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Notes on the history of the Viennese piano, 1800 to 1830

Michael Latham

Looking back to the pianos of the eighteenth and nineteenth centuries from the twenty-first century has disadvantages. Knowledge of the modern piano is liable to prejudice the way in which earlier pianos are perceived; the well-embedded ideas of development and progress, together with an understandable appreciation of the modern piano, provoke the belief that earlier pianos were undeveloped antecedents of today's instruments. They were of course pianos in their own right and besides that, they were not instruments different in kind; to call them fortepianos is to isolate them artificially from their history. To be sure, they were called fortepianos in some historical contexts, but they were the pianos of the day, exciting and expressive instruments, often more varied and colourful than their modern successors, clearer in the bass and more singing in the descant. In the rapid progress of the piano during the first decades of the nineteenth century, these and other advantages were gradually lost. Indeed, from the perspective of the eighteenth century, the history of the piano between 1800 and 1830 would have been seen not only as cheerless but also as lacking in taste – cheerless because of the tendency towards uniformity and tasteless because of the incessant demand for more volume.

In the eighteenth century, differences in timbre were not only offered by the different keyboard instrument types – the clavichord, the piano and the harpsichord – but also by individual instruments offering a variety of stops – the *Veränderungen*. These gave the player a palette of different colours, as do the stops of an organ. Even greater variety was offered by instruments combining two or more instruments in one, usually with *Veränderungen* as well. Considering only the simplest of pianos, variation in sound colour across the keyboard was also valued; the contrast, for instance, between a bassoon-like bass and a flute-like treble would have been praised. Delight in variety prevailed; there was no striving after uniformity, neither after an ideal sound nor after evenness in tone throughout an instrument.

In the eighteenth century, inventions in the field of keyboard instruments were more the products of the imaginations of individual instrument makers and their pleasure in creation rather than responses to the requirements of composers or the demands of fashion. Inventions were also not the products of competition in the market place or on the concert platform; new ideas gave rise to dramatic changes, not steady development along lines of evolution. Such events as international exhibitions aimed at a general public were unknown; makers presented their instruments at aristocratic and royal courts, sometimes travelling far to

do so. Of course, some makers became more famous than others, but they were renowned not so much by way of comparison with other makers but more for the intrinsic qualities of their particular instruments, qualities that could delight patrons, players and listeners anew.

One such instrument that demonstrated the genius of its maker was the *Poly-Tono-Clavichordium*, literally “the stringed keyboard instrument of many sounds” made by one of the greatest keyboard instrument makers of the eighteenth century, Johann Andreas Stein (1728–1792). The description of this instrument, given in the *Augsburger Intelligenz-Blatt* of 1769, sums up much of the eighteenth-century delight in variety. The *Poly-Tono-Clavichordium* combined a harpsichord, which had a 16-foot stop and three 8-foot stops, with a piano. In 1773 Stein presented this instrument, perhaps the only one of its kind he made, at the court of King Louis XV in Versailles in the presence of the ill-fated Marie Antoinette, then only seventeen years old. The *Poly-Tono-Clavichordium* was subsequently sold in Paris. Where it is today is unknown.

The double-strung piano of the *Poly-Tono-Clavichordium* was played from a third keyboard below those of the double-manual harpsichord. On the third keyboard the piano could also be combined with any or all of the harpsichord stops. Part of the 1769 description, translated below, gives a remarkable idea of the use of varied timbre to give expression:

The combination of this many-coloured instrument is so constituted in its construction that the most difficult things can easily be played – and then too with *piano* and *forte* – such that it is not dissimilar to a complete group of many instruments; it is the coupled mechanism of this *Poly-Tono-Clavichordium* that enables the player to create a sound now pleading and emotional, now gentle and fluent. The piano at the same time imparts to the harpsichord the *Crescendo* and *Decrescendo* in the most agreeable manner such that one cannot believe otherwise than that the harpsichord has this quality of itself. On the other hand, the harpsichord gives the piano, if it is played without the dampers, a soft pleasantness, swirling from one level of the affects to another, even in distant keys, without upsetting the ear.

One can easily understand from this that by the selective use of the four upper stops, as well as through the choice of three keyboards, through swapping the hands, and through the damped and undamped piano, very many registrations can be made on this newly invented *Politono Clavichordium*. But a special art is to play a melody using the soft 16-foot sound of the harpsichord coupled alone with the piano, taking the bass on another keyboard, – something exceptionally impressive to a musical ear. – Enough! Whoever wants to be convinced must see it in all its parts and hear it played.¹

1 “Die Verbindung dieses viel thönigten Instruments ist nach seiner Bauart so beschaffen, daß die schweresten Sachen leicht, und zwar so piano und so forte darauf gespielt werden können, daß es einer complete Music mit mehreren Instrumenten nicht unähnlich gleichet: indeme durch den zusammen gesetzten Mechanismus dieses Poli-Tono-Chavichordii, im Spielen, jenes bald diesem sein Schmeichelhaftes und Pathetisches, dieses aber bald jenem sein Sanftes und Geläufiges, gibt, und sodann das Forte Piano Instrument dem Flügel zugleich das Crescendo und Decrescendo auf die angenehmste Art mittheilet, so daß man nicht anderst glaubt, als daß der Flügel selbst diese Eigenschaft habe, da es doch blos vom Ersten herkommt. Der

By 1783 the delight in variety was already on the wane. Stein appears to have lost his interest in the sound of “a complete orchestra”, certainly in terms of a variety of timbres, and the wonders of the *Poly-Tono-Clavichordium* and Stein’s exploitation of different sounds in a single instrument were soon forgotten by those in his surroundings. For the last eight years of his life, Stein’s fame rested largely on the *Hammerflügel* he then made. These uncomplicated instruments had no auxiliary stops except two joined knee levers to disengage all the dampers simultaneously, thus offering the same possibilities as the modern sustaining pedal; the lightweight hammers were covered with one or perhaps two layers of leather, carefully graduated in thickness from bass to treble.² These hammers allowed the player to express himself – albeit on a more refined scale – in the same manner as the modern pianist, that is, just by using his touch.³

In 1783, an anonymous writer, using the initials W. G. to sign an article in the *Magazin der Musik*, condemned instruments with a variety of timbres, praising, by implication, the simplicity of Stein’s pianos:

I do not understand why one needs a lute, a harp and a *Pantolon* sound to make a *Crescendo*. These makers line their carts with straw and believe they have invented a new coach. If they knew about the qualities of a Stein *Pianoforte* they would imitate them (if they could) and throw away many of their little inventions.⁴

Flügel hingegen gibt dem Forte-Piano-Instrument, wann es ohngedämpft gespielt wird, eine sanfte affectuose Annehmlichkeit, und reißt jenen gleichsam von einer Stufe der Affecten zur andern, in fremden Ton-Arten mit fort, ohne das Ohr zu beleidigen.

