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## Born to Conquer: The Fortepiano's Revolution of Keyboard Technique and Style

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## Abstract

The fortepiano had a rough beginning. In 1709 it entered a world that was not quite ready for it; a world that was very comfortable with the earlier keyboard instruments, especially the harpsichord. Pianists and composers were used to the harpsichord technique and style, which is drastically different from the piano. This is because the harpsichord was actually a very different instrument than the piano, as is explained in this paper. This paper traces the history of the piano's rise to dominance over the harpsichord, and how its unique hammer action began creating an idiomatic piano style. The piano also revolutionized keyboard repertoire, taking some genres from the harpsichord and also creating completely new genres of compositions. Despite its slow start in the early eighteenth century, the piano completely revolutionized the musical world into which it was born. The rise of the fortepiano throughout the late eighteenth and nineteenth centuries transformed traditional keyboard technique, style and compositions.

## Keywords

Fortepiano, piano, piano history, harpsichord, early piano technique, early piano style, Cristofori, piano action, Viennese piano, English piano, Erard escapement action

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# Born to Conquer: The Fortepiano's Revolution of Keyboard Technique and Style

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The piano entered a world that was not quite ready for it. Polyphony was still the sound of the day, the harpsichord was king, and no one seemed to care about this odd new keyboard invention. But ready or not, the piano was born into the world in 1709, conceived and publicized by Bartolomeo Cristofori. Because the early piano had a more complicated mechanism with a higher possibility of malfunction or poor construction, for a long time people saw it as an inferior substitute for the harpsichord.<sup>1</sup> Most musicians received it as a new kind of harpsichord fitted with hammers to strike the strings instead of plectra to pluck the strings. Thus the early piano did not become popular for quite a number of years after its initial invention.

Only as the piano became more differentiated from the harpsichord did it become a unique musical influence and develop its own idiomatic keyboard style. The rise of the fortepiano throughout the late eighteenth and nineteenth centuries transformed traditional keyboard technique and repertoire through its unique action mechanism.

In order to more keenly appreciate the piano's revolution, we must first look at the foundation laid down by the harpsichord. Other than the organ, the harpsichord was the main keyboard instrument before the piano came on the scene. This instrument had its own rich history, schools of playing, and techniques. Because of this, many musicians simply transferred to the piano the techniques they had used on the

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<sup>1</sup>Derek Carew, *The Mechanical Muse: The Piano, Pianism and Piano Music, c. 1750-1850* (Burlington: Ashgate Publishing Company, 2007), 28.

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harpsichord. But many aspects of technique did not transfer over as smoothly as musicians might think, as can be seen by examining traditional harpsichord technique.

Harpsichord technique focused mainly on clean and precise articulation.<sup>2</sup> This is because the harpsichord cannot produce gradual or highly contrasting dynamics and so the main mode of expression available is articulation. According to Reginald Gerig, “The nature of the harpsichord tone – bright, shimmering, incisive, well-defined... requires the most careful attention to articulation.”<sup>3</sup> A good harpsichord technique does not rely on hand or arm weight falling onto the keys. Instead, harpsichordists keep their fingers in contact with the keys, using only the strength of the fingers to press the keys down.<sup>4</sup> This is because harpsichord keys are much lighter than piano keys. Sometimes this kind of touch is referred to as “stroking” the keys, as opposed to a pianist “sinking” into the keys.

The harpsichord touch is very different from the touch of the piano. The main difference is that harpsichord touch uses primarily an upward motion, and piano touch uses primarily a downward motion. Although both instruments have keys that are pressed down, the harpsichord touch relies not on how the players press the key down, but on how they release it. The initial pressure on the key does not change the loudness or tone, but the release of the key can change the type of attack perceived (i.e. a legato or staccato sound). Conversely, piano touch relies on how the key is pressed down. If a pianist presses the key down quickly, the result is a louder sound; slowly, the result is a quieter sound. Pianists can also change the tone by how they press down the keys (i.e. sharp attack for staccato or smooth caress for legato). Needless to say, the technique used on the harpsichord will not produce the same result on the piano.

