

Playing Mozart's Piano

An Exercise in Reverse-Engineering

T O M B E G H I N

IT WAS MICHAEL LATCHAM, in a 1997 issue of *Early Music*, who dropped the bombshell: Mozart's fortepiano showed marks of having been substantially altered, most probably after the composer's death.¹ And while we had been used to reports of subsequent generations tampering with historical artifacts, "restoring" them with the best of intentions, this story was different: the alterations were almost certainly by Anton Walter himself, the original maker of the instrument, in specialist circles almost as famous as his client. Organological evidence finds biographical support in a letter by Mozart's widow Constanze to their son Carl in Milan: "[Your father's piano] is as good as it was, and I would say even better than it was, first because I took very good care of it and second, because Walter, whose [instrument] it is, was kind enough once again to completely re-leather it for me [*befüttern*] and to restore it [*her zu stellen*]."² Thus, some time between 5 December 1791 (Mozart's death) and 17 January 1810 (the date of Constanze's letter), Walter would have received the instrument in his workshop and used the opportunity to "update"

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¹ Michael Latcham, "Mozart and the Pianos of Gabriel Anton Walter," *Early Music* 25 (1997), 383-400.

² Modern-day dictionaries define *herstellen* first and foremost as "to produce, to manufacture, to make." But the 1808 Viennese edition of Adelung (*Grammatisch-kritisches Wörterbuch der hochdeutschen Mundart*) defines the verb as "to restore to the previous state, to reinstate the previous [state of] being, after the Latin *restituere*" (*in den vorigen Zustand versetzen, das vorige Daseyn wieder geben; nach dem Latein.[ischen] restituere*) with no mention of "making from scratch." (The Dutch *herstellen* still has this meaning of "to repair.") In "Mozart without the Pedal?" (*The Galpin Society Journal* 55 [2002], 332-350) Paul Badura-Skoda suggests that *herstellen* in this context simply means "to make playable" (*spielbar machen*), which would have consisted of "regulating and tuning" (see his note 12). Going by Adelung, however, Latcham's translation of *herstellen* as a technically more-elaborate "restore" strikes me as linguistically accurate. See <http://www.ub.uni-bielefeld.de/diglib/adelung/grammati/> vol. 2, column 1141, accessed 17 October 2006.

his old instrument, turning a *Stoss-* into a *Prellmechanik* and at the same time attaching knee levers to the already existing hand stops to raise the dampers. (A *Stossmechanik*, or “pushing action,” is one where a lever or “hopper” pushes the hammer towards the string; in a *Prellmechanik*, or “flipping action,” the hammer is “pulled” into an upward motion towards the string. A more detailed description of these principally different actions follows below.)

The first claim, although spectacular, did not meet with immediate resistance. It was mostly the second—that Mozart would not have been able to “pedal” in the modern sense, since one cannot play and operate hand stops at the same time—that provoked a true polemic in subsequent issues of the journal.³ Malcolm Bilson and Eva Badura-Skoda quoted specific passages from Mozart’s scores that “prove” the absolute necessity of pedaling:

Musicians familiar with Mozart’s piano music know well all those passages which demand the “pedal” effect of lifting the dampers with the leg, passages where it is absolutely impossible to free a hand in time for pulling a knob or depressing a lever.⁴

Latcham’s suggested timing rather than the fact of the adjustment itself was contested. Surely Mozart himself, so the counter-argument goes, would have ordered the addition of knee levers, most probably even before the instrument ever left Walter’s shop in 1782.⁵ It is true that, by that time, Mozart would have been familiar with knee levers, specifically (but not exclusively) through instruments by Johann Andreas Stein. We are all acquainted with Mozart’s letter to his father on 17 October 1777 in which he praises Stein’s “machine that one presses with the knee” (*die Maschine wo man mit dem knie drückt*) as

³ Eva Badura-Skoda, “The Anton Walter Fortepiano—Mozart’s Beloved Concert Instrument. A Response to Michael Latcham.” With a reply by Latcham. *Early Music* 28 (2000), 469-74. Subsequent pieces of correspondence were published from Richard Maunder (*Early Music* 28 [2000], 685-86), Marius Flothuis (*Early Music* 29 [2001], 156), Malcolm Bilson, and David A. Sutherland (*Early Music* 29 [2001], 333-34).

⁴ Eva Badura-Skoda, “The Anton Walter Fortepiano,” 470.

⁵ This date of acquisition, “between January and May 1782,” has been proposed and argued for by Siegbert Rampe. It has been widely accepted, including and without further explanation, by Latcham. This is slightly ironic, because Rampe used the added knee levers as evidence that Mozart purchased a finished instrument from Walter (which would have to be dated “ca. 1781”). The assumption here is that it was Mozart himself who requested the knee levers and that an instrument ordered by him would not show this mark of alteration. At the time of his study, Rampe was unaware of the much more intrusive changes to the action. See Siegbert Rampe, *Mozarts Claviermusik, Klangwelt und Aufführungspraxis: Ein Handbuch* (Kassel: Bärenreiter, 1995), 43-44, and Michael Latcham, “Mozart and the Pianos of Gabriel Anton Walter,” notes 6 and 10.

being “better made than the others” (i.e., than in other builders’ instruments). “I just need to barely touch it, and there it goes already; and as soon as one removes the knee just a little, one doesn’t hear the slightest after-ring (*nicht den mindesten nachklang*).”⁶

I would have remained an outsider to the debate. Regardless of Mozart’s piano, however, and mostly through my own work on Haydn, I was becoming conscious of an older, pre-1785 Viennese tradition of keyboard construction.⁷ So I approached Chris Maene, the maker of my ca. 1800 Walter, and asked him whether anything could be done “to make it sound older.”⁸ Maene recognized the analogy with the Walter/Mozart story and responded: “If Walter managed to modernize Mozart’s piano, then I can do something similar . . . in the opposite direction.” Boldly he decided to construct a new instrument altogether, modeled after Mozart’s, but with a “reversely” engineered action and with the original option of damper-raising hand stops.⁹ A richly documented book on Mozart’s fortepiano by Rudolph Angermüller and Alfons Huber (2000) provided the necessary visual information, including a detailed X-ray of the piano, and pictures of *stoss*-actions from other instruments.¹⁰ But Chris Maene did not stop there. To clearly capture “before” and “after,” he constructed a separate

⁶ W. A. Mozart to his father, 16 October 1777, *Mozart: Briefe und Aufzeichnungen*, ed. Wilhelm E. Bauer and Otto Erich Deutsch (Kassel: Bärenreiter, 1962) 2: 69. See the appendix to this essay for a full translation. All translations from all original German and French sources quoted in this essay are mine.

⁷ A boxed set with the complete recording of Haydn’s solo keyboard music on seven keyboards (from a 1760s clavichord to a 1798 English Longman, Clementi & Co. grand piano) is due out from Analekta by January 1, 2009. Apart from the Mozart Walter under discussion here, these recordings feature two other noteworthy new construction projects: the first replica ever of a 1755 Johann Leydecker Viennese harpsichord, with the so-called Viennese short octave, by Martin Pühringer (Haslach, 2004) and a 1788 Ignaz Kober square piano (*Tafelklavier*) by Chris Maene (Ruisselede, 2007). In this larger context of several types of keyboard instruments, it is worth remembering that Latcham’s original study was of all extant pianos by Anton Walter and not exclusively of Mozart’s instrument.

⁸ This “Dorothean Walter” from the Nuremberg Germanisches Nationalmuseum has been the most popular model for modern-day makers of Walter fortepianos.

⁹ “Reverse engineering” replicates a product by analyzing the working principles of the model rather than by exactly copying the individual parts. *Mutatis mutandis*, and to a certain degree, this is what all modern instrument makers do when building a replica of an old model. But this particular project is “reverse” in the literal sense as well: an earlier engineered result is uncovered, its workings reconceived and reconstructed.

¹⁰ Rudolph Angermüller and Alfons Huber, eds., *Der Hammerflügel von Anton Walter aus dem Besitz von Wolfgang Amadeus Mozart. Befund-Dokumentation-Analyse* (Salzburg: Internationale Stiftung Mozarteum Salzburg, 2000).

prell-action to fit the same instrument. Pull out the one and replace it with the other—do these actions, in one and the same case, produce different sounds? Do they elicit from the performer different approaches, compatible or not with what we thought we knew about Mozart?

