# The Neglected Pedal

ZAMI RAVID

**Abstract:** After one hundred and fifty years of improvements and refinements of all the parts and mechanisms in the piano – a very important invention is rejected, in fact up to this day, due to commercial rather than musical considerations. Today's great pianists play on a piano whose specifications are adapted for amateurs, according to the requirements of the mid-nineteenth century, "so that there will be beautiful furniture suitable for the living room." Not only does the middle pedal not exist on most pianos in the world – even when it does exist pianists do not use it, unless "in case of emergency."

The invention that "opens up new possibilities for composers," and they did take advantage of it (as shown in the examples throughout the article) – remained ashamed. It is possible that this article will encourage pianists to use it properly and will lead to the correct performance of works by Chopin, Liszt, and Fauré as they intended.

**Keywords:** Boisselot, Steinway, Chopin, Liszt, Faure, piano, right pedal, left pedal, middle pedal

## Terminology for this essay

- As the usual "una corda" (in Italian) is no more "one string" (but two) – I'll call it, simply, "left pedal."
- As the "sustain" or "sostenuto" or "Tonal" (is it a disruption of German "tone-halt"?) has no correct name – I'll call it "middle pedal."
- As "pedal Forte" (in French) is a wrong name – I'll call it "right pedal."
- And – in the music examples they will appear as: left = **A**, middle = **B**, right = **C**; (and later, while speaking about interpretation) – middle pedal used with the right foot = **D** (*destra*).

## 1. Introduction

Flute and harp, shofar, digeridoo and berimbau, and the like can be found in almost every culture and in every era. The "shofar" did not have to be invented. One only had to discover or understand that voices could be made when blowing in it.

The piano, and the other keyboard instruments that preceded it, are inventions, invented in Europe to serve a particular type of music: polyphony. Using a keyboard, a single player can play multiple sounds, voices, or melodies.

With the help of the keyboard, a single player can blow in multiple flutes (in the organ, of course), pluck many strings (harpsichord) and from the year 1700 – struck on

multiple strings (and not "one after the other" as in the cimbalom or the dulcimer, for example).

The piano "was born" when Bartolomeo Cristofori replaced the harpsichord jacks and plectra with hammers. Since then, and for about one hundred and fifty years, piano builders (mainly in England, France and Germany) have tried to strengthen the sound, control the changes in volume (probably this was the most important effect ("col piano e forte"), beautify the sound, lengthen and shorten it – and do so in various ways.

The original hammer was coated with different materials until they reached the design of the hammer in the modern piano. Research about the resonator box was made until they found the most suitable one. The strings were made of different materials, and thickened (bass strings) in order to shorten them. For some purposes they used the mechanics that were practiced in organ and harpsichord – registers. These were initially activated as "buttons," a knob for operation by hand, later as "knee-levers," and by means of pedals for the feet, a device that allowed changes while playing, and not just between episodes.

The first facility of this type was the "una corda," invented by Bartolomeo Cristofori himself. Since two identical strings were used for each sound, (to strengthen it as much as possible), this device pushed the hammers aside so that the tapping was only on one of the two strings. Later, pedals were added to add an octave (such as the coupler in organ and harpsichord), a "swell" device (which disappeared after a few years), various effects ("bassoon," "Janissary") that caused general disdain for pedals, and a very important action – (the subject of this article) – elimination of the "dampers."

### *Why Were the Dampers Created in the First Place?*

Wind instruments need no dampers. Arch instruments have no dampers. They do not need it because the player controls the sound, its length and its volume from beginning till its end. The sound of the piano, a percussion instrument, has only one direction: diminuendo. In order to enable a long sound – we have to play louder. But then, if sounds are too long, they blur, and the mixture is, sometimes, unbearable.

Among the keyboards – the organ sound lasts as long as the player presses the keyboard. (Since there is a constant supply of air flow), and stops when leaving the key.

The sound of the clavichord is so weak. The mechanics of the fretted clavichord hardly allowed a mixing of sounds.

The harpsichord has a damper at the top of the jack and it seals the vibration of the string as soon as one leaves the key and the jack returns to its place.

In the piano it is impossible (mechanically) to connect the damper to the hammer and therefore they had to build a complete, separate system of dampers. As early as the second half of the eighteenth century what is now called the "right pedal" was invented.

First – in manual operation, it was possible to decide that a particular movement would be played with, or without, the dampers. (This is why Beethoven asks – or recommends to anyone who can – to use it).

Later, and in fact until the 1820s, the pedals were formed, initially attached to the piano legs (one to the right foot and one to the left foot). When the keyboard became "too long" they reached the construction of the now accepted device (named after its shape at the time – the Lyra). The "right pedal" was split (see Fig. 1) into two parts that controlled, each, half of the keyboard (up to, and from middle C). It was made by Johann Andreas Stein (knee levers), and such a piano, made by Broadwood's belonged to Beethoven.

**Figure 1**. Split wooden pedal, Broadwood.

This explains how Beethoven wrote (Fig. 2) in the first measure of the 17th Sonata, the word "pedal," long notes (in the left side of the keyboard) and short notes (higher than middle C, in the right half of the keyboard). (The greatest pianists simply ignored Beethoven's instructions.)

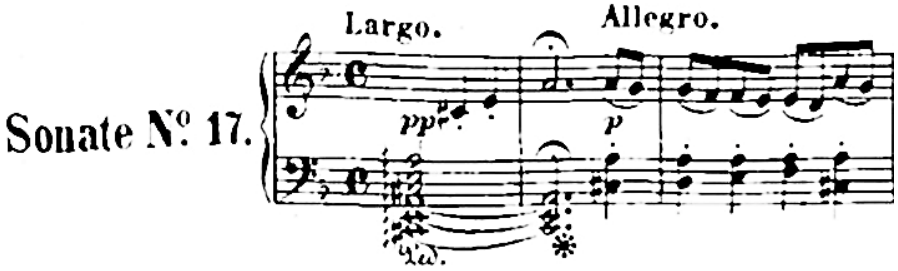



**Figure 2.** Beethoven 17th Piano Sonata (Op. 31, No 2), 1st movement, bars 1-3.

The 1820s heralded the use of iron, including the merging of the split wooden pedals into one iron pedal, which controls the entire keyboard. Supposedly – improvement and relief. At the same time, however, the loss of the possibility of cancelling only some of the dampers.

This is why in 1843 Boisselot, a piano maker from Marseille, invented the "middle pedal." This pedal, so important, was assigned and contemptuous, that even an official name does not exist, certainly not a graphic marking that can be printed on the sheet of notes, and this is what it looks like (Fig. 3).

**Figure 3.** The glossy pedal (public domain from English Wikipedia)

## 2. The Various Pedals

The "una corda" pedal became even more significant when a third (identical) string was added to most of the notes on the piano. The pedal (operated by foot) made it possible to deflect the hammers, and to play on one, or two, or three strings. (This feature does not currently exist). This explains Beethoven's instruction to change – gradually – playing on one string to all the strings. [Quoted in German, these are Beethoven's original remarks in Sonata 28.]

At the beginning of the episode – "Eine Saite, Una corda," in the end – "nach und nach mehrere Saiten" (little by little more strings), and then – "Alle Saiten" (All strings).

Today, in the modern piano, exact performing is not possible. [It is important, because the sound of a single string is not only softer, but also "pure cleaner," eliminating the slight vibration of the "almost" identically tuned three strings.]

Another pedal that does not exist today is the swell[1] (Fig. 4).

[1] Not to be confused with the future harmonic swell of Clementi.

**Figure 4.** "Kerstin Shwarz copy of 1785 harpsichord" with swell

This feature, which exists in the organ, was in the harpsichord at the end of the 18th century and was also inserted in the 19th century into the harmonium and the music box ("orgue de barbarie"). The patent was registered in 1801, (Fig. 5). (Claude Montal have used it later in the back of the upright piano).

1801 Bemetzreider, R. Scott, J. Scott and A. Scott [Eng. Pat. No. 2552].
The top of the instrument (a square pianoforte) opens at the back by means of a pedal.

**Figure 5.** The Swell patent ("The Piano-Forte: Its History Traced to the Great Exhibition of 1851" by Rosamond Harding, Heckscher & co. London, 1978.

That invention was made exactly at the time when Beethoven finished the eighth sonata (1799). Only with this pedal can Beethoven's demand (which today seems strange, or impossible, to anyone who even notices) to perform the chord that opens the Pathetique sonata (8th) with Fp's instruction, strong and immediately weak. (Effect similar to the opening chord of the 7th Symphony, the Forte chord of the whole orchestra, followed by oboe solo, played softly, piano). (Fig. 6, 7)