Man kan demnach hieraus leicht begreifen, daß sich durch das Ab- und Zuziehen der obern 4 Registern sowohl als durch die Wahl von 3 Clavieren, wie auch durch das Abwechslen der Hände, und durch das gedämpfte und ungedämpfte Forte-Piano-Instruments, sehr viele Veränderungen auf diesem neu erfundenen Politone Clavichordio, anbringen lassen; besonders aber ist diejenige Art von Melodien, wo man aus dem Flügel den gelinden 16 fusigen Ton spielt, und mit dem Forte-Piano ganz allein verbindet, dem Bass aber auf einem andern Clavier nimmt, = = = ein überaus einnehmendes Wesen für ein musikalisches Gehör. = = = Genug! Wer davon überzeugt seyn will, mus solches nach allen seinen Theilen, so, wie ich, gesehen, und zu spielen gehört haben.” Anon., “Von Erfindung eines Poly-Toni-Clavichordii oder musikalischen Affecten-Instruments, und von Verbesserung eines neuen Orgelwerks” under: item 13, “Gelehrte Sachen.”, in: *Augsburger Intelligenz-Blatt* 40, the 5th of October 1769, no page numbers. An earlier, less complete description (but using many of the same phrases and words) is found in “Nachricht von Verbesserung des Pianofortinstruments”, *Anhang zu dem dritten Jahrgange der Nachrichten und Anmerkungen die Musik betreffend*, iv (Leipzig, the 24th of July 1769), p. 32, and “Fortsetzung der Nachricht von Verbesserung des Pianoforte”, *Anhang zu dem dritten Jahrgange der Nachrichten und Anmerkungen die Musik betreffend*, v (Leipzig, the 31st of July 1769), p. 40. The *Fortsetzung* promised for a future *Anhang* never appeared.

- 2 The *Poly-Tono-Clavichordium* also had a knee-lever for the dampers but one that engaged them when required. The 1769 report of this knee lever constitutes the oldest dated mention of a means of operating all the dampers at once while playing.
- 3 For the development in Stein’s instruments, see: Michael Latham, “Johann Andreas Stein and the search for the expressive *Clavier*” in: Thomas Steiner (ed.), *Cordes et claviers au temps de Mozart. Actes des Rencontres Internationales harmoniques, Lausanne 2006*, Bern etc. 2010, pp. 133–215.
- 4 “Ich begreife es nicht, wie man zu einem Crescendo Lauten-Harfen- und Pantalonstöne nöthig hat? Diese Herren füttern ihren Leiterwagen mit Stroh, und glauben, sie haben eine neue

Die wahre Art das Pianoforte zu spielen, the piano tutor written by Philipp Jacob Milchmeyer (1749–1813), appeared in Dresden in 1797. In the *Allgemeine musikalische Zeitung* of November 1798, a year later, another anonymous writer, “K.,” wrote a criticism of the tutor and was especially disparaging of the fact that Milchmeyer wrote as if he was unaware of the pillars of German keyboard teaching, Carl Philip Emmanuel Bach (1714–1788) and Daniel Gottlob Türk (1750–1813).⁵ K. is of course referring to Bach’s *Versuch über die wahre Art das Clavier zu spielen* published in two volumes in Berlin in 1753 and 1762 and Türk’s *Klavierschule, oder Anweisung zum Klavierspielen für Lehrer und Lernende*, published in Leipzig and Halle in 1789. In his criticism of the tutor, K. quoted Milchmeyer’s advice to the player not to tap with the foot, adding comments in brackets:

At lessons the pupil shall by no means tap his foot to the beat – (Good; but why?) because otherwise he cannot use the feet for the *Veränderungen*; (the author is generally a great friend of the *Veränderungen* – the changes made by using stops when playing. How miserable is the expression that must primarily be elicited by changing stops!) and because the listener will believe he hears horses stamping in the stable – (does all time beating happen thus – like a horse?).⁶

In the second part of his criticism, K. discussed chapter five of Milchmeyer’s treatise. In K.’s words:

Fifth chapter on knowledge and *Veränderung* of the pianoforte. This may probably be the weakest little chapter of the whole work. The author advises buying the small rectangular *Pianofortes* – why? Because there are more *Veränderungen* and stops on them! He cannot praise enough those instrument makers who have many stops and *Veränderungen* on their instruments. [...] We Germans would rather stay with our Stein instruments. On them one can do everything without recourse to stops.⁷

The pianos made by Stein from about 1782 onwards, praised by both W. G. and K., included the hammer action, traditionally invented by Stein, known today as the

Carosse erfunden. Wären ihnen die Eigenschaften eines Steinischen Pianoforte bekannt, sie würdens nachmachen, wenn sie könnten, und viele von ihren Kleinigkeitserfindungen wegwerfen.” W. G., “Schreiben über des Hrn Oebergs, Wagners und Hofrath Bauers musicalische Erfindungen”, *Magazin der Musik*, I/2, 1783, pp. 1009–13.

5 *Allgemeine musikalische Zeitung*, November 1798, pp. 117–22 and pp. 135–37.

6 “Beym Unterricht soll der Schüler den Takt durchaus nicht mit dem Fusse treten – (Gut; aber warum?) weil er sonst die Füße nicht zu den Veränderungen brauchen kann; (der Verf. ist überhaupt ein grosser Freund der Veränderungen durch Züge beyem Spiel: kümmerlicher Ausdruck, der erst durch veränderte Züge hervorgebracht werden soll!) und weil die Zuhörer Pferde im Stalle stampfen zu hören glaubten – (geschiehet denn alles Takttreten gerade – pferdemässig?).” *Allgemeine musikalische Zeitung*, November 1798, pp. 118–19.