These became the driving questions for a project I undertook in 2006 to record works by Mozart on each of the two versions of the instrument, and one particular work, the D-Minor Fantasy K. 397, on both.¹¹ This essay elaborates on some of the answers I arrived at during that project. Ideally, it is to be read in tandem with listening to the recording. Technology is the premise here: *what if* Mozart's piano only had hand stops in conjunction with a Viennese *stoss*-action? To ask this question and to test it in the form of an experiment seemed more constructive than to continue a debate that risks deepening wedges between two groups of specialists, the organologists and the musicians/musicologists.¹² Period instrument enthusiasts should especially appreciate the exercise: the whole movement of historical performance has been built on a willingness to revise our knowledge and traditions by acquainting ourselves with new, unfamiliar, but relevant, tools. It is to be hoped that more builders will start providing replicas of Viennese instruments with *stoss*-actions, with or without hand stops. But the purpose here is not to replace one icon with another: Mozart's piano, it should be stressed, is but one element in the much richer and more complex reality of "Mozart the keyboardist." It is in this context, with a new exciting tool under my hands but also with the realization that its relevance is far from exclusive, that I will offer some alternative readings of Mozart's 1777 comments on Stein's pianos at the end of this essay.

(Re)constructing Mozart's Piano

If technology is indeed the premise of this exercise, let us start by recalling the most significant pieces of evidence that Mozart's piano was altered and why these alterations most probably occurred after his death:

¹¹ Tom Beghin, *Wolfgang Amadeus Mozart: Sonatas K 331 Alla Turca / K 570 / Fantasia K 397 / Adagio K 540. Et Cetera KTC 4015* (2006). I thank producer Koen Uvin (Klara, Flemish Public Radio) for his vision and support.

¹² Twice now I have assigned the *Early Music* debate as reading for my undergraduate students (two classes of about twenty) and both times a large majority was struck—and taken aback—by the combative rhetoric that typified almost all previous exchanges on the subject, especially (I must admit, as one of them) from the musicians' side: sharp sarcasm, *ad hominem* attacks, arguments by authority or by personal experience.

1. Where now there is an escapement rail, originally there must have been a different wooden part, which was later sawn out rather crudely from the keyframe. No longer essential, the side walls of the frame were cut down to approximately half of their width. On these ends the present key guiding rail was fitted rather carelessly.¹³
2. The action has been shifted to the front so that the keys slightly project over the edge of the case. Furthermore, the front side of the soundboard has been cut. We can conclude that the hammers once had different striking points; in any case the current hammers do not correspond with the original geometry of the action.
3. The keys have been cut at the back; they must originally have been somewhat longer and guided differently.
4. Originally, the damper rail could only be raised by two hand stops. "Pedaling" was not possible. At some later point, two rods were attached to the hand stops, which were connected to two added knee levers.
5. The hammer *Kapsel* are made of brass, which is a strong indication that the action is not original. The use of brass—as an alternative to wood—cannot be traced back before ca. 1785 and is mentioned in the sources only after 1790.¹⁴

These changes are consistent with those in a similar piano by Walter, presently in the Haydn-*Haus* in Eisenstadt, also to be dated 1782, which confirms a practice of "updating" or "modernization." "Such renovation," Latcham writes, "was surely as common a practice then as it is now."¹⁵ The changes suggest a different action, one documented in a few extant Viennese pianos of the last quarter of the eighteenth century, most notably a 1785 Ignaz Kober grand piano.¹⁶ The *Stossmechanik* remained in use in square pianos, well after the *Prellmechanik* broke through. "Until long after 1780, also in South German-Austrian realms," Huber concludes, "the *stoss*-actions remained the norm rather than the exception."¹⁷

¹³ This "wooden part" must have been the original hammer bank.

¹⁴ See Alfons Huber, "The Actions of Mozart's Fortepiano," liner notes to my Mozart-CD. High-quality illustrative color photos may be found in *Der Hammerflügel von Anton Walter* (see n. 10 above), tables VI to XX. Huber's liner notes are a short version of his "Hatte Mozarts Hammerflügel ursprünglich eine Stoßmechanik?" in *Der Hammerflügel von Anton Walter, 187-99*. See also his "Was the 'Viennese action' originally a *Stossmechanik*?" *The Galpin Society Journal* 55 (2002), 169-82.

¹⁵ Latcham, "Mozart and the Pianos of Gabriel Anton Walter," 393.

¹⁶ Huber, "Hatte Mozarts Hammerflügel ursprünglich eine Stoßmechanik?" 193.

¹⁷ *Ibid.*, 192.



Figure 1 *Prellmechanik (top) and Stossmechanik (bottom)*

Extant examples of *stoss*-actions served as models for Chris Maene’s reconstruction of a “before” in Mozart’s piano, using the “after” (the present *prell*-action) as a guide for the proportions of the “before” version. Figure 1 shows an isolated key, hammer, and escapement from each. In the *Stossmechanik* (shown at the bottom) a hopper or *Stosszunge* pushes the hammer, which hangs in its own rail independently over the key, towards the string, catapulting it into free flight. The hammer of the *Prellmechanik*, on the other hand, hangs in a *Kapsel* that is attached to the key; when the keyboardist’s finger goes down, the hammer is pulled up at the back, the ascending hammer perfectly paralleling the descending motion of the finger. Both actions, it should be emphasized, have an escapement. Figure 2 shows two respective hammers near the point of escapement. In the *stoss*-action (a), it is the hopper itself, held in place by a spring, which ingeniously “escapes” from the ascending hammer, allowing the latter to fall down again, whereas in the *prell*-action (b), the escapement has become its own separate part, in charge of releasing the beak of the hammer. Thus when Mozart in 1777 highlights the escapement in Stein’s instruments



Figure 2 (a) *stoss-hammer nearing escapement*



Figure 2 (b) *prell-hammer nearing escapement*



Figure 3 (a) one hand stop (on the right hand side)



Figure 3 (b) knee levers

(“His instruments in particular excel over others in that they’re made with escapement. Only one in a hundred [makers] bothers with this,”) he praises the generic quality that is present in *both* versions of the action.¹⁸

Figure 3 contrasts the two damper-lifting mechanisms of the Maene instrument, which, unlike Mozart’s Walter in its present state, have been designed to be operated independently.¹⁹ The hand stops are state-of-the-art: their ends slope down and smoothly slide under the damper rail, respectively on the left and the right hand side. (Mozart’s stops would have been held up by the friction of screws.) Of the two knee levers, the right raises the damper block and the left operates a moderator. In Mozart’s instrument, however, the moderator is operated by yet another hand stop through the center of the name board. Paul Badura-Skoda, furthermore, points out that the right knee lever on Mozart’s instrument is designed to raise the right hand side of the damper rail only and the left knee lever all the dampers.²⁰ In our reconstructed instrument, this diversified handling of bass versus treble is entirely possible, and with much more control and nuance, when using the hand stops; for the construction of the knee levers, however, we opted to copy the design and function of the knee levers typical for Walter’s instruments of the 1790s rather than the idiosyncratic hybrid of Mozart’s instrument. (In the overall chronological scheme, the fact that the added knee levers would have preserved some of the earlier possibilities of diversifying one’s “pedaling” is perhaps significant in itself.)

Figure 4, finally, shows the whole instrument, (a) in its reconstructed “original” version with the familiar pose of Mozart’s piano (music desk on closed lid)²¹ and (b) in its double identity of “before” and “after.”

¹⁸ In fact, the Stein piano that Mozart described to his father is unlikely already to have been constructed with the German action now firmly associated with Stein. Michael Latham, “Swirling from one level of the affects to another: the expressive Clavier in Mozart’s time,” *Early Music* 30 (2002), 502-20. See also below in text.

¹⁹ Since in Mozart’s Walter hand stops and knee levers are now permanently connected by rods, an independent use (either using stops or levers) is no longer an obvious option.

²⁰ Paul Badura-Skoda, “Mozart without the Pedal?” 335.

²¹ See the cover image of Angermüller/Huber (2000).



Figure 4 (a) fortepiano Anton Walter (ca. 1781), by Chris Maene (2005)



Figure 4 (b) same instrument, with the two actions

Whether by Foot, Knee, or Hand: Why Raise Dampers?

My main argument is that the issues of pedal and action are very much related and that one cannot talk about the one without thinking about the other.²² This is not to say that in reality the two were always in exact correlation with one another, as in *stoss*/hand or *prell*/knee, but that the discussion of any “musical” need for knee levers should take place in the context of how the instrument was conceived and constructed, as one complete entity. This particular reconstruction of Mozart’s instrument lends itself perfectly to such a discussion, since “before” and “after” are clearly separable, to be tested, appreciated, and described on their own terms. But the discussion need not restrict itself to the “black” or “white.” We can talk about the “grey” as well, as in *stoss* in combination with “knee,” or *prell* in combination with “hand.” The question here would read: if it was indeed Mozart himself who ordered the addition of knee levers, how exactly would he have used them? Is it possible that his versions of grey were different to the ones we now like to project on him? Asking these questions may very well deflate the issue of pedal; that is, the distinction between hand and knee may prove less crucial or significant than we have been able or willing to accept. (The same actually holds, at the next stage of development. The question of when or how the knee was used differently to the hand may be identical to why the foot eventually proved superior to the knee.)