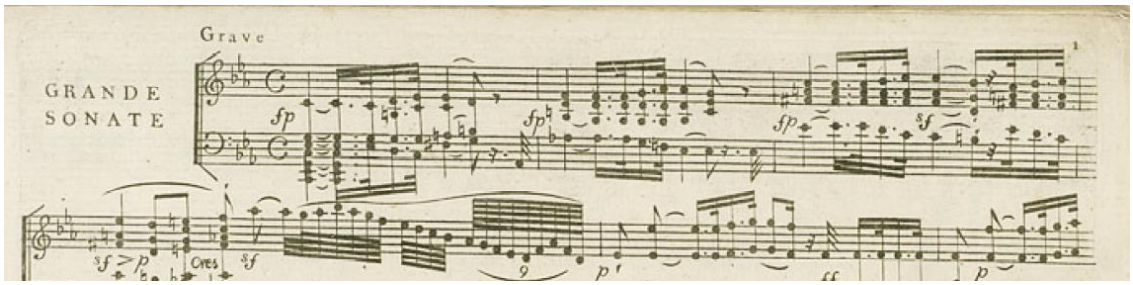



**Figure 6**. 8th Piano Sonate, 1st movement, bars 1-3. The *fp* is possible only with the swell pedal.

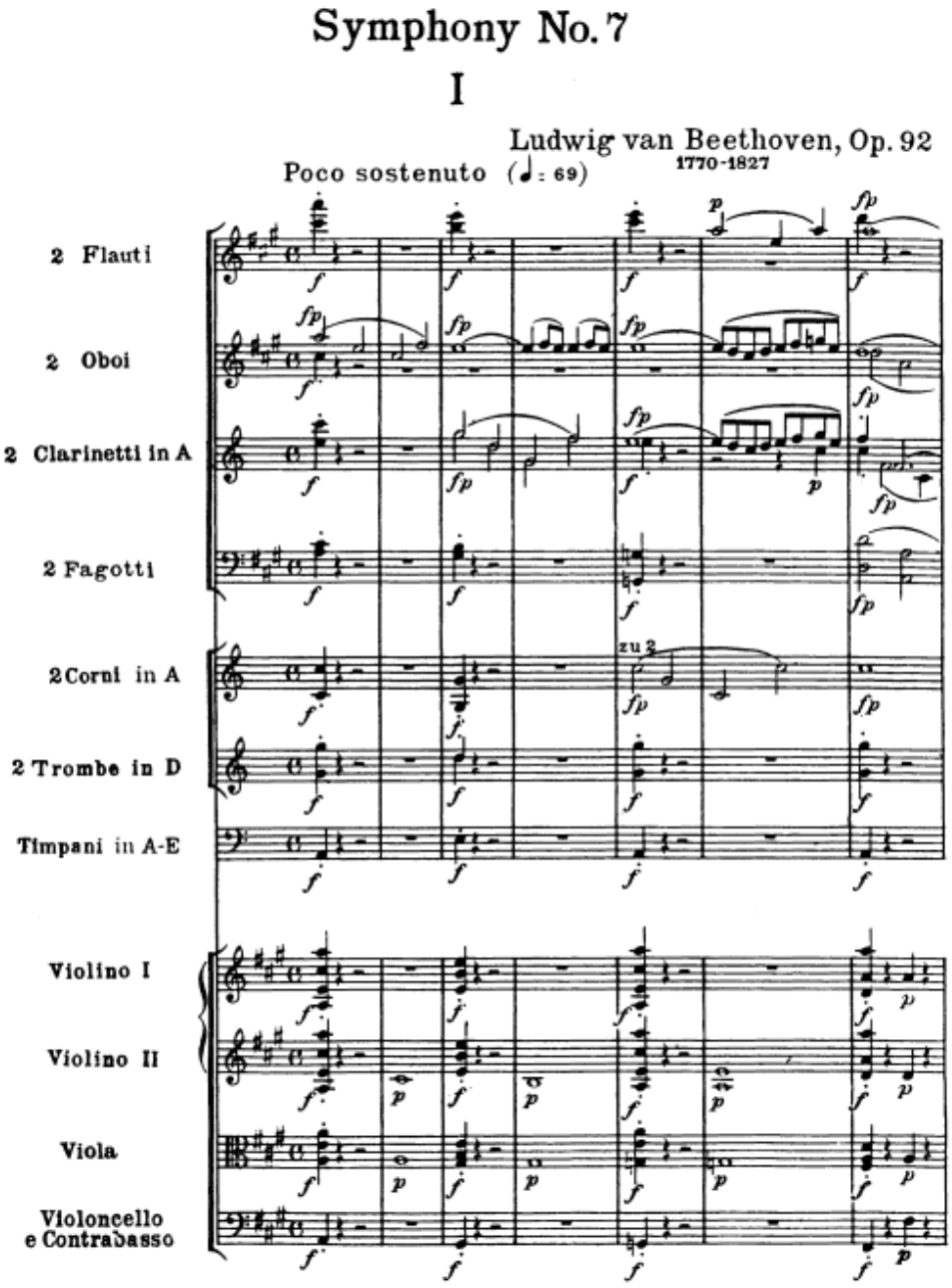



**Figure 7.** 7th symphony, 1st movement, bars 1-7.

The moderator pedal (is also called "celeste") inserts a piece of felt in between the hammers and the strings, like the action of the middle pedal in the modern upright piano, which is used for practice only.

The "Janissary pedal" added a bell ringing and tapping on a wooden box – very useful for playing Mozart's "Turkish March," and other works when such a fashion was in a certain period…

Some paper or silk or parchment that was inserted above the bass strings in the bassoon pedal caused a buzz, reminiscent of the bassoon sound.

All these caused contempt on the part of many musicians.

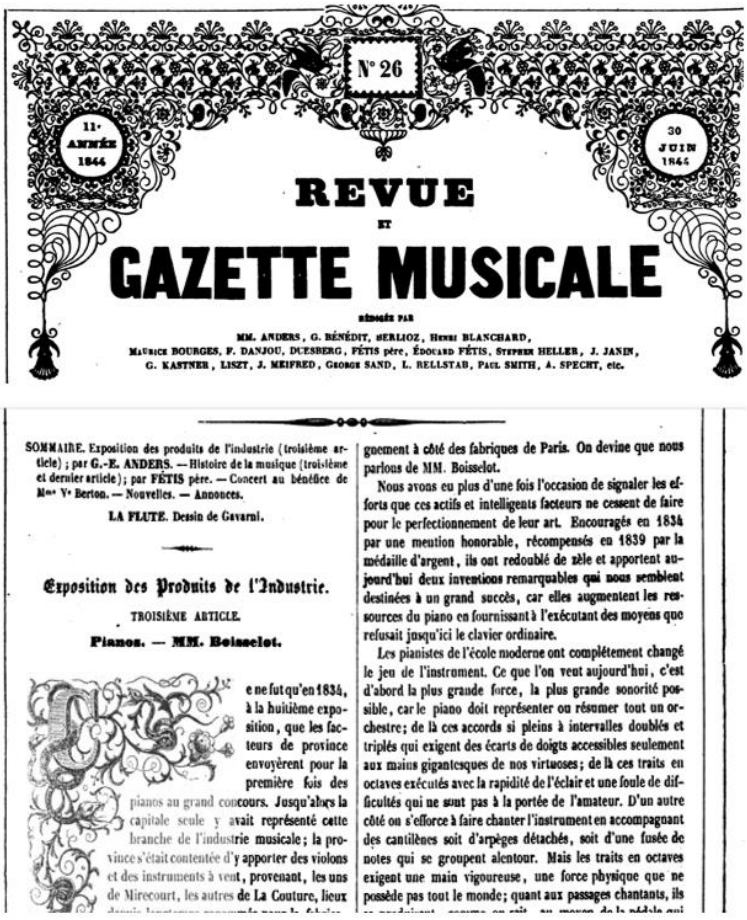
The piano in the years 1830-1850 had four to six pedals, sometimes seven, and in rare cases – eight pedals.

This was the background and condition of the piano in 1843.

### 3. The Inventor of the Middle Pedal – the Boisselot Family, Father and Son

The inventor of the pedal was – without a doubt – Jean-Louis Boisselot. [On the rest of the inventors, developers and competitors for the degree – in a separate chapter.]

Jean-Louis Boisselot, a descendant of a family of musicians, merchant and music publisher, built his factory in Marseille. (Not like Pleyel, Erard and others who were in Paris). This had an advantage – the proximity to the port of Marseille allowed the import of various woods, and the export of pianos to other countries – Italy, Spain, Portugal and Brazil (Fig. 8).



N° 26

11e ANNÉE 1844

30 JUIN 1844

REVUE ET GAZETTE MUSICALE

RÉDIGÉE PAR

MM. ANDERS, G. BÉNÉDIT, BERLIOZ, Henri BLANCHARD, Maurice BOURGES, F. DANJOU, DUESBERG, FÉTIS père, Édouard FÉTIS, Stephen HELLER, J. JANIN, G. KASTNER, LISZT, J. MEIFRED, George SAND, L. RELLSTAB, Paul SMITH, A. SPECHT, etc.

SOMMAIRE. Exposition des produits de l'industrie (troisième article) ; par G.-E. ANDERS. — Histoire de la musique (troisième et dernier article) ; par FÉTIS père. — Concert au bénéfice de Mme Ve Berton. — Nouvelles. — Annonces.

LA FLUTE. Dessin de Gavarni.

Exposition des Produits de l'Industrie.

TROISIÈME ARTICLE.

Pianos. — MM. Boisselot.

Ce ne fut qu'en 1834, à la huitième exposition, que les facteurs de province envoyèrent pour la première fois des pianos au grand concours. Jusqu'alors la capitale seule y avait représenté cette branche de l'industrie musicale ; la province s'était contentée d'y apporter des violons et des instruments à vent, provenant, les uns de Mirecourt, les autres de La Couture, lieux

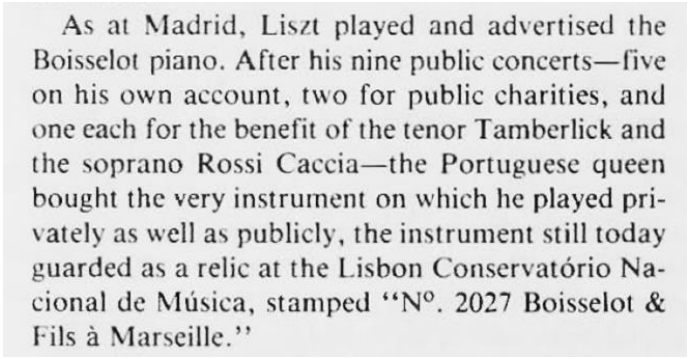
gnement à côté des fabriques de Paris. On devine que nous parlons de MM. Boisselot.

Nous avons eu plus d'une fois l'occasion de signaler les efforts que ces actifs et intelligents facteurs ne cessent de faire pour le perfectionnement de leur art. Encouragés en 1834 par une mention honorable, récompensés en 1839 par la médaille d'argent, ils ont redoublé de zèle et apportent aujourd'hui deux inventions remarquables qui nous semblent destinées à un grand succès, car elles augmentent les ressources du piano en fournissant à l'exécutant des moyens que refusait jusqu'ici le clavier ordinaire.

Les pianistes de l'école moderne ont complétement changé le jeu de l'instrument. Ce que l'on veut aujourd'hui, c'est d'abord la plus grande force, la plus grande sonorité possible, car le piano doit représenter ou résumer tout un orchestre; de là ces accords si pleins à intervalles doublés et triplés qui exigent des écarts de doigts accessibles seulement aux mains gigantesques de nos virtuoses; de là ces traits en octaves exécutés avec la rapidité de l'éclair et une foule de difficultés qui ne sont pas à la portée de l'amateur. D'un autre côté on s'efforce à faire chanter l'instrument en accompagnant des cantilènes soit d'arpèges détachés, soit d'une fusée de notes qui se groupent alentour. Mais les traits en octaves exigent une main vigoureuse, une force physique que ne possède pas tout le monde; quant aux passages chantants, ils

**Figure 8.** "Revue et Gazette Musicale de Paris" (No. 26, June 30, 1844) about Boisselot.

Liszt traveled in October 1844 on a concert tour in Spain with Boisselot's piano. From there he continued to Gibraltar and from there to Portugal. At the end of the tour the Queen of Portugal bought the piano. It is now in a museum in Lisbon (Fig. 9).