Harpsichord technique also uses a radically different fingering than the piano fingering of today. Ernest Closson observes this about harpsichord technique: “The middle fingers were used almost exclusively, the thumb and little finger being forbidden. In fact, until

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<sup>2</sup>Ernest Closson, *History of the Piano*, Translated by Delano Ames (London: Paul Elek, 1947), 50-51.

<sup>3</sup>Reginald Gerig, *Famous Pianists and Their Technique* (Washington: Robert B. Luce, Inc., 1974), 10.

<sup>4</sup>Yonit Lea Kosovske, *Historical Harpsichord Technique* (Indianapolis: Indiana University Press, 2011), 47.

less than a century ago [in the nineteenth century], piano teachers still forbade the use of the thumb for the black keys for the sake of elegance.”<sup>5</sup> Harpsichord players probably used the three middle fingers because they were longer and more powerful than the outer fingers. But the difficulties in Bach and Scarlatti’s compositions called for new kinds of fingerings. So, around the time that the piano began gaining ground over the harpsichord in the mid-eighteenth century, C. P. E. Bach included new fingerings with the weaker fingers in his treatise *Essay on the True Art of Playing Keyboard Instruments*.

The piano entered this world destined to create confusion. For many years after its creation, keyboard players played the piano with the same technique as the harpsichord demanded, not realizing how different this new instrument was. Scipione Maffei, the journalist who publicized Cristofori’s invention of the piano, wrote about the new instrument:

The major opposition that has been raised against this new instrument is the general lack of knowledge at first of how to play it....It requires a person who, to understand its strengths, has made a particular study of it, so as to regulate the strength of the varied pressure which should be given to the keys, and the graceful diminishing, at the [right] time and place.<sup>6</sup>

Even though the piano gained popularity by the time C. P. E. Bach wrote his *Essay* in 1753, he only briefly mentions it, dismissing it by saying that “its touch must be carefully worked out, a task which is not without difficulties.”<sup>7</sup> He probably did not intend his essay to apply to the piano, though as soon as the piano gained in popularity, pianists began applying many of his rules on general keyboard habits to that instrument. Thus, keyboard players had to learn how to approach this new instrument: when and how to adapt old techniques from the harpsichord and when to come up with something new.

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<sup>5</sup>Closson, *History of the Piano*, 51.

<sup>6</sup>Stuart Pollens, *The Early Pianoforte* (Cambridge: Cambridge University Press, 1995), 58.

<sup>7</sup>C. P. E. Bach, *Essay on the True Art of Playing Keyboard Instruments*, tr. and ed. by William J. Mitchell (New York: W. W. Norton & Company, 1949), 36.

Before discussing the new techniques needed to play the piano, it is necessary to describe the piano's action. In the piano, the action refers to the mechanism that makes the hammers strike the strings. In basic terms, the pianist strikes the key, which makes the back end of the key go up along with the mechanism resting on the back end of the key. This creates a chain reaction of levers acting upon the hammer. The hammer bounces up from the force of the levers and strikes the string firmly and then falls back, leaving the string free to vibrate. The levers hold the hammer in position for the next strike. All of this is referred to as the action.

The piano was not born with the perfect action – many different inventors had to make modifications in order to bring the piano action to its current perfection. When Cristofori made his first piano in 1709, he used a simple action as shown in Fig. 1: a hinged hammer knocked upwards by the back end of the key, which then falls back after striking the string.<sup>8</sup> This action had many problems with it, which drove inventors and musicians to search for something better. For example, the hammers would often rebound after they hit the strings, causing the notes to sound multiple times. Also, sometimes the hammer would miss the string, or break off if the player hit the key too forcefully.

