The 'harpe organisée', 1720-1840 : rediscovering the lost pedal techniques on harps with a single-action pedal mechanism

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Chapter 3

Treatises, Methods and Studies

This chapter is the first of five that review historical sources from the eighteenth and nineteenth centuries with respect to pedalling on a harp with a single-action pedal mechanism.[1] Harp treatises, methods and study books are the subject of this chapter. *Essai sur la vraie manière de jouer de La Harpe avec une Méthode de L'accorder* by Philippe-Jacques Meyer was published in 1763 and is the earliest dated pedal harp method.[2] All known eighteenth- and nineteenth-century harp treatises up to 1840 are discussed, even if they were written for other types of harps, but included the single-action harp in the title[3] or within the text.[4] Over one hundred harp treatises, methods and study books were written up to 1840.[5] The

[1] The word "harp" is used throughout this thesis to refer exclusively to a harp with a single-action pedal mechanism.

[2] Meyer, *Essai*.

[3] Horn, *Rudiments*; Charles Egan, *The Royal Harp Director, Being a New and Improved Treatise on the Single Double & Triple Movement Harps. Comprising the Essentials for Attaining a Perfect Knowledge of These Instruments & a Finished Execution on Each* (London: Power, 1827).

[4] Bochsa, *New and Improved Method*, Preface: "THE plan of this Method is entirely new: the Author having brought the Common Harp and the Harp with the Double Movement into a comparative point of view, and united all their relations—constantly treating the latter as a sequel to the former; and clearly proves, that whoever understands the one, will in a very short time be perfectly acquainted with the other." Bochsa's harp method in French was published in 1813 and his English method in 1819. The two methods complement each other; some of the content is the same and some is different. In general the English method has fewer descriptive passages on technique. The French method contains more pieces at the end of the method.

[5] Parker, *Child of Pure Harmony*, 67–69, includes twenty-nine harp treatises in his bibliography; Anthony Maydwell, "A Translation and Comparative Study of Two Methods for Harp by Philippe-Jacques Meyer from 1763 and 1773" (Master's Thesis, University of Western Australia, 1982) is a study of two of Phillip-Jacques Meyer's methods; Ursula M. Rempel, "Méthodes de Harpe: An Introduction to Eighteeth-Century Tutors," *The American Harp Journal* 8, no. 4 (1982): 15–28, discusses ten methods; Constance Luzzati, "Du clavecin à la harpe, transcription du répertoire français du XVIIIe siècle" (Doctorat, Paris 4, 2014) lists eighteen methods; Philippe Lescat, "Catalogue des ouvrages théoriques, manuscrits et imprimés en France entre 1660 et 1800," accessed March 28, 2016, http:

Bibliography and Tables 3.1-3.4. list all known treatises, methods and study books identified by the author.[6]

Most of the treatises and methods of the eighteenth century are written in French as Paris was the centre for teaching, performing and composition for the harp up to the French Revolution. The remaining treatises and methods are in English or German, while no original pedal harp treatises were written in Italian or Spanish before 1840.[7] Treatises and methods in German of this time are usually written for both the German *Hakenharfe* and pedal harps.[8] The treatises were written by well-known harpists who composed, taught and played, while some are the work of amateurs who played the harp.[9]

The content of the musical treatise or method book varies from one author to another and changes over time. Eighteenth century treatises usually include an introduction, a brief history of the instrument and famous performers. This is followed by practical issues such as how to change a string or repair the harp mechanism. Then there is an explanation of the lay-out of the pedals, how to tune the harp and how to put the harp into different keys using the pedals. Basic rudiments of music, hand positions, fingering, ornaments are often the subjects of further chapters. This is followed by exercises, simple pieces or *ariettes* with a harp accompaniment and examples of preludes in every key.

The harp is mentioned in some tuning manuals[10] and in general treatises on accompaniment or harmony.[11] Ragué's *L'Art de Préluder* is an important *basso continuo* and preluding treatise for the harp.[12]

The later nineteenth-century treatises usually focus on technique and fingering rather than general music theory, ornamentation or any sort of compositional techniques like *basso continuo* or preluding. These treatises include pages of technical exercises, scales, *arpeggi* and sample pieces or extracts from works by

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//www.philippe-lescat-asso.fr lists twenty-two; Barthel, "La harpe" lists thirty-three; *Harpe Méthodes-Traités-Dictionnaires et encyclopédies-Ouvrages généraux*, 3 vols. (Courlay, France: J.M. Fuzeau, 2002) contains twenty-four methods and treatises in facsimile editions.

[6]The author does not consider this a complete list, but this topic is beyond the scope of this thesis and the most current research cites no more than a third of the author's list. These tables are also found in Appendix I.

[7]Two treatises by Bochsa were translated, the first into Italian and the second into Spanish: Nicolas-Charles Bochsa, *Breve metodo per l'arpa: contenente le regole del digitare, alcuni analoghi esercizj e lezionj di progressiva difficoltà*, trans. D.N.E. Cattaneo, op. 61 (Milano: Ricordi, 1844); *Método de arpa conteniendo los principios de música, ejercicios, escalas, lecciones, seguidos de 40 estudios progresivos* (Paris: Schonenberger, 1840).

[8]These treatises and methods are written for both harps: Wernich, *Versuch*; Herbst, *Ueber die Harfe*; Schwanneburg, *Vollständiges theoretisch-praktisches Lehrbuch zur Davids-und Pedalharfe, mit vielen in Kupfer gestochen Figuren, Notenbeispielen und einem Anhange von Tonstücken, mit bezeichung des Fingersatzes*; Backofen, *Anleitung*, 1801; Heyse, *Anweisung* is written for the chromatic *Davidsharffe* and *Hakenharfe*.

[9]Newbourg, *La Nouvelle méthode*.

[10]*Mélopée moderne; ou, L'art du chant, réduit en principes* (Paris: Boyer, 1792).

[11]Honoré Garnier, *Nouvelle méthode pour l'accompagnement du clavecin: et bon pour les personnes qui pincent de la harpe* (Paris: Girard, 1767).

[12]Louis-Charles Ragué, *L' Art de Préluder sur la Harpe* (Paris: Le Duc, 1786).

other composers. By 1820, the principal treatises on how to play the harp are those by Bochsa[13] and Desargus.[14] Fewer and fewer treatises are published and study books become much more popular. These books include very little commentary, apart from short remarks before a study that highlight the object of the exercise.[15]

Appendix I.1, Tables I.1-I.4 lists, in chronological order, harp methods, treatises on *basso continuo*, accompanying, composing and improvising preludes, study and exercise books and finally tuning methods.

Even with this apparent wealth of material, few harp treatises and methods impart detailed information about how to pedal, or reveal any special way of pedalling. It would appear from this dearth of detailed information that pedalling was not considered very difficult or important when learning the harp in the eighteenth century. The principal reason for this is that most harp treatises, methods and the contemporary published repertoire were written for amateur harpists.[16] Complex modulations or chromatic melodic passages were rarely part of the repertoire of published airs with harp accompaniment so no detailed explanations regarding pedal moves were necessary to include in the treatises and methods. As Cousineau writes in his second treatise with regards to pedalling:

> "…je ne puis donner ici des regles certaines car en détaillant les différentes difficultés que l'on pourroit trouver, je pourrois devenir diffus et inintelligible pour une grande partie des commençants pour qui cet ouvrage est principalement fait. Je me propose donc de reserver une leçon pour cet article dans laquelle je serai enforte de prévoir les passages les plus difficiles que l'on peut rencontrer sur la Harpe…"[17]

Bochsa also writes:

> "Lorsque la harpe commença à être connue en France, il y a environ cinquante ans,…du mérite des compositions; de sorte que les modulations étant extrêmement simples, le jeu des pédale ne présentait aucune difficulté. Il n'en est plus de même aujourd'hui: quelques artistes plus ambitieux ont multiplié les modulations, et le jeu des pédales est devenu la plus grande difficulté de l'instrument."[18]

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[13] Bochsa, *Nouvelle méthode*.

[14] Xavier Desargus, *Cours complet de harpe...ouvrage divisé en 3 parties*, op. 18 (Paris, 1810).

[15] Nicolas-Charles Bochsa, *The Pupil's Companion for the Harp: Consisting of Forty Entirely New Progressive Studios, Vol. 1* (London: Goulding & D'Almaine, 1826), *8 Studio*, 7, *Andante* "all the chords to be well arpeggioed [*sic*]".

[16] See Chapter 4 for a discussion on harp repertoire.

[17] Cousineau, *Méthode*, 1784, 15: "I cannot give here certain rules because in detailing the various difficulties one might come across, I might become scattered and unintelligible for the greater part of the beginners for whom this work is written. I propose therefore to reserve a lesson on this subject in which I will vigorously predict the most difficult sections that can be encountered on the Harp…".

[18] Bochsa, *Nouvelle méthode*, 21: "When the harp began to be known in France, it was about fifty years ago,… with respect to compositions; the modulations were extremely simple, and moving pedals presented no difficulty. It is no longer true today: those more ambitious artists have multiplied the modulations, and moving pedals have become the greatest difficulty of the instrument."

For the purpose of this study, only aspects which pertain to pedalling on the harp shall be reviewed from treatises, methods and study books. These aspects include the "base" set-up key of the harp, any indications on how to place the feet or move the feet, historical terminology for moving pedals, musical examples, enharmonics, examples of how to move one, two and three pedals at a time, pedal *glissandi* and finally how to use the *pédale à renforcement* and *sourdine* pedals.

3.1 The "base" key

The first time pedals are usually mentioned in harp treatises is when the writer explains that the single-action harp has seven pedals to alter the pitch, three on the left side of the resonance box and four on the right. The pedals are named, or numbered and are illustrated. The earliest illustration of the pedals with their names is found in P. J. Meyer's method from 1774, shown in fig. 3.1.[19]

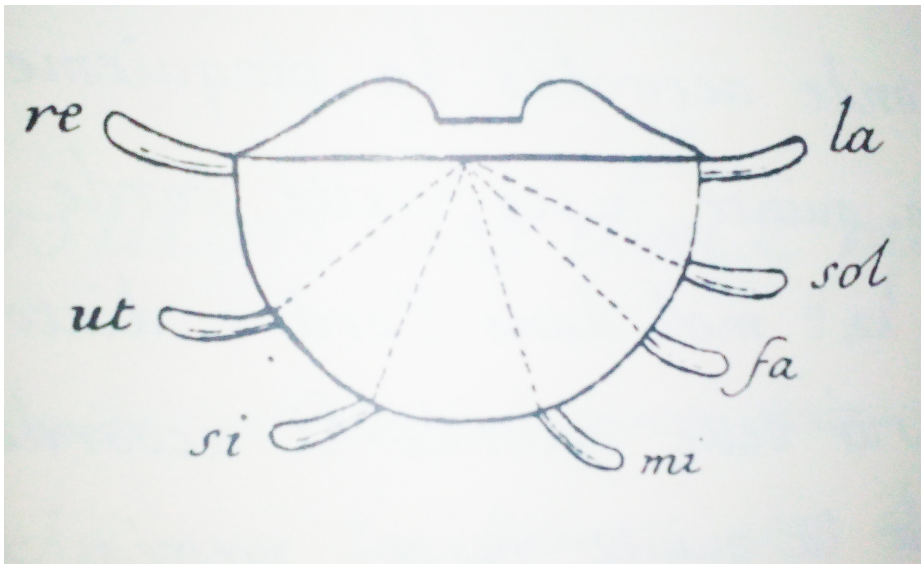

Figure 3.1: P. J. Meyer, *Nouvelle Méthode*, 3: position of the pedals.

Figure 3.2 shows Ragué's drawing of the position of the pedals. The open strings of the harp with the pedals in their natural upper position are written on each pedal as are the resulting notes when the pedals are "décrochées" or pressed down.[20]

The detailed drawing in fig. 3.3 shows the pedals and the resulting notes on a musical stave found in Horn's *Rudiments*.[21]

[19] Meyer, *Nouvelle méthode*, 3.
[20] Louis-Charles Ragué, *Principes de la harpe*, op. 8 (Paris: Le Duc, 1786), 7.
[21] Horn, *Rudiments*, 10.

Figure 3.2: Ragué, *Principes*, 7: position of the pedals.

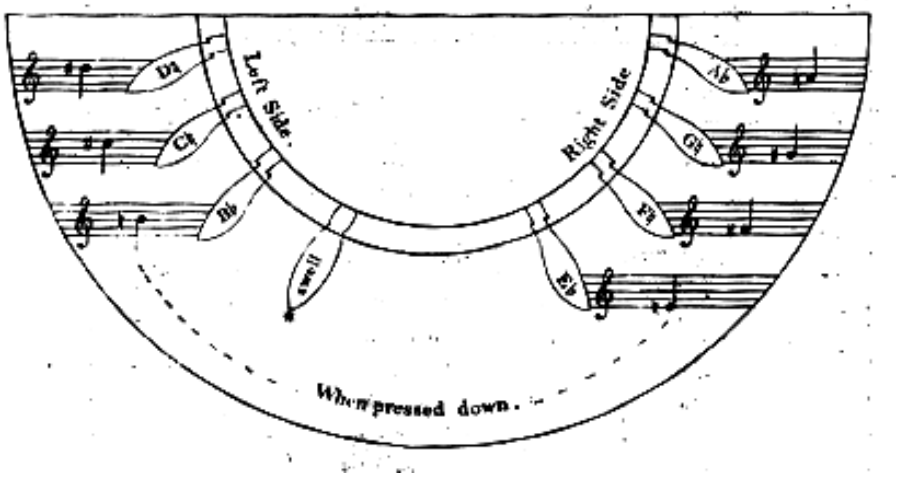

Figure 3.3: Horn, *Rudiments*, 10: position of the pedals.

John Erhardt Weippert's *Rotula* in fig. 3.4 is a unique tool to show the harpist what pedals to put up or down in order to produce a certain key. He explains:

> "By this ROTULA, you can immediately know what Pedals to put down, to Produce the different Keys, for Example if you wish to Put the Harp in one Sharp (which is the Key of G_) look on the Circular Staves, and bring the Moveable Index. R, to one Sharp it will Inform you that the Pedal No 1 4 5 3 must be put down, and then the Key is G_ in like manner for any other Key."[22]

Figure 3.4: Weippert's harp *Rotula*.

[22]John Erhardt Weippert (1739-1820), harpist and composer. John Erhardt Weippert, *Weippert's Instructions for the Pedal Harp: With a Rotula* (London: Bland & Weller, 1800). This *Rotula* was originally conceived for the single-action harp but was later modified John Thomas Craven for the double-action harp. John Thomas Craven (1788-1860), harpist, composer, teacher. John Thomas Craven, *Scale of the New Patent Harp and Explanation of the Double Action or Movement of the Pedals* (London, post 1811), 2-4.

This basic information is often followed by a section explaining how to set-up the harp with all seven pedals in the upper "open" position before playing a piece.[23] It is usually set-up in the "base" key of E-flat major. With this set-up, the harp can play in keys with three flats and four sharps, a total of thirteen keys are possible:

> Major keys: E♭, B♭, F, C, G, D, A, E
> Minor keys: C, G, D, A, E[24]

The following pitches are available to the harpist, when the harp is set-up in the "base" key of E-flat major:

> C♮, C♯, D♮, D♯, E♭, E♮, F♮, F♯, G♮, G♯, A♭, A♮, B♭, B♮.