I propose to start with an example from long after Mozart’s death, when pedals had supplanted knee levers and Viennese *stoss*-actions would have been but a distinct memory, if a memory at all. (At this time, in the 1820s, Viennese builders would have prided themselves on their own “Viennese” *prell*-action, to be dissociated from the *stoss*-actions in English pianos.) In the fourth variation of Beethoven’s Sonata op. 111 (see example 1, with my own pedal indications) I use all the means of a typical early-nineteenth-century Viennese piano—the *una corda* and moderator pedals simultaneously pressed down with my left foot, the damper pedal pressed down with my right—to make my sounds as ethereal as possible, undisturbed, as much as possible, by any changes at all. By this time, these devices may have been operated by foot rather than knee,

²² Similarly to Paul Badura-Skoda, Malcolm Bilson followed up on the *Early Music* polemics with an essay that focuses on pedaling exclusively. See his “Did Mozart ‘Pedal,’ and If So, How Much and Where?” in *Essays in Honor of László Somfai on His 70th Birthday: Studies in the Sources and the Interpretation of Music*, ed. László Vikárius and Vera Lampert (Lanham, Maryland: The Scarecrow Press, 2005), 181-92.

Example 1 Beethoven, *Sonata op. 111*, second movement, fourth variation, 88-98 mm. (pedal indications mine)

but just the mechanical noise involved in changing the damper pedal—those dampers and pedal mechanisms simply were not as quiet or efficient as modern ones—would distract from the effect I am trying to create. In fact, only at the low A in m. 89 and much later, at the regaining of the C-major tonic chord on the second beat of m. 96, do I “refresh” my damping before delicately blurring tonic and dominant harmonies in the next few measures. This passage, along with the amazing cadenza at the end of the piece, where any notion of dissonance, harmony, rhythm, or timing is dissolved and gives way to a “milky way of tones” (Heinrich Schenker), is as much a celebration of the old celestial stop as possible, an effect that I achieve by keeping not just two, but three pedals firmly pressed down *all the time*.²³ I am holding my breath, very

²³ Schenker raves about “an almost rule-less diversity” (*eine schier regellose Mannigfaltigkeit*) that reaches a climax in the fourth variation, which, “as a milky way of tones (*eine Milchstraße in*

much as Quantz wanted a cadenza to be conceived and performed.²⁴ Now, I distinctly remember one particular live performance of this “beyond cathartic” final moment when one of the pedal rods, poorly assembled in the pre-concert haste, snapped with a thunderous crack. How, at that embarrassing moment, did I crave the old technology of a hand stop!²⁵

In his *Méthode des méthodes* of 1840 François-Joseph Fétis writes:

In the present state of the piano, and the direction one has given it, all that can contribute towards increasing the force of the sound must be used: in this respect the current school makes very good use of the pedals, especially the one that raises the dampers.²⁶

He continues by linking the use of the damper pedal with changes of harmony, which sounds very familiar to us, and explains that “the music of today’s school, constantly modulating, forces one to put one’s foot in an almost incessant motion, which, in the first stages of this exercise, causes some embarrassment to students, but which soon becomes an easy habit.”²⁷ Ignaz Moscheles, listed as co-author on the cover of the method, but in truth more the endorser of an existing product, must have felt a little hesitant when he read these lines in Fétis’ draft.²⁸ During his later Leipzig Conservatory years, Moscheles himself

Tönen) yet creates a round, satisfying sense.” See his *Beethoven: Die letzten Sonaten – Sonate c moll op. 111*, ed. Oswald Jonas (Vienna: Universal Edition, s.d.), 83.

²⁴ “Cadenzas for voice or for a wind instrument must be so constituted that they can be performed in one breath.” (*Die Cadenzen für eine Singstimme oder ein Blasinstrument müssen so beschaffen seyn, daß sie in einem Athem gemachet werden können.*) Johann Joachim Quantz, *Versuch einer Anweisung, die Flöte traversière zu spielen* (Berlin, 1752), facsimile by Bärenreiter (Kassel, 1997), xv.17 (156).

²⁵ The when and where of this live performance may remain unspecified, but a recording of my performance, with the properly assembled pedals of an 1825 Johann Fritz, can be found on Malcolm Bilson, Tom Beghin, David Breitman, Ursula Dütschler, Zvi Meniker, Bart van Oort, and Andrew Willis, *Beethoven: The Complete Piano Sonatas on Period Instruments* (Claves CD 50-9707/10, 1997).

²⁶ *En l’état actuel du piano, et dans la direction qu’on lui a donnée, tout ce qui peut contribuer à l’accroissement de la puissance du son doit être employé : l’école actuelle fait dans ce but un très bon usage des pédales, et surtout de celle qui lève les étouffoirs.* (François Joseph Fétis and Ignaz Moscheles, *Méthode des Méthodes de Piano ou Traité de l’Art de jouer de cet Instrument* [Paris, 1840], facsimile by Minkoff Reprint [Geneva, 1973], 75.)

²⁷ *Il résulte de là que la musique de l’école actuelle, modulant sans cesse, oblige à mettre le pied dans un mouvement presque incessant, qui, dans les commencements de cet exercice, cause quelque embarras aux élèves, mais qui devient bientôt une habitude facile.* (Ibid.)

²⁸ Fétis proudly announces in his preface: “Après avoir terminé mon travail, j’ai désiré le soumettre à l’examen d’un grand artiste qui fut en même temps professeur expérimenté, et le nom de M.

Example 2 Moscheles, *Sonate mélancolique*, op. 49, mm. 1-16

complained about the piano students' increasing reliance on "the pedal," now increasingly in singular, developing from one possible register to a mere "habit."²⁹ The analogy with vibrato in string playing seems appropriate.

A more "conservative" use of the pedal in the 1820s or 30s might be one where moments of pedaled sound are alternated with moments of dampened sound, as, for instance, at the beginning of Moscheles' own *Sonate mélancolique* op. 49 (see example 2, which shows Moscheles' own pedal marks).³⁰ The effect of the opening theme is largely dependent on the raised dampers, which allow the tones of the right hand (passing ones, accented and unaccented, a long trill) to rub against the widely spaced harmonic arpeggios of the left. (A period Viennese piano allows for both registers of the keyboard, treble and tenor, to be fully explored and savored at the same time.) In my performance, I take

Moscheles s'est immédiatement présenté à mon esprit. [...] [S]a critique m'a éclairé sur plusieurs points, et je lui dois d'heureuses corrections." In addition to reviewing the manuscript, Moscheles compiled the etudes that were added to the method.

²⁹ See David Rowland, *A History of Pianoforte Pedalling* (Cambridge: Cambridge University Press, 1993), 119. In 1847, Moscheles still spoke in the plural: "The pedals are auxiliaries; whoever makes them of primary importance puts in evidence the incapacity of his own fingers." (The context here is the over-use of the soft rather than the damper pedal.) See Charlotte Moscheles, *Life of Moscheles*, trans. A. D. Coleridge (London: Hurst and Blackett, 1873) 2: 176.

³⁰ For a recording, see my CD of piano works by Ignaz Moscheles alternately on a ca. 1830 Gottlieb Hafner and 1827 John Broadwood & Sons (Eufoda 1267, 2000).

Moscheles' pedal marks to apply to the whole opening period and I especially enjoy the clash of the ninth of a dominant chord in measure 7 (D-natural in the left hand) with its own premature resolution (C-sharp in the right), harmony and melody mingling to create an overall bittersweet impression, the pedal in a crucial way contributing to this abundantly melancholy yet breathtakingly beautiful theme. As the last appoggiatura (m. 8) gets resolved, on an F-sharp minor tonic, I remove my foot. The following measures are all about silence, appoggiaturas and resolutions—the void, lonely moments of melancholy. From a modern point of view, it may seem drastic to remove one's foot from the pedal ("Why not leave it there for later use?") and it is true that my own narrative implies some deliberateness in the act of removing the foot (analogous to an oratorical gesture of the hand), but in the mundane context of early-nineteenth-century Viennese technology, the "on-floor" position of the foot was still very much the default: those thinly plated pedals with very little upward resistance simply do not allow for a foot to "rest" on them—the contraction in one's lower leg muscles would become too painful.