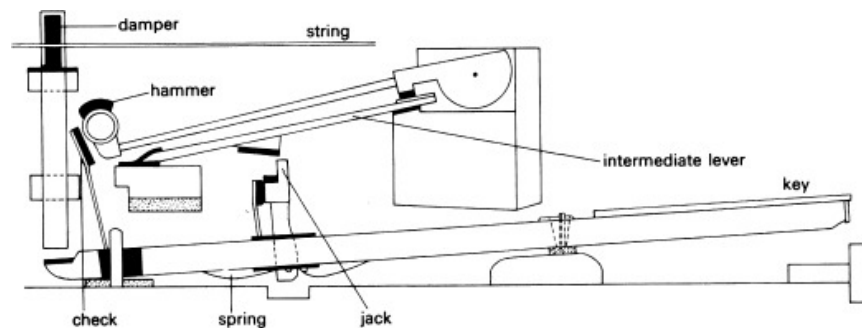


Fig. 1: Cristofori Action of 1709<sup>9</sup>

From the late eighteenth century through much of the nineteenth century, two schools of piano actions developed with their own

<sup>8</sup>Closson, *History of the Piano*, 78.

<sup>9</sup>David S. Grover, *A History of the Piano from 1709-1980* (Cheshire: Omicron Publishing, 1980), [http://www.piano-tuners.org/history/d\\_grover.html](http://www.piano-tuners.org/history/d_grover.html).



difficult to play with a loud or full sound. The strings and hammers were lighter than the English action and the Viennese pianos usually had two strings to each note compared to three in the English pianos.<sup>14</sup> Pianists were able to play rapid passages and extended trills on Viennese pianos, as well as have more intimate control over the notes and overall sound. Thus, the Viennese school of piano playing was “characterized by rapidity, clarity and precision, the ‘brilliant style.’”<sup>15</sup> In fact, Viennese piano technique was very similar to harpsichord technique.

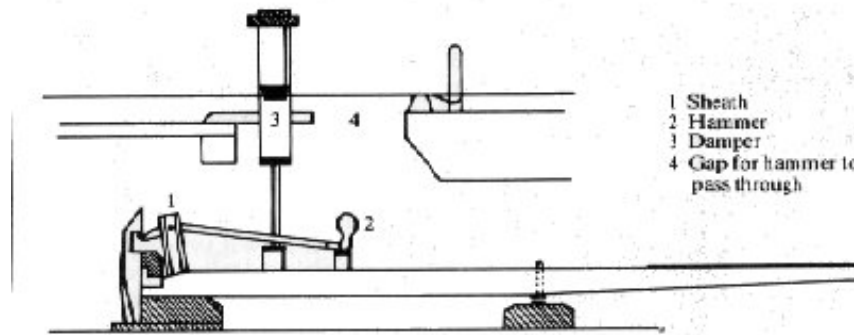


Fig. 3: Viennese Action<sup>16</sup>

The Viennese school of piano playing is perfectly typified in Mozart’s style. According to Gerig, “Mozart...defined the ideal Viennese piano technique in superlative fashion: an extremely smooth-flowing touch – *leggiero* [non-legato], immaculate, clear; a tone quality that was always refined and cantabile in melody passages; a physical approach that ruled out all affectation and unnecessary movement – still largely the finger and hand technique of the harpsichord.”<sup>17</sup>

The two schools of pianos produced very different techniques, each with their own strengths and weaknesses. For a long time the piano world was divided with many different composers favoring one piano over another. Finally, in 1808, the last major improvement appeared with Erard’s double-escapement mechanism, as seen in Fig. 4.<sup>18</sup> This improvement to the escapement allowed pianists to repeat notes at high

<sup>14</sup>Closson, *History of the Piano*, 90.

<sup>15</sup>Carew, *The Mechanical Muse*, 30.

<sup>16</sup>Grover, *A History of the Piano from 1709-1980*.

<sup>17</sup>Gerig, *Famous Pianists and Their Technique*, 52.

<sup>18</sup>Carew, *The Mechanical Muse*, 33.



speed, even with a heavier hammer and string. Erard combined the best of both pianos: English strength with Viennese dexterity. Also at this time the piano was fitted with a cast-iron frame, which enabled it to withstand greater weight and produce an even fuller sound.