This covers the complete 12 semitones of the chromatic scale, with two notes doubled, namely E♭/D♯ and A♭/G♯. There are two ways to achieve the missing enharmonic notes like C♭, D♭, E♯, F♭, G♭, A♯, B♯ and the remaining eleven keys of D♭, A♭, B, F♯, C♯ major and B, F♯, C♯, F, B♭, E♭ minor. One way is to tune the harp in an alternative "base" key to E-flat major and the second way is to replace a note which is not part of the "base" key spectrum with an enharmonic note.[25]

The harp can be set-up theoretically in any key as a "base" key, but the most common alternative set-up keys to E-flat major are B-flat or A-flat major.[26] B-flat major is usually given as an alternative "base" key in eighteenth-century harp treatises and methods as stated in P. J. Meyer, Corbelin and Cousineau.[27] Meyer's 1763 treatise is actually written for a harp set-up in the "base" key of B-flat major. He explains:

> "Le premier *allegretto* & *Adagio* sont dans le mode de *mib*, & il faudra pour cet effet accorder le *la* naturel en *lab*, pour toutes ces autres pieces, on peut laisser le *la* dans le ton naturel."[28]

In treatises published after 1800, B-flat major is no longer mentioned as an alternative "base" key to E-flat major.[29] It is replaced by A-flat major as a possible alternative key as found in treatises by Merelle, Demar and Desargus.[30] Already in 1786 Ragué stated:

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[23] See section 2.1 for tuning, temperament and pitch.

[24] Corbelin, *Méthode*, 32–33; Bochsa, *Nouvelle méthode*, 16–17.

[25] See section 3.3 on enharmonics.

[26] For other possible alternative "base" keys besides the three mentioned above, see Corbelin, *Méthode*, 30-31: F and C; Cousineau, *Méthode*, 1784, 14: B, F-sharp and C-sharp minor; Ragué, *Principes*, 11: D-flat, G-flat; *Méthode de harpe avec laquelle on peut accompagner à livre ouvert toutes sortes d'ariettes et de chansons* (Paris: Boüin, 1787), 11, 26: C-flat. This last solution may be referring to Cousineau's fourteen-pedal harp. See section 1.4.2 on the fourteen-pedal harp.

[27] Meyer, *Essai*, 4; Corbelin, *Méthode*, 31; Cousineau, *Méthode*, 1784, 14.

[28] Meyer, *Essai*, 5: "The first *allegretto* and *Adagio* are in the mode of E♭, and one ought to tune for this result, the A natural as A♭; for all the other pieces, one can leave the A as A natural."

[29] Krumpholtz, *Principes*, 14. This treatise includes B-flat as an alternative "base" key. It was published in 1809 by Jean-Marie Plane (1774-post-1827), harpist and composer, but if the treatise was actually written by Krumpholtz, then it pre-dates 1790 and hence can be considered an eighteenth-century treatise.

[30] Merelle, *New and Complete Instructions*, 22; Demar, *Méthode*, 12; Desargus, *Cours complet*, 1810, 28.

> "La Harpe est ordinairement accordée en mi [*sic*] Majeur, mais depuis qu'il éxiste des morceaux en la [*sic*] Majeur et en fa mineur, je crois qu'il vaut mieux l'accorder en la [*sic*] Majeur."[31]

Challoner writes:

> "Sometimes Sonatas &c: for the Harp are written in the Key of A-flat it then of course becomes necessary to tune all the D.s on the Instrument half a Note lower than usual by making each a perfect 5th to the A♭ above. The compositions in the key of A-flat have generally a beautiful and a superior effect, yet as it is troublesome to tune the Harp purposely for executing in this key, there are but few works published in A-flat, and they are chiefly Sonatas by Cardon."[32]

Backofen is the only writer in the nineteenth-century that still includes B-flat major as an alternative set-up key. He also proposes F major to perform a *Prélude* by Krumpholtz.[33] The first edition of his method is not exclusively written for the single-action harp, but also for the German *Hakenharfen*, which is usually set-up in the keys of F or B-flat major.[34]

3.2 Position of the feet

Harp methods provide few detailed descriptions on how to place the feet. Cousineau simply writes that the foot is "posé sur une pédale"[35] in his first method. In his second method he adds, in the context of students of the harp and especially children who have their feet underneath the chair or resting on the stretcher:

> "il est très essentiel que les deux pieds soyent toujours posés en face des pédales et à une distance peu eloignée, afin qu'il n'y ait qu'un très petit mouvement à faire pour les attendre; il faut avoir le soin d'en retirer le pied du moment où l'on a obtenu l'effet desiré et le poser de suite à terre comme auparavant; faute de prendre cette précaution, on arrive trop tard sur la pédale".[36]

Positioning the feet in front of the pedals indeed works well for pieces written by Cousineau, considering that his works entail only single pedal moves: one pedal with one foot at a time.

[31] Ragué, *Principes*, 3: "The Harp is usually tuned in E♭ Major, but since there are pieces in A♭ Major and in F minor, I think it is better to tune in A♭ Major." The flat sign is not printed in the publication, but there is a space where it should be. The flat signs were eventually not inserted before going to print.

[32] Challoner, *A New Preceptor*, 22.

[33] Backofen, *Anleitung*, 1801, 48.

[34] See section 1.3.1.

[35] Cousineau, *Méthode*, 1784, 14: "the foot placed on the pedal".

[36] Cousineau, *Méthode*, 1803, 14: "It is very important that both feet are always placed in front of the pedals and at a distance not far away, so there is a very small movement to do for the [the feet] to reach; one must be able to remove the foot at any moment in order to achieve the desired effect and to place it quickly on the ground as before; if one does not take this precaution, one arrives too late on the pedal".

Bochsa, however, writes a long section in his 1813 *Méthode* discussing the correlation between the sitting position at the harp, the position of the feet and moving pedals.

> "il faut autant, et peut-être plus encore de prestesse et d'agilité dans les pieds que dans les mains: on est souvent forcé, dans les allegro très-vifs, de baisser et lever immédiatement plusieurs pédales de suite, avec la même vitesse employée par les doigts,…il est impossible que les pieds exécutent des mouvements si vifs, et qui se suivent de is près, se l'exécutant n'acquiert leur libre disposition en se tenant dans une situation constante et invariable, sans être forcé concourir l'usage des pieds et des jambes au maintien de l'équilibre du corps.
>
> "je suppose d'abord que la harpe soit fixée dans sa situation naturelle,…en serrant les pieds pour les porter sur les pédales; il n'a que la moitié des cuisses hors du siége…s'il est obligé de lever les deux pieds à la fois, et qu'il s'est placé assez près de la harpe pour en toucher de l'épaule la table d'harmonie; si, dans cette position, ses jambes sont verticales, ses pieds déborderont nécessairement la colonne de la harpe: il faudra donc, pour les porter sur les pédales, qu'il commence par les retirer en arrière, en faisant faire è ses jambes au angle très-aigu du côté du corps."[37]

Bochsa published his first English method in 1819. The Erard double-action pedal harp was patented in 1810 and this method is clearly written for the new type of pedal harp. The exercises are now in C major, whereas exercises in single-action harp methods are usually in E-flat major. However, Bochsa dedicates some parts of the book specifically to the single-action harp. His feet and pedal instructions in this method are a truncated version of his *Méthode* in French:

> "The Legs must be placed so that the Feet may be on each side of the Pedestal: they must rest on the ground in a vertical position, rather inclining forwards than backwards, that they may be lifted easily, to be placed on the Pedals."
>
> "the pedals are moved by pressing on any of them the extremity of the foot (either right or left)."

[37] Bochsa, *Nouvelle méthode*, 20–21: "…it takes as much, and perhaps more quickness and agility in the feet than in the hands: one is often forced, in the fast *allegros*, to rapidly lower and raise several pedals at a time, with the same speed employed by the fingers…it is impossible that the feet make movements so fast, and in so quick a sequel, and it follows that, if the performer does not acquire their freedom by staying in a constant and fixed position, without being forced to use the feet and legs to maintain the balance of the body. I assume firstly that the harp is fixed in its natural position…one closes the legs to use them for the pedals; only half the thighs are off the chair…if one is obliged to raise both feet at once, then one places oneself close enough to touch the soundboard of the harp with the shoulder. In this position, the legs are vertical, the feet hence reach out beyond the column of the harp: one therefore, brings the feet towards the pedals, by reclining backwards, the legs making an acute angle on one side of the body."

> "** In pressing the Pedal only the extremity of the foot must be used, the heels must be kept elevated."[38]

In Bochsa's *Tasteful Exercises* he once again iterates:

> "For using the Pedals with both feet to facilitate the action of the feet, which are both engaged at the same time, the knees must press the body of the instrument."[39]

Bochsa describes a sitting position, where the harpist sits half-off the seat of a chair. The whole foot is lifted when the toe ("the extremity") is placed on the pedal in order to move it. To balance the instrument the knees grip the harp in order to stabilise it. If both feet are required to move pedals together, then the harp can also be additionally balanced on the right shoulder. To move a pedal then, the whole leg is lifted.

3.3 Enharmonics

There is hardly a treatise for the harp that does not discuss at length the fact that each note of the scale has two names, usually referred to as a note's enharmonic name.[40] No method or treatise confronts the dilemma that in unequal temperaments, a note and its enharmonic are two different sounding pitches. It would appear from this group of historical sources, that the single-action harp was tuned in equal pitch, so a note and its enharmonic would have the same Hertz measurement.[41] As Meyer states:

> "Ces mêmes dièses deviennent aussi des ♭ sur la Harpe, selon la modulation laquelle on joue: sçavoir, fa♯ devient sol♭, sol♯ devient la♭, la♯ devient si♭, ut♯ devient ré♭, ré♯ devient mi♭".[42]

Krumpholtz shows the enharmonic options with a musical example as shown in fig. 3.5:

Enharmonics are part of harp playing for two separate but related issues. The first issue is simply the theoretical fact that each note can be called by at least

[38] Bochsa, *New and Improved Method*, 12, 35. Bochsa discusses the single-action harp on pages 8, 9, 11, 20, 35, 38-43. This is repeated in the French edition: Bochsa, *Petite méthode*, 14.

[39] Nicolas-Charles Bochsa, *Tasteful Exercises for the Harp on a Favorite Melody by H.R. Bishop: Being the First Class of the Appendix to the General Course of Instructions for the Harp* (London: Goulding and D'Almaine, 1826), 10. This book does not specify any particular type of pedal harp, but all the musical examples are playable on the single-action harp.

[40] Julian Rushton, "Enharmonic," *Grove Music Online* (Oxford University Press), accessed April 7, 2016, http://www.oxfordmusiconline.com/subscriber/article/grove/music/08837. Theoretically every note of the scale can be "spelled" in three ways: B♯ = C = D♭♭, but double flats or sharps are generally not part of the music for the harp.

[41] See section 2.1 for further discussion on pitch, temperament and tuning.

[42] Meyer, *Essai*, 4: "The same sharp can also become a flat on the harp, according to the modulation that we play: meaning, F♯ becomes G♭, G♯ becomes A♭, A♯ becomes B♭, C♯ becomes D♭, D♯ becomes E♭."

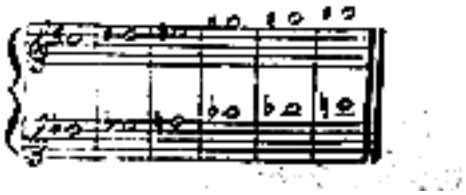

Figure 3.5: Krumpholtz, *Principes*, 14.

two names in equal temperament, for example C♯ and D♭. The second issue is that two pitches like C♯ and D♭ can be played with two different strings and are also interchangeable in equal temperament. If a harp is set-up in the base key of A-flat major, the D string is then tuned for the two pitches D♭ and D♮. Therefore, if a C♯ or a D♭ is notated in the score, the harpist can choose between two strings to play one note. On the other hand, in this same set-up key, the A string is tuned to play A♭ and A♮. If an A♯ is written in the score, the harpist has only one possibility to play A♯: reading it as B♭, using the B string and moving the B pedal.

Enharmonics are explained in great detail in most methods and treatises showing that it was very important to aid the harpists to understand that the notes written on the eighteenth- and nineteenth-century musical scores may have to be played with a different string and using a different pedal. This is due to the fact that the music on the score was invariably notated correctly according to the rules of harmony, rather than to assist the harpist by writing the enharmonic note in the score for ease of reading.[43]

The two examples in fig. 3.6 by Cardon show the harpist how to play a passage using C♯ when D♭ is written in the music (upper line of Fig. 3.6.), and using F♯ when G♭ is notated (lower line of Fig. 3.6.). It can be assumed from the first example that Cardon is showing an enharmonic solution for a harp set-up in the key of E-flat major.[44] If the harp was tuned in A-flat major, the exercise showing the use of enharmonics would be redundant. The examples to the left on both lines, show how the music is notated, the examples to the right on both lines show how the harpist should play the music, replacing D♭ with C♯. The lower line shows how to play G♭, as it is rarely part of the "open" strings on the harp.[45] The two G♭'s in this example are substituted by the enharmonic F♯.[46]

This *Air* in fig. 3.7 is part of Desargus' *Nouvelle Méthode* and provides the harpist with a practical example of how to play A♯. A♯ is rarely part of the set-up key of the

[43]The practice of writing the actual string that a harpist will pluck in the music is common practice today. This assists the harpist when playing but does not respect the implied rules of harmony in a piece.

[44]*L' Art de jouer de la harpe*, op. 12 (Paris: Cousineau, 1784), 34. Cardon includes one short *Prélude* for a harp set-up in A-flat major, while the remainder of the method is for a harp tuned in E-flat major.

[45]Spohr's WoO 27/28 is written for a harp with a set-up key of D-flat major.

[46]Similar musical examples are found in Naderman, *École*, 93.

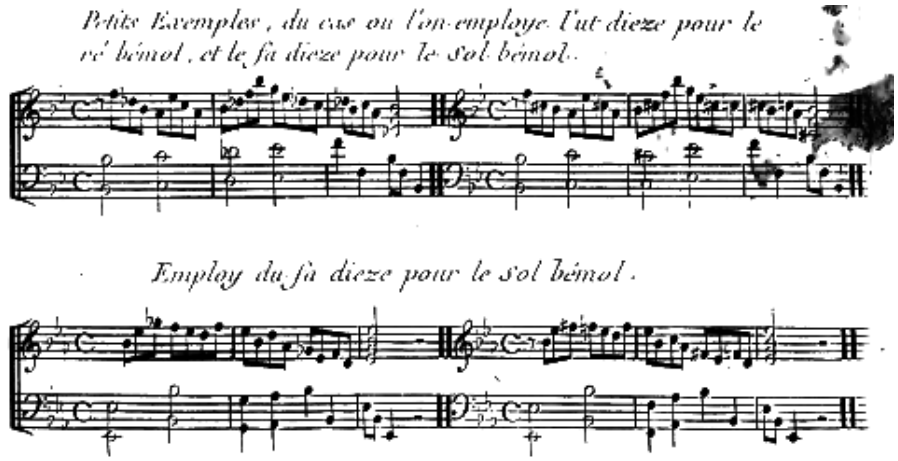

Figure 3.6: Cardon, *l'Art de jouer*, 11.

harp in the nineteenth century.[47] Desargus writes between the staves of the final bars of the second line of music "la♯ se fait avec si♭".[48]

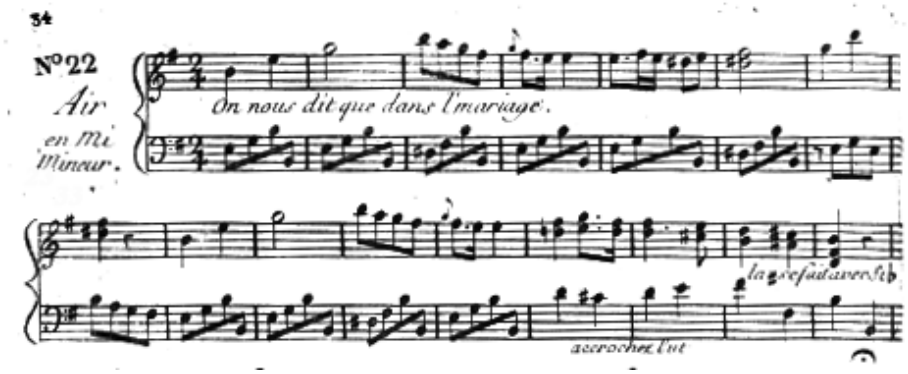

Figure 3.7: Desargus, *Nouvelle Méthode*, 34.