The choice is not between color and clarity. It is about both, alternately, the one in contrast with the other. But what about color and clarity together? What did C. P. E. Bach have in mind when in 1762 he recommended the use of the undamped register as most attractive for improvising (*zum Fantasiren*), "if one knows how to deal with the resonance" [*Nachklingen*]?³¹ Now it becomes crucial to define what "resonance" we are talking about, and here, the action—in its broadest sense, including the hammer coverings—comes into play. Anton Schindler famously explained that Beethoven's marking "*sempre pp e senza sordino*" at the opening of his "Moonlight" Sonata, op. 27 no. 2, indicating that the whole movement should be played *pianissimo*, i.e., with moderator, and with raised dampers, "has lost its validity because of the [enhanced] volume of tone [*Tonfülle*] in the instruments of our day."³² This is in 1858, more

³¹ *Das ungedämpfte Register des Fortepiano ist das angenehmste, und, wenn man die nöthige Behutsamkeit wegen des Nachklingens anzuwenden weiß, das reizendste zum Fantasiren.* (C. P. E. Bach, *Versuch über die wahre Art das Clavier zu spielen* [Berlin, 1762], facsimile by Bärenreiter [Kassel, 1994], 2: xli.4 [327].)

³² *Hier sey beigehend bemerkt, daß die Vorschrift des Componisten, den ersten Satz der Sonata quasi Fantasia durchaus mit gehobener Dämpfung (senza sordini) zu spielen, wegen der Tonfülle in den Instrumenten unserer Zeit gegen die frühere ihre Geltung verloren.* (Anton Schindler, *Biographie von Ludwig van Beethoven*, 4th ed. [Münster, 1871], facsimile by Georg Olms Verlag [Hildesheim, 1970], 1: 82.) In the Musical Part of the Biography Schindler elaborates, his comments smacking of the evolutionistic thinking that was typical of his own times: "As we know [from Beethoven's marking], the whole movement should be played with raised dampers, which was done with the

than a full century after Bach's statement, which in all likelihood was based on his familiarity with Silbermann's instruments, at a time when the identity of the piano was not at all clear. Was it, as Michael Cole asks, a pianoforte or a pantalon?³³ Fascination with Pantaleon Hebenstreit's enormous mallet-operated dulcimer, by definition without dampers, seems inextricably linked with the piano's early history, and Silbermann's invention of a hand-stop to raise the dampers must be understood in the same spirit as my Mozart grand piano: two instruments in one, not for curiosity's sake, but responding to an aesthetic desire as well as, perhaps, appealing economically (you can't decide between a pantalon and a piano? Well, here's two in one).

Mozart's "Pedaling"

Eva Badura-Skoda quoted two Mozart passages in particular to prove the necessity of pedal: the Andante from Sonata K. 311 (see example 3) and Variation Four of the first movement of Mozart's Sonata in A Major K. 331 (see example 4). Representing the organologists, Richard Maunder somewhat surprisingly took a different stance, advocating no pedal at all: "The bass notes obviously do not need to be sustained for their full value (which C. P. E. Bach teaches us would be incorrect)."³⁴ Apart from the fact that of the

knee. The pedal did not exist yet in those days. The short-toned claviers, which did not allow the sound of the simple melody to sustain as it should (similarly to the sound of a horn), necessitated this by no means efficient expedient, because all [the other] struck tones would have resonated as well. With an increased volume of tone already in the second decade, educated pianists recognized this marking as disturbing and used the by then existent pedal with wise moderation. Czerny, however, who immediately started applying this improvement of the instrument with excess, as Chopin later did in his mazurkas, says in the fourth decade about the first movement of this sonata now in the context of a still bigger volume of tone: "The indicated pedal is to be renewed with every bass note." Schindler then scolds Czerny for changing "adagio" to "andante." From our perspective it would seem that, as Schindler remembers the old technology of "knee," he really means "hand." And if the starting position is indeed "dampers off completely" (leaving aside Schindler's rather limited assessment of the artistic reasons behind it), is it possible that Schindler is bringing Czerny to task for "using" the pedal too much, i.e., both pressing *and* releasing it, resulting in sounds that are too smooth or too clean? See Schindler, *ibid.*, 2: 244-45.

³³ See the chapter "Pianoforte or Pantalon?" in his *The Pianoforte in the Classical Era* (Oxford: Clarendon Press, 1998), 144-77, and "The Pantalon – and What It Tells Us," in *Instruments à claviers – expressivité et flexibilité sonore / Keyboard Instruments – Flexibility of Sound and Expression*, ed. Thomas Steiner (Bern: Peter Lang, 2004), 63-88.

³⁴ Richard Maunder, "Mozart's Walter Fortepiano," correspondence in *Early Music* 28 (2000), 686. Maunder is referring to vol. 1, iii.22 (127) of Bach's *Essay*: "Those notes that are neither detached, slurred, or fully held, one keeps for as long as half of their value, unless *tenuto* (held) is indicated above, in which case one keeps them for their full length." (*Die Noten, welche weder gestossen*



Example 3 Mozart, Sonata in D Major K. 311, second movement, Andante, mm. 80-end (with added indications for possible performance with hand stops)

two compositions the latter may but the former certainly *does not* bear any direct correlation with Mozart's 1782-Walter (the dates of the sonatas are 1783 and 1777 respectively), I find it puzzling that the possibility of a pantalon approach has never seriously been entertained.³⁵ In the first volume of his *Essay* (1753), Bach clearly thinks in a clavichord idiom, where, much more than in the world of pianos (square or grand) it is the fingers that control the exact length of notes. Not just the nature of the attack but also, and arguably more significantly, the exact moment when to release a note has to be planned and decided by the player. Also in the clavichord world, however, the waters have become muddled: we have become increasingly aware and have started paying attention to extant clavichords with pantalon-stops.³⁶ The technology, thus, of creating undamped, reverberant sounds widely existed and must have been appreciated. But what was it used for?

noch geschleiffit noch ausgehalten werden, unterhält man so lange als ihre Hälfte beträgt; es sey denn, daß das Wörtlein Ten: (gehalten) darüber steht, in welchem Falle man sie aushalten muß.) In this particular case (of K. 311), the argument is of course that Mozart's notation of quarter notes in the bass specifies that they *should* be held at least for the time it takes to play the whole broken chord in the left hand; in other words, Mozart does specify some kind of *tenuto*, exactly as Bach wants it.

³⁵ Typically, it has been rejected first-hand and/or ridiculed: "It is most unlikely that he would have performed entire movements or variations with lifted dampers. [...] The use of such substitutes as harpsichords or pianos without knee-levers, with no dampers at all or with only hand knobs for lifting the dampers, were certainly considered inferior by Mozart and were not to his satisfaction." (Eva Badura-Skoda, "The Anton Walter Fortepiano," 470.)

³⁶ See, for instance, Stewart Pollens, "A Pantalonclavichord by C. Kintzing of Neuwied, 1763," in *De Clavicordio*, ed. Bernard Brauchli, Susan Brauchli, and Alberto Galazzo (Magnano: Musica Antica a Magnano, 2000), IV: 203-13; or Paul Simmonds, "The Story of a Pantalon Clavichord," *Clavichord International* 11, no. 1 (2007), 22-25.

A “classic” example, in my opinion, is Variation IV from the first movement of Mozart’s “alla Turca” Sonata, K. 331 (example 4). In my recording, I engage both hand stops resolutely already one variation earlier, before the beginning of Variation III, in *minore*. The accumulated sounds by the end remain relatively untainted by dissonance thanks to a regular and insistent left-hand alternation of simple tonic and dominant arpeggios, the latter—as if on purpose—mostly omitting the sharp leading tone. As the deep and dark final chord of Variation III starts fading away I become conscious of those little mallets—the single-layered hammers of the *Stossmechanik*—that I’m about to send in free flight to the strings. It does not take much strength, but all the more precision and focus for those thirds at the beginning of Variation III to redefine the soundscape that existed already, changing *minore* to *maggiore* again, from the largest and most dramatic of pantalons to the tiniest of music boxes. The repeat of the first half of the variation invites me to subtly bring the overall dynamic level down one notch more, especially if I allow the reverberation after the cadence to decay before starting over. And this, I imagine, is exactly what C. P. E. Bach had in mind when cautioning against “resonance” in damper-less fantasizing or what would have distinguished a great performer on the pantalon.