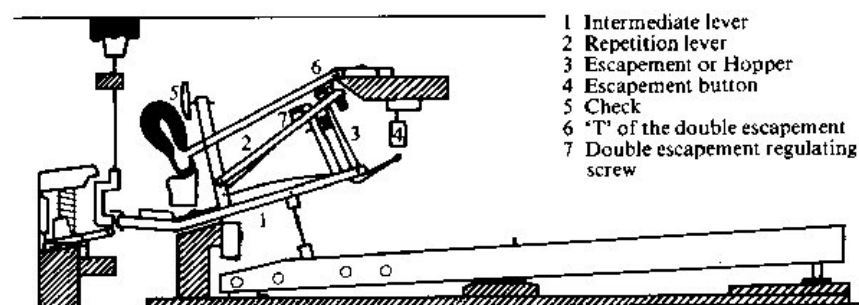


Fig. 4: Erard Double Escapement Action of 1808<sup>19</sup>

As the piano became more universally regulated, musicians began focusing more on piano technique. Each teacher came up with his or her own unique piano technique, and yet each asserted that this was the only right way to play the piano. Some continued in the tradition of harpsichord playing, keeping the hand close to the keys, arms still, and using only the action of the fingers to create carefully controlled sound. Others formed new ways of playing the keyboard, using ideas such as arm weight, expressive gestures, and floppy wrists. Piano technique never became a “one size fits all.” As Harold Schonberg states in his book, *The Great Pianists*,

The bridge pianists from Clementi onward tried to codify piano technique. Glorious confusion and disagreement resulted, but that is the rule in piano technique to this very day. Clementi, in his *Introduction to the Art of Playing on the Pianoforte*, commanded the student to hold the hand and arm in a horizontal position...but Hummel and Henri Bertini...wanted hands and wrists ‘turned rather outward.’...Clementi said that the palm and hand should be stationary, with only the fingers moving. Dussek said that the hands should ‘lean toward the

<sup>19</sup>Grover, *A History of the Piano from 1709-1980*.

thumb.' Hummel wanted the fingers to lean outside, so as to give the thumb more liberty on the black keys.<sup>20</sup>

Though piano technique varied from teacher to teacher, piano touch became more uniform as the piano itself changed. Most notably, keyboardists replaced the detached, *leggiero* sound they had inherited from the harpsichord with a primarily legato touch. This was probably brought about by the style of the time, because composers for all instruments had begun to favor a more legato, cantabile sound. Muzio Clementi especially popularized this switch in his playing and teaching style. When he was younger he had a very virtuosic, bravura style, but as he grew older he adopted a more singing, sonorous style heavily influenced by the English piano.<sup>21</sup>

Beethoven pulled piano technique further away from the harpsichord and Viennese piano style. His approach to the piano was completely different from anyone else's. As Christine Dahl quotes a contemporary of Beethoven's, "His energetic and often brutal attack literally destroyed pianos."<sup>22</sup> He was an elemental force on the piano, often sacrificing technique for sound.<sup>23</sup> He used a more modern weight technique and was not afraid to use strength to get the effect and sound he wanted. Through his influence weight techniques gradually began replacing the light, ineffective finger-tapping of the Viennese pianists.

The piano also brought about a change in fingering techniques. As stated before, about the time of the piano's rise to fame in the mid-eighteenth century, C. P. E. Bach already encouraged harpsichord and clavichord players to use all fingers in their playing instead of the traditional middle three fingers. Keyboard players took this style of fingering to the piano. Also, in the classical period musicians began focusing on producing a singing melody. This made it doubly important to have all the fingers of each hand available to create a legato melody and substantial accompaniment.

The rise of the piano also changed traditional keyboard compositions. In 1732, a Florentine named Ludovico Giustini published the first piece specifically written for the piano, titled *Sonata da cimballo di pian e*

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<sup>20</sup>Harold Schonberg, *The Great Pianists* (New York: Simon & Schuster, 1987), 97.

<sup>21</sup>Dahl, "Early Pianos and Performance Practice," 20.

<sup>22</sup>Ibid., 38.

<sup>23</sup>Schonberg, *The Great Pianists*, 82-83.

