLP. At least one other flute player, Louis Drouet of France, wrote his own theme and variations on the Mozart aria.

of Wellington's military victory in Paris in 1815.⁸⁴ Originally a French Revolution song, it was adopted by the British military sometime during the 1790s and quickly became popular among the military ranks. Nicholson's version is comprised a theme and six variations. Some of the variations are technically difficult but not complex. Additionally, Nicholson states on the cover of this published work, "This piece was played by the author at the Philharmonic Concerts".⁸⁵ One could guess that the popularity of the tune, and perhaps Nicholson's playing of it in concert, increased demand for a printed edition.

Pieces celebrating or referencing British subject matter were a deliberate choice for Nicholson: another of his printed collections, *Select Melodies with Variations for the Flute and Piano Forte*, includes a theme and variations on "God Save the King". A loyalist song, it would have been popular during the wars with Napoleon. "Roslin Castle" is another example: as the tune was quite famous and the title refers to a ruined Scottish Castle, itself a Romantic British icon. Many of the study pieces in his books are well-known songs, such as "The Yellow Hair'd Laddie" and "Charlie is my Darling", both traditional Scottish songs.⁸⁶ The subject matter of these pieces and their familiarity may also have served to remind audiences of a Romantic sentiment, and perhaps a sense of pride in the British homeland.

There are many reasons why Nicholson became such a well-known musician: his tone, his physical stature, his compositions, and his lessons, just to name a few. His position on the timeline of flute development, however, is unique, as it seems that the development of the flute's timbre into the powerful, metallic tone of the modern flute began with Nicholson. While many makers and players were emphasizing the need for a

⁸⁴ Lewis Winstock, *Songs and Music of the Redcoats* (London: Stackpole Books, 1970), 105. Apparently Wellington put an immediate stop to the band playing this particular tune, probably because it was originally a French Revolution song.

⁸⁵ Charles Nicholson, *Introduction and Six Variations on the Favourite Military Air of "The Fall of Paris", Composed for the Flute With an Ad libitum Accompaniment for the Piano Forte* (London: Clementi & Co.), facsimile of the original.

⁸⁶ These songs appear as Nicholson arrangements, designed for practice, in his *Preceptive Lessons*.

stronger flute tone in the previous decades, it seems that Nicholson was one of the first to be able to truly capitalise on demand, building his new flute models. Indeed, it was Nicholson, more than any other, who provided the inspiration as well as the technical prowess for a larger and more powerful flute sound. It was Nicholson whom Boehm heard in London, and it was Nicholson's powerful tone that excited Boehm enough to redesign the entire instrument in order to achieve something similar.⁸⁷

But I would argue that Nicholson's tone and technique were not the only reasons why he was so famous. As previously stated, many European flute players could play well during this time, and many of them travelled to London. What made Nicholson stand out? The reason that Nicholson's tone was so popular was connected to a distinct British culture developing in the first decades of the nineteenth century. Britain was anxious to prove herself – not militarily, for that had already been achieved – but in the arts and cultural sphere as well. As a British hero-musician, Nicholson proved that not all musical talent needed to be imported from Europe. His strong tone and large stature may have reminded audiences of the military might of the British empire – already established but worth remembering – and his compositions celebrated military victories or national locations or events. He was in a unique position because the public was ready for a cultural figure who was truly national, heroic, and whose compositions reflected both the emerging Romantic sentimentality of literary circles and the public's fondness for British territorial locations and events.

Would the flute's tone have eventually become larger and more powerful without Nicholson? Undoubtedly, as this seems to be the direction in which most instruments were heading during this time. After all, more than two decades earlier Tromlitz was advocating not only a smoother sonority between notes on the flute but also a strong, metallic, masculine sound. Indeed, I would argue that the overall trend towards a

⁸⁷ Boehm, *The Flute and Flute Playing*, 8.

stronger tone for instruments was perhaps itself related to the upheavals of the late eighteenth and early nineteenth centuries. In particular this chapter has argued that, in Britain at least, Nicholson established a new direction for flute tone, one to which the public was receptive because of a larger cultural shift during this time. The modern flute's tone has its historical roots in early nineteenth century British culture: manliness, Romanticism, and power.