As at Madrid, Liszt played and advertised the Boisselot piano. After his nine public concerts—five on his own account, two for public charities, and one each for the benefit of the tenor Tamberlick and the soprano Rossi Caccia—the Portuguese queen bought the very instrument on which he played privately as well as publicly, the instrument still today guarded as a relic at the Lisbon Conservatório Nacional de Música, stamped "N°. 2027 Boisselot & Fils à Marseille."

**Figure 9.** Liszt in the Iberian Peninsula 1844-1845. *Inter-American Music Review*, *7*(2), pp. 3–22.

When M. Boisselot (the father) died (in May 1847) an article devoted to his memory (by M. Sylvain de Saint-Étienne, appeared in the Gazette musicale de Paris (No. 22, May 30, 1847)[2]:

> Boisselot was loved by all the artists; his house was a tutelary asylum where, whatever feels their talent and their country, they found a generous and wide hospitality there. He treated his workers like his children who are in turn scolded and we caress, but that always end up loving. He associated them with all his pleasures, at all his feasts.
>
> The day when Liszt, on his return from Spain, came to pay a friendly visit to M. Boisselot, whose heart knew how to appreciate this person, and that this one celebrated it with a very royal luxury, because he knew that he received at his home the king of pianists, the workers had their place at the artistic feast. There, contrary to these selfish and unjust industrialists who take on themselves all the glory, all the merit of their products, M. Boisselot, with a noble disinterestedness, knew how to make a large part of the zeal and the skill of these modest workers, thus proclaiming the alliance and the fusion of intelligent idea and material work.

## 4. The invention: The Middle Pedal, Its Function, and How It Works

**In 1836**, "Boisselot et Fils" were featured at the Paris Industrial Exhibition (equivalent to the present-day international "Expo"), with an emphasis on the fact that they were "in the periphery";

[2] Hereinafter, the translation from non-English sources is mine – Z.R.

**In 1840** they won a silver medal; and
**In 1844** they came with two new inventions that were presented in the exhibition. They won a gold medal (Fig. 10).


**Figure 10.** 1844 and 1849 Gold Medals of "Boisselot et Fils"

One invention was the ability to play – with one finger – an octave interval (above or below the original sound). They presented two mechanical possibilities. [One – next to each pair of strings there was also a low string in the octave, and shifting the hammer to the side made it possible to play them all. In the second method, the played hammers were activated simultaneously, as well as hammers at an octave distance. They also introduced the possibility of combining the two techniques, which allowed for playing 6 different sounds in one finger...] These are actually mechanical solutions that made it possible to do on the piano what could be done already on the organ.

### *…The Second Invention Is the Middle Pedal*

> Le sostenuto est inventé par Jean-Louis- BOISSELOT de Marseille en 1843: 'Piano à sons soutenus à voltenté', fait par BOISSELOT, de Marseille, en 1843. [The sostenuto was invented by Boisselot from Marseille in 1843. A piano with it was made in 1843.][3]
>
> But this pedal, [the "right"] by raising all the dampers at the same time, has the disadvantage of letting all the notes vibrate together indiscriminately, which sometimes results in confusion or an unpleasant harmony, and which moreover often hinders the artist by forcing him to abandon the holding of a few notes to avoid this cacophony.
>
> […] to be able to sustain each note independently of the others at will, that is to say to be able to produce a melodious phrase, surrounded either by arpeggios or by detached notes...

[3] Quoted and translated from the *Revue et gazette musicale de Paris*, June 1844. Acknowledged at *Dictionnaire des instruments de musique* (Jacquot, 1886).

> They have solved these two problems very satisfactorily, one [coupled octaves] in the "Octavie" piano, the other [sostenuto] in the piano "with sounds sustained at will ["le piano a sons soutenus a volonte"].

And more from this review about the new invention as written by G.E. Anders about the "Exposition des produits de l'industrie" in the *Revue et gazette musicale de Paris*[4]:

> We arrive at the piano with sustained sounds "on demand." As we have seen above, it is not a question here of means capable of prolonging the sound of the strings beyond their natural vibrations produced by the blow of the hammer, such as the use of wind or a kind of a bow, [not like Leonardo's invention, with the wheels, and not combined with free reeds like in the harmonium] which has been applied several times to the piano, but entirely distorts its character. It is only a question of allowing each note to vibrate, at the whim of the pianist, by raising its damper separately, whereas in ordinary pianos, all the dampers rising together, the strings that are struck, continue to vibrate indistinctly. This results, MM. Boisselot obtained it by the following process:
>
> A special pedal activates an escapement lever, which raises the damper and holds it in this position with the help of a rocker. The damper thus remains raised as long as you keep your foot on the pedal, without it being necessary to leave your finger on the key. This retains all its independence and can be struck again while the pedal retains the damper. It should be noted that the pedal acts on one or more keys, at the will of the performer.
>
> To see this mechanism so simple, one is surprised that the idea did not come to anyone and that such an instrument was not made sooner. This precious invention, once it becomes widespread, will exert a great influence on the way of writing for the favorite instrument of our days.
>
> We can imagine what variety of new effects composers and improvising pianists will be able to obtain from now on. The song, instead of blending in or becoming confused with the notes that surround it, will take shape clearly, distinctly. And we often think we hear a piece played by two artists on two different pianos…

The first one to pick up the gauntlet was Chopin. (Chopin and Liszt lived in Paris at that time.)

Chopin wrote the Polonaise-Fantaisie. It is a dream comes true, a fantasy, in which one pianist can play "as if" with four hands.

On the piano – by definition it was possible to play "a melody with one hand, and an accompaniment with the other." The new pedal allows to play "two melodies, and at the same time two accompaniments" at the same time.

Chopin did not have to write which pedal to use. Nor has it yet (and to this day) had a name or a graphic mark, as already has been said. But from the notes themselves it is clear that some notes of the Polonaise (Fig. 11) are supposed to continue resonate even though the pianist is "busy" playing other sounds, while the other sounds cannot remain

[4] Anders, G.E. "Exposition des produits de l'industrie. Pianos. MM. Boisselot," *Revue et gazette musicale de Paris*, (26), June 30, 1844, p. 219.

and resonate because then an unbearable cacophony will be formed. This is exactly what the new invention can prevent.

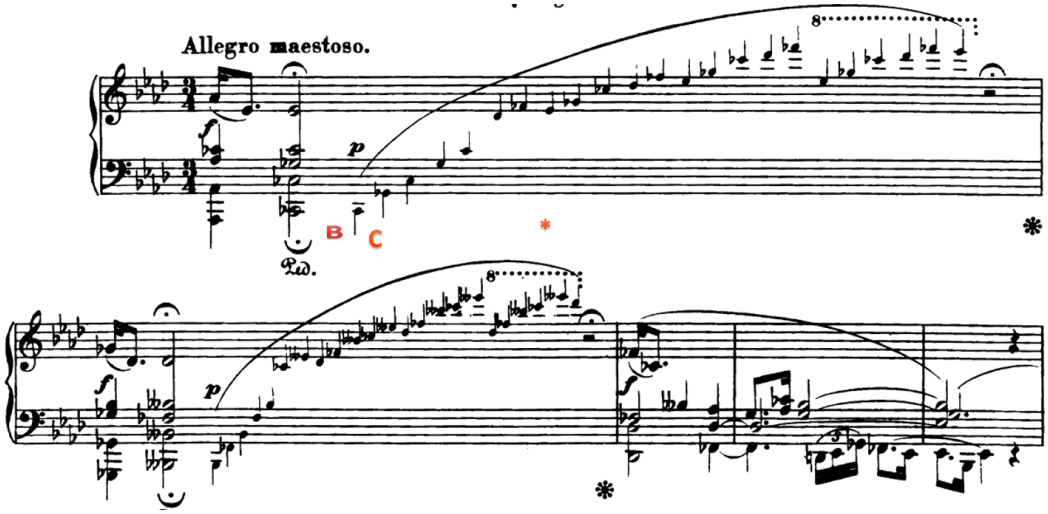



**Figure** 11. Chopin. Polonaise-Fantaisie, mm. 1-5

*Just an Elementary Explanation About the Pedal*

When the key is pressed, the hammer strikes the string, and the damper, moves up, leaves the string to vibrate. (Fig. 12a) Normally the damper falls down when pianist leaves the key. The right pedal keeps all dampers up, even a key is released. With the middle pedal there are two little pieces (Fig. 12b). When the middle pedal is pressed (Fig. 12d) – the damper of an already played key cannot fall down. This note will vibrate (sound) even when the key is released.

(a) (b) (c)

**Figure 12**: (a) and (b) – middle pedal "off," (c) – middle pedal "on"
(Photographs by the author)

## 5. Changing the Trend, Instead of Perfecting the Piano for Better Sound – Start Adapting It to Fashion, Salons, and Amateurs

The invention of Boisselot of 1844 did not have the proceeding that we could expect. Although in the [French] catalogue of the exhibition we read:

> The invention of the piano with sustained sounds at will offers pianists and composers new resources, because it makes possible the execution of a singing in tied notes and long values, without having to leave your finger on the key, while at the same time, passages can be played in short, staccato notes. Those two inventions will have very fine results; they must excite the attention of modern pianists, and their merit is greater than they do not change the nature of the piano actual sound. The works of M.M. Boisselot father and son, were rewarded with a gold medal.

Customers' expectations in 1844 were in a completely different direction, as seen in the pianos introduced by Pape[5], when the main features are:

- "piano a queue, petit format" **–** a 1.48-meter-long grand piano;
- "piano ovale nouveau" **–** very elegant, and convenient to move from apartment to apartment;
- "le piano-table hexagon" **–** When you see it you can hardly believe it is a musical instrument [!!!];
- It looks like a coffee table. When you open it and pull out the keyboard – you can play.
- "le piano a huit octaves (94 notes)" **–** A keyboard longer than the modern piano (88). But to add some bass strings, he gave up some of the high notes;
- "le piano-console" "un joli meuble, **–** a nice piece of furniture, very fashionable, does not take up more space than a regular desk;
- "le piano vertical" **–** it is no more than one meter high and is suitable to put in ships sailing in the Mediterranean;
- "piano vertical organisee" A combination of strings and reeds, allows long sounds that do not fade;
- "Piano stenographe" Which allows documentation of what is being played, and even the replaying of it (!);
- "harmonica a clavier" – Perhaps a combination of harmonium and piano.

Such expectations could even easily be expressed in various piano-like or piano-associated products and accessories (see Figure 13).

[5] Jean-Henri Pape (1789 –1875) was a French pianos and harps maker – Z.R.