7 “Fünftes Kapitel von der Kentnis und Veränderung des Pianoforte. Dies mochte wohl das schwächste Kapitelchen im ganzen Werke seyn. Der Verf. räth, sich die kleinen viereckigten Pianoforte’s zu kaufen – warum? weil mehr Züge und Veränderungen daran sind! Diejenigen Instrumentenmacher kann er nicht genug loben, welche – viele Züge und Veränderungen an ihre Instrumente machen! [...] Wir Deutschen wollen doch lieber bey unsern Stein’schen Instrumenten bleiben, auf denen man, ohne Züge, alles machen kann.” *Allgemeine musikalische Zeitung*, November 1798, p. 136.

Prellzungenmechanik or German action, that is, a *Prellmechanik* with an escapement mechanism for the hammers.⁸ The importance of these expressive pianos by Stein to the development of the piano in Vienna cannot be underestimated. Stein's purported invention of the German action dominated piano making in Vienna for at least the first four decades of the nineteenth century and continued to exercise an influence until the beginning of the twentieth.

Around 1800, not all Viennese pianos had such an action however; some Viennese makers, including Franz Xaver Christoph (*circa* 1728–1793) and Ignatz Kober (*circa* 1755–1813) used a different hammer action in their *Hammerflügel*, a *Stoßmechanik* with an escapement mechanism. In the *Stoßmechanik* the hammers are mounted in their own rail rather than on the keys. Some makers who used Stein's *Prellmechanik* in their *Hammerflügel* used a *Stoßmechanik* in some of their square pianos. These makers included Johann Schan[t]z (*circa* 1762–1828), the maker recommended by Joseph Haydn, and none less than Anton Walter (1752–1826), the maker of Mozart's *Hammerflügel*.⁹ Around 1800 there were also *Tangentenflügel* in Vienna, instruments with hammers in the form of slender staves of wood, usually with no leather covering, standing vertically on the distal ends of the keys and propelled up towards the strings somewhat in the manner of harpsichord jacks. These instruments, still made by Christoph Friedrich Schmahll (1739–1814) in 1802, had a number of different stops – the *Veränderungen* – including the *una corda* but also the harp and the lute criticised by W. G. and K. above. Other *Hammerflügel* still available in Vienna in 1800 would probably have included those with a *Prellmechanik* with an escapement mechanism but with no leather on the hammers, that is, instruments made by followers or pupils of Stein who had come under his influence when he still used hammers without leather in his *Hammerflügel*. Nonetheless, despite this variety, and despite the undoubted presence of the harpsichord and the clavichord in Vienna at the time, Viennese piano making was dominated in 1800 by the *Prellzungenmechanik*, that is the *Prellmechanik* with an escapement mechanism, the German action probably invented by Johann Andreas Stein in about 1780; by 1810 almost all Viennese makers used this action in their *Hammerflügel*.

Two different tendencies in the development of this action exhibited themselves in Vienna.¹⁰ One of these schools, conservative by nature, was led by Nannette Streicher, Stein's daughter, who had moved the family firm to Vienna with her husband Andreas Streicher (1761–1833) and her brother Matthäus Andreas Stein

8 The 1777 *Vis-à-vis* (Castelvecchio, Verona) has a different mechanism with the hammers mounted in a separate rail; the 1781 *Claviorganum* (Historical Museum, Gothenburg) and the 1782 *Hammerflügel* (Bayerisches Nationalmuseum, Munich) both have Stein's German action. The 1781 instrument has a moderator, probably original, the 1782 instrument does not.

9 The actions in these Viennese square and grand pianos appear to be simplified versions of the actions used by Cristofori and the Silbermanns. For the idea that Walter may have employed a *Stoßmechanik* before using the *Prellmechanik*, see: Alfons Huber, "Was the 'Viennese action' originally a *Stoßmechanik*?", *Galpin Society Journal* LV, 2002, pp. 169–82.

10 Editor's note: cf. the article by Stephen Birkett in this volume.

(1776–1842) in 1794. In Vienna, Nannette Streicher continued to make instruments that showed almost no innovation, certainly not in the hammer action, remaining faithful to her father's design in almost all respects, including the absence of any stops for changing the sound other than for the sustaining device.¹¹ The other school was led by Anton Walter; he moved to Vienna in about 1775 and at first may have made instruments with a *Stoßmechanik*. Later, perhaps by 1785 or earlier, Walter started to develop his own version of Stein's *Prellmechanik*, improving it, mainly, so it seems, with the aim of increasing the dynamic range. In 1822 Stephan von Keeß summed up Walter's work as follows:

Anton Walter was the most important organ and keyboard instrument maker of the Viennese masters who sought to achieve prominence with this Stein-model *Pianoforte*, not only because he made very many experiments to simplify the action and make it more durable but also because he made considerable effort to strengthen the sound. According to the demands of those days his *Pianoforte* can be called exemplary in every aspect. His work served both his contemporaries and the masters who came after him as a precept and a guiding principle.¹²

In the action, Walter changed Stein's wooden *Kapseln* – the forks in which the hammers pivoted – to brass ones and incorporated a hammer back check to catch the hammers when they returned from hitting the strings, thus preventing them bouncing up and hitting the strings for a second, unwanted time.¹³ He also changed the geometry of the escapement mechanism such that the escapement jacks leaned towards the player. Furthermore he made the hammers taller and

11 Nannette Streicher and Matthäus Andreas split up in 1802. Before they separated the *Geschwister Stein*, as they called the firm, included a yoke across the wrestplank, thus giving it more strength. They also increased the range of their instruments from their father's five octaves, FF to f³, to five-and-a-half octaves, FF to c⁴. Neither before the separation nor after did Nannette Streicher follow her father's practice of using a non-Pythagorean scaling with an octave ratio of 1:1.95 but rather used the traditional Pythagorean scaling with an octave ratio of 1:2. See Michael Latcham, *The stringing, scaling and pitch of Hammerflügel built in the southern German and Viennese traditions, 1780–1820*, Munich & Salzburg 2000.