*forte ditto volgarmente di martelletti*, which translates as “Sonatas for keyboard of soft and loud, commonly called hammers.”<sup>24</sup> The music in this book took advantage of the piano’s ability to show gradual dynamics, a trait that the harpsichord lacked. But it took a long time for composers to start writing music only for the piano. According to Ann Bond, at first “much music of the 1780s and 1790s, such as Beethoven’s *Pathétique Sonata*, was inscribed ‘for harpsichord or pianoforte;’ but this was due mainly to practical and commercial prudence. Publishers wanted to ensure that people who had not yet acquired the new instruments were not discouraged from buying the latest works.”<sup>25</sup> As the piano began overtaking the harpsichord in popularity, composers began writing more and more pieces for this instrument.

The piano also took over some of the compositions that had formerly been written for the harpsichord. Examples in this category included harpsichord concertos. Mozart especially popularized the switch to the piano for a keyboard concerto with his twenty-seven piano concertos. The piano also became the instrument of choice for accompanying, whether accompanying a solo voice, instrument, chamber ensemble, or even a whole orchestra. Some musicians still held to the harpsichord, claiming that its clear, sharp sound enabled it to still pierce through an orchestral texture, despite its low dynamic range. But the piano quickly overshadowed its older cousin, showing its skill as an expressive instrument with the range of color and dynamics to stand up to an orchestra.

Composers also created new genres of compositions for piano. The main genre that was created for the piano was the nocturne. John Field first wrote pieces with this title, but Chopin popularized them. The nocturne is characterized by a long, drawn-out singing melody over undulating, rubato accompaniment. Field developed the nocturne from the *bel canto* singing style used in Italian opera. Out of this, he created a genre uniquely designed for the piano’s sound and touch. No other piano genre had this kind of history. All other compositions before the nocturne had at least some history in other keyboard repertoire.

Another new genre for the piano was piano transcriptions of orchestral works (whether for orchestra, chamber ensemble, or even opera). The

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<sup>24</sup>John-Paul Williams *The Piano* (New York: Billboard Books, 2002), 16.

<sup>25</sup>Ann Bond, *A Guide to the Harpsichord* (Amadeus Press: Portland, 1997), 44.

keyboard was one of the few instruments able to play more than two notes at once, which of course made it a logical choice for a transcription of a multi-instrument work. But the piano had an advantage over the harpsichord because it was able to imitate multiple instruments with its depth of layers and nuances. The piano also could execute a wide variety of attacks and color. Composers realized that if they provided a piano transcription of their piece for larger ensemble they could make twice the amount of money and reach a larger audience. Oftentimes concert-goers would want to purchase the piano reduction in order to be able to follow the music in the concert or reproduce it for their friends later. Thus, piano transcriptions of orchestral works became extremely popular.

Because of the novelty of the piano's touch, several composers wrote music to aid the study and practice of technique for this new instrument. According to Derek Carew, "the distinctive action, with the new and considerable demands that it made on players and composers...gave rise to a plethora of 'schools' or 'methods:' books for teaching technique with musical exercises to monitor progress."<sup>26</sup> These pieces fall under two categories: technical exercises and études.

Technical exercises are pieces that mainly consist of repeated patterns. Composers design these to help the pianist master a technical idea or universal technical challenge.<sup>27</sup> Scales and arpeggios fall under this category, but composers also wrote many exercise pieces. Generally, composers did not intend these pieces to be played in concert, but simply for the student to study and perfect their technique. Clementi was probably the first to write technical exercises for the piano. According to Gerig, "Clementi...was responsible for the early beginnings of a true pianoforte technique."<sup>28</sup> He was probably the first to write technical piano exercises, publishing his collection of exercises *Gradus ad Parnassum* (Steps to Mount Parnassus) in 1817.<sup>29</sup> This included one hundred compositions of various kinds, including exercises, movements of sonatas, canons, fugues, rondos, adagios, and more. The version of Clementi's *Gradus* that pianists nowadays know was compiled by Carl Tausig in mid-nineteenth century, and only includes twenty-nine of Clementi's most étude-like pieces.<sup>30</sup> Charles-

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<sup>26</sup>Carew, *The Mechanical Muse*, 35.