Nicholson's obituary, published on 8 October 1837 in *The Spectator* of London, sums up what the author, and many others, thought of the Nicholsons, both father and son:

To the name of Nicholson I have always considered the world of flute-players deeply indebted. Till their time, what an imperfect knowledge prevailed of the instrument and its capabilities! How deficient the quality of tone! How ignorant the generality of players of the models of fingerings best adapted to produce certain effects, especially in the execution of those beautifully plaintive Irish and Scotch airs for which both were so justly celebrated! [...] In short, they did more than any other masters, not only to perfect the art, but to render it fashionable.⁸⁸

Is Nicholson's fame surprising given the conditions in which he was composing and performing? He was impressive and maybe the reason he was so popular has to do not only with his sound or style, but also with how both his performance and personal characteristics exemplified the larger British cultural experience. While British military supremacy was no longer in doubt in 1815, there existed a sense that cultural supremacy was uncertain. This can be seen in the laments of the missing "British musician" in Britain.⁸⁹ Indeed, perhaps Nicholson was a musical hero, a cultural icon who represented all that Britain longed to be after the wars with Napoleon: powerful, gentlemanly, talented, and the top of his field. It seems that Nicholson filled a gap in the British music market with his performances, flute tutors and flute models. The public latched onto his

⁸⁸ "The Late Charles Nicholson, The Flute Player", *The Spectator* 10, no. 458 (8 April 1837): 322.

⁸⁹ See, for example, "On the Encouragement of English Musical Talent", *The Quarterly Musical Magazine and Review* 3 no. 11 (July 1821): 275; "Sketch of the State of Music in London", *The Quarterly Musical Magazine and Review* 3, no. 11 (July 1821): 379; and "Plan for the Formation of an English Conservatorio", *The Quarterly Musical Magazine and Review* 4, no. 14 (April 1822): 129.

large and powerful flute tone, and when combined with his performances and tutors the result was a British musician of which the country could be proud.

Nicholson's influence on the development of the flute can be considered in the traditional way, by examining only the prescription in his tutors, his flute models, and primary source material regarding his performances. The results of a study such as this, while interesting, would not provide any new insights into the development of the flute during this time. However, this thesis argues that there are myriad reasons that the modern flute is the way it is today, including the tonal qualities that are in demand from instruments, performers and from audiences. By examining Nicholson's persona and his place in Britain in the 1820s we have a larger sense of the people and contexts that might have had a lasting effect on the development of the flute's tone. Certainly Nicholson's students would have been instructed to play with a larger tone (and probably then sold the appropriate "C. Nicholson Improved" flute to achieve this) and audience members may have consisted of flute-makers and composers influenced by what they were hearing.

Conclusion

In 1938, Verne Q. Powell was commissioned by Charles Engelhard of Engelhard Metals Inc. to build a platinum flute for the 1939 World's Fair in New York. Powell, then a famous flute maker, quickly set to his task and produced Powell #365, a platinum flute with sterling silver keys. One week before the flute was to be delivered to the fair, famous flautist William Kincaid (principal flute of the Philadelphia Orchestra at the time) stopped by Powell's workshop. Powell was kind enough to let Kincaid try the new flute and Kincaid was so amazed that he offered to purchase it on the spot. Powell explained that it was to be displayed at the World's Fair but that Kincaid could purchase the flute afterwards. As soon as the Fair was over, Kincaid picked up this flute from Powell, and until the end of Kincaid's life it was his preferred instrument.¹ A platinum flute was apparently quite rare during the mid-twentieth century, or Kincaid might have come across one from another company. Might it be that a search for new and different timbres was on-going in the twentieth century?

It seems that new or different flute sonority, improved mechanism and changing timbral qualities were sometimes relentlessly pursued throughout history, often for myriad and intriguing reasons. The case studies in the previous chapters of this thesis have all revolved around a single premise: that what we tend to think of as the specific technical developments of a musical instrument – its keys, materials, outward design and basic body shape – were influenced by the historical conditions of their invention. The flute itself is the result of many values such as the desire for a smoother sonority and better intonation, a particular aesthetic appeal and an improved dynamic range. The instrument today is not just the logical end point of centuries of gradual development by

¹ "Powell #365 – A Platinum Flute for the World's Fair", *Flute Builder* (blog), 2 May 2013. <http://www.flutebuilder.com/2013/05/powell-365-platinum-flute-for-worlds.html>

a collection of makers and players – it is the result of an amalgamation of musical and cultural values.