12 "Unter den Wiener Meistern, welche diesem Stein'schen Pianoforte den Rang abzugewinnen suchten, war der Orgel- und Clavier-Instrumentenmacher Ant. Walter der vorzüglichste, indem er nicht nur sehr viele Versuche anstellte, um die Mechanik zu vereinfachen und dauerhafter zu machen, sondern sich vorzüglich bestrebte, den Ton zu verstärken. Auch waren für die damaligen Forderungen seine Pianoforte in jedem Betracht musterhaft zu nennen, und dienten lange Zeit seinen mitlebenden und den nachfolgenden Meistern zur Regel und Richtschnur." Stephan von Keeß, *Darstellung des Fabriks- und Gewerbswesens im österreichischen Kaiserstaate*, Vienna 1820–1823, vol. 2, part 2 (1822), p. 206, quoted in: Silke Berdux and Susanne Wittmayer, "Biographische Notizen zu Anton Walter (1752–1826)", in: Rudolph Angermüller and Alfons Huber (eds.), *Der Hammerflügel von Anton Walter aus dem Besitz von Wolfgang Amadeus Mozart*, Salzburg 2000, p. 35. Berdux and Wittmayer also give evidence for Walter's date of arrival in Vienna.

13 For a comparison of Stein and Walter, see: Michael Latcham, "Johann Andreas Stein and Anton Walter. A comparison of two piano makers", *Early Keyboard Journal* 24, 2006, pp. 39–68. Stein's action, when well regulated, does not require the check. See Stephen Birkett, "Observing the 18th century Prellungenmechanik through high speed imaging", in: Steiner (ed.), *Cordes et claviers au temps de Mozart*, op. cit., pp. 305–26.

generally heavier than those of Stein and his daughter Nannette Streicher. Walter also included one of the auxiliary stops that Stein had dropped. This was the moderator, the stop operated by hand (or by about 1795 using a knee lever), that inserted tabs of cloth between the hammers and the strings, softening the sound and giving it a different colour.¹⁴ Walter's version of Stein's German action came to be known as the Viennese action.

A source of 1796 shows that Nannette Streicher and Anton Walter were the leading makers in Vienna at the time and that they represented two different extremes. In his *Jahrbuch der Tonkunst von Wien und Prag* of 1796 Johann von Schönfeld wrote that Anton Walter, Johann Schanz and Nannette Streicher were the best piano makers but stated that Walter and Streicher were the 'original' ones. Schönfeld described Walter's pianos as having:

[...] a full, bell-like sound, a clear articulation and a strong, full bass. Initially the sound is somewhat dull, but when one has played for some time the sound becomes very clear, especially in the treble. If one plays very much, the sound soon becomes sharp and like iron, which nonetheless can again be improved by leathering the hammers afresh. [...] This master puts the price of his instruments between 50 to 120 Ducats and sends them far and wide.¹⁵

The pianos of Nannette Streicher were different:

Her instruments do not have the power of Walter's but they cannot be equalled for the balance of their sound, their purity, airiness, grace, and gentleness. The sound is melting, never offensive. The touch requires a light hand, elastic finger pressure, and a feeling heart. The prices of these instruments begin at 66 Ducats.¹⁶

Schönfeld continued with a comparison of the two types of players he associated with Walter and Streicher:

Because we now have two original builders of instruments, we also divide our pianos into two classes: the *Walterischen* and the *Streicherischen*. By close observation we can also detect two classes of players amongst our best piano players. One of these classes loves a great musical treat, that is, a powerful sound; to that end they play with a rich sound, extremely fast, study the most difficult runs and the fastest octaves.

14 Some makers, including Nannette Streicher in 1807, were to use leather for the moderator instead of cloth.

15 "[...] einen vollen Glockenton, deutlichen Anspruch, und einen starken vollen Baß. Anfänglich sind die Töne etwas stumpf, wenn man aber eine Zeitlang darauf spielet, wird besonders der Diskant sehr klar. Wird aber sehr viel darauf gespielet, so wird der Ton bald scharf und eisenartig, welches jedoch durch frisches Beledern der Hämmer, wieder zu verbessern ist. [...] Dieser Meister setzt die Preise seiner Instrumente von 50 bis 120 Dukaten, und versendet selbe weit und breit." Johann Ferdinand von Schönfeld, *Jahrbuch der Tonkunst von Wien und Prag*, Vienna 1796; facsimile: Munich 1976, p. 88.

16 "Ihre Instrumente haben nicht die Stärke der Walterschen, aber an Ebenmaaß der Töne, Reinheit, Schwebung, Anmuth, und Sanftheit, sind sie unerreichbar. Die Töne sind nicht anstossend, sondern schmelzend, das Traktament erfordert eine leichte Hand, elastischen Fingerdruck und ein fühlbares Herz. Der geringste Preis dieser Instrumente ist 66 Dukaten." *Ibid.*, p. 90.

This requires authority and a strong nerve. Such players, whose strength knows no moderation, require pianos that can take any excesses.

For virtuosi of this kind we recommend the *walterisches Fortepiano*. The other class of player seeks nourishment for the soul, and loves playing that is not only clear but also soft and melting. These can choose no better than a *Streicherisches*, or so-called *Steinisches* instrument.¹⁷

Von Schönfeld finished this section on instrument makers by remarking that there were other builders who made pianos between these extremes to suit every taste. Clearly, there was not one ideal piano and nor was there one ideal piano sound.