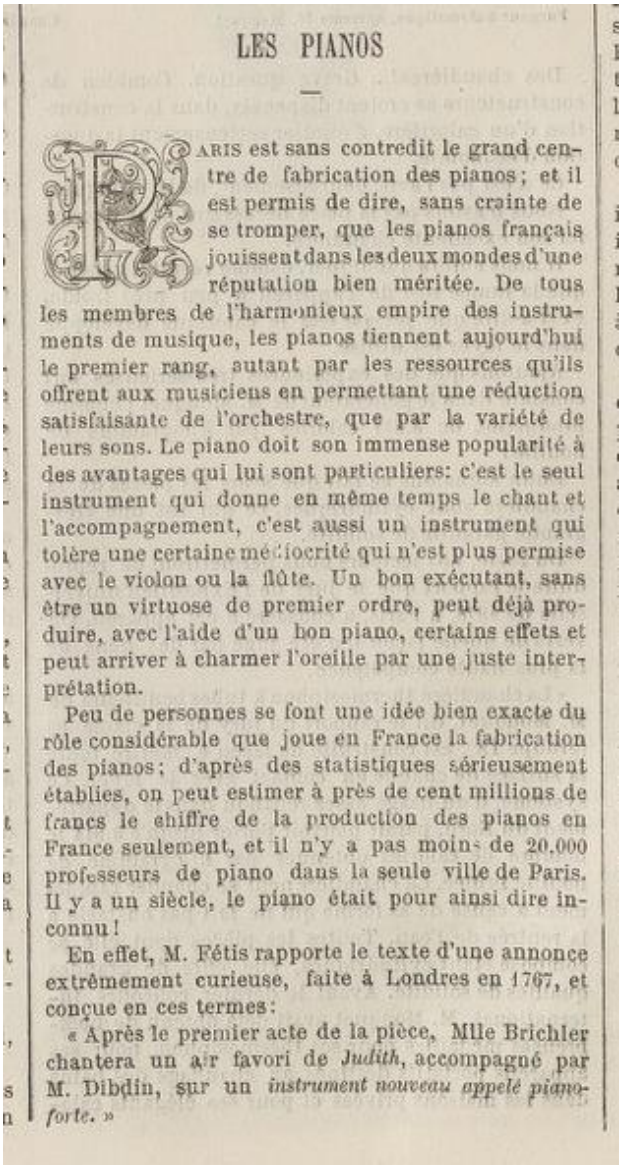
**Figure 13.** Piano with drawers for sewing tools. Tagliavini Collection, Bologna.
Photograph by the author

And, this is from "Le pantheon de l'industrie:[6]

> Of all the harmonic instruments (keyboards) the piano occupies the first place today. Because it allows arrangements, "like a small orchestra" And also thanks to its variety of sounds.
>
> The piano owes its popularity (its fame and distribution) to its special features: It is the only instrument that gives the melody and accompaniment at the same time…
>
> And yes – it is a tolerant instrument in learning mediocrity, which is not possible for those who play the violin or the flute.
>
> A good performer, without being a first-class virtuoso can perform, with the help of a good piano some effects, and can please the listener's ears by playing correctly.
>
> There are about 20,000 piano teachers in Paris, [!!, ??] a city in which the piano was not known a hundred years ago…
>
> Fetis quotes a "strange statement" made in London in 1767 as saying: "After the first act, the singer will sing accompanied by a new instrument, instrument nouveau called piano-forte."

Below is a relevant page of the original document in French (see Fig. 14).

[6] *Le pantheon de l'industrie*, 1876 (1), p. 126.



LES PIANOS

—

PARIS est sans contredit le grand centre de fabrication des pianos; et il est permis de dire, sans crainte de se tromper, que les pianos français jouissent dans les deux mondes d'une réputation bien méritée. De tous les membres de l'harmonieux empire des instruments de musique, les pianos tiennent aujourd'hui le premier rang, autant par les ressources qu'ils offrent aux musiciens en permettant une réduction satisfaisante de l'orchestre, que par la variété de leurs sons. Le piano doit son immense popularité à des avantages qui lui sont particuliers: c'est le seul instrument qui donne en même temps le chant et l'accompagnement, c'est aussi un instrument qui tolère une certaine médiocrité qui n'est plus permise avec le violon ou la flûte. Un bon exécutant, sans être un virtuose de premier ordre, peut déjà produire, avec l'aide d'un bon piano, certains effets et peut arriver à charmer l'oreille par une juste interprétation.

Peu de personnes se font une idée bien exacte du rôle considérable que joue en France la fabrication des pianos; d'après des statistiques sérieusement établies, on peut estimer à près de cent millions de francs le chiffre de la production des pianos en France seulement, et il n'y a pas moins de 20,000 professeurs de piano dans la seule ville de Paris. Il y a un siècle, le piano était pour ainsi dire inconnu!

En effet, M. Fétis rapporte le texte d'une annonce extrêmement curieuse, faite à Londres en 1767, et conçue en ces termes:

« Après le premier acte de la pièce, Mlle Brichler chantera un air favori de *Judith*, accompagné par M. Dibdin, sur un *instrument nouveau appelé piano-forte.* »

**Figure 14**. *Le pantheon de l'industrie*, 1876 (1), "Les Pianos" section

*** * * ***

The very invention of the piano, and the possibility of playing "melody and accompaniment" caused a split throughout the musical history of Europe. Of course, this phenomenon occurred on the basis of the social changes that took place, culminating in the French Revolution. The importance (or the very existence) of the middle, urban class enabled the creation of the musical "amateur class."

In the past – musicians were usually professional musicians – whether it was an organ player in a church, or a travelling singer who accompanies himself in a lute. The musician's livelihood, (if any) came from the ruler, or the church, or the municipality (of

Leipzig, Bach, for example). There was no repertoire for solo playing on trombone or contra-bass. Nobles of a different level had musicians, or singers, who entertained them (Haydn's Orchestra at Esterhazy's), The Archbishop of Salzburg (Mozart) and Prince Lobkowitz (Beethoven).

When the social (and economic) situation made it possible to buy a piano, it was clear that its place was in the living room of the house, and it is clear that the person who played it was the 12 years old daughter, who, of course, had to play before the visiting aunt, (and later for the intended groom). This fact explains the list of preferences that appeared at the beginning of this chapter. The many pedals (see illustrations) were not elegant enough, and in general – the many pedals only complicated the matter, making it difficult to play. They did not fit into the "amateur class."

**V^e^ SECTION**

***Pianos***

De toutes les classes d'instruments, celle des pianos de diverses formes est l'objet de l'industrie la plus développée : [38] on estime ses produits annuels, en ce moment, tant en Europe qu'en Amérique, à la somme d'environ 75,000,000, chiffre considérable si on le compare à celui de la même production fourni par les renseignements en 1840. Dans ce total, l'Angleterre figure pour 27,000,000 environ, la France pour 10,000,000, les divers États de l'Allemagne pour 16,000,000. Les États du Nord, la Belgique, la Suisse, l'Italie, l'Espagne, le Portugal et les États-Unis d'Amérique fabriquent pour les 22,000,000 restants.

Cette industrie tend à se développer dans des proportions toujours croissantes : l'Amérique, particulièrement, marche à grands pas dans cette voie de production. Telle a été la rapidité de ces progrès depuis quelques années, qu'il est permis de croire que la fabrication des villes principales de l'Union pourra égaler celle de l'Angleterre dans l'espace de dix ans.

Les grands industriels seront sans doute peu émerveillés des aperçus qu'on vient de voir, parce qu'ils en feront la comparaison avec les résultats beaucoup plus considérables d'objets moins importants ; mais, si l'on réfléchit à la complication des éléments d'un piano, à la précision indispensable de sa mécanique, et en définitive à la difficulté de résoudre ce problème : *produire le meilleur son possible, le plus intense, le plus moelleux, le plus clair, le plus suave et le plus égal dans toutes l'étendue du clavier*, on comprendra, d'une part, que tisser des toiles, des draps, des étoffes de soie, couper et coudre des gants, faire en un mot de l'industrie pure, ne sera jamais qu'un travail simple, rendu plus facile par la mécanique, tandis que rien n'est plus difficile que de faire un bon instrument, particulièrement un piano ; car ici l'industrie



**Figure 15.** Section on pianos from the report by Fetis on Industrial Exposition in Paris in 1855

Fetis wrote about the 1855 exposition (see the original text in Fig. 15, above):[7]

[7] Fetis, F.-J., *Exposition universelle* de *Paris* en *1855*. *Fabrication des instruments de musique*, p. 38. Republished in 2011 with reference to original page numbers.

> De toutes les classes d'instruments, celle des pianos de diverses formes est l'objet de l'industrie la plus développée: on estime ses produits annuels, en ce moment, tant en Europe qu'en Amérique, à la somme d'environ 75,000,000.

It is hard to believe, but he wrote that in the year 1855, 75,000,000 pianos were produced worldwide. These pianos had to be sold… Even if the number is exaggerated, even if 4,000 pianos were sold (in one year) to concert halls and another 4,000 to professional pianists, there were still 75 million pianos left for sale to amateurs…

These pianos should be small, inexpensive, beautiful as furniture, and comfortable to use for little girls.

Four large and not-so-elegant pedals as in picture (Fig. 16) – will not find their place in the living room.

**Figure 16.** Four "not-enough-elegante" pedals in Pianoforte Erard Frères, Paris, 1805. Collection Musées Royaux d'Art et d'Histoire, Bruxelles.

In 1855, Fetis distinguishes between the pianos intended for professional pianists, and the home pianos, which are produced in quantities, their quality is poor, because it is important that their price be low. "This is the piano that is in the janitor's residence in the building, and also in the apartment on the fifth floor, and also in the living room of the luxurious apartment on the first floor."

In the same year, the opinion is expressed that the invention (of the middle pedal) is not so important, that fashion will not remain, and the main benefit is actually in Bach's arrangements of organ music.

Adrien de la Fage[8] states:

> The real note of the melody cannot be overheard, and yet the performer, obliged to leave his fingerboard immediately, has no other means of prolonging its sound than by raising the dampers by lowering the pedal; but as the effect is applied immediately to the whole keyboard, the inevitable result is that the note whose sonority one would have liked to keep merges with all the others or else ceases to be heard much too soon. The object of the new invention is to remedy this drawback: by means of a special pedal governing a very simple mechanism, the pianist can, by the sole pressure of the finger and by immediately leaving the key, prolong the vibrations of the struck string and obtain a sustained sound at will, the damper of the buddy thus attacked remaining in the air while all the others are at their level…

The pedal is useful in certain vogue, variations and improvisation of melodies with a lot of arpeggios in the accompaniment, in order to fascinate the public with many notes played forte, and very quickly, but,

> I would not attach great value to this idea if it had no other application than that which has just been indicated.
>
> The kind of airs varied in this way cannot have a very long vogue; but the ease of obtaining the prolongation of the sound in this way without having to hold the finger on the key can make much early music easy, (that of Sebastian Bach, for example), which often embarrassing fingering thus becomes much simpler and dispenses frequent finger substitutions mandatory for anyone who wants to play this music correctly. It could be objected that more than once this would be replacing one embarrassment by another, but M. Boisselot's mechanism would none the less offer great help in certain passages of another kind, for example in the fugue in A. minor (No. 20, first notebook of Preludes and Fugues), where there is a fermata at the end, the fundamental of which can only be held by a colossal hand. The same remark applies to all organ music written in the tied style.