The *Simphonie* no. 1, Op. 11 in fig. 3.8 by Krumpholtz is included in Pollet's *Méthode*[49] and shows many examples of a shorthand that became popular when indicating the enharmonic solution to the harpist in the context of a piece. This work is written for the set-up key of E-flat major, as is the case for most of Krumpholtz's

[47] It was however more usual up to the 1780's and is the set-up key when playing Mozart's *Concertante a La Harpe, e Flauto*, K.299.

[48] Desargus, *Nouvelle méthode*, 34: "A♯ is done with B♭". Similar examples can be found on p. 43; Desargus, *Traité général*, 62, 74, 108; Nicolas-Charles Bochsa, *Introductory Exercises or Studies for the Harp* (London: Chappell, 1825), 16.

[49] Pollet, *Méthode*, c. 1817, 108.

music.[50] In the second half of bar 210 "ut♯" is written underneath the notated D♭. There is another example in bar 215 where "sol♯" is written underneath the notated A♭. This indicates to the harpist to use the enharmonic alternatives to play the written pitches. This example also shows that the composer, Krumpholtz, wrote the music according to the rules of harmony, notating D♭'s in bars 210-11 and 213 whereas bar 214 has a notated C♯. In practice, all these D♭'s are played as C♯, but if the harp does not include all of the written pitches on the score, which depends on the "base" set-up key of the instrument, the harpist must find the enharmonic alternatives for themselves.

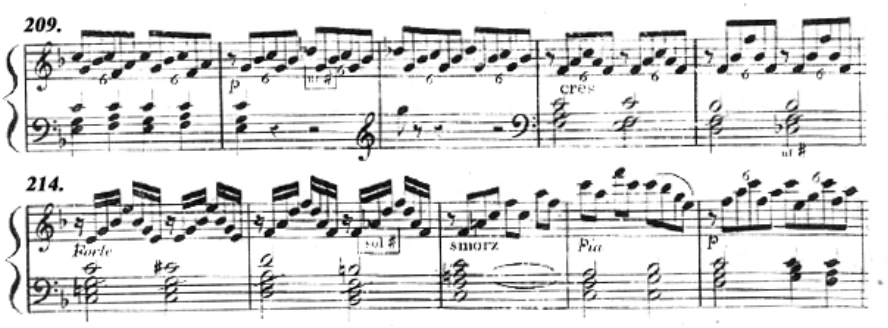

Figure 3.8: Pollet, *Méthode*, 79.

It is interesting that Backofen discusses enharmonics, but from the perspective of how to name chords. He writes:

> "Es giebt in den Kompositionen für die Pedalharfe (besonders in den Krumpholtzischen) Sätze, welche wohl für denjenigen Harfenspieler leicht sind, der sehr fertig im Notenlesen, in den Pedalen, und (welches schon viele theoretische Kenntnisse des Generalbasses voraussetzt) im Voraussehen der Ausweichungen ist; demjenigen aber, der diese Eigenschaften nicht in so hohem Grade besitzt, unausführbar scheinen. Hierunter gehören vorzüglich rasche Uebergänge…Vorher muss ich aber noch bemerken, dass die Franzosen meistens die ♯6 statt der ♭7 setzen, welches sie wahrscheinlich blos in der Absicht thun, um die zu tretenden Pedale deutlicher anzuzeigen."[51]

The first example in fig. 3.9 would appear to show, according to Backofen, the typical "French" way of writing for the harp, notating the score with augmented

[50] See section 4.1 for Krumpholtz's remarks on the "base" set-up key for his repertoire.

[51] Backofen, *Anleitung*, 1801, 49: "There are in the works for harp (particularly movements by Krumpholtz), which for those harp players are easy, when very skilled in reading music, [in using the] pedals, and (those who already have sufficient theoretical knowledge of *basso continuo*) in anticipating the harmonic digressions (enharmonics), but for the players who do not have these skills to a high degree, they might seem impossible to play. Here under are [some] excellent fast modulations…Before I have to remark, that the French usually replace the ♭7 with the ♯6, which they probably do, with the intention to show the pedal movements clearly."

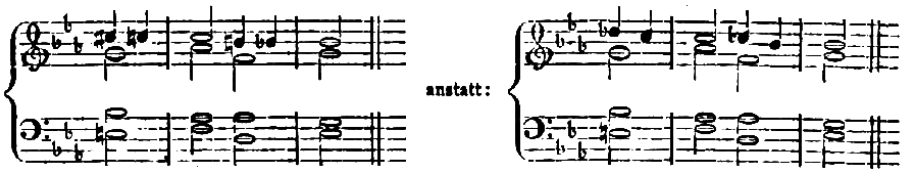

Figure 3.9: Backofen, *Anleitung*, 49.

sixth chords which instantly show the pedal solutions for the harpist. Alternatively, the second example is the same music, but this time it is notated with diminished seventh chords. As seen from Fig. 3.8, it was not always the case that the "French" (Pollet) or music published in France (Krumpholtz), used ♯6 chords rather than ♭7 in their scores in order to make reading a score easier.[52]

Naderman uses the term *Synonymes* when writing about the six most common enharmonic alternatives used on the harp.[53] Four are displayed in the short piece in fig. 3.10, with this explanation preceding the piece:

> "le nom des Pédales qui se trouvent entre les petite Parenthèses, () signifie celui du Synonyme avec lequel on produit le son emprunteé".[54]

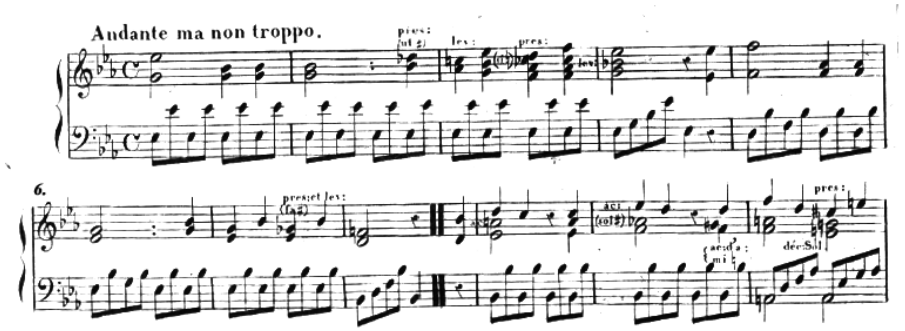

Figure 3.10: Naderman, *École*, 95.

The four enharmonic solutions can be found in bar 2, where the notated D♭ is played as a C♯, in bar 3 the C♭ is played as a B♮, in bar 7 the G♭ is played as F♯ and in bar 10 the A♭ is played as a G♯.

Enharmonics are also referred to by Bochsa as "borrowed notes", "note substituée" or "Note d'emprunt" and finally as "Enharmonic transitions".[55]

[52] The author has found no example yet of what Backofen describes. The relationship between harmony and the choice of pedals is beyond the scope of this thesis.

[53] These are not the same six as in fig. 3.5.

[54] Naderman, *École*, 94: "the name of the pedals that are located here between the small brackets, () means that it is with this enharmonic one produces a borrowed sound."

[55] Bochsa, *New and Improved Method*, 43; Bochsa, *Nouvelle méthode*, 47; Nicolas-Charles Bochsa,

It is my opinion that these early examples of writing the enharmonic note above or below the music stave-which are also the pedal solutions-are the first examples of pedal markings. As such, they are a precursor to the pedal markings that modern harpists write in their scores today.

3.4 *Jeu des pédales*

Harp treatises and methods often include a chapter on the various ways to move those pedals that change the vibrating length of a string, which is referred to as the *jeu des pédales*.[56] This entails pressing down the pedal, releasing the pedal, fixing and unfixing the pedal.

The first warning about fixing and unfixing pedals is given by Cousineau in his first *Méthode*:

> "que l'on ne doit accrocher une pédale que dans deux cas, le premier lorsqu'elle est à la clef, et qu'elle regne dans une partie du morçeau: et le second, lorsqu'ayant le pied posé sur une pédale, on apperçoit dans la mesure suivant le besoin d'en accrocher une autre, et de conserver en même tems celle sur laquelle on a déjà le pied posé, alors il faut accrocher celle ci, poser ensuite le pied sur celle dont on a besoin et revenir après s'en être servi sur celle que l'on avoit d'abord accrochée."[57]

The advice of Madame de Genlis is very similar:

> "Quand on ne veut faire qu'une note de passage on se contente d'appuyer le pied, quand le changement de ton est plus durable on arrête la pédale ce qui se fait par deux mouvemens au lieu d'un, d'abord on appui ensuite on tire le pied en dedans, vers I'autre pied, c'est ce dernier mouvement qui arrête la pédale. Quand on veut ôter la pédale il faut faire un mouvement contraire. On reviendra sur cet article et l'on donnera une leçon entière sur les pédales, ce qu'on vient de dire suffit pour la première leçon."[58]

Preparation à l'étude, two hundred short miscellaneous & independent passages for the harp, no. 4, vol. 4 (London: D'Almaine & Co., n.d.), 8.

[56] Krumpholtz, *Principes*, 60; Bochsa, *Nouvelle méthode*, 12.

[57] Cousineau, *Méthode*, 1803, 14: "one should fix a pedal in two situations only, the first when it [the pedal] is in the key, and it is a principal key of a section of a piece: and the second, when the foot is already placed on a pedal, but we perceive the need for another accidental in the following bar, and to retain this initial pedal which the foot is placed already on, then we must fix this one, then place the foot on the one that one needs and return afterwards to make use of that one we first had fixed."

[58] Genlis, *Nouvelle méthode*, 1802, 18: "When one plays a passing note, one can simply press down the foot, when the key change is for a longer time the pedal is fixed which is done by two movements instead of one, first pressed down then the foot is pulled inwards, towards the other foot, it is this last movement that fixes the pedal. When one wants to remove the pedal, the opposite movement is done. We will return to this article and an entire lesson will be given on the pedals, enough has been said for the first lesson."

Desargus defines the pedals movements concisely:

> "Quand on se sert d'une pédale accidentellement, il faut mettre seulement le piéd dessus, et quand il faut que la note reste dièze ou bécarre, alors on l'accroche."[59]

The action is described in Bochsa's method in English:

> "when a sharp or natural is accidentally introduced, the pedal need not be fixed into the notch, but kept down with the foot during the length of the note: but when the sharp or natural is after the clef, or when the modulation lasts for sometime, the pedal must be fixed, after having been pressed, by drawing it into the notch cut on purpose in the pedestal of the harp this gives the performer the free use of his foot for another pedal if wanted."[60]

From these descriptions, it can be concluded that a pedal is pressed down and fixed in the lower notch only when it is required for the key of the piece, when a piece modulates, or when the same foot needs to move one pedal and then another pedal. In this latter case, the first pedal is fixed. In all other cases a pedal is simply pressed down just before it is required and then released as soon as possible. This implies that the harpist reacts when they see any accidental written in the score. A pedal movement is not planned and occurs in "real-time" while the harpist is playing a piece.[61]

Krumpholtz cautions the harpist with regard to moving pedals:

> "Il ne faut jamais attendre le dernier moment pour mettre une pédale, ou la décrocher, et le passage ne permet pas de la disposer d'avance, il faut avoir le pied posé dessus, pour appuyer, ou lacher au moment convenable, àfin de ne point gêner la précision de la mesure.
> 2. Lorsque la pédale a produit son effet, il ne faut point se hâter de la quitter, quel qu'on n'en âit plus besoin; car les dernieres vibration de la note se continuent quelque fois, et sont entendre un son faux, ou un ferraillement désagréable; il faut donc la retenir jusqu'à ce qu'on âit fait sonner une note ou deux.
> 3. On doit aussi éviter les mouvemens brusques, dont l'effet est de fatiguer la mécanique, et de faire entendre un cliquetis qui n'est rien moins qu'harmonieux.
> 4. Les pieds doivent agir sans que le corps partagé leurs mouvemens;

[59] Desargus, *Nouvelle méthode*, 2: "When one uses a pedal in passing, the foot is simply put on it, and when a note continues to be sharpened or flattened, then one fixes it." The same quote can be found in Demar, *Méthode*, 12.

[60] Bochsa, *New and Improved Method*, 35.

[61] Similar statements can be found in Merelle, *New and Complete Instructions*, 21. Mademoiselle Mérelle (active 1800), harpist and teacher. See Neil Jefferas, "Pastels & Pastellists: The Dictionary of Pastellists Before 1800," accessed March 26, 2016, http://www.pastellists.com/ for possible family genealogy. Naderman, *École*, 23; F. C. Meyer, *A New Treatise on the Art of Playing Upon the Double Movement Harp* (London, 1825), 82.

> et les harpistes qui mettent à cela un certain charlatanisme, pour faire voir la difficulté des morceaux qu'ils exécutent, devroient bien songer que les tourmens apparens qu'ils se donnent, ne vont ni è l'oreille ni su cœur, et ne sont pour les yeux qu'un spectacle pénible, plus propre à déceler l'impuissance, que la supériorité du talent.[62]

These are cautionary recommendations to harpists to react quickly to the accidental written in the score and not to be too late when moving a pedal, and also to listen for the vibrations of the strings so a pedal is not released too soon. He emphasises the fact that pedalling is a gentle art and that pedalling can disturb the performance.[63]

3.4.1 Historical terminology

Pedal actions are described in harp treatises and methods in many ways:

Fixing a pedal: "fix,"[64] "fixing,"[65] "accrocher,"[66] "fixed,"[67] "arrête la pédale,"[68] "fixant,"[69] "gesteckt".[70]

Unfixing a pedal: "unfix,"[71] "not fixing,"[72] "decrocher,"[73] "ôter la pédale"[74] "aufgemacht."[75]

Press pedal down (and hold without fixing): "il faut mettre seulement le piéd

[62] Krumpholtz, *Principes*, 14-15: "None should never wait until the last moment to put in a pedal, or to release it, and when the passage does not contain the pedal, one must have the foot on it for pressing down, or letting go at a convenient moment, when it does not to interfere with the accuracy of the bar. 2. When the pedal has produced its effect, we must not hurry to leave, that [pedal] which we no longer need; as the last vibrations of the note can continue sometimes, and an error could be heard, or disagreeable noises; so it must be retained until one or two notes are played. 3. Sudden movements ought to be avoided, whose effect can wear down the mechanism, and rattling can be heard that has nothing to do with harmonious things. 4. The feet should react without the body sharing their movements; and harpists who pertain to this charlatan behaviour, to show off the difficulty of the pieces they perform, ought to consider well the visual pain they give, they will neither know nor hear nor feel, and not see the painful sight, that merely declares impotence, and not superiority of talent."

[63] See Chapter 7 for social consequences of pedalling.

[64] Merelle, *New and Complete Instructions*, 21.

[65] Nicolas-Charles Bochsa, *The First Six Weeks or, Daily Precepts and Examples for the Harp, on a Plan Entirely New, and Particularly Adapted for Beginners on That Instrument. The Whole Illustrated by Progressive and Useful* (London, D'Almaine, 1826), 25; Bochsa, *Tasteful Exercises*, 9.

[66] Demar, *Méthode*, 12; Desargus, *Nouvelle méthode*; Cousineau, *Méthode*, 1803, 14; Bochsa, *Nouvelle méthode*, 19; Naderman, *École*, 94.

[67] Bochsa, *New and Improved Method*, 35.

[68] Genlis, *Nouvelle méthode*, 1802, 18.

[69] Krumpholtz, *Principes*, 14.

[70] Backofen, *Anleitung*, 1801, 49.