In fact, when listening to the overall effect, apart from measures 9-12, one would almost swear that I do change pedal from bar to bar. When the dampers finally do come down and the Adagio of Variation V begins, there is a sense of relief. The enchantment of this moment strikes me as very similar to what Mozart commented on in Stein’s piano: “As soon as one moves away the knee just the slightest bit, one hears not the least resonance.” He’s enchanted by the transition of damper-less to damped. We’re far away still from a modern pianist’s “syncopated pedaling.” One might even wonder whether, when Mozart is comparing Stein’s device to “those others,” he’s doing so not to “other knee levers” but rather to those “general dampers” in completely damper-less square pianos (pantalons?), a wooden strip with a narrow fringe of plush or some tassled cloth that the keyboard player could lower onto the strings in an emergency, to lessen the more offensive vibrations.³⁷

From a linguistic point of view, it is perhaps significant to note that Mozart calls Stein’s knee lever “the machine that one presses with the knee” (*die Maschine wo man mit dem knie drückt*). He does not have a term handy, but describes the object, which, as he specifies, is operated by knee rather than by hand. But there is more: Stein’s own knee levers had not always been designed

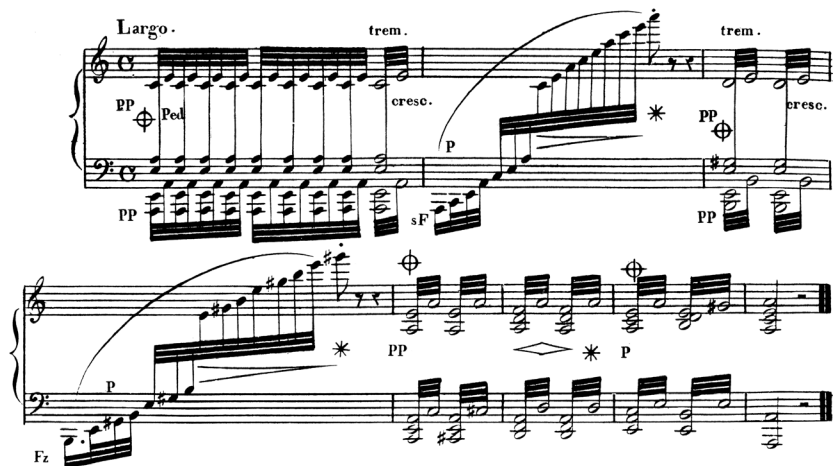
³⁷ Cole, *The Pianoforte in the Classical Era*, 159

Example 4 Mozart, *Sonata in A Major K. 331, first movement, Variation III (minore), mm. 13-end, Variation IV, and Variation V (Adagio), mm. 1-2*

to raise the damper-rail. An advertisement in 1769 for a so-called Poli-toni-clavichord, which is not a clavichord at all but a piano combined with a double-manual harpsichord (three in one!), makes the following note:

The stop which makes the damping or staccato, otherwise operated by the hands at both sides of the keyboard, is here activated by a small unnoticeable movement of the knee. This has a very great advantage in that one can play single notes, passages and ornaments sharply staccato or delineated without taking one’s hands from the keyboard.³⁸

³⁸ Latcham, “The Expressive Clavier in Mozart’s Time,” 507.



Example 5 Johann Nepomuk Hummel, example from his *Méthode complète théorique et pratique pour le piano-forte* (Paris, 1838), facsimile by Minkoff Reprint (Geneva, 1981), 460

The knee lever is for lowering the dampers, for cutting the sound, not the other way around. Or, to restore the proper chronological order, Stein's knee levers anno 1777 were reversed from their previous function.

In measures 9–12 of Variation III, the only dissimilar phrase in an a-a'-b-a' structure, I would have appreciated the earlier design of a knee lever: I would have temporarily cut my sound and focused instead on bringing out the finer articulations, *sforzandi*, and *staccati*. But, then, this may not have been necessary if I had been playing not for high-quality microphones in a modern studio but in a 1780s salon, with a high ceiling providing the space, and carpets, paintings, and possibly silk wall coverings providing the absorption, together providing a balance between resonance and clarity.³⁹ As late as 1827, Mozart's pupil Hummel writes out an example where neighboring chords (mm. 5-6) and a dominant-tonic cadence (mm. 7-8) are delicately blurred (see example 5).

Two Voices in One Instrument

As far as we know, this is the first time that a modern builder has conceived of and constructed a Viennese *Stossmechanik* in a grand fortepiano.⁴⁰ The result

³⁹ This comment is inspired by my project to record Haydn on this and other instruments in a variety of acoustical environments, virtually reconstructed in the recording studio. One of these, a recently restored *Prunkraum* of the Albertina in Vienna, has, in addition to carpets on the floors, its walls completely refurbished with the finest of silk.

⁴⁰ In 2001 Alexander Langer and Albrecht Czernin copied the 1788 Ignaz Kober square piano,

is an extremely smooth action, much lighter, in fact, than the *Prellmechanik*, but one that constantly requires a certain minimum of finger pressure for the hammer to hit the string at all. It produces either hard, harpsichord-like tones or disarmingly warm and tender sounds, with surprisingly little, or nothing, in between. It remains a source of amazement to hear the instrument change its voice as actions are substituted. Less declamation but more *bel canto* is the message I receive from the *Prellmechanik* and its hammer heads, which have three layers of leather instead of the previous single-layer coverings. The dynamic focus shifts from loud and soft to the many shades in between. This significant gain in expressivity, however, comes with a loss in percussive bite and in overall intimacy. The new action turns the instrument into one that is more expansive, indeed more expressive—one that effectively combines the full qualities of a clavichord with the strength of a grand piano. Before witnessing the results of our particular instrument, Alfons Huber speculated that

the new geometry for the escapement levers, adjustable escapement rail and back check rail, as developed by Walter in his *Prellzungenmechanik*, allow for greater expressive dynamics, more than the *Stossmechaniken* of his time. Especially when playing cantabile and when applying very soft ornaments, the new “Viennese action,” with its low key dip, creates a tactile impression closest to the clavichord.⁴¹

As a major disadvantage of a Viennese *stoss*-action, on the other hand, he pointed out the mechanics' inclination for “pounding” (*Pochen*).⁴² In my experience, based on Maene's interpretation of a *stoss*-action in Mozart's piano, this disadvantage is largely offset by an invitation for subtle and controlled playing, also and especially in the softer registers, which remain consistently pure and clear. This experience has been confirmed by a recent reconstruction of a Viennese square,⁴³ and I imagine it to be valid for playing an actual pantalon as well, where the tiniest of mallet-attacks on the strings would still have to be produced by deliberate and controlled contractions or motions of muscle and wrist. The *prell*-action requires a more abstract and more “poetic” approach from the player, perhaps because of the more complex way in which

which has a similar action, from the Kunsthistorisches Museum in Vienna.

⁴¹ Alfons Huber, “The Actions of Mozart's Fortepiano,” liner notes to CD Et'cetera KTC 4015, 8.

⁴² Ibid.

⁴³ This instrument (the 1788 Ignaz Kober mentioned in note 40, constructed by Chris Maene in 2007) is featured on my Haydn recordings. It has a Viennese *stoss*-action and two hand stops, one for raising all the dampers, the other for engaging the moderator.

the hammers excite the strings. Differently to the hopper-catapulted hammer of a *stoss*-action, a *prell*-hammer, whose cycle of motion is tightly defined by the *Kapsel*, arrives at the string in a slightly curving direction. As a result, the harder one hits the key, the more leather on the hammer (not just the tip) interacts with the string; the softer one hits, the smaller the contact point of leather and string. As a player of a *prell*-action and a *stoss*-action in one and the same piano, I have the impression of having to “draw” my sounds from the same strings that the *stoss*-action excites in a much more straightforward way, the tip of its hammers hitting the strings either more strongly or more softly, with much less diversity in contact surface of hammer and string. Curious to make the test, I measured the grooves on the hammers of both actions as indicators of maximum contact surface with the strings: those on the *stoss*-hammers, after two years of use, measured 2 mm in length; those on the *prell*-hammers, which at the time of the test had been re-leathered very recently, measured a significant 5 mm already. Thus, although it seems valid to associate the increase in expressive possibilities that are offered by the Walter *prell*-action with the aesthetics of a clavichord (the latter of course remaining the unattainable winner), this observation should not obliterate the fact that the same *prell*-action turns the instrument—same case, same strings—into a much more expansive, more resonant, and louder one, largely because of the more complex process in which the hammers strike the strings, but also thanks to the increased mass of hammer coverings that this new action allows: my *prell*-action has three layers of leather on its hammers instead of just one on the *stoss*. Thus, if Mozart’s *stoss*-Walter can be understood as a big brother of the square piano—whose history, in turn, is very much linked to that of the pantalon—, the *prell*-action turns it into a giant clavichord.

Mozart, Fantasy in D Minor, K. 397

Substitute one action by the other and play the same piece by Mozart. Do the actions inspire different ways of playing? For this assignment, with C. P. E. Bach’s words in mind, I chose a fantasy, in D Minor K. 397, where it might actually pay off to play without dampers. But how far can one go when performing the piece on the *stoss*-action “only” with hand stops? Conversely, performing on the *prell*-action, are there certain effects one cannot achieve with knee levers anymore? As I rehearsed the fantasy on each version of the piano, these questions gradually faded away. Instead I found myself pursuing two equally interesting but distinct approaches. Whereas the *stoss*-action unleashed the orator in me, who guides his listener from introduction to conclusion, the *Prellmechanik* turned me into an

actor, who undergoes, with Mozart, a long series of developing emotions, from pathetic-melancholic to resolved-content. How does each storyboard read?