(We see here the beginning of the neglecting of the middle pedal, "just as an emergency" tool).

> "But what is even more important, the possibility of obtaining sustained sounds offers new resources for future compositions, and can provide the talent of any fortunately gifted pianist with a whole set of new combinations which will further increase the domain of the piano, already so vast and so rich, and which, however, like every favored conqueror of fortune, still aspires to extend its limits in the hope of finding other abundant and unexplored mines.

## 6. Another invention – WOLFF-PLEYEL

A completely different invention and different operation, with different musical options was invented by Auguste Wolff, "chef de la Maison PLEYEL-WOLFF et C$^{ie.}$" in 1875 (see Fig 17).

[8] Adrien de La Fage, *Quinze visites musicales à l'exposition universelle de 1855*, Paris: Tardif, 1857, p. 27.


**Figure 17**. 1875 PLEYEL-WOLFF: grand (left) and upright (right).

Apparently except for one piano found in *Musée du Piano de Limoux* (and perhaps a few other pianos) the idea was never realized, and of course did not affect any composer.

Although the invention had no sequel, and has no practical meaning in the repertoire – as the idea is so unfamiliar (and in fact does not exist) and it is difficult to find any information about it, I dedicate the following lines to this exhibit (Fig. 18):

- "Premier modèle avec système de pédale tonale." ("the first model with the "sostenuto – tonal – ped. system").
- Musée du Piano de Limoux (in the south-west of France), ("the only piano museum in France," with about 100 pianos).

In the French explanation we read:

- "PLEYEL 1875"
- "NO. 55529"

[The following line is difficult to read, but most likely:]

- "The frame – locked, the strings – are crossed;
- "first model with sostenuto – tonal – ped. system";
- "reg. patent dated April 9th, 1875"

**The invention** is a tonal-pedal which is operated by a one-octave extra keyboard (above the regular one, see Figures 17, 18).

When the pianist presses one, or some keys on the little keyboard, and then presses the (new) tonal-pedal, it influences all the similar notes, in all the octaves of the piano. (In fact, it is only the lower five of six octaves).

**Figure 18**. The 1875 Pleyel grand piano in the *Musée du Piano de Limoux* (Public domain)

For example, if you press "C" and "E," you can play a glissando all over the keyboard, and all the "C"s and "E"s in all the octaves will vibrate.

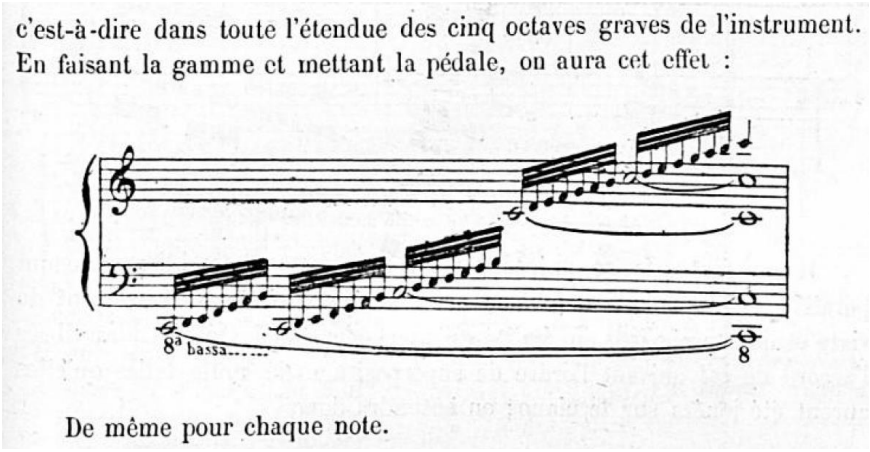



**Figure 19.** Example from the explanation of Wolff himself.

**The inventor – Auguste Wolff** was a pianist and composer. He became a partner of **Camille Pleyel** in 1853, and the general director after Pleyel death in 1855. (Pleyel's son have died earlier, Pleyel's daughter died two years after her father.)

On 23.1.1876 we read:

> The audition session of the new pedal-Wolff, who was to have held last Thursday at the salle Pleyel, is postponed until tomorrow, Monday (24/1/1876).

And then:

**CONCERTS ANNONCÉS.**

**Lundi, 24 janvier, à 8 h. 1/2, salle Pleyel. — Audition de la nouvelle *pédale harmonique* de M. Aug. Wolff.**

And on 30.1.1876:

> The pedal-tonal was invented six months ago. M. WOLFF exposed the invention, demonstrated for the aristocratic public, artists and pianists, how it works, and what new possibilities it gives the pianists.
>
> We heard four pianists […] played Wagner's "Tannhauser," Chopin's "berceuse," and Mendlesson's "Summer-night-dream." Saint Saens could not come because the change of the date…"

But, a week later, in a concert in the same place, Saint Saens played Chopin's Berceuse, using the "pedal-tonal" that was just invented…

Gustave Chouquet wrote about Wolff[9]:

> The house of Pleyel, Wolff et Cie, enemy of routine and led by a chef who is both an artist and a scientist, […] who invented the tonal pedal. We dare not say that the tonal pedal is destined to achieve the same success [like another invention, arrangement of the strings].
>
> […] although we appreciate the resources it provides to musicians and improvisers, […] allowing only the fundamental notes of the tone to vibrate), but we believe that organists will benefit more from this innovation than ordinary pianists. Seeing that the fingers are asked not only to traverse the seven octaves of the keyboard of the instrument, but also to press down the keys of another small keyboard of one octave with the help of which the tonal pedal acts, an amateur will find that too much is demanded of his dexterity, and perhaps he will be right.

"The idea which permits to leave one note, stays after it was played, (with the explanation that the "etouffoir" stays up [like the "normal" sostenuto] "by the use of a little keyboard [as we see in the Figures 17, 18].

[9] Gustave Chouquet. "Pleyel after Pleyel. The Instruments of Auguste Wolff and Gustave Lyon at Universal Exhibitions," *Musique Images Instruments* 13, 2012, pp. 77-99.

## 7. More Inventions

Other systems, with the same idea, were invented before and after this one. Fetis[10] talks about two more patents, a pedal that can be left behind, and a pedal keyboard.
One patent that does not require a long press on the middle pedal:

> The same idea, taken up by M. Gaudonnet, from Paris, is noticeably modified, in that the pedal, after having produced its effect, is abandoned by the foot, become free as the hand, to act on another pedal at will, while the isolated sound or collective sounds are sustained. If the effect should cease, the foot strikes the same pedal again, and this movement, which made the dampers rise, makes them fall back. This mechanism is very ingenious but, in its present state, it can be criticized for being a little too complicated. Mr. Gaudonnet has recognized himself what is founded in this objection and is currently engaged in new research to simplify the combination of movements.

It is hard to understand from Fetis' description how the second patent works. Perhaps a pedal keyboard functions like the little Wolf-Pleyel keyboard.

Anyway, all three patents, with an additional Wolf keyboard or the intensive operation of the pedals are ideas that suited for organ players, who are used to a number of keyboards and pedals. They were not suitable for pianists (who had to deal with a much longer (7 octaves,) keyboard than they were used to before), which is the reason why they had no sequel.

> Under the name of piano chanté, MM. Lentz and Houdart, of Paris, exhibited an instrument which also aims to sustain sounds, while other parts of the piano remain under the pressure of the dampers. The difference between this piano and those just mentioned consists in the fact that the sustained sounds of the piano are chanted by divisions of octaves, by means of pedals that correspond to each of these octaves. This multiplicity of pedals, for obtain an exceptional effect, seems to us to be a serious obstacle to the success of the attempt made by MM. Lentz and Houdart; because the feet of the performer would be there in a perpetual movement, to go from one pedal to another.

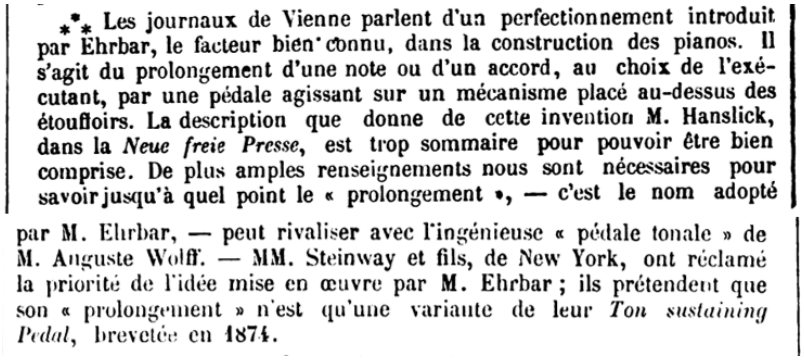
## 8. The Race for the Patent: Debain (1860), Montal (1862), Ehrbar (1876), Hanchett and Steinway (1875), and Others

387 piano-makers exhibited in the big exhibition in 1855. No wonder there were many inventions, no wonder most of them had no future.

This chapter deals with the race to the registration of patents for the middle pedal, after it was invented by Boisselot.[11] As the main subject of the present essay is why the pedal has been neglected, and is still neglected. This is only a short and concise chapter.

[10] Fetis, *Exposition universelle*.
[11] There is an excellent article "The Invention of the Sostenuto Pedal " by Fred Schaeffer Sturm on the Research Gate, and this is the link to it:
https://www.researchgate.net/publication/320188655_The_Invention_of_the_Sostenuto_Pedal.