[71] Merelle, *New and Complete Instructions*, 21.

[72] Bochsa, *The First Six Weeks*, 25.

[73] Krumpholtz, *Principes*, 14; Bochsa, *Nouvelle méthode*, 19; Naderman, *École*, 94.

[74] Genlis, *Nouvelle méthode*, 1802, 18.

[75] Backofen, *Anleitung*, 1801, 49.

dessus,"[76] "posé,"[77] "baissez,"[78] "pressing down,"[79] "appuyer,"[80] "presser,"[81] "Pédale accidentelle,"[82] "nicht gesteckt".[83]

Release a pedal: "lachez la pédale,"[84] "lacher,"[85] "lever".[86]

3.4.2 Symbols, abbreviations

Many methods include musical examples, sometimes short phrases or pieces. The pedal movements are written either before the musical example, in order for the harpist to fix the correct pedals according to the key of the piece, or during the piece. Backofen proposes a unique system of showing which pedals to move in a piece, by placing the pedal movements on an inner musical stave.

> "Im folgenden Beyspiel werden diejenigen Pedale, die ich in der mittlern Linie anführe, und die mit einem Querstrich bezeichnet sind, nicht gesteckt, sondern nur die mit einem + bezeichneten. Die mit einem o, werden aufgemacht."[87]

Figure 3.11 is an example of this three-staved music notation. In bar 1, the A pedal is unfixed to begin the piece. In bar 3 the left foot presses the B pedal down and holds it until bar 6, which is actually an empty bar in the inner stave. This is more likely a publishing error, as the B should be marked here with an "o" above it to release the pedal on the first crochet of the bar. In bar 5, the right foot fixes the A pedal. In bar 7, the right foot presses the F pedal down and holds it until the first crochet of bar 10, where an F marked with an "o" above it should be notated on the middle stave. On the second crochet of bar 10, the right foot presses the E pedal down and holds it until bar 14, as written. In bar 11, the left foot presses the C pedal down and holds, also until bar 14, where it should be released with the E. In bar 15, the left foot presses the B pedal down and the right foot presses the G pedal down and both are held until the first crochet of bar 18.[88]

Figures 3.11 and 3.18 are fascinating examples that show that pedals can be simply pressed down and held over several bars, and that this was normal practice, rather

[76] Demar, *Méthode*, 12; Desargus, *Nouvelle méthode*, 2.
[77] Cousineau, *Méthode*, 1803, 14.
[78] Pollet, *Méthode*, c. 1817, 14.
[79] Bochsa, *New and Improved Method*, 35.
[80] Genlis, *Nouvelle méthode*, 1802, 18.
[81] Naderman, *École*, 94.
[82] Ibid., 23, 94.
[83] Backofen, *Anleitung*, 1801, 49.
[84] Pollet, *Méthode*, c. 1817, 14.
[85] Krumpholtz, *Principes*, 14.
[86] Naderman, *École*, 94.
[87] Johann Georg Heinrich Backofen, *Anleitung zum Harfenspiel*, Neue Ausgabe (Leipzig: Breitkopf und Härtel, 1807), 49: "In the following example, those pedals that I show in the middle line, and those denoted with a line are not fixed, only those marked with a +. Those with an o, are to be unfixed."
[88] Another section of this same piece is found in fig. 3.18.

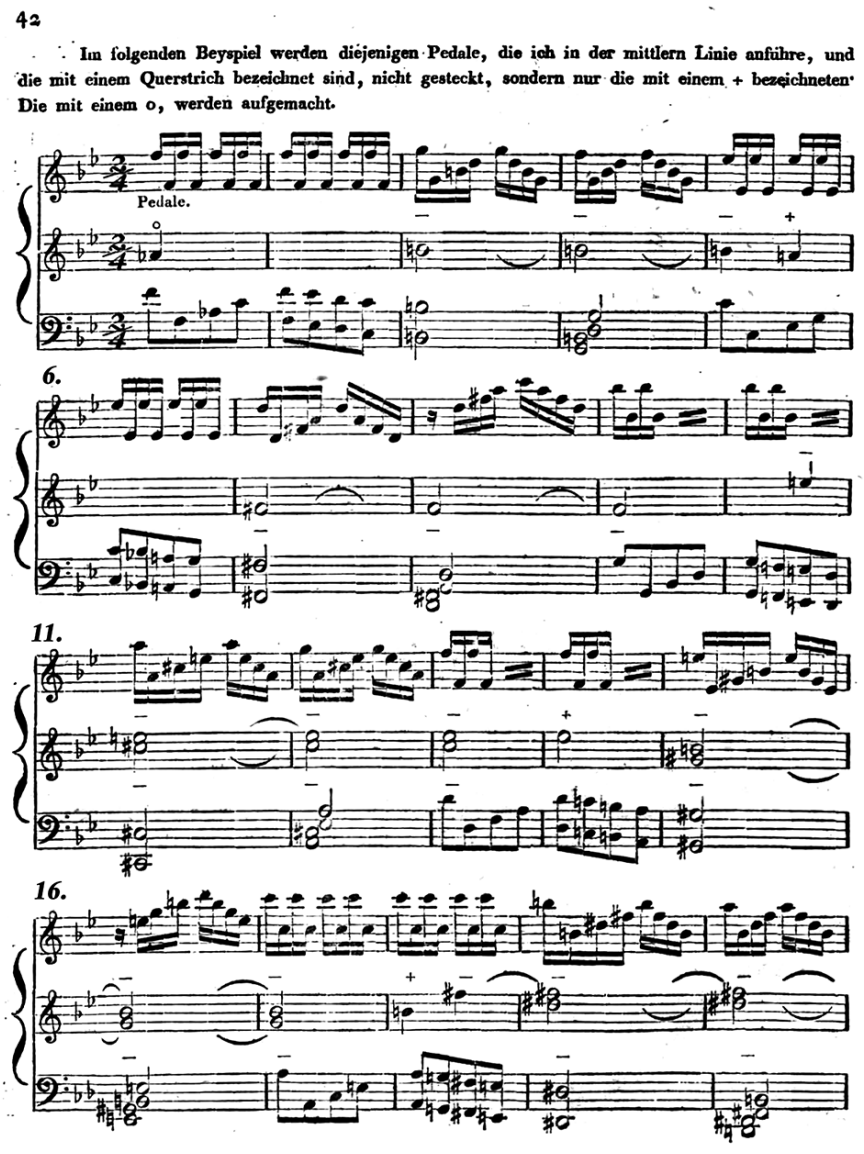

Figure 3.11: Backofen, *Anleitung*, Neue Ausgabe, 42.

than fixing pedals. This notation is cumbersome and occupies much space. Backofen does not use this system again in his methods.

In bar 4 of fig. 3.12, the pedal A is marked in the score. It is the only pedal marked because all the chromatic alternations are in the music and these double up as the pedal solutions. The A is marked in bar 8 because it is a pedal move that is not related to a note in the score, so as it is removed from the musical gesture, it is a mechanical operation. What is also intriguing to note is that bar 5 is a perfect example where double- or triple-pedalling could occur and yet Backofen does not notate it. It is my opinion that the theory of double- and triple-pedalling are included in the treatise, but as these techniques were considered "extended" techniques for the virtuoso players, users of the treatise could play the pieces with a simple and uncomplicated pedal technique, moving one pedal with one foot at a time.[89]

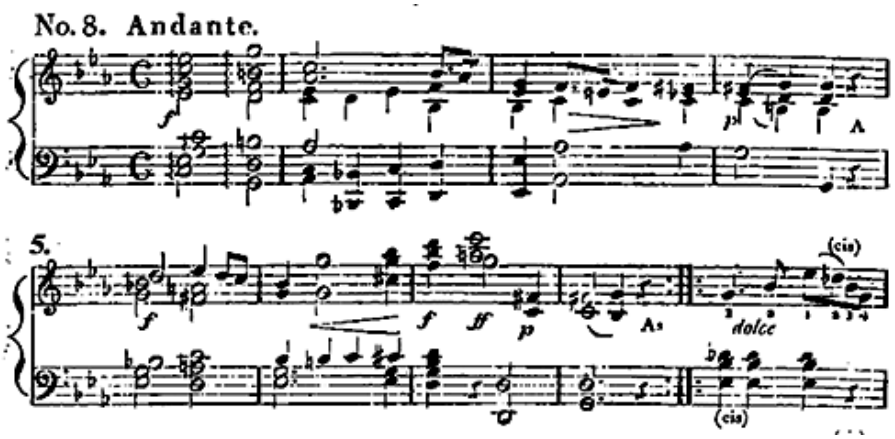

Figure 3.12: Backofen, *Anleitung*, Neue Ausgabe, 51.

Naderman lists a series of abbreviations to show the pedal movements that he employs in his music. These include "ac:" for "accrochez" (fixing), "dé:" for "décrochez" (unfixing), "pres:" for "pressez" (press down), "lev:" for "lever" (release), "acci:" for "pèdale accidentelle" (press down and hold), "ac:d'a" for "accrochez d'avance" (fix in advance) and "dé:d'a" for "décrochez d'avance" (unfix in advance).[90]

Six of these abbreviations are found in the *Andante non troppo* on p. 95, shown in fig. 3.13. The abbreviation "acci:" for "pèdale accidentelle", which means to press down and hold, is not used here as this term does not clearly show the harpist where to release the pedal in the bar. Naderman uses the equivalent terms "pres:" for "pressez" and "lev:" for "lever" each time a pedal is pressed down for a short time and then released.[91]

[89] See fig. 3.13 for Backofen's written out example of double- and triple-pedalling.
[90] Naderman, *École*, 94.
[91] Cousineau, *Méthode*, 1803, 14.Cousineau also uses the abbreviations "Ac" and "Dé" for *accrocher* and *décrocher*.

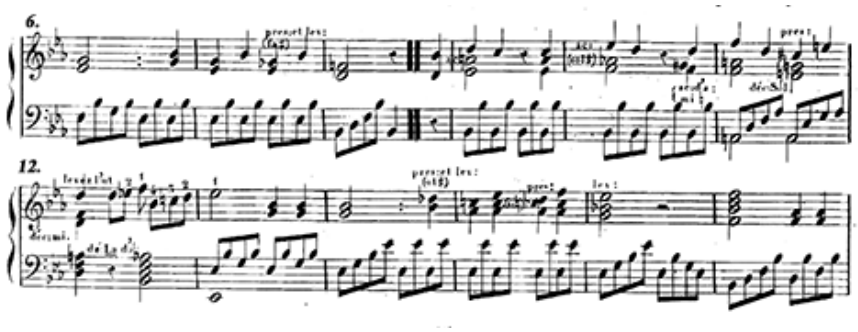

Figure 3.13: Naderman, *École*, 95.

Another source which may use symbols for pedal movements is currently lost. *Exercise de modulation* by Josef Gelineck[92] includes a:

> "sténographie de la harpe…ce petit vocabulaire, qui renferme toute la langue des pieds de l'artiste, il ne reste point d'incertitude sur les opérations à faire: six signes de forme très-simple suffisent pour tout cela."[93]

3.4.3 Pedal markings in musical examples in treatises

This section shows a variety of ways that pedal movements were written in the musical examples and pieces which are found in harp treatises and methods.

One of the most examples of fixing and unfixing pedals on both sides of the harp is found in Pollet's *Méthode*, where *accrochez* and *décrochez* are written between the staves.[94] Figure 3.14 is the second page of *29 Leçon* and the study is for a harp set-up in the key of E-flat major. In bar 43, the C pedal is fixed in preparation for bar 36 which contains C♯'s with the left foot. This pedal needs to be fixed because the left foot is required to unfix the B pedal in bar 37 for the B♭'s in bar 39. The E pedal which has been already fixed before bar 32 is released with the right foot at the same time as the C pedal is unfixed with the left foot.

Figure 3.15 is one of the few examples where pedals are not fixed, but rather pressed down and released shortly afterwards. Demar writes between the staves: "Lachez desuite la 1^{ere} pedales pour prendre la 2^{d}."[95]

[92] Josef Gelineck, *Exercise de modulation* (Paris, 1829), Josef Gelineck (1758-1825), Czech composer and pianist.

[93] "Variétés: Sur de nouveaux signe proposés pour la notation de la harpe," *Revue musicale*, 1829, 127–29: "…this brief vocabulary, that contains all the terminology of the feet of the artist. No uncertainty of the operations to be carried out will remain: six simple signs are sufficient for all."

[94] Pollet, *Méthode*, c. 1817, 51.

[95] Demar, *Méthode*, 29: "Release the first pedal immediately to operate the second".

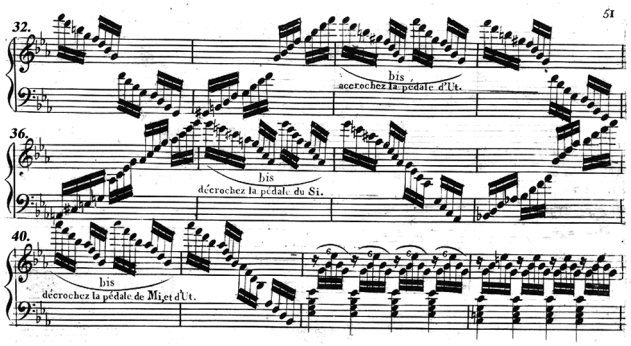

Figure 3.14: Pollet, *Méthode*, 51.

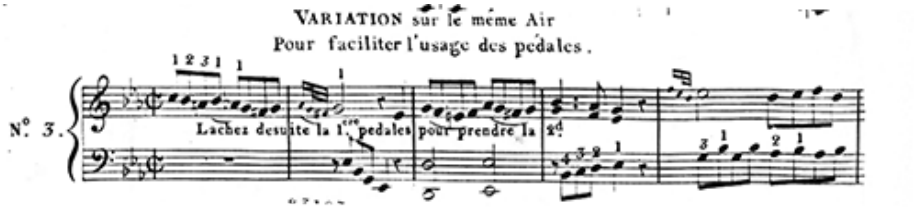

Figure 3.15: Demar, *Méthode*, 29

This statement between the staves may seem redundant, as the harpist could actually just read the score and move the pedals according to the accidentals written. It is probably underlined here to show the harpist that it is normal practice to move a pedal for every accidental in a piece, which is not part of the key of the piece. In fact, this is one of the few explicit examples of pressing and releasing motions found in all known harp treatises and methods. Usually the examples show where to fix and unfix pedals, because these actions may need to occur in a bar that is a bar or two before or after the notated accidental in the score. Fixing and unfixing are planned actions and are not part of the musical gesture.

The following example, fig. 3.16, shows this sort of planning already written in the score for the learner of the harp. Bar 9 of *Air de la Molinara, Prélude*, no. 8 has an E♭ and an F♯, which both need to be moved in the same bar and with the same foot.[96] Demar suggests to unfix the E pedal in advance in bar 8, so that the foot is free to press down and release the F pedal in bar 9. Once again, Demar marks that the E pedal needs to be re-fixed in bar to continue the piece in F major.

This example in fig. 3.17 from the *Air des deux Jaloux* combines reading an accidental to move one pedal and planning another pedal, where neither pedal is fixed. Desargus writes in bar 16 to press the F and B pedals down, one with each foot for nearly five bars (“Le pied sur le Fa et sur le Si”). The F♯ is written in the score in bar 16 and the harpist could wait until the end of bar 17 to press the B

[96] Ibid., 32.