Indeed, while this thesis has examined only the few decades before and after the turn of the nineteenth century, the history of the flute is full of these associations between the musical world and wider cultural setting. Theobald Boehm himself was readily influenced by his background and location. As a goldsmith and industrialist he followed on from the developments of Tromlitz, Laurent, Nicholson, and others by combining various mechanical specifications onto a single instrument: one that embodied industrial development and the modern world.

The modern flute features the three elements discussed in this paper. Players today face an expectation – a requirement, really – for near-perfect intonation, both equal temperament and just intonation. The key mechanism that Laurent invented is still used to attach keys to the body of the flute and the flute still seems to sometimes serve a dual purpose, as an aesthetic object and a musical instrument. Large tone holes producing a robust sound – the sound on which Nicholson capitalised – are now the norm. Boehm's silver flute which was displayed at the Great Exhibition in London is the best example of this combination. There is a good reason that modern players, makers and scholars know Boehm's name. However, by focussing on specific, and at times esoteric, developments in the flute, my aim was to place the instrument itself in a larger picture. Musical instruments represent at once historical artifacts made up of various small inventions and modern musical and aesthetic values. Beyond this, I would argue that they also represent cultural, social and in some ways even political values; they appear to have functioned this way in the past, and do so even today.²

² Laurent's glass flutes are perhaps this best example of this, as various famous people in the early nineteenth-century own one of his models. Likewise Nicholson's strong tone and his "C. Nicholson Improved" flutes were perhaps more than just practical instruments, they were a symbol of a serious or educated musician.

Case study reflections

In the first case study of this thesis I considered Johann George Tromlitz in Leipzig. Tromlitz built a flute that had eight keys and wrote a study book that emphasised, among other things, the importance of correct intonation and sonority. Tromlitz's stance on intonation and an even sonority can be seen in other instrument designs from this time, namely wider-bodied violins, the Tourte bow's ability to play smoother phrases, and Sneller and Koch's oboe design. Likewise, new compositional ideas, stemming from the influence of C. P. E. Bach and the *empfindsamer Stil*, included dramatic leaps, key changes, surprising silences, appoggiaturas and increasing chromaticism. These emerging trends in instrumental design and musical style may have influenced Tromlitz's flute designs.

However, in this first chapter I expanded my argument one step further. Tromlitz not only encouraged players and makers to adopt an uncompromising stance, his writings also may have been reflective of emerging philosophical values of the *Frühromantik* and Absolute Idealism: namely the concepts of freedom, unity, and *Bildung*. The yearning for freedom – stemming from the Thirty Years War in the seventeenth century, but perhaps culminating in the out-dated social and political hierarchies of the late eighteenth century – influenced Tromlitz and others with new ideas of a “free” instrumental sound. The divided nature of man – from humanity, from nature and from himself – can be sensed in the desire for a more unified instrumental tone. The cultivation of *Bildung* – a striving for perfection and education – might be reflected in Tromlitz's uncompromising demands. I suggest that the same political and social contexts that were influencing the ideas of Schlegel, Schelling and Novalis in the philosophical world were likely also influencing Tromlitz and others in the musical world.

My second study focused on Claude Laurent of Paris. His clever key mechanism of posts and pillars was the forerunner to modern flute ribs, thus his place in the history of the flute is an important one. The details of his design are often neglected in histories of the flute's development; he is considered a small player contributing only a single idea when compared to Boehm's more wide-ranging genius. Yet his small contribution has proven essential to the development of all woodwind instruments. In addition, the rich and varied time period in which he was working informs his invention: stiff embargos with Britain, a sense of nationalism, a focus on elite consumer goods, and changing labour and trade laws. The social and political contexts described in this chapter also raise many new questions. To what extent might Laurent's flutes be considered a product specifically resulting from the impact of the French Revolution and subsequent wars?