Performing on the *stoss*-action (see the annotations above the systems of ex. 6), I start by engaging both hand stops, well before playing my first note, a deliberate gesture. I decide on the key of D minor: the subject matter I have in mind is serious, even pathetic. My attention is with the basses, and I hit the strings with just enough emphasis for the vibrations to last about the duration of a whole note. Triadic tones join the fundamental resonance; any melodic contour on the top is purely coincidental. I have embarked on an *exordium* in the classical, Ciceronian sense. My tone is temperate (andante, *piano*, simple) and my discourse should come across as unprepared.⁴⁴ In fact, these arpeggios are very much an improvised prelude. Interesting harmonies in m. 8—a Neapolitan sixth followed by a secondary diminished-seventh dominant chord—help maintain the attention of the listener, who after the half cadence (mm. 9-11) is waiting for more. In the introduction, according to classical theories of rhetoric, an orator is advised to adopt an “as calm and composed a voice as possible” and to use “rather long pauses—the voice is refreshed by respiration and the windpipe is rested by silence.”⁴⁵ Here, an appropriate moment of rest in m. 11 is accompanied by a disengagement of the hand stops, both left and right, the complete bodily gesture as deliberate as the opposite movement at the beginning of the fantasy.⁴⁶ I take a clear break. Now I start the actual piece and speak my opening statement (mm. 12-15), lowered dampers providing the clarity and directness that I need. Then I come to what I present as the crucial “problem” of my oration: on the one hand, the slurs in m. 16, both in right and left hands, imply a resolution, very much like the slurred sigh figures in mm. 13 and 15. But here the resolution turns out to be no resolution at all: according to eighteenth-century rule, I must emphasize the dissonance of the diminished seventh chord, which my free-flying hammers project with controlled aggressiveness. Subsequent silence and a hushed varied repeat of the

⁴⁴ “In the Introduction of a cause we must make sure that our style is temperate and that the words are in current use, so the discourse seems unprepared.” *Ad Herennium*, trans. Harry Caplan [Cambridge, Mass.: Harvard University Press, 1989] I, 11 [21].

⁴⁵ “The introduction should make the hearer receptive (*docilem*), well-disposed (*benivolum*) and attentive (*adtentum*).” *Ibid.*, 11 ff.

⁴⁶ “We can, then, in speaking conserve stability mainly by using for the Introduction a voice as calm and composed as possible. For the windpipe is injured if filled with a violent outburst of sound before it has been soothed by soft intonations. And it is appropriate to use rather long pauses—the voice is refreshed by respiration and the windpipe is rested by silence.” *Ibid.*, 193.

engage both stops
↓ EXORDIUM "temperate, seemingly unprepared"

Gen. = "machine that one presses with the knee" (Lat. *genu*)

Andante

from bass

p

melodic contour

prell/knee levers

5 grabbing attention

Gen. Gen. Gen. II^{b6} Gen. vii^{o7}/V Gen.

9 "appropriate to use long pauses"

disengage both stops

NARRATIO/ Adagio HAUPTSATZ

sigh figure

14 "PROBLEM" slur + dissonance

repeated passus durusculus

turned into question passus durusculus

Gen. * strong!

19 engage right stop

DIVISIO: summary + transition

prosopopeia

turn stop "and" NARRATING

passus durusculus

more melodic

24 precipitation

passus durusculus

polished & polite

27 passus durusculus

aposiopesis (!?)

same subject matter, but more urgent

suspensio (...)

non troppo

Example 6 Mozart's Fantasy in D Minor, K. 397, with annotations

31 even more urgent

horror

again

and again

cresc. *f*

less horrific, more melodic

[a :] vii^{o7} [d :] vii^{o7}

engage both stops

34 Presto

disengage left stop; leave right

35 Tempo primo admonitio

leave "a touch" of right stop

more urgent, forceful

Gen. Gen. Gen. Gen. Gen. *

40 forceful attempt to break the cycle ...

but back to dim seventh

cresc. *f* *p* *f* *p* *f* *p*

vii^{o7}

44 add left stop

Presto

gradually disengage left stop

[a touch of right still engaged] CONFIRMATIO

Tempo primo

44 REFUTATIO

Gen. *

V [first root-position major dominant since m. 19]

46 dulled memory

disengage right stop

f *p* *f* *p*

Gen. *

Example 6 (continued)

51 *dubitationo* *cf. exordium* engage "a touch" of right stop

55 PERORATIO Allegretto dolce Gen. Gen. Gen. Gen. *

65 "music box" 1. 2.

74

82

86 cadenza: suggested, underplayed (emphasis)

86 cadenza: deliberate, exaggerated (hyperbole)

86 *rallentando* *a tempo* *p dolce* *p* Gen. *

94 engage moderator *pp* disengage moderator

Example 6 (continued)

102 *f* *ff* disengage right stop

Example 6 (continued)

same progression (m. 17) leave listener and player to contemplate the horrific impact of what has just been said. During the course of my fantasy, I will revisit this particular diminished-seventh sound, even increase its dramatic intensity (mm. 33 and 44), before offering well-appreciated solutions (the two cadences in mm. 44-45 and 54-55).

Back to the end of my opening statement. After the *passus duriusculus* (a painfully descending chromatic melodic line), which started as an illustration of the cruelty of the diminished-seventh in m. 17, I continue thinking chromatically, first in m. 18, then in mm. 20-22, the same chromatic descending line now transferring to the middle and lower voices. During the pause of m. 19 I engage the right hand stop. Raised dampers on the treble side lend appropriate emphasis to those repeated notes (it is not “me” speaking, but “someone else,” someone with much more *gravitas* than myself—a *prosopopeia*), while the slightly raised dampers in the bass (but raised less and less as I descend on the keyboard) envelop my octaves with a threatening but controlled after-ring.

In my actual narration (starting in m. 23) I emphasize the upbeats: my tone is pathetic—I have so much to tell, in a short span of time. *And* this could happen, *and* that, *and* . . . I gasp and abruptly stop mid-sentence (m. 28). The rhetorical figure is *aposiopesis*.

Everything I have described so far remains the same and/or becomes worse. In m. 34 I resolutely engage both hand stops, intensifying the horror of the diminished-seventh, now in G minor. At the fermata (at the end of m. 34) I disengage the left hand stop, leaving the right one on. The warning in mm. 35-37 (*admonitio*; a G-minor version of the *prosopopeia* before) sounds all the graver for the lingering reverberation. As my ears grow accustomed to the dark shadows that surround my tones, I leave “a touch” of the right hand stop engaged also in my second narration (continuing in G minor) in mm. 38-43. My words risking spiraling out of control (m. 42). I head toward a climax and confront my listener again with that old “problematic” diminished-seventh (m. 43). As I rush down towards one of the deepest tones on the keyboard (the low A), I engage the left stop (my left hand is free to do so), and, rushing up again, I slowly restore brightness, gradually disengaging the left hand stop (my left hand has become free again).

From now on—and this turning point has an effect similar to a *refutatio*—it’s all about reconciliation, acceptance, (re)solution (*confirmatio*). I approach the diminished seventh in m. 49 (a reminder of the path behind us, however without the previous threat) with much less aggression and with well-calculated, clearly conveyed suspense (mm. 51-54, with the same “attention grabbing” harmonies of the introduction in mm. 52 and 53), preparing the listener for a well-deserved coda (*peroratio*), an Allegretto featuring a Picardy third (D major). The fermata in m. 54 gives me ample time to prepare my next registration: a touch of the right hand stop. Slightly raised treble dampers enhance the brightness of the mid-range alternating tonic and dominant Alberti-figurations from m. 70 onward, creating the delightful effect of a music box.

Now the same, with knee levers and a *Prellmechanik* (see the annotations below the systems of ex. 6). There is much less of a sense of introduction. Instead, the first note is also the first of the actual piece. The opening measures, which I now pedal harmony-by-harmony, gain in melodic significance and sound like an extended upbeat. The “theme” is no longer a spoken statement but a sung lament. I shy away from the harshness of the diminished-seventh chord in m.16. Everything that was more spontaneous, more ornamental before, I now sing: every note becomes significant, every harmony to be relished (and, thanks to the knee levers, relish-able) on their own. As a result, the abrupt interruption (the *aposiopesis* in m. 28) loses some of its impact and is reduced to a less dramatic *suspensio*—a holding in suspense rather than a breaking off. We’re much more conscious, now, of the resolution from d (the last melody tone of m. 27) to c (the first of m. 29). Time, ever moving forward, gets the upper hand of timing, specific events happening at certain well-chosen moments. Thus two actions in one instrument demonstrate most vividly what we have known from an intellectual-historical perspective: that late-eighteenth/early-nineteenth century music critics (and composers) gradually abandoned a rhetorical frame of reference in favor of an organicist metaphor.⁴⁷