Nannette Streicher continued to make her more sensitive pianos after she and her brother separated in 1802, despite demands for more robust sounding instruments. These demands came from numerous quarters: from Breitkopf & Härtel in Leipzig, dealers in pianos of renown and generally of considerable influence; from such as Beethoven who required increasingly more capable instruments; from those who had seen and heard the spectacular and more powerful instruments of the Érard firm, two of which had arrived in Vienna for Haydn and Beethoven in the very first years of the nineteenth century; and no doubt from those increasingly more used to the more powerful instruments made by such local makers as Walter. From 1805 onwards however, Nannette Streicher rapidly relinquished the design of her father's instruments and by 1807 she was making the largest and most powerful *Hammerflügel* known in Vienna at the time.¹⁸ To this end she does not appear to have made many innovations of her own however, but instead drew on the work of other makers. The hammers were enlarged and given numerous layers of leather, the bridge was enlarged in cross section, the strings were thickened, the construction strengthened, the number of strings for each note increased from two to three and the range increased from five or five-and-a-half octaves to six octaves, FF to f⁴, or six-and-a-half octaves, CC to f⁴. By 1807 too Nannette Streicher had gone over to incorporating a fashionable variety of stops in her instruments;¹⁹ at the time these included not only the moderator but also the bassoon, which lowered a roll of paper covered in silk to touch lightly on the strings of the lower half of the compass, giving a buzzing, bassoon-like sound, the

17 "Da wir nun zwei Originalinstrumentenmacher haben, so theilen wir unsere Fortepiano in zween Klassen: die Walterischen und Streicherischen. Eben so haben wir auch bei genauer Aufmerksamkeit zwei Klassen unter unsern größten Klavierspielern. Eine dieser Klassen liebt einen starken Ohrenschmauß, das ist, ein gewaltiges Geräusche; sie spielt daher sehr reichtönig, außerordentlich geschwind, studiert die häckeligsten Läufe und die schnellsten Octavschläge. Hiezu wird Gewalt und Nervenstärke erfordert; diese anzuwenden, ist man nicht mächtig genug, eine gewisse Moderazion zu erhalten, und bedarf also eines Fortepianos, dessen Schwebung nicht überschnapt.

Den Virtuosen dieser Art empfehlen wir walterisches Fortepiano. Die andere Klasse unserer großen Klavierspieler sucht Nahrung für die Seele, und liebt nicht nur deutliches, sondern auch sanftes, schmelzendes Spiel. Diese können kein besseres Instrument, als ein Streicherisches, oder sogenanntes Steinisches wählen." *Ibid.*, pp. 90–91.

18 The 1807 (inv. no. MIne 135) and 1808 (inv. no. MIR 1117) *Hammerflügel* by Nannette Streicher in the Germanisches Nationalmuseum, Nuremberg are fine examples of her work at the time.

19 Editor's note: cf. chapter "Mutationen" of the article by Uta Goebel-Streicher in this volume.

keyboard shift, which moved the action to the side, as in the modern *una corda*, but usually allowing the hammers to strike two strings instead of three.²⁰ A little later the Janissary stop was also added.²¹ This included three elements, reminiscent of the percussion section of Turkish military bands: the drum, in Streicher's instruments using a real tensioned drum skin, its frame let into the bottom of the instrument and beaten by a large drum stick from within the instrument; the bells, comprising three little bells struck by brass-headed hammers; and the cymbals, a strip of thick sheet brass that dropped down with a crash onto the bass strings, particularly effective with the sustain pedal engaged. The fashion for these stops appears to have been a fashion for special effects, however, rather than a return to the eighteenth-century delight in variety. The moderator was the only one of the old stops carried forward into the new fashion and the *una corda* was the only one of all the stops – except for the sustaining device – that survived the first decades of the nineteenth century, perhaps because it only changed the volume level and did not add a different timbre or effect.

One exception to Nannette Streicher's eclectic approach may have been her invention of adjustment screws for changing the positions of the escapement jacks, thereby allowing the regulation of the hammer escapement. The Streicher firm first used such adjustment screws in 1805.²² The firm was also one of the earliest exponents of a new way of building the inner structure of the Viennese piano. Instead of using solid frame members, the new method was to interlock sections of wood for constructing not only the internal case sides but also the case braces and the belly rail. The oldest surviving piano by Nannette Streicher with this type of internal construction is dated 1811, the year in which the Hungarian-born piano maker Jakob Bleyer (1778–1812), working in Vienna, claimed to have invented the same method.²³

20 In the modern piano, the keyboard shift is called the *una corda* because it causes the hammers each to strike only one string. In eighteenth-century English grand pianos, the 'soft' pedal was normally used to shift the keyboard such that the hammers each struck two strings instead of three but could be used so that the hammers struck only one string. In triple-strung Viennese pianos such as the two mentioned in footnote 18 the keyboard shift can usually only operate to allow the hammers to strike two strings instead of three; owing to the width of the hammers and the spacing of the strings, shifting to strike one string soon presents problems. When, in 1802, Beethoven asked Nikolaus von Zmeskall to tell Walter that he wanted the stop with which the hammers strike only one string ("[...] und den Zug mit einer Saite will ich auch dabei haben [...]." *Beethovens Sämtliche Briefe*, ed. Alfred Christlieb Kalischer, Berlin and Leipzig 1906, I, p. 105), it was probably because he had seen Haydn's Érard piano. The latter would have had such a true *una corda* stop.

21 The earliest of Nannette Streicher's surviving *Hammerflügel* to include the Janissary stop is of 1814 (Germanisches Nationalmuseum, Nuremberg, inv. no. MINE 118).

22 The adjustment screws are found in the 1805 *Hammerflügel* in the Sibelius Museum, Turku, Finland, inv. no. 120.

23 *Allgemeine musikalische Zeitung* XIII, Intelligenz-Blatt no. XVII, November 1811. The 1811 piano by Nannette Streicher mentioned here is in the Germanisches Nationalmuseum, Nuremberg, inv. no. MINE 119.

Probably already by 1808 the instruments of the Streicher firm had eclipsed those of Érard and of Walter in both strength and majesty. In a letter of February, 1809 Johann Friedrich Reichardt (1752–1814) wrote:

Streicher has abandoned the softness, the bouncing, rolling and too pliant character of the other Viennese instruments and on Beethoven's advice and request has given his instruments more resistance and elasticity so that the virtuoso who performs with power and meaning has more control in the details of pressure and release for the continuity and carrying power of the instrument. Through this he has given his instruments a greater and more many-sided character so that any virtuoso who seeks something beyond a light, glossy way of playing will be more satisfied than with any other instrument.²⁴

Whether Beethoven actually influenced the Streicher firm to the extent stated here is a moot point, but nevertheless Reichardt's words underline the changes made by the firm that are evident in their surviving instruments.²⁵ The same changes seem to be confirmed in a letter of Beethoven of 1817 in which he wrote to Nannette:

[...] Now a big request to Streicher! Ask him in my name if he would be so kind as to orientate one of your pianos more towards my weakened hearing. I need one as loud as it can possibly be [...] Perhaps you do not know that although I have not always had one of your pianos, I have always specially preferred them since 1809.²⁶

Many makers, including Michael Rosenberger (1766–1832), Johann Schanz and Johann Fritz (*fl.* 1801–1838) followed the same trend as Nannette Streicher, continuing along the line of improvement set out by Walter. Some makers, including Joseph Brodmann (*circa* 1771–1848) however, remained more conservative. For

24 The 7th of February 1809: "Streicher hat das Weiche, zu leicht Nachgebende und prallend Rollende der anderen Wiener Instrumente verlassen, und auf Beethovens Rath und Begehren seinen Instrumenten mehr Gegenhaltendes, Elastisches gegeben, damit der Virtuose, der mit Kraft und Bedeutung vorträgt, das Instrument zum Anhalten und Tragen, zu den feinen Drucken und Abzügen mehr in seiner Gewalt hat. Er hat dadurch seinen Instrumenten einen größern und mannichfachern Charakter verschafft; so daß sie jeden Virtuosen, der nicht blos das Leichtglänzende in der Spielart sucht, mehr wie jedes andere Instrument befriedigen müssen." Johann Friedrich Reichardt, *Vertraute Briefe geschrieben auf einer Reise nach Wien und den österreichischen Staaten zu Ende 1808 und zu Anfang 1809*, I, Amsterdam 1810, p. 311.

25 See: Tilman Skowronek, *Beethoven the pianist. Biographical, organological and performance-practical aspects of his years as a public performer*, Gothenburg 2007, here pp. 154–57. For the changes shown by the surviving instruments, see: Michael Latcham, "The development of the Streicher firm of piano builders under the leadership of Nannette Streicher, 1792–1823", in: Beatrix Darmstädter, Rudolf Hopfner and Alfons Huber (eds.), *Das Wiener Klavier bis 1850*, the proceedings of the symposium on the development of the piano in Vienna in the first half of the nineteenth century held in the Kunsthistorisches Museum, Vienna from the 16th to the 18th of October 2003, Tutzing 2007, pp. 43–71.

26 The 7th of July, 1817: "[...] Nun ein große Bitte an Streicher, bitten sie ihn in meinem Namen, daß er die Gefälligkeit hat, mir eines ihrer Piano mehr nach meinem geschwächten Gehör zu richten, so stark als es nur immer möglich ist, brauch ichs [...] vielleicht wissen Sie nicht, daß ich, obschon ich nicht immer ein Piano von ihnen gehabt, ich die ihrigen doch immer besonders vorgezogen seit 1809 [...]" *Beethovens Sämtliche Briefe*, 1907, III, pp. 174–75.

instance, in 1818 he was still using light hammers with only one or two layers of leather. Nonetheless by 1828, when he sold his firm to his former pupil Ignaz Bösendorfer (1794–1859), he too was following the trends of the day.

Walter is said to have striven to increase the power of Stein's pianos. Whatever his particular motives may have been, there can be no doubt that the main motive for his followers to do the same (and indeed for Nannette Streicher to develop along the same path) was the demand for more volume, deriving in part from the musical taste of the day but certainly also the consequence of both the size of the new concert halls and the appetites of the concert goers. The development of the piano in Vienna was thus not only characterised by a tendency towards uniformity but also by the demand for more volume. In his article on pitch in Schilling's *Encyclopädie* of 1835, the composer Gottfried Wilhelm Fink (1783–1846) wrote that

What one had formerly found to be too shrill [*grell*] and sharp was soon found not to be effective enough to the senses, continually more used to noisy habits.²⁷

In the same *Encyclopädie*, *grell* is defined by Gustav Schilling (1805–1880) as

[...] everything in general that either presents itself too loudly so that it affects the senses unpleasantly, or that contrasts too strongly or roughly with something else.²⁸

After 1811 Nannette Streicher made only minor changes in her designs, returning to a more conservative approach within her new style. But if between 1805 and 1811 it was her eclecticism that brought her pianos to the forefront in Vienna, it was the inventive and enquiring spirit of her son Johann Baptist Streicher (1796–1891) that consolidated the Streicher firm as leading piano makers in Vienna.²⁹ Johann Baptist had already worked in the family firm since 1812 and joined as a partner in 1824. His inventiveness, perhaps inherited from his grandfather Stein, is shown in his patent of 1823 for an action in which the hammers strike the strings from above, allowing a more sturdy construction without the weakness of the gap through which the hammers rise to strike the strings.³⁰ In 1824 he patented a new version of his grandfather's German action. He also built grand

27 "Was man sonst zu grell und scharf gefunden hatte, wurde von dem immer mehr ans Lärmende gewöhnten Sinne bald nicht wirksam genug gefunden." Gustav Schilling, ed., *Encyclopädie der gesamten musikalischen Wissenschaften, oder Universal-Lexicon der Tonkunst*, vols. I–VI, Stuttgart 1835–1838, II, pp. 233–34, heading "Chorton oder Orgelton".

28 "Grell ist überhaupt Alles, was entweder an und für sich zu stark hervortritt, so daß es die Sinne unangenehm afficirt, oder was [...] mit einem Anderen zu stark oder schroff contrastirt." *Ibid.*, III, p. 303, heading "Grell".

29 See: Uta Goebel-Streicher, *Das Reisetagebuch des Klavierbauers Johann Baptist Streicher 1821–1822*, Text und Kommentar, Tutzing 2009. Streicher's travels took him to Frankfurt, Paris, London and The Hague.

30 Twenty out of the thirty-eight surviving *Hammerflügel* made by the Streicher firm between 1825 and 1840 have Johann Baptist's down-striking action. According to the production numbers and the additional numbers for instruments with the down-striking action, inscribed on the instruments in various places, the firm made 327 *Hammerflügel* with the down-striking action out of a total of 1365 pianos in the same period.

pianos with an English action by 1836 and later produced over-strung pianos with a single cast iron frame.