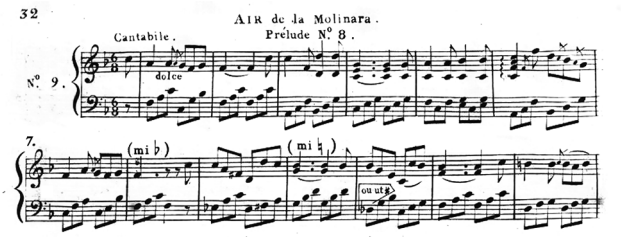

Figure 3.16: Demar, *Méthode*, 32

pedal down on its own. However, it is often more convenient and musical to move two pedals at once, especially as the piece modulates to D major in bar 17 and both these accidentals are part of the new key. When the piece returns to D minor, both pedals are released in bar 21 ("lachez les Pédales").[97]

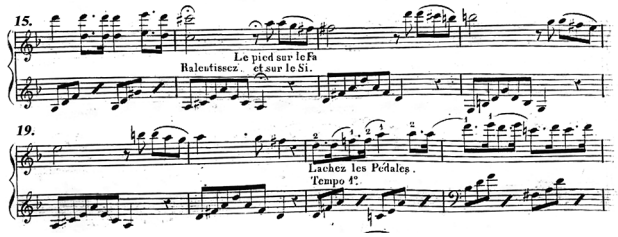

Figure 3.17: Desargus, *Traité*, 1.er Recueil, 32

The act of moving two pedals together with two feet is rarely discussed as a special technique. Bochsa suggests to "…serrer les deux genoux contre la harpe" when two pedals are operated, one by each foot. He includes exercises for pressing and releasing two pedal together with two feet, but also for pressing one pedal down with one foot while another pedal is released with another foot.[98] Another musical example of specifically using two feet to operate two pedals, the F and B pedals, is found in Desargus' *Traité*.[99]

[97] Desargus, *Traité général*, Première Recueil, 36.

[98] Bochsa, *Nouvelle méthode*, 51–54: "…close the two knees against the harp". Also in Bochsa, *Tasteful Exercises*, 10.

[99] Desargus, *Traité général*, 36.

Conclusion

The first pedal markings in the history were written to show the enharmonic solutions for the notated music, when certain written notes were not available on the harp, when set-up in a chosen "base" key.

The second stage of pedal markings are those markings found before or after an accidental in the score. Sometimes the harpists must operate two pedals on the same side of the harp separately (one after another) and one of these may have to fixed and then later unfixed. The movement does not occur exactly at the moment that the accidental is written in the score, so, therefore, needs to be written.

These markings show the use of one pedal at a time, and two pedals operated by two feet in the following situations:

- putting the harp in the key of the piece that will be played.
- fixing/unfixing a pedal which is required for several bars or for a long time.
- fixing a pedal in order to leave the same foot free to move to another pedal on the same side of the harp.

3.4.4 Double- and triple-pedalling

This section deals with some of the most important historical sources for operating pedals in a way that may seem impossible to most harpists. Bochsa stated that pedalling in the eighteenth and nineteenth centuries had become the "greatest difficulty of the instrument" and multi-pedalling may have been that which divided the amateur harpist from "those more ambitious artists", the *virtuosi* of the harp.[100] Every known treatise and method that discusses multi-pedalling is reviewed here, some sources for the first time. There are only five harpist-authors who mention multi-pedalling, indicating the rarity of the practice among the average harpist of the period.[101] The scarcity of sources may be due to the fact that treatises were aimed at amateur harpists, whose repertoire contained few modulations so no special technique was a requisite to enjoy playing the harp. It is more likely that the professional harpists who used these techniques guarded them like "secrets of the trade".

3.4.4.1 Backofen's *Anleitung*

Backofen is the earliest published treatise that discusses multi-pedalling.[102] When he first mentions pressing down two pedals, namely the F and A with the right foot, he gives a solution to avoid double-pedalling:

[100] Bochsa, *Nouvelle méthode*, 21.

[101] Backofen, *Anleitung*, 1801, 51; Backofen, *Anleitung*, 1807, 43; Xavier Desargus, *Cours complet de harpe ou dictionnaire de leçons arrangées pour la harpe*, 2e éd. (Paris: Frey, 1812), 37; Desargus, *Traité général*, 74; Bochsa, *Nouvelle méthode*, 51; Bochsa, *New and Improved Method*, 43; Challoner, *A New Preceptor*, 22; Naderman, *École*, 92.

[102] Backofen, *Anleitung*, 1801, 51; Backofen, *Anleitung*, 1807, 43.

> "Diejenigen, für die es zu schwer fallen möchte, diese 2 Pedale, nehmlich das F und As beynahe zugleich aufzumachen, können sich dadurch helfen, dass sie das Fis vorher nur drey Achtel lang singen lassen, und bey dem vierten die Saiten dämpfen, indessen können sie das Pedal aufmachen, und also um desto bequemer das As auflösen."[103]

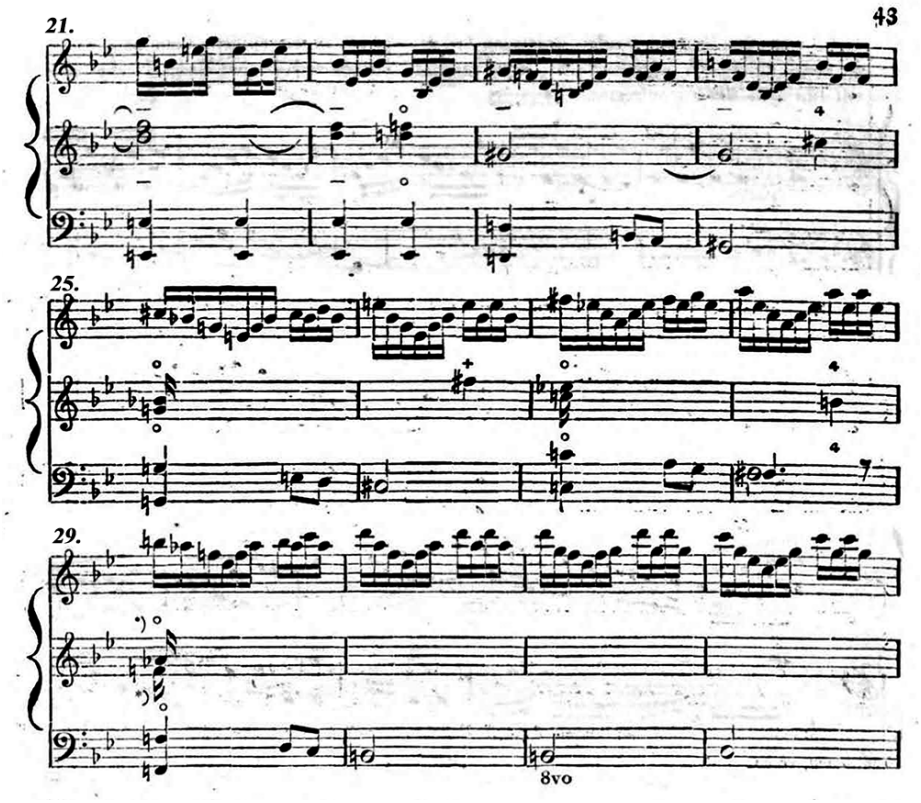

Figure 3.18: Backofen, *Anleitung*, 43

Backofen uses three musical staves, the upper one for the right hand and the lower one for the left hand. The middle stave shows the pedals that are to be moved in each bar. These symbols have been discussed in section 3.4.2.

Figure 3.18 is composed for a harp set-up in the "base" key of E-flat major.[104] The A pedal is already fixed from bar 5 found in Fig. 3.11. The F pedal is fixed in bar 26, in order to leave the right foot free to release the E pedal in bar 27. Backofen

[103] Backofen, *Anleitung*, 1801, 51: "For those, for whom it would be too difficult to move these two pedals, namely the F and A♭ together, they can thereby be helped, when you let the F♯ vibrate only for three crochets and in the fourth beat dampen the strings, thereby you can open [release] the pedal, and therefore make it easier to release the A♭."

[104] See Fig. 3.11 for the first page of this piece.

suggests to first release the F pedal after damping the F string in the bass on the fourth quaver of bar 28. This leaves the right foot free to move quickly to the A pedal to release it in time to play A♭ in bar 29. Backofen provides the harpist with an easy solution to avoid double-pedalling and shows an amateur harpist how to approach the difficult situation of reading two changes of accidentals that occur at the same time plus the added difficulty that the pedals for those two notes are on the same side of the harp. This harmonic progression, two consecutive diminished 7^{th} chords, is the most used progression in the harp repertoire, where double- or triple-pedalling is the most obvious and easiest solution.

Double-pedalling technique could be used in bar 29, which would usually entail releasing the F and A pedals together from a fixed state. However, this movement is possible, if the G pedal is folded away. In this example by Backofen, the G pedal cannot be folded away for the entire piece, as he clearly indicates to use the G pedal in bars 23-24.

It is the author's opinion that this example in fig. 3.18 is a harmonic sequence, where double-pedalling would usually occur, but actually in this case, it is not possible. A solution would be to either fold away the G pedal in bar 25, or play the G♯s in bars 23-24 with the enharmonic A♭, not respecting Backofen's pedal indications.

Another example of double-pedalling in found Backofen's *Anleitung*. This example is introduced stating:

> "Es gibt auch Fälle, wo 2 neben einander stehende Pedale zugleich getreten werden müssen."[105]

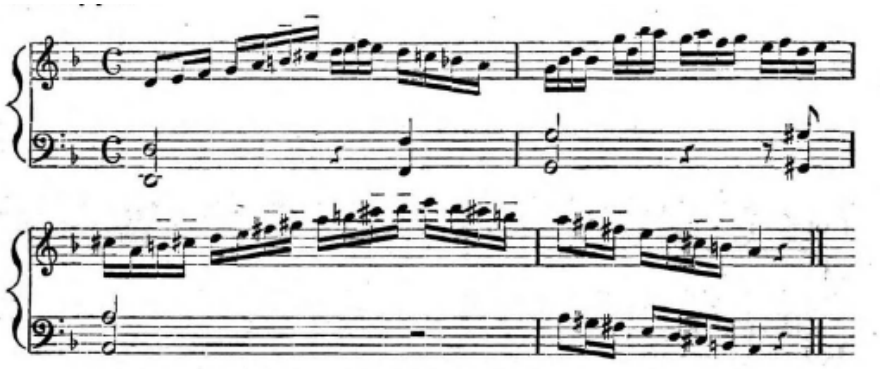

Figure 3.19: Backofen, *Anleitung*, 44

This musical example in fig. 3.19 has no further written explanation. The left foot presses down the B and C pedals together at the beginning of bar 1, holding them down and then releasing them on the fourth crochet of the bar. The two notes B♮

[105] Ibid., 52; Backofen, *Anleitung*, 1807, 44: "There are also occasions, where two adjacent pedal must be pressed down together."

and C♯, are marked with a line above them to indicate which pedals to move. The same double-pedal movement is required in bar 3 and then the pedals are held until the end of the example.[106] An alternative solution for bar 3 would be to fix the B and C pedal one after another during bar 2, as there is time to do so.

Bars 3-4 show double-pedalling with the right foot. The right foot presses the G pedal down at the end of bar 2, releases it at the beginning of bar 3 and then the F and G pedal are pressed down together during the second crochet of bar 3 and held until the end of the piece. Another possible solution would be to press the F and G pedals down together on the last quaver of bar 2, avoiding the F♮ that proceeds the ultimate quaver. In this example double-pedalling with the right foot is not absolutely necessary. The G pedal could be fixed during bar 2 and then the F pedal fixed in bar 3, both fixed until the end of the piece.

In fig. 3.19, double-pedalling is only essential for the last crochet of bar 1, where the C and B pedals have to be lowered in rapid succession for the downward melodic minor scale.

Backofen then gives an example of triple-pedalling with the right foot as shown in fig. 3.20. The harmonic progression of the diminished chord is very common in classical music, where the chord of F minor progressing to G minor or E-flat major uses the diminished chord on F♯ as a pivoting chord. In this example the notated G♭ in the music is played by the enharmonic F♯. Backofen writes:

> "Zuweilen muss man mit einem Fuss 3 Pedale zugleich treten".[107]

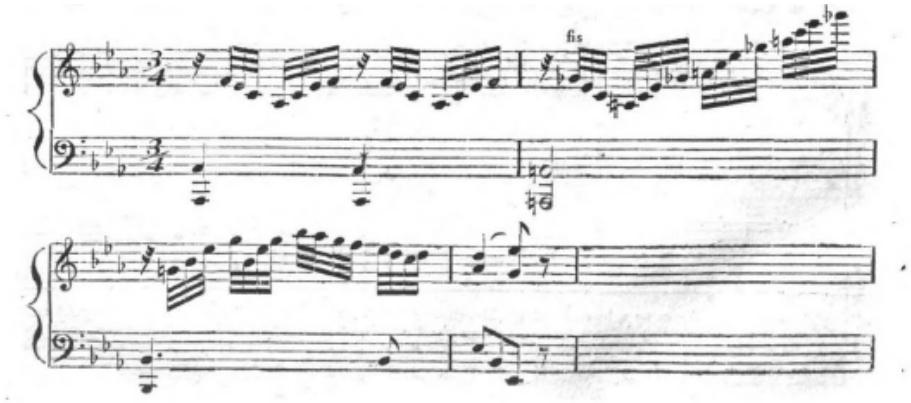

Figure 3.20: Backofen, *Anleitung*, 44

This example follows with this explanation:

> "Für Frauenzimmer ist dies allerdings sehr beschwerlich, denn da sie kürzere Füsse haben, als wir, so können sie die 3 Pedale F, G und As,

[106] The slashes are positioned incorrectly in the third crochet of bar 3: the two slashes should be placed over the b♮3 and c♯3. See "System of pitch notation", under "Abbreviations", page x.

[107] Backofen, *Anleitung*, 1801, 44: "Now and then one must press down three pedals with one foot".

> wenn sie selbige auch zugleich erreichen, dennoch des mittlern Pedals wegen, nicht gleich stark treten. Ich wollte daher den Frauenzimmern unmassgeblich anrathen, wenn solche Stellen, wie die erst angeführte, vorkommen sollten, das zwischen inne liegende Pedal, nehmlich das G, welches ohnehin umsonst getreten wird, vorher mit der Fussspitze aufzuheben, und an den Körper der Harfe anzulehnen, es aber sogleich nachher wieder herunter zu treten."[108]

It is the author's experience, that double-pedalling with the G (or C) pedal folded up works in most cases found in the harp repertoire. Two further examples of double- or triple-pedalling with the right foot is found in the final piece of the second edition of the *Anleitung*.[109]

Left foot on E pedal, right foot on B pedal

Backofen's third edition of his method is considerably different from his earlier publications. It was first advertised in the *Allgemeine musikalische Zeitung* in May 1827 and takes into account the double-action pedal harp, yet the section regarding the German *Hakenharfe* is still included. He includes new exercises and examples and gives the first musical example of a situation where each foot operates the innermost pedal on the other side of the harp, as shown in fig. 3.21.[110]

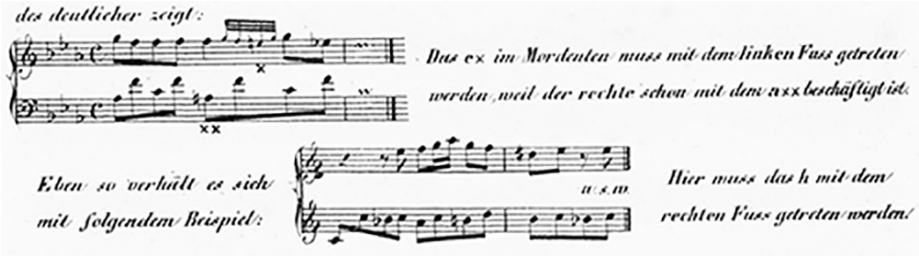

Figure 3.21: Backofen, *Harfen-Schule*, 35

3.4.4.2 Desargus' Methods

Xavier Desargus wrote about triple-pedalling in the revised edition of his *Cours Complet*, but gives no musical examples:

[108] Ibid., 45; Backofen, *Anleitung*, 1807, 52: "For women this is however very difficult, because they have shorter feet, than we, as they cannot press with equal strength the three pedals F, G and A, due to the middle pedal, even if they were able to reach the [three]. I therefore wanted to strongly advise the ladies, that at such places, as earlier described, should it happen, that the inner pedal, namely the G, which has no purpose to be pressed down, can be lifted up with the toe and leaned against the body of the harp, but immediately afterwards it should be folded down."