⁴⁷ See Mark Evan Bonds, *Wordless Rhetoric: Musical Form and the Metaphor of the Oration* (Cambridge, Mass.: Harvard University Press, 1991), or, most recently, *Haydn and the Performance of Rhetoric*, ed. Tom Beghin and Sander Goldberg (Chicago: Chicago University Press, 2007). I find it interesting that, playing with even thicker hammers that excite much more massive strings (of the modern Steinway), the pianist Mitsuko Uchida (Philips 412 123-2, 1983) feels a need to revisit the opening again where Mozart’s “fragment” ends in m. 98. Instead of playing the well-known completed coda of August Eberhard Müller (1804), she reconnects with the D-minor arpeggios from the beginning of the fantasy. Her desire to create a result that feels “cyclic” is surely informed by the technology of the modern piano, but this relapse from hope (the Picardy third in the conclusion) back to despair (the D-minor opening) has absolutely no

Within this larger perspective, to prefer one performance over the other seems unnecessary and irrelevant, unless one wishes to force Mozart himself into making such a choice. The exercise of playing one piece on both a “before” and “after” version of the same instrument teaches that, far more than the question of pedal, it is a change of action that instigates and/or allies itself with changing or even just different aesthetics. Interestingly, in the debate over the Mozart piano, nobody has ever questioned the evidence that the original action of Mozart’s piano was changed. Instead, the spotlight immediately shifted onto “the pedal.” In the larger context of the *stoss*-Walter, though, hand stops and knee levers become but secondary characters in a story that is much more complex and farther reaching than technological comfort. That is to say: their presence is essential, more so than ever, but the technological distinction between them may be less crucial than we have so far been able to accept within the familiar context of Viennese, *prell*-action pianos.

Conclusion: Mozart’s Letter of October 17, 1777

Throughout this essay, I have hinted at slightly different readings of Mozart’s often-quoted letter on Stein’s pianos. In his latest essay on the subject, Malcolm Bilson calls the “three letters to his father from Stein’s workshop in 1777 [...] the most detailed letters we have from *any* composer from *any* period regarding piano mechanisms and other characteristics!”⁴⁸ But exactly how detailed are they?

Clearly, *Herr* Stein was to be the central figure of Mozart’s visit to Augsburg, his father’s home town. As Wolfgang and his mother traveled there from Munich, Leopold sent his son a letter addressed to Stein (requesting the latter on behalf of his son to arrange for one or two concerts), gave a piece of advice (“Do yourself credit on his organ, for he values it very highly; and, moreover, it is a good one”), and implored his son to “write and tell me *what instruments he has*” (his emphasis). Also, “if you speak to *H*: Stein, avoid at all cost mentioning our instruments from Gera, because he’s envious of Friderici [sic].”⁴⁹ It was on 14 October 1777 that Wolfgang visited Stein for the first time. In his report to his father, the priority, clearly, was still with the impression that he had made on Stein, rather than the other way around: “O, [*H*: Stein] shouted, and he embraced me, crossed himself, made faces, and was ecstatic from joy,” as he

place in eighteenth- or early-nineteenth-century aesthetics or rhetoric.

⁴⁸ Malcolm Bilson, “Did Mozart ‘Pedal,’ and If So, How Much and Where?” 183.

⁴⁹ W. A. Mozart to his father, 9 October 1777, *Mozart: Briefe und Aufzeichnungen* 2: 41-42.

realized that it was Mozart (“me”) who was playing his instrument. Mozart quoted himself as saying to Stein, “I am so curious to see your *Piano forte*,” but a detailed description would have to wait: “On his keyboards [*Claviere*] I will comment at a next occasion.” The letter does contain two assessments of other Stein keyboards, but both are clavichords. At magistrate Longotabarro’s son-in-law’s Mozart performed “for three quarters of an hour on a good clavichord [*Clavicord*] of Stein” and, at the house of the local composer Graf, “at last a clavichord [*Clavicord*] was brought out of the inner room, one by Stein, really good, but full of trash and dust.” He calls both of them “good.” At the very least, they allowed him to impress his hosts, as he improvised fantasies and sight-read “very cute pieces of a certain Edlmann [sic].” Only after relating, through several subsequent letters, the commotion around various attempts to organize a public academy in Augsburg (“I should never in my life have believed that in Augsburg, the home town of my Papa, one would so insult his son”) and after indicating that he hasn’t forgotten yet (“next I will write about the fortepianos and the organ of Stein”),⁵⁰ he finally committed to the task in his letter of 17 October: “Now I must start with Stein’s pianos.” (The chronology is a bit off—due to the mechanics of sending and receiving mail—but Leopold had reminded Wolfgang, on October 20: “I expect the continuation about Stein’s instruments.”)⁵¹ “Only today did I play on them again,” Wolfgang specified, midway through the letter. At his first visit, three days earlier, Mozart “had run straight to one of the three keyboards [*Claviern*] in the room.”⁵² Eager to impress Stein, he had immediately started playing. This time, he took the time to test and study all three of the instruments carefully.⁵³

It is peculiar that the literature has focused on two particular qualities of Stein’s pianos that Mozart would have highlighted: their excellent damping and the presence of knee levers. But what Mozart praised most, what he spent far more time describing at the beginning of his letter, was the simple fact that their action was reliable—and it is possible that he was comparing the reliability of Stein’s pianos to a keyboard that we do not even call a piano anymore, a *Tangentenflügel* of Späth in Regensburg.⁵⁴ Moreover, his manner

⁵⁰ W. A. Mozart to his father, 17 October 1777, *Mozart: Briefe und Aufzeichnungen*, 2: 64-66.

⁵¹ *Ibid.*, 2: 76.

⁵² W. A. Mozart to his father, 14 October 1777, *Mozart: Briefe und Aufzeichnungen*, 2: 55.

⁵³ The three would be used a few days later for a performance of Mozart’s concerto for three pianos, with Demler playing the first, Mozart the second, and Stein the third part.

⁵⁴ William Jurgenson, “The Importance of the *Tangentenflügel* to the Development of the German

of testing—perhaps instigated by Stein himself—was rather crude. He hit the individual keys strongly, “sustained or staccato, leaving or lifting the finger,” and found that “the tone is over as soon as I produce it.” This cannot be in reference to efficient damping, as has often been assumed. “The tone” must be a *totum pro parte* (using the whole to indicate a part). Mozart meant the very beginning of the tone and he communicates that there is no rattle, no immediate killing of the sound, no re-bounce of hammer or tangent against the string, even—and impressively so—after hitting the key very strongly. (The fact that Stein encouraged him to bang the keys—go on, try!—may have impressed Mozart.) Interestingly, already at an early moment in his technical report, Mozart specified the price of the instrument (“It is true, he does not offer such a *Piano forte* for under 300 *f*: [gulden] but the effort and diligence he applies are priceless.”), immediately balancing this potentially frightening piece of information with the revelation of the secret technological ingredient: “His instruments in particular excel over others in that they’re made *with escapement*.” The hyperbolic “only one in a hundred [makers] bothers with this” betrays a builder’s perspective. Surely these were Stein’s own words. Also, the subsequent comments about Stein’s excellent musicianship—which Mozart deceptively correlated with Stein’s ability to build excellent pianos—and the romanticized method of breaking soundboards in order to fix them so that they never ever break again, reflected the latter’s passion for building instruments—and talking about building them—on a par with Mozart’s playing on them—and his talking (to his father) about playing on them, and about the effect on his listeners.

After all of this, first having waited for it, then at long last receiving a “detailed” and enthusiastic report, the only response by Leopold was a surprisingly terse: “Glad to hear that *H*: Stein’s Pianoforte are so good, but they are expensive as well.”⁵⁵ No follow-up questions, no elaborations. If Wolfgang had any hopes, Leopold crushed them in this letter, ironically addressed to his wife (but clearly intended to be read by Wolfgang as well): there would be no pianoforte for him quite yet. Still, he left Augsburg with the fond memory of Stein’s declaration that “nobody has ever been able to treat [*tractiren*] his pianos so well.”⁵⁶

So what about the two technological features under scrutiny in our Walter/Mozart story? In Mozart’s letter, there is no indication whatsoever that the pianos in Stein’s workshop had a German *prell*-action. In fact, since the earliest

Piano,” in *Instruments à claviers*, 55-61.

⁵⁵ Leopold Mozart to his son, 23 October 1777, *Mozart: Briefe und Aufzeichnungen*, 2: 78.

⁵⁶ W. A. Mozart to his father, 23-25 October 1777, *Mozart: Briefe und Aufzeichnungen*, 2: 83.