Unlike the innovator Streicher, Conrad Graf (1782–1851), probably the most renowned Viennese piano maker of the first half of the nineteenth century, was generally conservative. Graf, who was an incomer from southern Germany, was a journeyman with Jakob Schelkle (†1802) in Vienna.³¹ In 1804 he married Schelkle's widow Carolina *née* Rathgeb. By 1809 he already employed a work-force of ten men and by 1835 this number had risen to forty.³² His firm is said to have produced three thousand pianos by 1841, that is, an average of about ninety-four a year. In the same period, the Streicher firm produced an average of about eighty-four pianos a year.

Graf consolidated the structure of the Viennese grand piano, adding considerably to its stability and by all reports, to the beauty of the tone. His surviving instruments are beautifully made with a meticulous attention to detail. Graf continued to use the Viennese action throughout his career. Exceptions to his conservative attitude include changes he made to the soundboard ribbing.³³ His earliest surviving instrument, *opus* 143, made in about 1814, has transverse soundboard ribs arranged in a fan-like pattern over the whole soundboard rather than in the conventional pattern in which a set of diagonal ribs are positioned more-or-less parallel to each other, crossed by a single long rib (sometimes called the cut-off bar) running more-or-less parallel to the straight section of the bridge above. Graf gave up his fan-like pattern for the soundboard ribs in about 1823 and instead used large flat ribs (rather than the usual small square sectioned ribs) running with even spacing parallel to each other, diagonally across the soundboard but with no long rib crossing them. Graf also made the wooden core of his hammers more pointed and used more layers of hammer leather.³⁴ He also used oak for the inner structure in his later pianos, still using the interlocking layers Bleyer claimed to have invented but with a more simplified layout. Like some other makers, Graf also experimented with quadruple-strung pianos. This was mentioned in a report from the Austrian industrial exhibition of 1835:

At that time [1812] Graf came up with the idea of making pianos with four strings for each key. These gained the approbation of the greatest artists because of the power and clarity of the tone, their ability to keep in tune for a long time and their light touch. They were imitated by the most renowned makers of the day.³⁵

31 Many details of Graf's life and work are from: Deborah Wythe, *Conrad Graf (1782–1851) Imperial Royal Court fortepiano maker in Vienna*, PhD. thesis, New York University, Ann Arbor 1990. Graf's beginnings in Vienna are described on http://wiki.hammerfluegel.net/index.php/Jakob_Schelkle. The author is grateful to Thomas Steiner for bringing this source to his attention.

32 See: Wythe, *Conrad Graf (1782–1851)*, *op. cit.* p. 45.

33 The details of the changes made by Graf were kindly provided by Gerard Tuinman. The Graf piano of *circa* 1814 is in private ownership in Belgium. The earliest piano with the flat ribs, of 1822/23, is in private ownership in Italy.

34 Editor's note: cf. illustration 1 of the article "Affect in action" by Christopher Clarke in this volume.

These pianos presented difficulties to the tuner, despite what the report stated, and Graf concentrated on triple stringing. One of the three surviving quadruple-strung pianos by Graf is now in the Beethoven-Haus in Bonn. Graf had lent this instrument to Beethoven in 1826 but reclaimed it after the latter's death.

At times, the rivalry for Beethoven's attention among piano makers was acrimonious. Beethoven's Broadwood piano, sent as a gift by the London firm of piano makers Broadwood & Sons in 1817, was already in complete disarray by 1820. In Beethoven's conversation book of March 1820 Matthäus Andreas Stein, Nannette's brother, who had earlier repaired Beethoven's Érard, wrote to Beethoven that he should not let Graf do anything to the Broadwood piano. In the same conversation book Stein complained about quadruple-strung pianos, saying that there was nothing worse. But in the end it appears that it was neither Stein nor Graf but another maker, Wilhelm Leschen (1781–1839) who was given the work in 1823. In 1826, Graf did his best to repair Beethoven's Broadwood again. It was while the Broadwood was away that Graf lent Beethoven the quadruple-strung piano.

The pianist and composer Friedrich Wilhelm Kalkbrenner (1785–1849) played a piano by Graf in the *Kleinen Redoutensaal* in Vienna in January 1824. A reviewer wrote that

The instrument on which Mr. Kalkbrenner played his pieces was completely excellent in sound, equality and strength of tone. It comes from the workshop of Conrad Graf who is generally valued as an exceptional master.³⁶

Before a concert in August 1829 in Vienna, Frédéric Chopin (1810–1849) wrote to his family that he preferred one of Graf's instruments to one by Matthäus Andreas Stein and that he was going to use it for the concert.³⁷ On his second visit to Vienna in the next year Chopin was again provided with a piano by Graf, both for practice and for the concert of June 1831.

Franz Liszt (1811–1886) played Graf's instruments for concerts in Vienna, Budapest and Berlin during the late 1830s and early 1840s.³⁸ In Vienna he played at the *Musikverein* and the *Große Redoutensaal*. At such concerts more than one piano was put into service. In one 1838 performance Liszt not only used two

35 "Er kam zu dieser Zeit auf die Idee, Klaviere mit 4 Saiten für jede Taste zu verfertigen, welche durch die Stärke und Deutlichkeit des Tones, lange Dauer der Stimmung und leichte Spielart den Beifall der größten Künstler fanden, und von den damaligen angesehensten Klaviermachern nachgeahmt wurden." *Bericht über die erste allgemeine österreichische Gewerbsprodukten-Ausstellung im Jahre 1835*, Vienna 1835, p. 31.

36 "Das Instrument, worauf Herr Kalkbrenner seine Tonstücke vortrug, ganz vorzüglich in Klang, Gleichheit und Stärke des Tons, ist aus der Officin des als ausgezeichneten Meisters allgemein geschätzten Herrn Conrad Graf", *Wiener Zeitschrift für Kunst, Literatur, Theater und Mode*, Vienna January 1824, 128. Quoted in Wythe, *Conrad Graf (1782–1851)*, *op. cit.*, p. 257. Translation: the present author.

37 Frédéric Chopin, *Chopin's letters*, ed. Henryk Opieski, trans. E.L. Voynich, New York 1931, p. 50–51.

38 This section on Liszt is paraphrased from Wythe, *Conrad Graf (1782–1851)*, *op. cit.*, pp. 264–73. There, the sources for the reviews are cited together with the original German.

instruments by Graf but also the Érard grand piano that Sigismund Thalberg (1812–1871) had brought with him from Paris. The reviewer noted that the “splendid, full tone” of the Érard piano contributed to Liszt’s performance. Of the two pianos by Graf it was noted that they “acquitted themselves very creditably against the Parisian in tone and tuning”. A week later Liszt played the same two pianos by Graf; on this occasion the reviewer wrote that “their beauty and clarity of tone are praiseworthy. This time the strings held and so did the tuning”.