[109] Backofen, *Anleitung*, 1807, 68, 71. This *Fantaisie* is not part of the first edition of the *Anleitung* and was performed by Dorette Spohr in Leipzig in 1805. AMZ, no. 15, January 8, 1806: 230.

[110] Backofen, *Anleitung*, 1827, 35: "The E [with an] 'x' in the mordent must be pressed down with the left foot, because the right foot is already busy with the A 'xx'. It plays out similarly in the next example: Here the B must be pressed down with the right foot."

> "Il arrive qu'on est quelquefois obligé de mettre deux pédales à la fois sans avoir le tems d'accrocher l'une, pour mettre le pied sur l'autre; alors, on met le pied sur les deux pédales ensemble si elles sont près l'une de l'autre, si elles sont séparées par un intermédiaire, tel que Mi Sol, ou Fa La, alors on met le pied sur les trois pédales à la fois, our obtenir l'effet de celles dont on a besoin, mais on n'use de ce moyen, que quand on ne peut par faire mieux, et les autres doivent éviter cet embaras, qui nuit presque toujours à l'exécution."[111]

Even if Desargus appears to provide no concrete examples of double- or triple-pedalling, this method includes a concealed example of double-pedalling using the C and B pedals in a pivoting motion. The *Simphonie, Extraite des Œuvres de KRUMPHOLTZ En Sol Majeur* appears from page 146, which is actually Krumpholtz's Op. 11, no. 2. Figure 3.22 shows bars 95-100. In bar 96 the heel of the right foot is placed on the B pedal and held down. At the beginning of bar 98, the B pedal is released while the C pedal is pressed down and fixed.

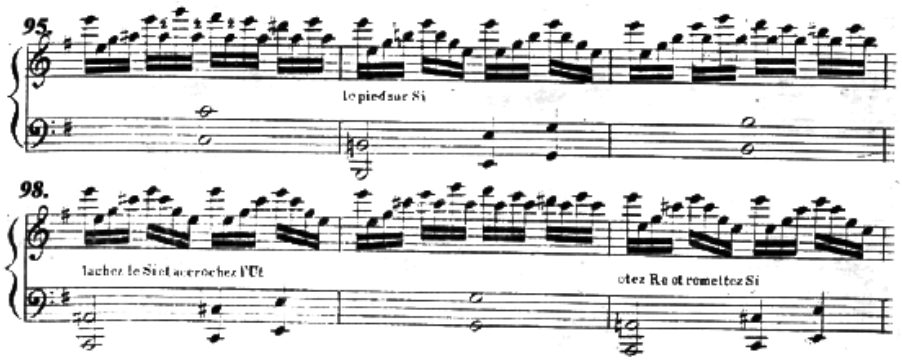

Figure 3.22: Desargus, *Cours*, 149

In Desargus' later treatise of 1821, he again describes double- and triple-pedalling, this time including musical examples.

> "Il est facile de concevoir qu'il y a bien moins d'embarras à mettre le pied sur une pédale, pour la lâcher ensuite, que de la décrocher pour être obligé de la racrocher après. Il faut donc saisir les occasions les plus favorables pour savoir s'en servir à propos. Il arrive aussi quelquefois que l'on est tellement pressé par la rencontre de deux signe accidentels, qu'on est obligé de mettre le pied sur deux pédales à la fois, surtout quand on n'a par le tems d'accrocher l'une pour mettre

[111] Desargus, *Cours complet*, 1812, 37: "It happens sometimes that one is obliged to put two pedals at once without having the time to fix one to put the foot on the other; therefore, one puts the foot on two pedals at a time if they are close to each other, if they are separated by an intermediary, such as E G, or F A, then one puts the foot on the three pedals at a time, both achieving the required effect, but one does not use this way, only when there is no better way, and it is even to be avoided as it nearly always alters the performance". Xavier Desargus (c. 1768-1832), French harpist, composer and teacher.

> le pied sir l'autre. Si les deux pédales sont contigües, comme mi, fa, ou si, ut, alors on appuye fortement le pied sure les deux pédales à la fois pour obtenir les deux demi-tons dont on a besoin, et on les lâche ensuite; mais si les deux pédales dont on a besoin sont séparées par une troisieme, comme dans l'exemple suivant, alors on met le pied sur les trois pédales à la fois, c'est-à-dire sur fa, sol, la, pour produire les deux demi-tons de fa, la et les lâche de suite pour continuer un autre passage si les pédales ne sont plus nécessaires."[112]

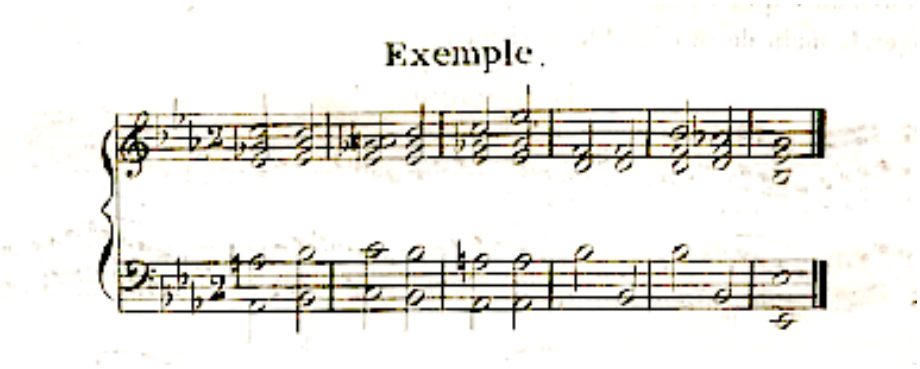

Figure 3.23: Desargus, *Traité*, 74

In this example, shown in fig. 3.23, the A♮ and F♯ are required from bar 1. The exercise shows that the right foot presses down the F, G, and A together and holds them down until bar 4, when they are released to produce A♭ and F♮.
This example however could be done without double-pedalling. The harp could be set-up before playing the example with the F and A pedals fixed in the lower position. The F pedal could be released at the beginning of bar 4 and the A pedal in bar 5. Another solution would be to fold away the G pedal as it is not required for the entire example.

3.4.4.3 Bochsa's Methods

Bochsa writes about double-pedalling in both his French and English methods. In his *Nouvelle Méthode* he gives a short example and explanation, as shown in fig. 3.24:

[112] Desargus, *Traité général*, 74: "It is easy to conceive that it is much less trouble to put a foot on one pedal, then release it, as like when it is obligatory to unfix in order to fix afterwards...It happens sometimes that one is so rushed finding two accidental signs, that one is obliged to put the foot on two pedals at one time, especially when there is no time to fix so the foot can be placed on the other. If the two pedals are adjacent, like E F, or B C, then one presses down strongly on the two pedals at once in order to obtain the two semi-tones that are required, and then they are immediately released; but if the two pedals are separated by a third, like the following example, then the foot is placed on the three pedals at once time, meaning on the F, G, A, in order to achieve the two semitones of F, A and these are released immediately to continue with another passage if these pedals are not needed anymore."

> "Il arrive quelquefois qu'on rencontre des passages tels que celui ci-dessous."[113]

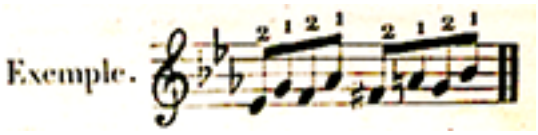

Figure 3.24: Bochsa, *Nouvelle Méthode*, 51

> "Alors on met le pied entier sur les trois pédales à la fois, du Fa dieze, du Sol dieze, et du La bécarre, pour la raison que voici:
> Le mouvement étant supposé vif, on n'a pas le tems d'accrocher la pédale, ni du Fa, ni du La, il y'a donc aucun inconvénient è appuyer le pied sur toutes les trois à la fois, puisque le La naturel suit immédiatement le Fa dieze, et d'un autre côté il n'y a non plus aucun inconvénient à appuyer momentanément le pied sur la pédale du Sol, puisque le Sol ne doit point être entendu pendant le tems très court que le pied sera appuyé sur les deux pédales du Fa et du La à la fois."[114]

This is same passage is found in the English version of Bochsa's *New and Improved Method*:

> "Observe, When a passage, as the following occurs, the three pedals of F♯, G♯ & A natural must be pressed at once with the same foot, for besides that it can be done without any inconvenience, since A natural follows immediately F♯, and G is not heard during the short time that the foot is on the other pedals, the performer could not in a quick movement find time enough to fix the pedals of F and A."[115]

In his *Nouvelle Méthode*, Bochsa describes a mechanism that he has invented that fixes the harp at the correct inclination for playing. While describing this "Spring of Support"[116] he states:

> "…les deux pieds qui doivent toujours être placés à droit ou à gauche, sans être jamais dans le cas de se croiser."[117]

This statement means that neither foot should operate pedals on the opposite side of the harp. The technique of using the left foot for the E pedal (on the right-hand side of the harp) is a natural consequence of double-pedalling even if there is

[113] Bochsa, *Nouvelle méthode*, 51: "There are times that we encounter passages such as the one below."
[114] Ibid., 51.
[115] Bochsa, *New and Improved Method*, 43.
[116] Bochsa, *Nouvelle méthode*, 23; Parker, *Child of Pure Harmony*, 25; Luke Hebert, ed., *The Register of Arts, and Journal of Patent Inventions*, 1830, 305–6. Erat claimed that he invented it.
[117] Bochsa, *Nouvelle méthode*, 22: "…both feet should always be placed to the right or left, without ever being in the situation of crossing."

no evidence in any harp treatises of its use until 1827.[118] Situations where this technique is necessary have been found in works by Krumpholtz and Spohr.[119]

3.4.4.4 Challoner *A New Preceptor*

Challoner is the first harp method in English that describes double-pedalling and the folding away of a pedal that is not required, namely the G pedal.[120]

> "Two Pedals are not unfrequently [*sic.*] to be put down together, and on the same side of the Harp. In the following movement * as explanatory of the immediate precept, put up the G♯ Pedal near to the side of the Harp, ® this action will enable you to press at once A♮ and F♯ and the pressure is to be made with equal and sufficient force.
> ® Be attentive not to turn up the G♯ Pedal so closely as to touch the Harp, as it some times occasions a jar. And it is better to keep it up in general and also the D♯ Pedal, (as they are not frequently wanted) unless upon inspectien [*sic.*] you find such Notes will occur in the Music you are going to perform."

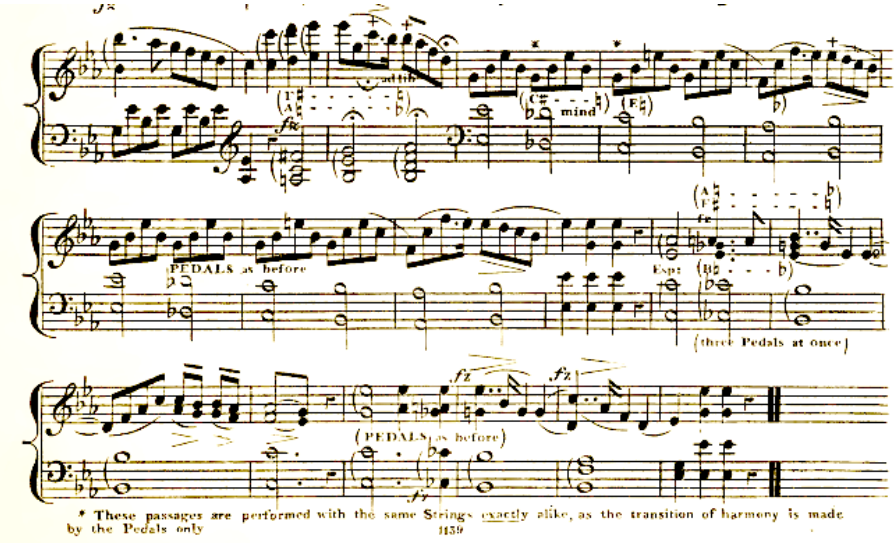

Figure 3.25: Challoner, *New Preceptor*, 22-23

Lesson 25 shown in fig. 3.25 uses double-pedalling with the right foot five times. There is no G♯ required in the piece, so the G pedal can be folded away for the

[118] Backofen, *Anleitung*, 1827, 35 is the first written description of using the left foot for the E pedal on the opposite side of the harp.
[119] See Chapter 5 for evidence of musical examples that employ the left foot to operate the E pedal and Chapter 8 for its use on the double-action pedal harp.
[120] Challoner, *A New Preceptor*, 22.

entire *Lesson*. The right foot is then placed across the F and A pedals and presses down and releases each time, as indicated in the score. Near the end of the *Lesson*, there are two examples of three pedals moved together: the F and A with the right foot and the B pedal with the left foot.

3.4.4.5 Naderman's *École*

Naderman's *École* is the last single-action harp method to discuss double- and triple-pedalling. The five volumes were published around 1833, but the style of his music is from an earlier period. The first situation is one where two adjacent pedals are moved with one foot, the second is an example where three pedals are moved together with one foot:

> "L'art d'employer les pédales est d'un simplifier les mouvements de telle sorte, qu'in cas se présentant où peut les faire jouer de deux manières, on choisira toujours la plus simple.
> Souvent, une pédale n'étant qu'accidentelle, on se croit obligé de la fixer afin d'avoir le pied libre, pour se faire jouer une autre, et, si la musique a un mouvement rapide, il en résulte des accrochements et des désacrochements trip précipités."[121]

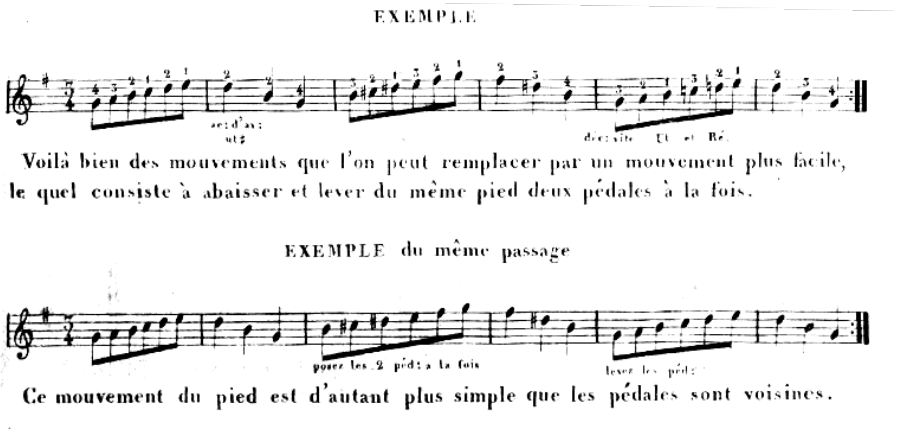

Figure 3.26: Naderman, *École*, 92

The first *Exemple* shown in fig. 3.26,[122] instructs the harpist to prepare the C pedal in bar 2 for bar 3 ("press down C♯", "ac: d'av ut♯" = "accrochez d'avant") and then

[121] Naderman, *École*, 92: "The art of using the pedals is in simplifying those movements, in such cases arising where one can play them [pedal] in two ways, we always choose the simplest. Often, a pedal is not just for a passing accidental, it seems necessary to fix in order to have the foot free, to play another, and if the music has a fast movement, this results of fixing and unfixing that are rushed."