There are many interpretive steps between the French Revolution and Laurent's flutes. Laurent and others were stepping into a new world order, where one's birthplace and parentage did not necessarily determine one's career opportunities. He was able to change careers partway through his life, and his flutes became popular as aesthetic items for the wealthy thanks to Napoleon's desire for and focus on luxury items. The reverberations of this – the flute as an aesthetic object, even a status symbol – still exist today. In this way, the social, economic and political conditions in France at the turn of the century are also partly responsible for this aspect of the modern flute.

My third and final study explored Charles Nicholson in London at the end of the Napoleonic wars. Nicholson's main contribution to the flute was the enlarged tone holes of his own instruments, and the resulting popularity of both his instruments and his compositions. These larger tone holes inspired Boehm, and Boehm's later models all adopted larger tone holes, increasing the volume and sonorous power of the flute. The question of why Nicholson was so popular, why his performances and compositions caused such delight, seems to be related to a new British sense of manliness and heroism.

Nicholson capitalised on these new feelings by building a louder flute and composing pieces based on well-known tunes. We might say that the flute in its modern form was influenced by a new sense of British identity in the first decades of the nineteenth century, one that valued heroic gestures and patriotic loyalty.

Naturally, Boehm is credited with the modern tone holes of the flute, which are today far larger than on any model that Clementi & Co. built for Nicholson.³ That Nicholson died at the relatively young age of 42 in 1837 means that we cannot know what he would have thought of Boehm's pinnacle model of 1847. We also cannot know the extent to which, and indeed the speed at which, Nicholson's style of playing, compositions and flute models might have fallen out of fashion had he lived longer. Certainly, they seem to have been out of fashion by the time Boehm was building flutes in the 1840s. Nicholson therefore stands as a brief but important influence on the modern flute. The lack of native talent in Britain at the time was a much-lamented fact. When Nicholson began working in London in 1815 he not only filled this gap, but also the subject matter and style of his compositions meant that he became increasingly popular. The nature of his tone was complementary to this, assuring his pre-eminence over other flautists (and indeed other musicians) from continental Europe. Britain at the time was ripe for native talent celebrating native subjects, and Nicholson's tone saw him elevated still further in this regard.

Methodology

By situating Tromlitz, Laurent, and Nicholson and their inventions in a wide historical context, this thesis has explored how society's social and cultural values may be reflected

³ Although we must remember that Boehm himself credits Nicholson with the inspiration for a larger sound, and this was ultimately achieved through larger tone holes, a larger mouth hole, and a larger overall bore.

in its aesthetic output. The methodology of this thesis rests on the conclusions of Ben Singer's "salient correspondences" and Gary Tomlinson's "web of culture". Similarly, Trevor Herbert's aim to connect the widest spheres of society with the musical realm, and Kevin Dawe's assertion that musical instruments represent the legacy of the artistic, scientific, political, social and cultural settings in which they developed have been core foundational hypotheses. The modern flute is the culmination of over 100 years of "tinkering" by a huge variety of people. These men were all products of the culture and society in which they lived, and their respective flute models are no doubt representative of these contexts. The modern flute, far from being a mere musical instrument or piece of apparatus, is an aesthetic product of historical cultures and societies, as well as being a modern object undergoing continual change and development.

The narrow scope of my approach in this thesis has only allowed for a limited exploration of the larger cultural and political forces behind the development of the flute. I have tried to recognise these limitations throughout each case study. The characters and settings in this paper have been presented almost independently, rather than on any sort of progressive timeline. However, it is likely that a large amount of crossover between cities, countries, and perhaps even men themselves influence instrument design, compositions and philosophical ideas, as the previous chapters have demonstrated. The purpose of this paper was not to create a smooth pathway on which the development of the flute neatly lies; such a pathway does not exist. My purpose was rather to expand on the flute's history beyond the "what" of traditional histories. I find the "why" to be of much more interest and relevance.