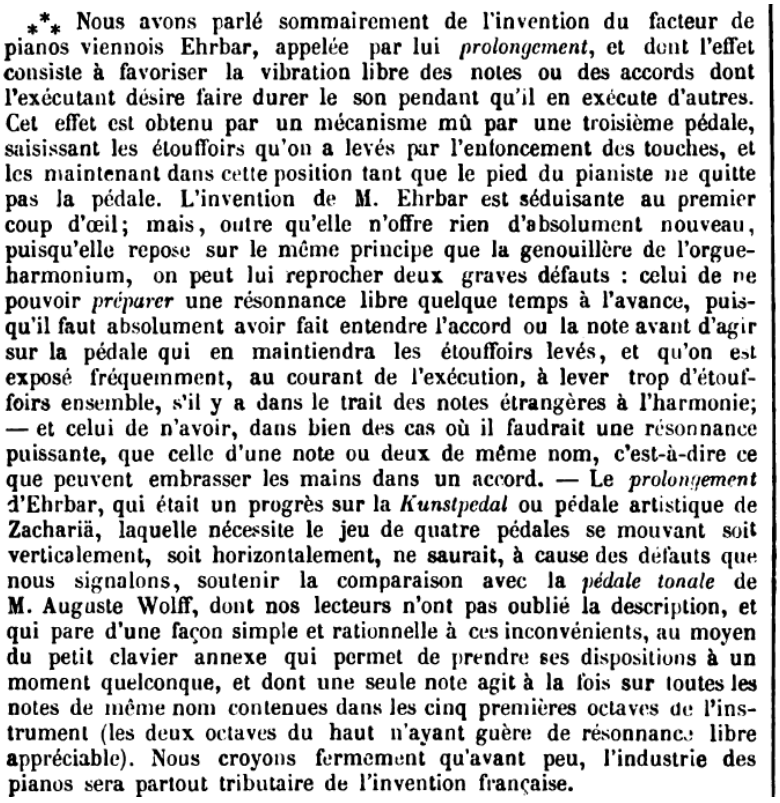
The *Revue et gazette musicale de Paris*, 30 April 1876:



*** Les journaux de Vienne parlent d'un perfectionnement introduit par Ehrbar, le facteur bien connu, dans la construction des pianos. Il s'agit du prolongement d'une note ou d'un accord, au choix de l'exécutant, par une pédale agissant sur un mécanisme placé au-dessus des étouffoirs. La description que donne de cette invention M. Hanslick, dans la *Neue freie Presse*, est trop sommaire pour pouvoir être bien comprise. De plus amples renseignements nous sont nécessaires pour savoir jusqu'à quel point le « prolongement », — c'est le nom adopté par M. Ehrbar, — peut rivaliser avec l'ingénieuse « pédale tonale » de M. Auguste Wolff. — MM. Steinway et fils, de New York, ont réclamé la priorité de l'idée mise en œuvre par M. Ehrbar ; ils prétendent que son « prolongement » n'est qu'une variante de leur *Ton sustaining Pedal*, brevetée en 1874.

("The Vienna newspapers speak of an improvement introduced by Ehrbar, the well-known maker, in the construction of pianos. It is the extension of a note or a chord, at the choice of the performer, by a pedal acting on a mechanism placed above the dampers. The description which Mr. Hanslick gives of this invention, in the "Neue freie Presse," is too summary to be able to be well understood. We need further information to know to what extent the "prolongemant"('extension') – this is the name adopted by Mr. Ehrbar – can compete with the ingenious 'tonal pedal' of Mr. Auguste Wolff. MM. Steinway and Sons, of New York, claimed priority for the idea implemented by Mr. Ehrbar; they claim that its 'extension' is just a variant of their Tone sustaining Pedal, patented in 1874.")

On 21 Mai 1876, The *Revue et gazette musicale de Paris* writes with more details:



*** Nous avons parlé sommairement de l'invention du facteur de pianos viennois Ehrbar, appelée par lui *prolongement*, et dont l'effet consiste à favoriser la vibration libre des notes ou des accords dont l'exécutant désire faire durer le son pendant qu'il en exécute d'autres. Cet effet est obtenu par un mécanisme mû par une troisième pédale, saisissant les étouffoirs qu'on a levés par l'enfoncement des touches, et les maintenant dans cette position tant que le pied du pianiste ne quitte pas la pédale. L'invention de M. Ehrbar est séduisante au premier coup d'œil; mais, outre qu'elle n'offre rien d'absolument nouveau, puisqu'elle repose sur le même principe que la genouillère de l'orgue-harmonium, on peut lui reprocher deux graves défauts : celui de ne pouvoir *préparer* une résonnance libre quelque temps à l'avance, puisqu'il faut absolument avoir fait entendre l'accord ou la note avant d'agir sur la pédale qui en maintiendra les étouffoirs levés, et qu'on est exposé fréquemment, au courant de l'exécution, à lever trop d'étouffoirs ensemble, s'il y a dans le trait des notes étrangères à l'harmonie; — et celui de n'avoir, dans bien des cas où il faudrait une résonnance puissante, que celle d'une note ou deux de même nom, c'est-à-dire ce que peuvent embrasser les mains dans un accord. — Le *prolongement* d'Ehrbar, qui était un progrès sur la *Kunstpedal* ou pédale artistique de Zachariä, laquelle nécessite le jeu de quatre pédales se mouvant soit verticalement, soit horizontalement, ne saurait, à cause des défauts que nous signalons, soutenir la comparaison avec la *pédale tonale* de M. Auguste Wolff, dont nos lecteurs n'ont pas oublié la description, et qui pare d'une façon simple et rationnelle à ces inconvénients, au moyen du petit clavier annexe qui permet de prendre ses dispositions à un moment quelconque, et dont une seule note agit à la fois sur toutes les notes de même nom contenues dans les cinq premières octaves de l'instrument (les deux octaves du haut n'ayant guère de résonnance libre appréciable). Nous croyons fermement qu'avant peu, l'industrie des pianos sera partout tributaire de l'invention française.

A month later (21.5.1876) "they have more information." The patent is "not new at all," but enables what Wolff's pedal does. They do not mention Boisselot, who invented the pedal thirty years earlier, and Debain and Montal who apparently put the same pedal on their pianos. Out of jealousy of the local, French production, they praise Wolff's invention, which includes the possibility of pre-determining the sounds that will continue. As we already know – this option made it difficult to activate the pedal (using the extra small keyboard), so it had no sequel.

*** * * ***

Boisselot invented the middle pedal in 1843.

Montal and Debain are mentioned, mainly in Wikipedia.

The name of Alexander Debain appears as "one of the possible inventors." I did not find any information about "his patent." Perhaps he used it in his pianos. There is not any mention of him except in the Wikipedia (along with Montal, 1860 and 1862), and the same text appears in copies and translations (of Wikipedia in other languages).

He was the inventor of the harmonium, as he was the first to realize that it was possible to attach different types of ***free reeds***, and produce the harmonium (he also gave the name) with different registers, a fact that solved the problem of the monotony of the instruments of the "free reeds" up to that time (see Debain's small Harmonina on Fig. 20).

**Figure 20**. Debain's Harmonina (signed 112) in Z.R.'s Collection.

Claude Montal was born in 1800. He became blind at the age of five, from typhoid fever. Against all odds he became an extraordinary figure, and in 1851 was awarded the Legion of Honor de France from the Emperor, Napoleon III.

He created a scientific infrastructure, based on acoustics and physics, towards pianos. He brought awareness to the possibility that tuning pianos is a profession that respects its owner, and provides a livelihood for the blind. He built in his workshop pianos, including

his own innovations and inventions. In 1860, he invented a system to apply the middle pedal also in upright pianos.

*** * * ***

After some other European variations came the big war, (described in Sturm's essay) between M. Waldo Hanchett of Syracuse, New York and William Steinway around 1875. As Mr. Steinway had more luck, (or good connections…), we remember the patent connected to his name.

The article I mentioned before describes how Steinway received an offer to use the patent, and instead he created, with a change, his own patent.

Anyway, since then Steinway included the middle pedal in their grand-pianos, while the three **B's (**Broadwood, Bechstein, and Bösendorfer) continued to ignore it.

## 9. Musical Examples

In this section, I was supposed to sit at the piano, and to demonstrate a number of passages that in my opinion could not be performed correctly without the middle pedal.

One most-asked question about the middle pedal is "With which foot one uses the pedal?" I've never saw the correct answer, which is: "Sometimes left, sometime the right foot." It depends. In different places I use any combination of one, two, or all three pedals simultaneously. That's why I use the "b" for left foot, and the "d" for the right. (See "terminology" in the introduction).

There are several reasons why the composers did not mark the use of the pedal.

1. It is clear from the notes themselves that some sounds are supposed to last a long time, and others are short sounds.

2. There was not, and still is not, a graphic mark for marking the use of the middle pedal. (To write, as in Rachmaninov's prelude, "the publisher advises that if you have a middle pedal, use it in this place ..." – is not practical).

3. A simple commercial reason: Because most pianos do not have a middle pedal – the instruction, and the need, to use it may cause people not to buy this book, but another work.

Examples (see Appendices 1-5) are as follows:

**1.** Chopin's Polonaise-Fantaisie (Appendix 1).

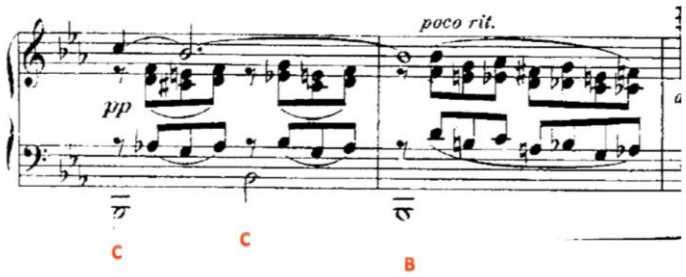
**2.** Liszt's Dante (Appendix 2) – the middle pedal holds the "D" in the melody, while soprano and bass are short notes. Liszt wrote "ped," because it is clear, from the score, which pedal it should be. One can't use the Right-pedal.

**3.** Faure's Nocturno No. 4 [Op. 36] (Appendix 3) – here is an example of a melody note, (four times "g") held by the middle pedal, while accompaniment is in short notes.

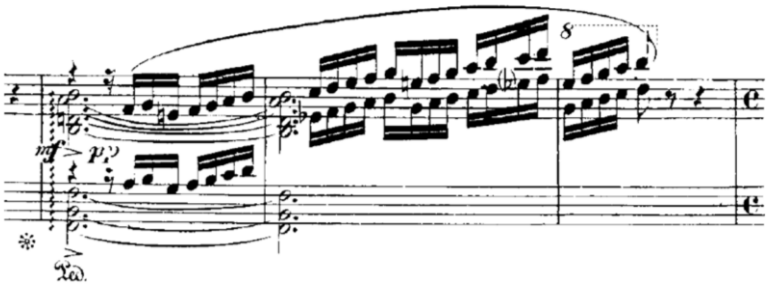
In at least three places, the use of the middle pedal is highly desirable (or rather, extremely necessary) – see Fig. 21 a, b, c, below:

**Figure 21.** The need to use the middle pedal in Faure's Nocturno No. 4 [Op. 36]:

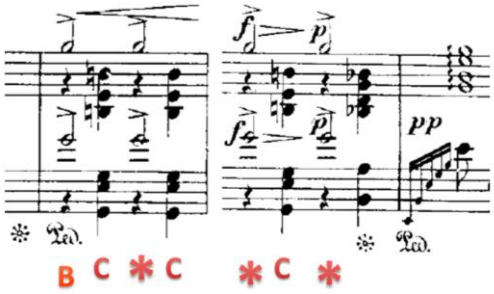
a) "clean" chromatic passages with long bass note:




b) it is impossible to hold the chord and to play a "clean" passage":




c) it is impossible to hold the soprano melody and to respect both the chords and breaks:




**4.** Debussy's Pagodas (Appendix 4) – see comments on the use of all three pedals, below the musical examples there; and

**5.** Rachmaninov. Prelude Op. 3, no. 2 (Appendix 5) – This is, in fact, a "four hands" music played by one pianist, with three pedals.