[122] "Here are the moves that can be replaced by an easier movement, which is to lower and raise with the same foot two pedals at once." "This movement of the foot is even simpler as the pedals are neighbours."

the D♯ is pressed down where it is notated in the music in bar 3. One after another, they are released ("déc" = "decrochez") in bar 5. The second *Exemple* instructs the harpist to place the foot over the two pedals, D and C and hold the two pedals down in bar 2 and then release them in bar 5. The *Étude sur un sujet a 12 notes diatoniques* on page 120, bar 43 is a musical example of moving the E and F pedals together with the right foot.

Triple-pedalling is then explained on page 93:

> "Autre cas, où deux pédales à mouvoir du même pied n'étant pas contigues mais séparées par une troisieme, et ou ces trois pédales étant dans le même plan, on presse les trois pédales à la fois du même pied, pourvu qu'on ait soin de ne pas toucher la corde sur la quelle agit la pédale intermédiaire. Ici la difficulté consiste à n'exercer sur les trois pedales qu'une pression parfaitement égale, soit pour les abaisser, soit pour les ramener à leur situation naturelle."[123]

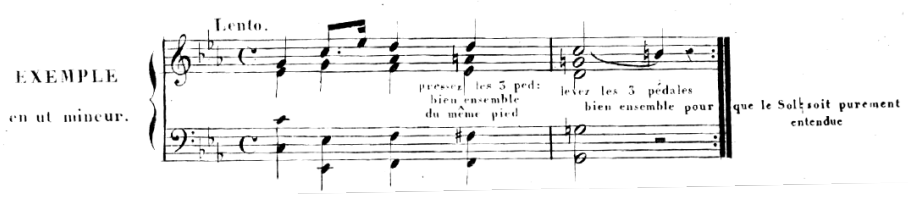

Figure 3.27: Naderman, *École*, 93

Figure 3.27 instructs the harpist to "press the 3 pedals well together with the same foot" and then "release the 3 pedals well together as the G♮ is heard".

These four harp methods are the only published sources where double- and triple-pedalling are discussed. Some of these techniques remained in use on the double-action pedal harp and will be discussed in Chapter 8.

3.5 Pedal *glissandi*

The pedals that alter the resonating length of the string can be used to actually create notes on their own in a very musical gesture. If a string is plucked and then the pedal is pressed down or released, the pedal movement produces another sounding note, either a semitone higher or lower, where no intermediary pitches

[123] Ibid., 92: "In other cases, where two pedals are moved with the same foot where [the pedals] are not adjacent but separated by a third, and where the three pedals are on the same plane, the three pedals are pressed at the same time with the same foot, provided that is the string of the middle pedal is not played. Here the challenge is to press perfectly with equal pressure on the three pedals when either lowering or returning them to their natural situation."

between one semitone and another are audible. This is commonly called a pedal slide and shall be referred to here as a pedal *glissando*.[124]

Pedal *glissandi* are only audible if the string is still resonating. The second note, when "played" by the pedal, is invariably softer as it is only produced from the vibrations of the string. The articulation produced is like a slur, where the first note is strong and the second note is weak. This effect can be used for either a raising or a falling semitone figure. The effect is pronounced in the treble part of the harp when the notes are fast but can be used in a slow-moving bass line, because the vibrations from the bass strong last longer.

The first source of a pedal *glissando* is found in the earliest dated harp treatise.[125] Meyer's treatise contains six Tables with musical examples and a short explanation of each musical example up to the fifth Table. The sixth and seventh Tables contain fingerings for "plusieurs passages qui se trouvent dans les Œuvres."[126] Meyer's fig. 95 and 96 shown here in fig. 3.28 are examples of the same musical phrase, but with alternative fingerings.

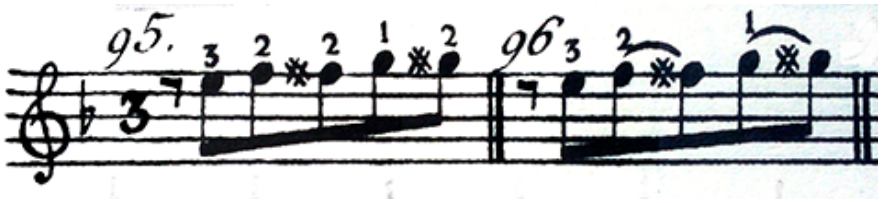

Figure 3.28: P. J. Meyer, *Essai*, Tab. VI, Fig. 96

Meyer's fig. 95 shows a fingering solution that would result in an articulation of two plus two notes, with an accent on the second-half of each crochet. However, fig. 96 marks each beat with slur, so the accent falls on the beats of the bar. There are no fingerings above the weak beats: F♯ and G♯ in Meyer's fig. 96. The slur indicates a pedal *glissando*, where the F string is plucked and the F pedal is pressed down to produce the F♯, then the G string is plucked and the G pedal is pressed down to produce G♯.

Even though Meyer states that the examples in Tables VI and VII are found in his music, Meyer does not include any example of a chromatic passage in the pieces that are part of his *Essai*.[127]

The first description and accompanying musical example of a pedal *glissando* is found in Corbelin's final *Leçon* of his *Méthode*, shown here in fig. 3.29. He explains

[124] Parker, *Child of Pure Harmony*, 62. See Glossary.
[125] Meyer, *Essai*, Tab. VI, Fig. 96; Maydwell, "A Translation and Comparative Study of Meyer," 163–65. Maydwell identified P. J. Meyer as the earliest example of a pedal *glissando* and provides an interesting discussion regarding its execution.
[126] "many passages that can be found in the pieces".
[127] These examples are perhaps part of one of his several collections of sonatas and *Recueils de chansons*, but this is beyond the scope of this present research.

what to do where "I" is indicated on the piece. The pedal *glissando* is marked with a normal slur marking.

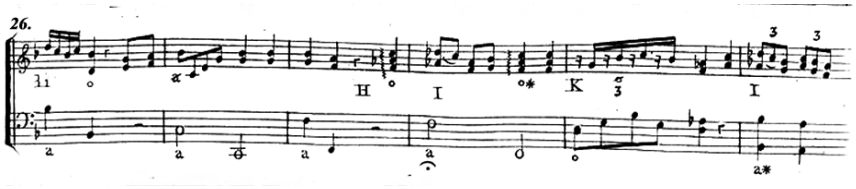

Figure 3.29: Corbelin, *Méthode*, 81.

> "I. Le *re*♭ se fait ici sur la corde *ut*, en abaissant sa pédale: pour faire l'*ut* qui fait suit le *re*♭, on ne fait que lâcher la pédale qui avoit fait cette note *re*♭. C'est la seule maniere dont on puisse faire sur la Harpe des notes *coulées*."[128]

Krumpholtz also indicates pedal *glissandi* with a slur marking and these are notated in his *Morceau détaché, pour s'exercer au jeu des pédals, Tempo di Minuetto*.[129] This piece was published at the end of Krumpholtz's Opp. 14 and 15 with a written explanation on how to play the slurred notes.[130]

Further explanations and musical examples of pedal *glissandi* are found in Pollet's *Méthode*, where *Leçon* no. 26 shown here in fig. 3.30 has a descending pedal *glissando* in octaves for the left hand. Pedal *glissandi* with the C pedal are found in bars 74, 75 and 76, across a range of four octaves. He explains:

> "No. 2, le RE♭ se pince et 'UT se fait entendre san pincer en lachant simplement la pédale."[131]

Madame de Genlis also writes about pedal *glissandi* in the *Onzieme Leçon* of her *Méthode*:

> "Notes Coulées et la Roulade Coulée demandent un grand accord entre les pieds et les doigts. Les notes non chiffrées ne sont pas touchees avec les doigts, la pédale seule les fait entendre. Cette roulade qu'on peut faire de la plus grande vitesse demande beaucoup d'habitude."[132]

This is accompanied by two exercises, a short ascending and descending chromatic phrase and a long chromatic scale for the right hand as shown here in fig. 3.31.

[128] Corbelin, *Méthode*, 80–81: "I. The D♭ is done here on the C string, by lowering the foot: for the C which follows the D♭, one simply releases the pedal which had made this note D♭. This is the only way in which we can make slurred notes on the harp."

[129] Krumpholtz, *Principes*, 60. This is also cited and analysed in Parker, *Child of Pure Harmony*, 62.

[130] See section 4.4 for this description.

[131] Pollet, *Méthode*, c. 1817, 41: "The D♭ is plucked and the C is heard without plucking, simply by releasing the pedal." It is not clear from the example that the D♭ should be played by its enharmonic C♯. The same text and musical example is found in the Pollet, *Méthode*, n.d, 45.

[132] Genlis, *Nouvelle méthode*, 1802, 23: "Notes *coulées* and the *roulade coulée* require a great agreement between the feet and fingers. The notes not fingered are not touched with the fingers, only the pedal makes the sound. This roulade used in the fastest *tempi*, requires a lot of practice."

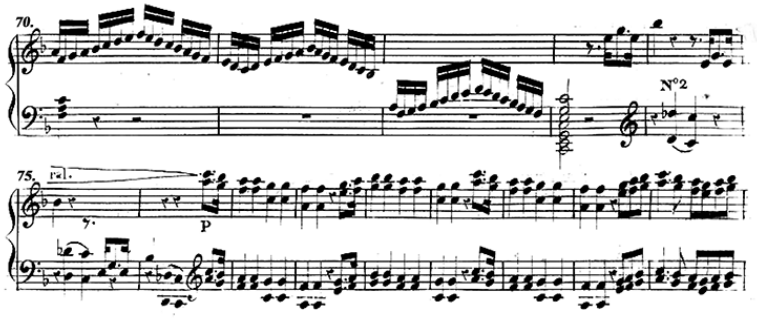

Figure 3.30: Pollet, *Méthode*, 41.

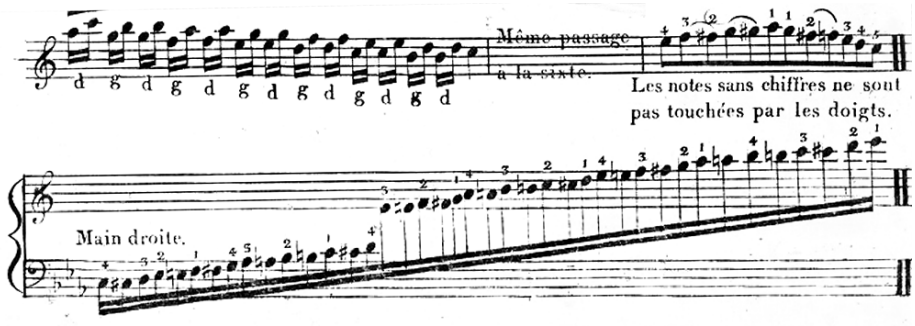

Figure 3.31: De Genlis, *Nouvelle Méthode*, 33

Again she explains how to implement the slurs:

> "Les notes san chiffres ne sont pas touchées par les doigts, les pédales bien appuyées forment le son. Casimir est le premier qui ait fait sur la Harpe ces gammes en demis tons et de la plus grande vitesse."[133]

Similar chromatic scales are included in the *18 et 19^{me} Leçon, 3^{me} Prélude* and *25^{me} Leçon, Prélude*. These chromatic scales passages work well, when the feet are placed over several pedals at once, using double- and triple-pedalling techniques.[134]

Bochsa also writes about pedal *glissandi* but in a slightly negative way. He begins by introducing the effect with a short example shown here in fig. 3.32:

> "Cas où la seconde note se fait par la seule vibration de la corde. Pour produire cet effet, dans l'exemple ci-dessous, on met le pied sur la pédale du SI pour le faire naturel, et on le lève tout de suite après, en laissant le tems nécessaire pour que la vibration de la corde fasse entendre le Si bémol sans pincer de nouveau la corde, de mème pour le La naturel suivi du La bémol, et du Fa dieze suivi du Fa naturel."

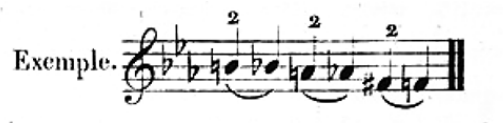

Figure 3.32: Bochsa, *Nouvelle Méthode*, 55

He then proceeds to point out that it may be useful in slow movements, but the uneven character of every second note is not suitable for fast movements.

> "Cette manière d'exécuter une suite de demi-tons peut produire quelquefois un bon effet dans les mouvements très lents, mais il faut bien se garder de l'employer dans les mouvements vifs, parce qu'il ne s'agit alors que de briller par l'exécution, que la première condition de l'exécution est la netteté et l'égalité du son, et qu'il n'y a de cette manière, ni netteté, ni égalité de son; il n'y a point de netteté, parce le son se dégradant ne se fixe point au dégré précis où il devroit arriver immédiatement, il n'y a point égalité de son parce qu'il est évidement plus foible lorsqu'il est le seul résultat des vibrations de la corde, il faut donc, dans toutes les suites de demi tons exécutés d'un mouvement vif, que la corde soit pincée à chaque demi-ton, ainsi que le montre l'exemple ci dessous."[135]

[133] Genlis, *Nouvelle méthode*, n.d., 38: "The notes which are not fingered are not touched by the fingers, the pedals pressed down well make the sound. Casimir is the first who made on the Harp these scales in semitones and with the most greatest speed." The older edition does not include the sentence mentioning Casimir: Genlis, *Nouvelle méthode*, 1802, 33. This is also cited by Parker, *Child of Pure Harmony*, 63.
[134] Genlis, *Nouvelle méthode*, 1802, 40, 48.
[135] Bochsa, *Nouvelle méthode*, 55: "Situation where the second note is struck by the single vibration of

Bochsa follows this paragraph with two musical examples of chromatic scales, ascending and descending, for both hands together. A third and final example is of a chromatic scale, ascending and descending in octaves for both hands. These three examples are shown in fig. 3.33. These examples are quite different from de Genlis' chromatic ascending scale for the right hand, where the left hand is free to progressively damp the strings while the right hand plays.

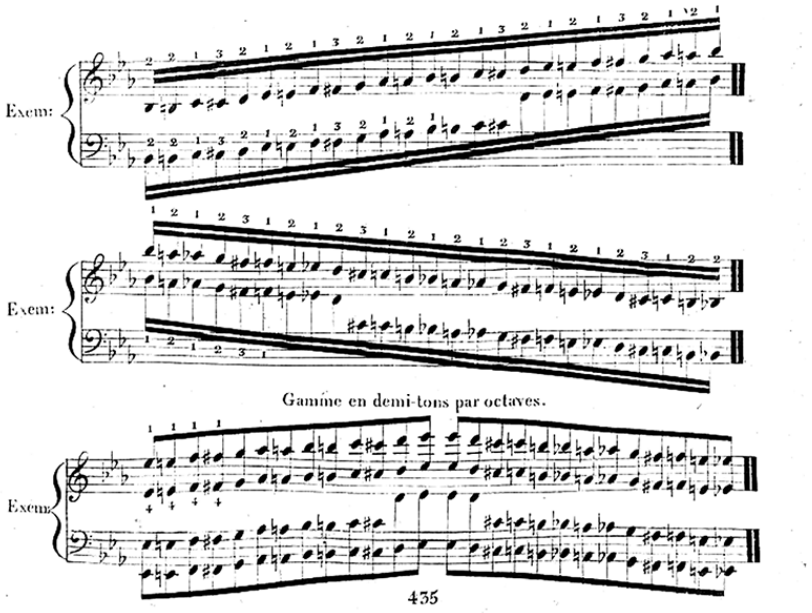

Figure 3.33: Bochsa, *Nouvelle Méthode*, 55

A comparable explanation is found in Bochsa's English method, but with different fingerings as he also suggests different pedal solutions in this example.