<sup>27</sup>Ibid., 39.

<sup>28</sup>Gerig, *Famous Pianists and Their Technique*, 59.

<sup>29</sup>Carew, *The Mechanical Muse*, 40.

<sup>30</sup>Gerig, *Famous Pianists & Their Technique*, 60.

Louis Hanon also wrote a collection of technical exercises called *Le Pianist Virtuoso* (The Virtuoso Pianist), first published in 1873. These collections of exercise pieces became popular material for piano lessons. Composers also took advantage of this idea and began writing preparatory exercises to their more challenging works to increase sales.<sup>31</sup>

Exercises led to études, which were more musical versions of the technical studies. These pieces were intended to stress “the idea of musical achievement rather than digital drudgery.”<sup>32</sup> They often tested the limits of the piano’s capabilities, while stretching the performer’s abilities. Clementi composed some of his more advanced pieces from *Gradus* in this vein. A composer named J. B. Cramer also composed a collection of études called *Studio per il pianoforte* in 1804.<sup>33</sup> Beethoven actually regarded Cramer’s études as “the preparatory school best suited for the study of his own works because of the polyphony which so largely dominated in them.”<sup>34</sup> Of course Chopin was well known for his études, and rightly so. His études thoroughly explored the technical demands of the instrument to a greater degree than any other composer before him.<sup>35</sup> These pieces were often showy and virtuosic, and they challenged the pianist to play both with technical brilliance and musical integrity.

Several composers helped develop the idiomatic style of the piano. Mozart was brought up on the harpsichord, but in 1777 he was introduced to the piano and never looked back. He brought a number of harpsichord idioms to the piano, such as scalar passagework, Alberti bass, and trills. He also brought a *leggiero* touch mentioned earlier. Clementi, on the other hand, helped popularize the legato touch on the piano. He is quoted as saying in his treatise *Introduction to the Art of Playing the Pianoforte* “When the composer leaves the staccato and legato to the performer’s taste the best rule is to adhere chiefly to the legato, reserving the staccato to give spirit occasionally to certain

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<sup>31</sup>Carew, *The Mechanical Muse*, 41.

<sup>32</sup>*Ibid.*, 48.

<sup>33</sup>Carew, *The Mechanical Muse*, 42.

<sup>34</sup>O.G. Sonnek, ed., *Beethoven, Impressions of Contemporaries*, 173, quoted in Reginald Gerig, *Famous Pianists and Their Technique*, 61.

<sup>35</sup>Gerig, *Famous Pianists and Their Technique*, 162.

passages, and to set off the higher beauty of the legato.”<sup>36</sup> Also, in his *Gradus*, he used idioms pianists have come to know and love such as five-finger scale patterns and arpeggiated chord figurations.<sup>37</sup> Beethoven showed that the piano is a beast of an instrument, with the capacity for a full sound and incredible range of colors to rival an orchestra. Many later composers continued to develop and expand the idiomatic style of the piano, but they are often measured against the foundation built by Mozart, Clementi, and Beethoven.

Despite its slow start in the early eighteenth century, the piano completely revolutionized the musical world into which it was born. Composers had to rethink all of the nuances of harpsichord touch, sound, and technique as they applied them to the new piano. Many times they failed to completely switch their mindset from harpsichord technique, resulting in weak, ineffective piano technique. The various versions of the piano using either the English or Viennese action created differences in technique between pianists of the English or Viennese schools. The piano also revolutionized traditional keyboard literature, claiming some of the traditional harpsichord compositions for itself and creating new genres such as nocturnes, études, and orchestral transcriptions.

No other instrument has changed the course of music quite like the piano. Despite its inauspicious beginnings, the piano became a veritable force in keyboard history. It rooted out the well-established harpsichord, becoming a catalyst for the majority of the keyboard techniques, styles, and compositions that pianists know and love today.

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<sup>37</sup>Gerig, *Famous Pianists and Their Technique*, 60.

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