I have selected these examples:

- To show necessary uses of the middle pedal;
- To show a simple and clear marking method [A=left, B=middle, C=right];
- To show that the use of the middle pedal is sometimes in the right foot (D) and sometimes in the left foot (B); and
- To show that sometimes the left foot activates the two left pedals simultaneous, and at the same time the right foot activates the right pedal.

## 10. Why Didn't the Middle Pedal Take Its Place, Despite Its Great Importance?

I have mentioned in a previous section how the piano became a furniture in the living room and a tool for amateur musicians. I have mentioned the references to the pedal as used for emergencies, for small hands, for arrangements of Bach works from organ for piano, and here and there for several modern composers.

The truth is that since 1844 composers have written works that cannot be performed without the middle pedal.

The very fact that a dozen manufacturers "invented" or claimed to have invented the middle pedal shows how important it is.

Just as Beethoven could not have guessed that twenty years after his death there would be no real *una corda* pedal, no swell, and no split right pedal, so other composers did not expect that the middle pedal, so effective, allows the execution of new ideas, and is easy to use – would be filed away in the patent book, and it will take many years before Steinway himself will include it in his pianos, and even than only in a minority of their minority. The Europeans, Bechstein and Blüthner, did not think it was important enough.

The commercial pressure to produce a piece of furniture that "looks good in the living room" and is comfortable for amateurs to play (without disturbing too much) caused the pedal to be ignored.

The piano manufacturers caused the publishers to avoid mentioning the use of the pedal, even when it was necessary, the conservatories and teachers taught "only what is written," and the works that require the use of the middle pedal were performed incorrectly.

Even the great pianists do not perform these works correctly, either because they did not learn, or understood the need, or because of the possibility that on many stages they will find a piano with only two pedals. In order not to get into trouble – they prefer to play the "two-pedals version," despite the violation of the composer's instructions, and the ringing of many sounds that do not fit, and resonate due to the use of the right pedal, or – another solution – give up the remaining sounds that should remain, in order to avoid the distortion that will be created.

The musicians and the audience got used to hear these works with the dissonant combinations ("the cacophony" as written in the newspaper one hundred and fifty years ago), and that's how they sound on recordings as well.

Boisselot called the pedal "a volonte." Hold the dampers **"as you wish."**

The real name of the right pedal should be **"general cancelation of all the dampers."** (not **"pedal forte**" as the French call it).

If we put "**as you wish** cancelation pedal" vs. "**general cancelation** of all the damper," then we will understand how important this pedal is.

## 11. Conclusion

The keyboard of the piano enables one pianist to play many notes. The middle pedal, invented by Boisselot enables one pianist to play many long notes and short ones, together. A dozen inventors (Debain, Montal, Ehrbar, Wolff, Gaudonnet, MM. Lentz and Houdart, of Paris, M. Waldo Hanchett of Syracuse, New York) "reinvented" it, with adaptation to square, to upright etc., because they understood how important it is.

Composers were happy to use this option, but ***commercial*** considerations of the piano factories, (in order to make the piano as cheap and as simple, for amateurs), were more important and stronger, and influenced to erase all the efforts which were made since the inventing of the piano to make it better, for professional pianists.

Many compositions are un-play-able without some of the old pedals (real "una-corda," Swell, and, perhaps the most important – the middle, tonal, sostenuto pedal.

***The Middle pedal was invented in 1844.**

*Piano builders wanted it to be "popular." 5-6 pedals are too much. Two are enough.

*Publishers avoid the S. P. from scores, to fit the home-piano.

*Composers followed, and agreed not to mark it in the music.

*Teachers did not teach it.

*Pianists prefer not to use it because it does not exist in many pianos on stages.

**And to this day, we have neither an icon, nor an official name for the S. P.**

As a piano student I had two pianists as teachers. Frederick Portnoy, a famous Chopin'ist in Poland, was my teacher for many years in the Tel-Aviv Music Academy around the 1960. When I played the Polonaise-Fantaisie – he did not mention the middle pedal. Like all other pianists who played or recorded this music.

The same ignoring was when I've learned the Faure 4$^{th}$ Nocturno, with Mrs. Suzy Bossard, (in France), a wonderful pianist and admired teacher. The passages where a long

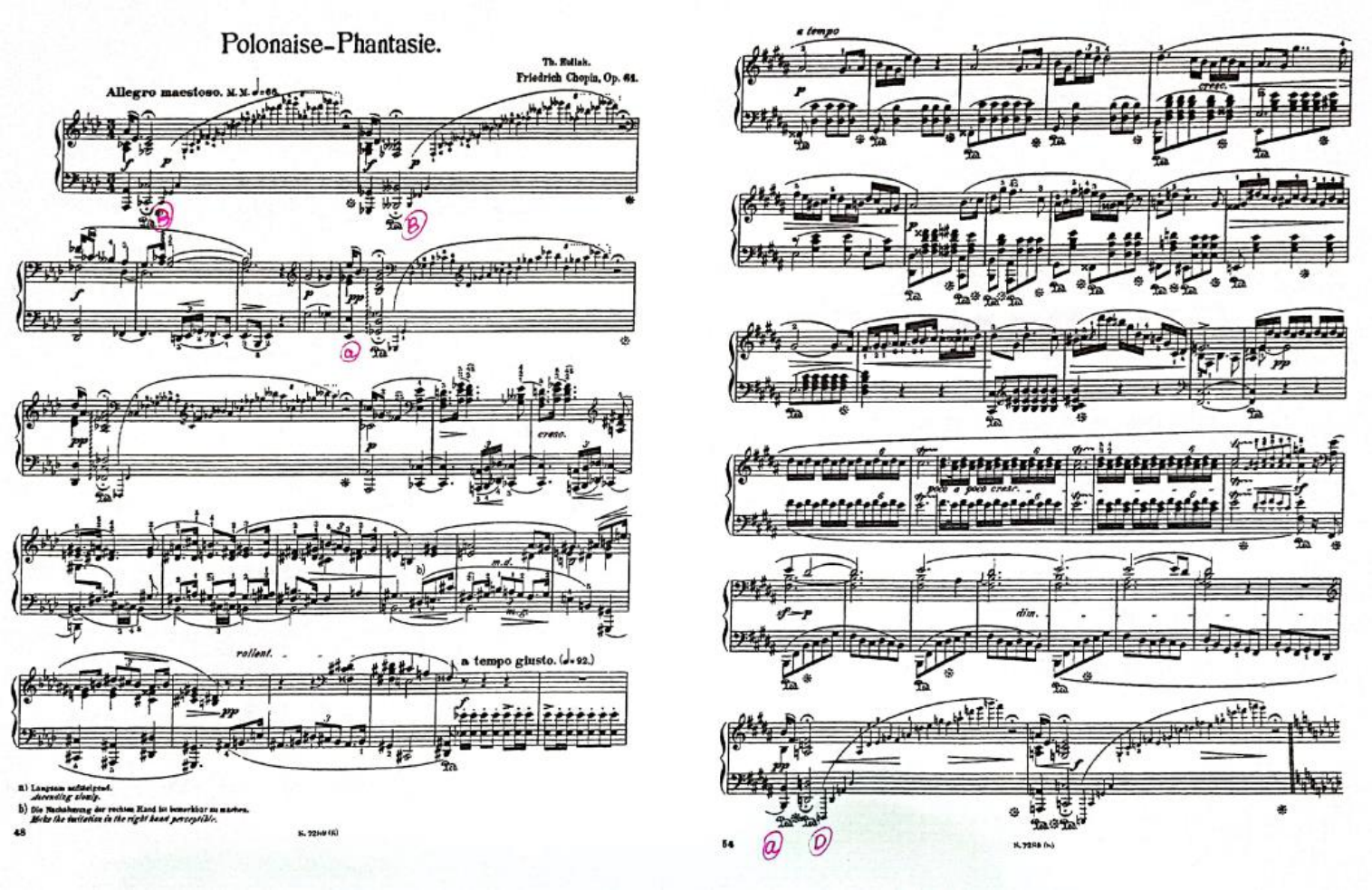
chord (in both hands) continued while a-scale-like melody (again, in both hands) is played – were played with the right pedal, ignoring the "cacophony," as if this was Faure's mistake (or wish). Not our problem.

The invention of the Middle pedal became a necessity when, around 1830 the split-right-pedal was changed to one pedal. It took some years until many pianists had the new Right pedal, and the old split one disappeared. But the new invention, the Middle pedal happened to be the last in a long list of pedals, some of them ridiculous. With the new-winds, the function of the piano as a nice *meuble* (piece of furniture) in the salon, and a toy for young children, History and Factories through it aside. It is time to understand, to use the Middle pedal, in order to interpret Chopin, Liszt, and Faure, correctly. Also, Debbusy, Ravel, and Rachmaninov will appreciate it.