Johann Baptist Streicher and Graf were certainly competitive. At the first trade fair held in Austria, in 1835, both these makers were awarded gold medals. One of Graf’s entries was a traditional piano, built with a Viennese action but sumptuously decorated with a mother-of-pearl and tortoiseshell keyboard. Although Graf and Streicher were both praised for the excellence of their instruments, Streicher was particularly singled out for his new inventions in the case construction and in the action design. This time, Streicher’s new action, his *Patent* action, was not based on the design of his grandfather, Johann Andreas Stein. As a *Stoßzungenmechanik*, in which the hammers are mounted in a separate hammer rail independently of the keys, Streicher’s new action was akin not only to the action used by Christoph and Kober in Vienna around 1800 but also to the action developed by the traditional rivals of the Viennese makers, the English and the French.

A review of Liszt’s concert of 8th May 1838 noted the following:

We often reproach the piano, saying that it is a limited instrument, hardly suitable of producing grand effects. Such reproach has already been refuted by other masters but by none so triumphantly as Liszt. In the Weber Concerto he asserted the power of the instrument over against a very full orchestra. One can rightfully say that with the theme of the *I Puritani* variations his playing was good for a whole orchestra. Who can argue with these facts and say that the piano is limited? The impression which Liszt made on his listener with his fiery and full-voiced performance of this theme was more powerful than I have ever experienced in a concert [...]. The piano was by Graf.³⁹

In 1769, it was a musical instrument, Stein’s *Poly-Tono-Clavichordium* that was said to produce the sound of a “complete orchestra”. In 1838, it was the musician, Liszt, who was reported to have created the effect of a “whole orchestra”. This change in emphasis from the possibilities offered by an instrument to the capabilities of

39 “Man hat dem Clavier oft den Vorwurf gemacht, es sey ein beschränktes, zu Hervorbringung eigentlich großartiger Effecte wenig taugliches Instrument. Solcher Vorwurf ist nun zwar schon durch andere Meister, aber doch keinen noch so siegreich, als durch Lißt, widerlegt worden. In dem Weberschen Concerte behauptete er die Macht des Instruments selbst einem stark besetzten Orchester gegenüber, und bei dem Thema der Puritaner Variationen kann man mit Recht sagen, daß sein Spiel ein ganzes Orchester ersetzte. Wer will gegen die Thatsache eines solchen Effectes noch die beschränktheit des Instrumentes behaupten? Der Eindruck, welchen Lißt durch den feurigen und vollstimmigen Vortrag dieses Themas auf seine Zuhörer hervorbrachte, war ein so mächtiger, wie ich ihn noch nie in einem Concerte erlebte [...] Das Clavier war ein Grafisches.” *Allgemeine Theaterzeitung und Originalblatt für Kunst, Literatur, Musik, Mode und geselliges Leben* the 10th of May, 1838, pp. 415–16. Quoted in Wythe, *Conrad Graf (1782–1851)*, op. cit., p. 267. Translation: the present author.

the player was already foreshadowed by Stein in 1782 when he understood that expression at the piano was a matter of the player's touch, not a matter of having different stops. But although Stein relinquished the variety of instrumental timbres he had enjoyed earlier in his career, he would never have taken part in the nineteenth-century mania for volume. Sebastian Winter (1743–1815) was attached to the court at Donaueschingen, first under Josef Wenzel, *Fürst zu Fürstenberg* (1728–1783), and then under his successor, Joseph Maria Benedikt Karl, *Fürst zu Fürstenberg* (1758–1796).⁴⁰ Winter took care of the musical requirements at court, for instance corresponding with the firm Spath & Schmahl in Regensburg in 1780 about the acquisition from them of a "*Piano Forte Clavecin*" with knee levers, one for *una corda* and one for disengaging the dampers, as well as hand stops for the moderator and the harp stop.⁴¹ Prince Joseph Maria Benedikt Karl was a keen piano player; in a later correspondence with Stein (June 1784 to May 1785) Winter ordered two instruments for the prince, one of them a clavi-chord, the other a *Forte Piano*. Stein was occupied with repairs to his organ in the Barfüßerkirche in Augsburg and was delayed with the prince's order. Winter must have written a letter expressing the latter's impatience; part of Stein's reply, written on the 30th of March 1785 included the following:

[...] because these instruments are only made for sensitive souls, there are certain persons for whom they are no use at all, e. g. those who look for the beauty of the music in the strength with which they beat on them [...].⁴²

40 This history is paraphrased from Horst Walter, "Mozarts Friseur und die Steinschen Klaviere", in: Ingrid Fuchs (ed.), *Festschrift Otto Biba zum 60. Geburtstag*, Tutzing 2006, pp. 647–664.

41 This was the usual disposition of the instruments by Spath & Schmahl known from 1790 onwards as *Tangentenflügel*. The term *Forte Piano Clavecin* can be equated with the French *Clavecin à piano et forte* or the Italian *Cembalo col piano e forte*, terms referring to a harpsichord with hammers, that is, a piano. The so-called *Tangentenflügel* was also such a harpsichord with hammers. The hammers are the free-flying staves of wood today called tangents.

42 "[...] gibt es gewisse Personen vor die diese Instrumente gar nicht taugen. Z. E. die, welche die schönheiten der Musick in der Stärcke deß Draufschlagens suchen, da sie doch bloß vor Empfindsame seelen gemacht [sind ...]." Quoted in Walter, "Mozarts Friseur und die Steinschen Klaviere", *op. cit.*, pp. 656–57. Translation: the present author. Winter's letters to Stein are lost.



Figure 1: Fortepiano, ca. 1838, Conrad Graf, Vienna, purchase, Amati Gifts, in memory of Frederick P. Rose, 2001 (2001.272).



Figure 2: Nameplate and ormolu frame of fortepiano by Conrad Graf.