I do not suggest that the flute evolved *only* because of cultural and social considerations, and therefore *independently* from the evolution of music at the turn of the century. To be sure, I am not trying to counter scholars who choose to focus on the development of, say, the orchestra in relation to the development of the instruments

within it. Rather, I suggest that the flute's technical development resonates across a number of intertwined social, cultural, intellectual, political, economic and aesthetic milieus. We could use this same premise to study the influence of extra-musical events on any aspect of music: compositions, orchestras, and also, of course, musical style. I have chosen to focus on the development of the flute with a wide-angled lens to try to capture this viewpoint: that the development of "music" did not occur independently from the social and cultural conditions in which specific aspects evolved.

A further example might be a painting that shows us an image, from which we are able to draw out ideas regarding the characters and the scene, but also the art form itself, the style, perhaps even the equipment used (brushes, paint strokes, pencils, lines, even canvas and paints), the artist and the time period. A musical instrument allows us the same luxury. Musical instruments are, like a painting, more than the sum of their parts. The history of the flute takes on new meaning, and new importance when we think of it in this way. The flute can tell us something about ourselves, and our own history.

This approach to the history of the flute carries with it some risks; by dissolving the borders between instruments and society do we conveniently avoid the questions that flute scholars have asked for a generation? Take, for example, Toff's arguments that the growing orchestra and growing complexity of music meant that the flute needed to evolve, and fast. I am not claiming that the changing nature of compositions and style had nothing to do with the development of the flute during the critical years 1785–1837. Indeed, Tromlitz is an example of how instrumental development occurs within a musical, and philosophical, framework. However rather than assume that the development of the instrument is causal – that is, rather than assume that instruments developed out of the needs of the orchestra, for instance, instead of some combination of the two – I have attempted to question this traditional approach. My aim was to cast the spotlight on a new way of looking at the development of the flute: one

not divorced from the musical world but also not constrained by it. But what then for the future of the flute? How should we qualify (or, indeed, quantify) the range of influencing conditions possible to any instrument?

Modern observations

There is not the space in this thesis to adequately address the flute's development in the twentieth and twenty-first centuries, nor to reflect on what might be influencing its trajectory today. However, it is likely that social, cultural, political and economic conditions, among many other things, are still influencing the development of all instruments. It is impossible to predict the future of the flute, but in this final section I will briefly offer a few observations based on the case studies of this thesis.

The first is that, unsurprisingly, the nature and style of compositions for flute have changed drastically since the nineteenth century. When we examine the nature of flute compositions today we can perhaps glean some insights into the contemporary values of flute music, much as Nicholson's *Roslin Castle* allowed for insights into the influence of cultural and national values. Historically, Nicholson's *Roslin Castle* is a good example of a solo piece embellished with many stylistic ornaments and seemingly related to the larger forces of British nationalism, pride and manliness. The subject matter was an ancient and ruined Scottish castle. Although Nicholson did not write the song himself his adaptation of it for solo flute was perhaps the result of a strong sense of British identity during the Napoleonic wars and a desire to present "British music" to a sympathetic public. During Nicholson's time, many players wrote their own solos designed for their own flutes, as showmanship pieces. *Roslin Castle* was embellished by Nicholson to show off his adeptness at slow adagio airs. Indeed, *Roslin Castle* seems to be

Nicholson’s interpretation and variation on a traditional song, one he perhaps knew would be popular among the public.

Today, contemporary flute techniques used by composers and performers include a huge variety of effects: altered timbral quality, key percussion, pitch bends, singing while playing, vibrato variation, and flutter-tonging are only a few. These modern “embellishments” can feature prominently in solo flute works. Brian Ferneyhough’s *Cassandra’s Dream Song* (1970) can be considered an example of how modern extended techniques and the nature of the music might be influenced by extra-musical ideas. However, what these extra-musical ideas might be, and how they have influenced modern music, is unclear. This may be an avenue for future research.

The second point I wish to make is that the flute today still can be considered an aesthetic work of art as well as a utilitarian musical instrument. Just as Laurent set precious gems onto his key-work and cut facets into the glass, some metal flutes today are set with gems and engravings. A modern flute-making company, Burkart, offers flute crowns with a choice of metal and choice of gemstones (see Figure C.1). These gemstones “add colour and variety to the flute” according to the Burkart website.⁴

Figure C1: Burkart flute crowns



⁴ “Flute Headjoints”, Burkart Flutes & Piccolos, <http://www.burkart.com/headjoints-flute.php>.