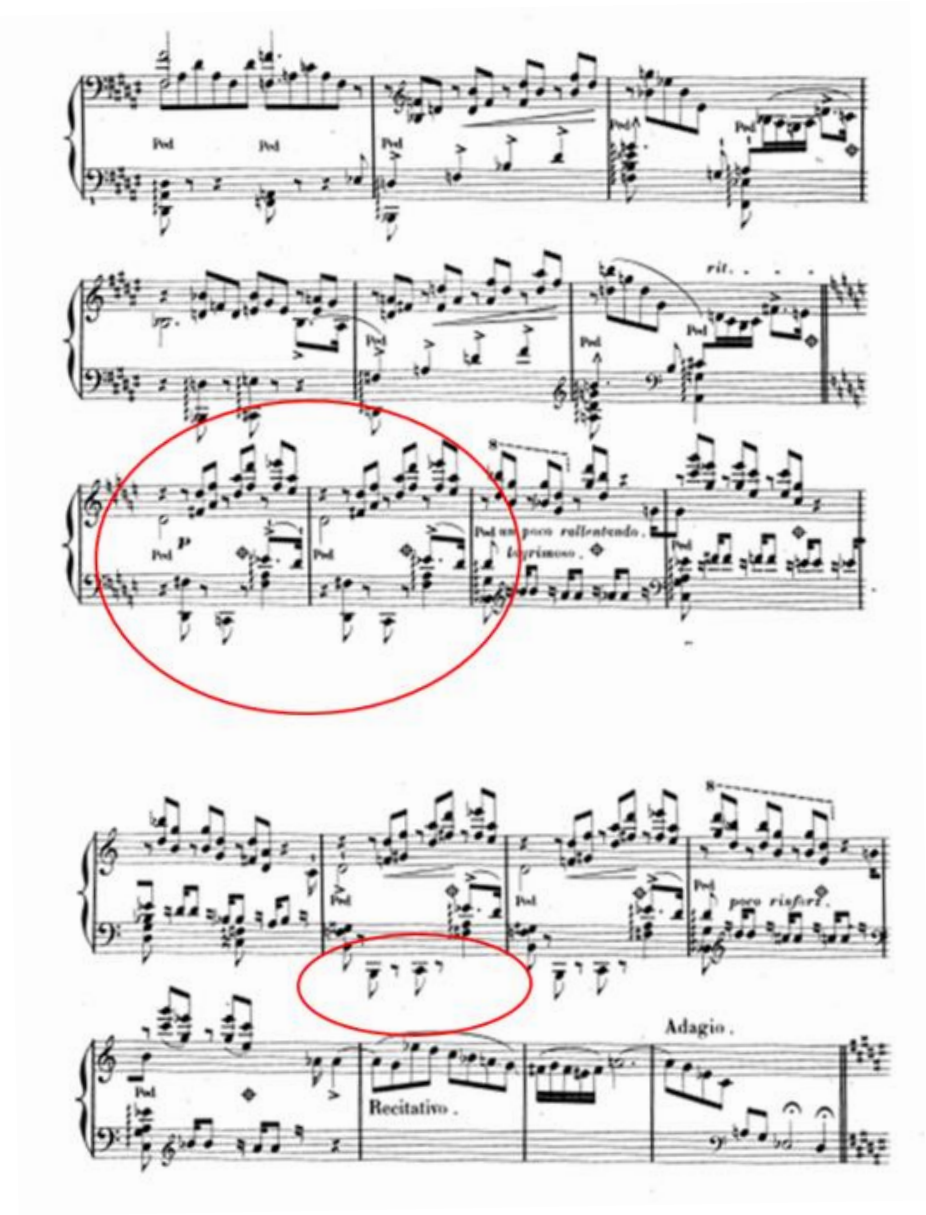
[APPENDICES]

# APPENDICES

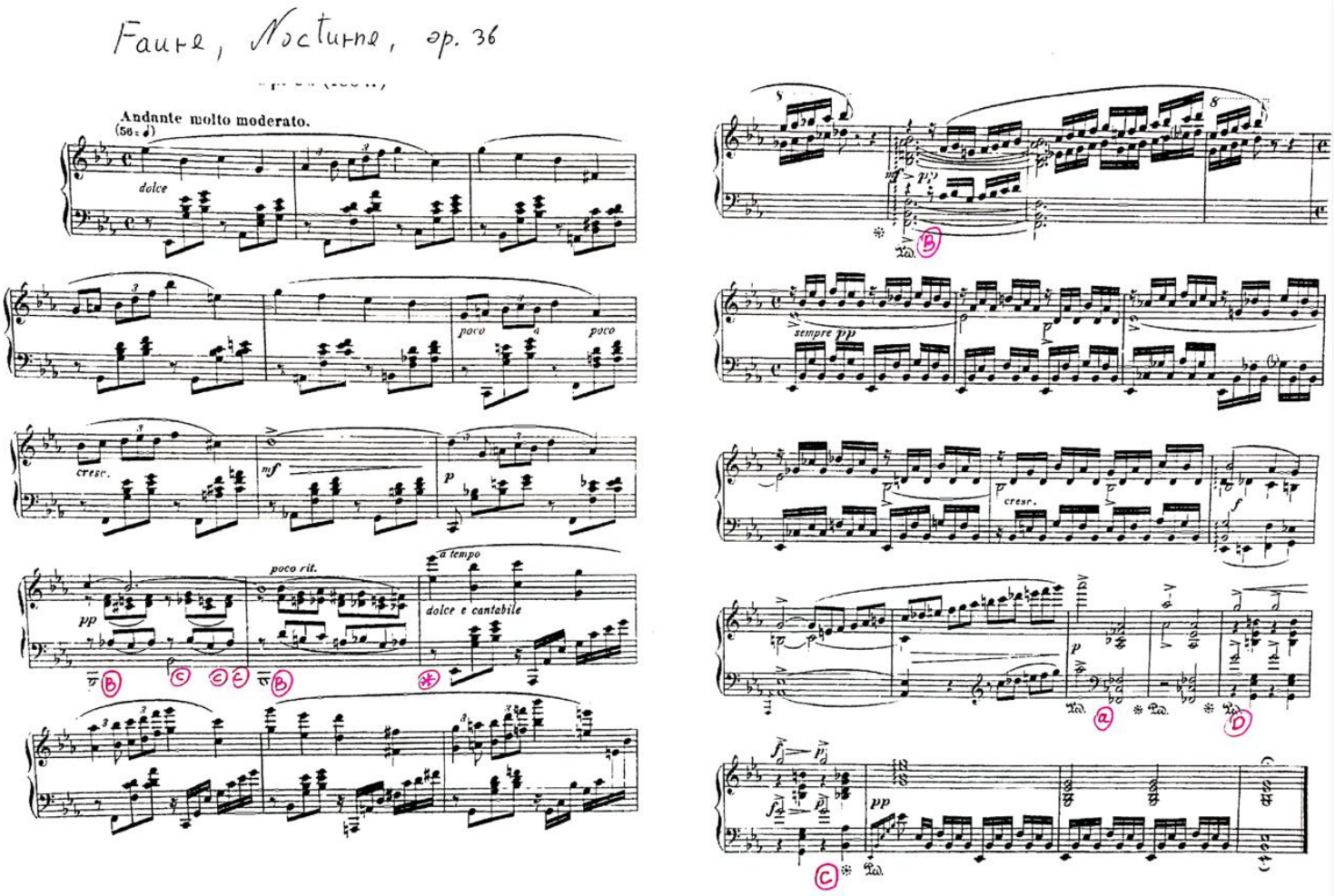
**Appendix 1.** Two (non-consecutive) pages from Chopin's Polonaise-Fantaisie



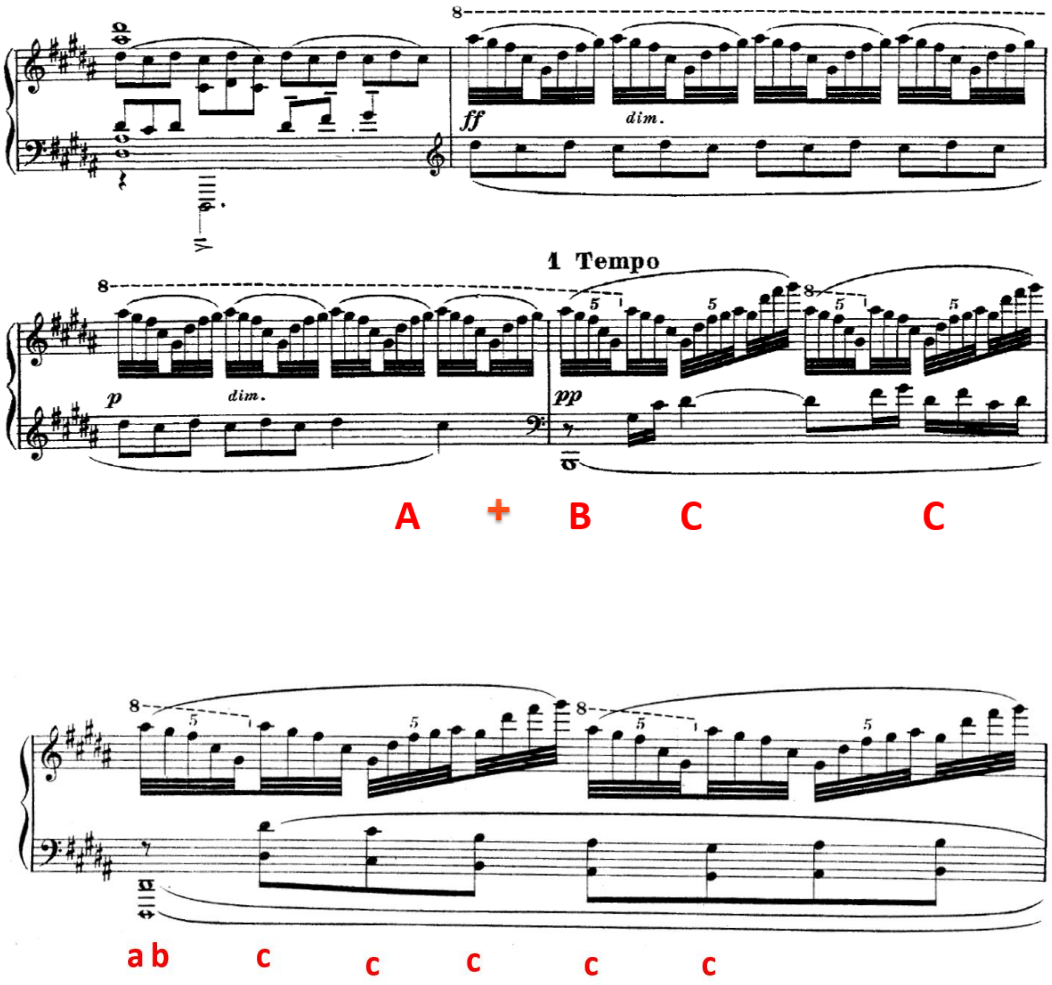
**Appendix 2.** From "Dante" by Liszt



**Appendix 3.** Two pages (not consecutive) from Nocturno No. 4 (Op. 36) by Faure



**Appendix 4.** Debussy's Pagodas




A, left pedal, "una corda" in order to respect "as soft as possible".

B, middle ped, "tonal" or "sostenuto" for the (very) long bass note.

C, right, damper pedal, for nice "octaves – melody – legato".

**Appendix 5**. Rachmaninov. Prelude Op. 3, no. 2