Stein *prell*-action known today stems from 1781, those instruments back in 1777 were more likely not of this kind.⁵⁷ And the Viennese *stoss*-action of our Walter does have an escapement, the one feature that set Stein apart and that Mozart must have been looking for in a good piano ever since. On the topic of knee levers, there is no explicit endorsement of Stein's "machine that one presses with the knee" as an essential device. In fact, after the previous sentence, "The last [sonata] in D [major] comes out incomparably on Stein's pianofortes," it sounds more like a bonus. Mozart was impressed by Stein's craftsmanship of the knee lever: "I can barely touch it, and there it goes already; and as soon as one removes the knee just a little, one hears not the least reverberation." Apart from "on" and "off"—the basic operation also of a hand stop—there is no indication of how Mozart would have used it, either before or after his encounter with Stein's pianos.

Finally, often overlooked in the literature, perhaps because it lacks technical detail, is the part about the organ, which Mozart calls "the king of all instruments." We often forget, but we all know about, Mozart's passion for the organ: he ordered the construction of a huge pedal keyboard to go under his 1782 Anton Walter.⁵⁸ As I operate those damper stops in their manifold combinations (only the left or only the right, or only half of the left or half of the right, lifting dampers all the way or just a touch), I feel the excitement that an organist must have, when looking for the best possible registration. This excitement is one of a player who likes to explore and to adapt, very much like Mozart.⁵⁹ Thus, in my own exercise of reverse-engineered taste I find myself increasingly also reversing the question that one skeptic asked in the heat of the debate a few years ago: "Why would Mozart have been satisfied with an antiquated instrument?"⁶⁰ With a newly built instrument under my hands, I feel tempted to ask instead: "Why would he ever have wanted to part with it?"

⁵⁷ Michael Latham, "The Expressive Clavier in Mozart's Time," 510.

⁵⁸ Richard Maunder and David Rowland, "Mozart's Pedal Piano," *Early Music* 23 (1995), 287-97.

⁵⁹ See Mozart's comments, in the letter, on how quickly he adjusted to the chromatic bottom octave of the pedal on Stein's organ. Telling, particularly in the context of this Walter story, is the fact that Mozart's adjustment is to the situation that we now consider standard (a chromatic rather than a broken or short octave).

⁶⁰ "Why should Mozart have been willing to miss for the rest of his life an advantage which he had so fully appreciated up to 1777? Why should he for all of his concerts have been satisfied with a somewhat antiquated instrument?" (Paul Badura-Skoda, "Mozart without the Pedal?" 336.)

APPENDIX

Mozart's Letter to His Father From Augsburg, October 17 1777

German original in Wilhelm A. Bauer and Otto Erich Deutsch, ed.,
Mozart: Briefe und Aufzeichnungen vol.2
(Kassel: Bärenreiter, 1962), 68-71.

MON TRÈS CHER PÈRE! Now I must start with Stein's piano fortes [*Piano forte*] at once. Before I had seen any of Stein's work, Späth's keyboards [*Clavier*] were my favorites. Now, however, I must prefer Stein's, because they damp much better still than those from Regensburg. If I hit hard, I may keep my finger down or lift it, the tone is over the very moment I made it sound. I may touch the key in any way I want, the tone will always be equal. It will not jar, it will not sound stronger, nor weaker, nor be absent altogether. In one word, it is all even. It is true, he does not offer such a piano forte for under 300 *f*: [gulden] but the effort and diligence he applies are priceless. His instruments [*instrumente*] in particular excel over others in that they're made with escapement. Only one in a hundred [makers] bothers with this. But without escapement it is simply not possible that a piano forte does not jar or reverberate; his little hammers, as one plays the keys, fall back down the same moment they jump up towards the strings, whether one holds down the key or releases it. After he has finished such a keyboard instrument [*Clavier*], as he told me himself, he first sits down to it and tries all kinds of passages, runs, and jumps, and shaves and works for as long as it takes for the instrument [*Clavier*] to do everything. For he works only in the service [*Nutzen*] of musique and not solely for his own profit [*seines nuzens wegen*]; otherwise he would finish in no time.

He often says, if I were not myself such a passionate amateur of music and I had not some skill on the keyboard myself, I would already long ago have lost patience with my work; but I'm an amateur of instruments that don't irritate the player and that are durable. His keyboard instruments are indeed truly durable. He guarantees that the soundboard will not break or crack. After he has finished such a soundboard for a keyboard instrument, he exposes it to the air, rain, snow, the heat of the sun and all the devils so that it cracks, and then he inserts wood chippings and glues them in so that it becomes really strong and steady. He's actually happy when it cracks, for then one is assured afterwards that nothing more will happen to it. Often he cuts into it himself and glues it back together, and [in this manner] really steadies it. He has three

such piano fortes ready. Only today did I play on them again. We dined today the 17th with the young *H[err]* Gassner, who is the young handsome widower of a beautiful young wife. They had been married only two years. He is a real fine, courteous young fellow [*Mann*]. The fellow [*Mann*; literally: “One,” but in the spelling with double instead of a single “n” perhaps a pun on the “Mann” immediately preceding] treated us royally. Also dining there was a colleague of *H*: Abbé Henri, Bullinger, and Wishofer, an ex-Jesuit who is now *Capellmeister* here at the *Dom*. He knows *H*: Schachtner very well; he was his choir regent in Ingolstadt. His name is Pater Gerbl. I should send his greetings to *H*: Schachtner. After the meal, *Hr*: Gassner and one of his *Mad*:^{sele} sisters-in-law, Mama, I, and our little cousin [*bäsle*] went to *H*: Stein. At 4:00 *H*: *Capellmeister* joined us, along with *H*: Schmittbauer, organist at *S*: Ulrich, a smooth, fine old fellow. There I was just playing *prima vista* a sonata of Beecke [*Becché*], which was rather difficult, *miserable al solito* [wretched as usual]; how the *H*: *Capellmeister* and the organist crossed themselves [i.e., out of disbelief, as if witnessing a miracle], cannot be described. Here and in Munich I have played my 6 Sonatas quite often already from memory. The 5th in G I played at that “distinguished” [quotation marks to convey the sarcasm, clear from a previous letter] concert [*accademie*] in the farmers’ *Stube*. The last in D works incomparably on the Stein pianofortes [*Pianforte*]. The machine that one presses with the knee is also made better on his than on the others [i.e., on instruments by others]. I can barely touch it, and there it goes already; and as soon as one removes the knee just a little, one hears not the least reverberation. Now, tomorrow perhaps I shall come to his organs—that is to say: I shall come to write about them; and I’m saving his little daughter for last. When I told *H*: Stein that I should very much like to play on his organ, because the organ is my passion, he was thoroughly surprised, and said: What, a man like yourself, such a great keyboardist [*Clavierist*] wants to play on an instrument where there’s no *douceur*, no expression, no piano, nor forte, but which is always the same? – That doesn’t mean anything. In my eyes and ears the organ is still the king of all instruments. Well, all right then. Off we went. Already from what he was telling me I noticed that he thought I wouldn’t do much on his organ; that I would, for instance, play completely in a *clavier* fashion. He told me that he had taken Schobert [*Choberten*] to the organ too, at the latter’s request, and it frightened me a bit, he said, because Schobert [*Chobert*] told everyone and the church was rather full; for I thought that this man would be full of spirit, fire, and velocity, and that doesn’t sit well with the organ; but as soon as he started I had to change my opinion. I didn’t say anything but: What do you think, *H*: Stein, will I find

my way on the organ? – O you, that’s something else altogether. We arrived at the choir. I started to prelude [*Praeludiren*]. He already started to laugh. Then a fugue. I can well believe, he said, that you like playing the organ, if one plays like that – At first the pedal seemed a bit strange to me because it wasn’t broken. It started with C, then D, E, in one row. With us, though, D and E are above, as Eb and F# here. But I soon got the hang of it. I’ve also been to *S*: Ulrich at the old organ. The staircase is something terrible. I asked that someone, anyone would play on it, I would like to go down and listen, because upstairs the organ doesn’t make any effect whatsoever. I couldn’t tell, however, because the young *regens chori*, a clergyman, played runs on the organ up and down so that one couldn’t comprehend anything, and when he wanted to play some chords [*Harmonien*], they were simply discords [*disharmonien*]. It wasn’t quite right. Next we had to go to a café, since Mama and *base* [the cousin], and *H*: Stein were there too. A certain *P[ater]* Emilian, an arrogant fool and simple-minded wit of his profession, was a bit too cordial. He always wanted to have his fun with our little cousin [*bäsle*]. But she had her fun with him – finally when he got a bit tipsy, which soon followed, he started talking about music. He sang a canon and said, never in my life have I heard anything more beautiful. I said, I am sorry that I cannot join you because by nature I can’t intone very well. Never mind, he said. He started. I was third. But I made up a completely different text, *P: E*., you prick, lick my ass. *Sotto voce*: to my cousin. Then we laughed again for half an hour. He said to me, if only we could be together longer, I would have liked to discuss composition with you. Then soon we wouldn’t have anything left to discuss, I said. *Schmecks kropfeter*. [Take that!] To be continued.

W: A. Mozart.

Translation: Tom Beghin