Burkart is one of many flute-making companies that also offer engraving on the lip-plates of their head-joints. Engraving the lip-plate offers some security of the flute against the lip, but they are also artistic designs (Figure C.2). The engraving can be extended to the key-work of the flute, much in the same way as Laurent’s faceted glass. These designs can make an instrument appear to be more decorative, lavish, expensive and unique.

Modern flute-maker Jonn Lunn builds what are probably the best examples of utilitarian instruments that are also works of art. For example, Lunn’s “The Dryad’s Touch” is an amazing 18k green gold flute designed and built around a nature theme (Figure E.2).⁵ Branches, leaves, vines and flowers make up the keys and mechanism, and yet it is also a fully functional instrument. Whether it would be played in concerts by its maker or future owner is unknown, but, like Laurent’s flutes, it would likely be a special instrument to own and display.⁶

Figure C.2: The Dryad's Touch



Whether the flute is unique in its occasional status as both as an artistic object and a functioning musical instrument is outside the scope of this thesis. Indeed, other musical instruments, both historical and modern, would also seem to function as collector’s items or display objects. For some musicians today, it may be that their

⁵ Lunn also builds regular flutes, not just those which are heavily detailed.

⁶ John Lunn states on his website that all his flutes are playable.

musical instrument is the most valuable item they own and also their most prized possession. Gemstones on the crown of a flute may not change the functionality of the instrument, but rather add to the uniqueness of an already prized possession. Many flute-players might like to own one of Lunn's intricately designed flutes, but it seems unlikely that it would be their primary performing instrument. Its weight (owing to the extra metal) and design render it more suitable as an up-close luxury *objet d'art* rather than an instrument designed for everyday use.

This thesis set out to study the influence of extra-musical conditions, contexts and events on the development of the flute in the years 1785 to 1837. By examining three historical flutes and flute design studies in detail, I have tried to create a starting point for future discussion about the development of the instrument. Further research could include a similar methodological approach applied to flute makers and performers in the latter half of the nineteenth century and the twentieth century. For example, three generations of flute professors at the Paris Conservatoire had a large impact on the development of the flute. Paul Taffanel (1844–1908) was at the forefront of French flute playing and composing. He became the professor at the Conservatoire in 1893; his student Philippe Gaubert (1879–1941) took over from him in 1919; and Gaubert's student Marcel Moyse (1889–1984) began teaching there in 1932. These men could all be examined as case studies, considering what might have influenced their teaching methods, performances and compositions, and thus providing scholars with a wider perspective on twentieth century flute studies.

Another possible research project may be examining the flute as an aesthetic object in addition to a musical instrument by widening the scope to include other intricately-made flutes from the eighteenth to the twenty-first centuries, and perhaps comparing these flutes to other musical instruments. A project such as this might

enlighten our understanding of what the value and status of a flute is today, or its value and status historically by examining it from a strictly aesthetic premise. Another interesting project might include tracing the development of the robust flute tone from Tromlitz through to Nicholson and then Boehm. Influences on the development of the flute's tone could make up an entire thesis, by using flute treatises and study books as well as articles, concert reviews, compositions, flute models and designs. This project would potentially be interested in why the flute's timbre and dynamic level developed along a certain pathway, encompassing more than just a single case study on this subject.

The flute did not become the instrument it is today by chance, but rather because of a huge range of influencing factors: musical style, compositions, the development of other instruments, philosophical ideas, the practical effects of war, economic and political policies, nationalism and the commercialisation of culture. By placing the flute at the very heart of this thesis, I have tried to demonstrate that instrumental development occurs within a musical context, but is closely related to forces outside of the musical sphere. The implications of this research is that we should not rely only on music history, style and criticism in our examination of the flute's technical and timbral evolution, but widen the scope of our examinations, to encompass the changing nature of the social and cultural contexts in which the flute has been created and continues to exist.

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