> "Some performers play a succession of semitones in ascending by playing only the natural notes, leaving to the vibration of the string suddenly pressed by the pedal, to form the sound of the sharp, without striking the string a second time. In a descending series they play the

the string. To produce this effect, in the example below, the foot is put on the B pedal to make it natural, and it released immediately afterwards, leaving enough time for the vibration of the string for the Bb to be heard without plucking the string again, the same for the A♮ which follows the Ab, and the F♯ that follows the F♮. This way of performing a series of semitones can sometimes produce a good effect in slow movements, but must be avoided in fast movements, because it is then that the performance must show-off, and the first condition of the performance is the cleanness and equality of sound, and this way is not so, neither clear nor equal in sound. There is no clarity, because as the sound decreases, it does not produce the specific degree that it is supposed to reach immediately, there is no equality in sound because [the sound] is obviously weaker when it is the result of one sole vibration of the string, therefore, in all series of semitones in a fast movement, the string is to be plucked for each semitone, as shown in the example below."

> chromatic in the following manner. This mode of playing produces a wretched effect, as it destroys the two principal requisites for a good execution, viz: Equality and distinctness in the sounds. In the first place the sound is not distinct, and does not reach precisely the degree and pitch which it should have; and secondly the sound is not equally strong in both notes, for it becomes weaker as the vibration of the string becomes so."[136]

This comment by Bochsa on the equality of sound production and articulation certainly points to the issue of extraneous noises, either pedal noises or the string resonance. However, it could also point to a change in performing practice in the equality of sound production.

There are some examples of pedal *glissandi* in the pieces found in the second volume of Bochsa's *Nouvelle Méthode*. The first example is in the *Sonate de Clementi*, shown in fig. 3.34, where there are short two note chromatic phrases. All other chromatic passages are all fingered in this piece.[137]

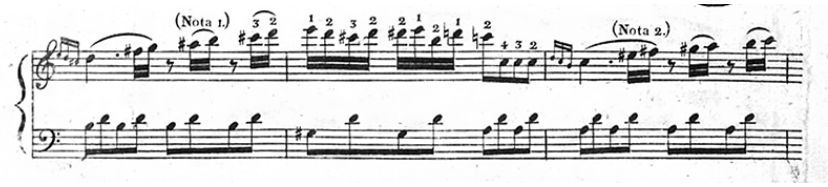

Figure 3.34: Bochsa, *Nouvelle Méthode*, 236

3.6 Additional pedals

There are two extra pedals found on several harps which do not alter the vibrating length of a string. These are the *pédale à renforcement* and the *sourdine* pedal. These pedals alter the dynamics and quality of the sound produced. The main feature of the *pédale à renforcement* was to produce an undulating sound, a quasi-*vibrato* effect, whereas the *sourdine* pedal produced an echo effect from the vibrations of resonating strings.

3.6.1 Krumpholtz's *Pédale à renforcement*

The *pédale à renforcement* is an eighth pedal located on the left-hand side of the base of the harp, and operated by the left foot. When the pedal is pressed down, the mechanism of the pedal opens five shutters which are found at the back of the resonance box of a pedal harp. While playing, the movements of this pedal,

[136] Bochsa, *New and Improved Method*, 43.
[137] Bochsa, *Nouvelle méthode*, 187. See fingered chromatic passages on 187, 190, 192, 194 and 236.

pressing down, fixing and releasing (opening, fixing the shutters open and closing the shutters), alter the dynamics and quality of the sound produced. It was invented by Krumpholtz and Naderman in 1785, and subsequently added to many harps built in both Paris and London. The invention was first described in Krumpholtz's *Principes*, and shown in fig. 3.35.[138]

> "…il y a une huitième pédale qui est placée derriere la cuvette; elle sert à renforcer les sons en faisant ouvrir des soupapes pratiquées dans le corps de la harpe. Lorsqu'on a fait sonner un accord, et que lés vibrations conservent encore leur force, si on agite à plusieurs reprises cette pédale, le son se prolonge avec des ondulation qui sont d'un grand effet, surtout dans les adagios; mais se on veut tirer parti de ce moyen, il faut l'employer à propose, et ne point le prodiguer sans discernement; car alors, l'effet en est perdu, et le mouvement continuel qu'on donne à cette pédale n'est plus qu'un jeu d'enfant qui ne signifie rien."[139]

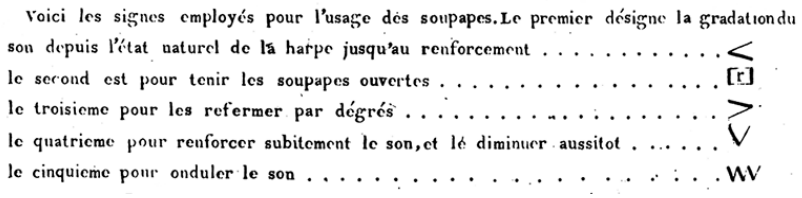

Figure 3.35: Krumpholtz, *Principes*, 15

The symbols, as shown in fig. 3.34, are transcribed in Madame Merelle's treatise (fig. 3.35) and then applied in nearly every piece in the second half of her method.[140]

The *pédale à renforcement* was referred to by several names, including *pédal de la soupape*,[141] "swell pedal" in English,[142] "Verstärkung" and "Tritt für die Klappe an dem Resonanzboden" in German.[143]

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[138] See section 2.3.1.

[139] Krumpholtz, *Principes*, 15: "Besides the seven pedals which I have just mentioned, which are used to alter by one semitone the corresponding notes, there is an eighth pedal that is placed behind the base; it serves to reinforce the sound by opening the shutters in the soundbox of the harp. When a chord is played, the vibrations maintain their force. If one moves this pedal several times, the sound continues in waves that are of great effect, especially in the Adagios; but if we want to take advantage of this effect, it must be used, to not use indiscriminately; because the effect is lost, when the continual movement of this pedal is only a child's game with no meaning. Here are the signs used for the use of the shutters: The first refers to the gradation of the sound from the natural state of the harp to the reinforcing, the second is to keep the shutters open, the third to close them by degrees, the fourth for reinforcing the sound suddenly, and decrease just as suddenly, the fifth is for wave-like sound."

[140] Merelle, *New and Complete Instructions*, 22, 23–48.

[141] Demar, *Méthode*, 12; Pollet, *Méthode*, c. 1817, 12; Desargus, *Nouvelle méthode*, 2; Newbourg, *La Nouvelle méthode*, 3; Desargus, *Traité général*, 61. All of these above treatises illustrate the position of the *pédale a renforcement*, except for Bochsa, *Petite méthode*, 28.

[142] Horn, *Rudiments*, 10; Dizi, *Ecole*, 5.

[143] Herbst, *Ueber die Harfe*, 14: "amplification"; Pollet, *Méthode*, n.d., 12: "pedal for the shutters of the resonance box."

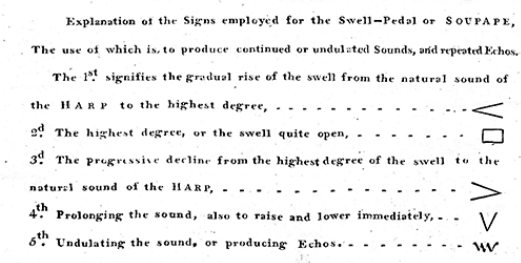

Figure 3.36: Merelle, *Instructions*, 22

Krumpholtz includes a piece entitled *Étude pour le renforcement*[144] in his *Principes*, where the symbols for the *pédale à renforcement* are notated in the score. This piece is actually the first movement, *Adagio*, of Krumpholtz's *6me Sonate*, Op. 14.

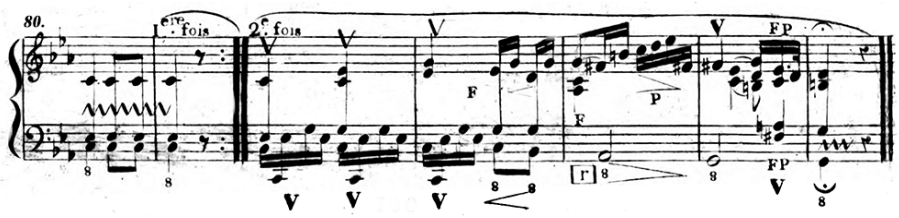

Figure 3.37: Krumpholtz, *Principes*, 65

Figure 3.37 shows the final line of the first section of the first movement, *Adagio*, which includes an example of each of the five pedal moves possible when operating the *pédale à renforcement* according to Krumpholtz. The wave-like/*vibrato* sound is notated in bar 80 which continues into the bar 81 of the second-time bar. Bar 81 begins with the *pédale à renforcement* in the upper natural position where the shutters are closed, but the pedal is pressed down immediately after the first semi-quaver and then released quickly (V). This occurs twice in this bar and again on the first crochet of bar 82. On the second crochet of bar 82, the pedal is gradually pressed down and this is indicated by the *crescendo* sign underneath the bass stave. On the first beat of bar 83 the pedal is still fully pressed down and fixed (r), then gradually released (*diminuendo* sign). In bar 84 the pedal is opened immediately after the first chord is struck and then closed again (V). In this *Étude*, there are no examples of the first and third signs (< and >), so in my opinion any *crescendo* and *diminuendo* markings written in the score indicate the opening and closing of the shutters, which entails pressing down and gradually releasing the *pédale à renforcement*.[145]

[144]This *Étude* has been recorded by Masumi Nagasawa, *L'arome de l'Est*, ETC 1362 (2007) on an Erard single-action harp [ca. 1820], with an 8th pedal, pitch a'=430.

[145]The complete range of symbols are actually written in the published edition of this work. See section 4.5.1 for further discussions.

Both Madame de Genlis and Bochsa discuss the *pédale à renforcement* at some length. They are both critical of this eighth pedal and neither provide musical examples. Firstly de Genlis writes in Chapter 4:

> "Les renforcemens alourdissent aussi l'instrument, mais ils produisent un fort bel effet. C'est Krumpholtz qui en est l'inventeur, (a) mais il faut remarquer que les renforcemens sont presque sans effet quand la harpe est jouée par une femme, parce que ses vêtements bouchent l'ouverture du renforcement ouvert tandis que l'habillement des hommes laisse à cette mécanique tout son jeu."[146]

In de Genlis' second edition of her *Nouvelle Méthode*, she includes a new paragraph entitled *Seizieme Leçon sur le renforcement*. However, the musical example entitled *Seizieme Leçon*, which is also found in the first edition of the *Nouvelle Méthode*, does not correspond to this descriptive paragraph. The *Leçon* consists of fast scales and *arpeggi* which are not suitable for a *vibrato* effect. It is the author's opinion that Madame de Genlis intended to add a new *Seizieme Leçon* to the second edition of her *Nouvelle Méthode*, but this was not carried out.

> "J'ai déjà dit que les femmes à cause de leurs vêtemens ne peuvent que très difficilement faire usage heureux des renforcemens. Mais les hommes peuvent en tirer un très grand parti. Jusqu'ici on ne s'en étoit servi que pour produire plus de son, Casimir est le premier qui ait joint à cet effet celui de produire des sons vibrés, non seulement dans les Adagios, mais dans les basses des morceaux d'un grand mouvement. Pour faire ces sons vibrés il faut appuyer le bout de pied sur la pédale et produire ainsi un tremblement rapide et cependant moëlleux et mesuré. Il ne faut pas dans ce mouvement ouvrir entierement le renforcement. On ne l'ouvre tout à faire que pour donner plus de son. Il faut que le mouvement du tremblement du pied soit plus rapide dans les Allegro que dans les Adagio, mais qu'il soit toujours exact et mesuré dans tous les mouvemens. On doit éviter avec soin de faire du bruit dans le jeu de cette pédale ainsi qu'en se servant de toutes les autres pédales."[147]

A final example of a method which discusses the *pédale à renforcement* at some length is Bochsa's *Nouvelle Méthode*.

[146] Genlis, *Nouvelle méthode*, 1802, 12: "The reinforcements [the system of shutters] make the instrument very heavy, but they produce a very nice effect. It is Krumpholtz who invented it, but one should note that the reinforcements have almost no effect when the harp is played by a woman, because her clothes block the opening of the shutters, whereas men's clothes allow this mechanism to function properly."

[147] Genlis, *Nouvelle méthode*, n.d., 28: "I already said that women, because of their clothes, cannot, without much difficulty, make use of the swell [pedal]. But men can use it with great success. Until it serves to produce more sound, Casimir is the first who combined the effect of producing *vibrato* sounds not only in Adagios, but in the bass parts of large movements. To make these *vibrato* sounds the pedal is pressed with the toe of the foot and produces a rapid shake which can also be mellow and measured. The swell pedal should not be fully opened in this case. One opens it fully only to give more sound. The movement of the shaking of the foot should be faster in the *Allegri* as in the *Adagi*, but it is always exact and measured in all its movements. One should avoid making noise when moving this pedal as when using all other pedals."

> "Puisque je viens de parler de la pédale de renforcement, je dois observer ici que c'est un prétendu perfectionnement de la harpe que je ne puis approuver; puisqu'on joue aussi piano que l'on veut sur la harpe, à quoi peut servir derrière la table d'harmonie des cases qui fermées diminuent le son et ouvertes l'augmentent? ne vaut – il pas mieux que ces cases soient toujours ouvertes, en laissant aux doigt seuls la fonction de modifier autant que l'on voudra l'intensité de son. Quelques joueurs de harpe font encore un autre usage de la pédale de renforcement en l'agitant continuellement dans les adagio; mais il en résulte un effet qu'ils croyent susceptible d'expression, et qui doit être réprouvé comme contraire à la première régle du chant. En effet, le mouvement alternatif de la pédale produit dans la force du son une ondulation continuelle, qui, si elle étoit imitée par la voix ou par tous les instruments filant les sons, seroit, à coup sur, jugée très désagréable. La première régle du chant est de soutenir un son dans une intensité de force parfaitement égale…Je pense donc qu'on ne doit regarder la pédale de renforcement que comme un complication de l'instrument plutôt nuisible qu'utile; son usage nous a appris que le son de la harpe est augmenté par des ouvertures derrière sa table d'harmonie, que ces ouvertures y soient donc pratiquées, mais qu'on supprime les soupapes destinées a les ferme, en laissant aux doigt seuls, comme he l'ai dit, la fonction de diminuer le son à volonté."[148]

None of Bochsa's treatises, methods or exercise books contain the use of the *pédale à renforcement*.[149]

3.6.2 Krumpholtz's and Cousineau's *sourdine*/echo pedals

Two types of *sourdine* pedals were invented for the harp by Krumpholtz and Cousineau, both with a different mechanism. The Krumpholtz *sourdine* pedal was operated by the left foot, located at the furthest extreme of the pedal box, while Cousineau's *sourdine* pedal was at the centre of the pedal box so could have been

[148] Bochsa, *Nouvelle méthode*, 69: "Since I have mentioned the swell pedal I have to note here that this alleged development of the harp I cannot approve of; since one can also play piano when we want on the harp, what good are shutters behind the resonating box that diminish the sound and augment it? Would it not be worth it-if these shutters are always open, leaving the function only to the fingers to change the intensity of sound as much as we like. Some harpists have another way of using the swell pedal, they continuously move it in the *Adagi*; but the result is an effect they believe is full of expression, and here must be condemned as opposite to the first rule of singing. Indeed, the continuous movement of the pedal produced in the strength of his continual ripple, which, if it were imitated by the voice or instruments, would be, for sure, considered very rude. The first rule of the song is to support its [sound] intensity in a perfectly equal strength… So I think we should look at the swell pedal rather as a complication of the instrument, more harmful than useful; its use has shown that the sound of the harp is increased by openings behind the soundboard, these openings are so much used, but if one suppresses the shutters closed, this leaves only the fingers, as already said, the function of reducing the sound at will." I would like to thank Mike Parker for having pointed out this paragraph to me.

[149] See Table 4.4 for works by Bochsa which include instructions to use the swell pedal.

operated by either foot.[150]

The *sourdine* pedals create an echo effect, by pressing down the *sourdine* pedal before playing, then releasing it after playing a chord. It creates a second muted sound, merely by the pedal action.[151] Krumpholtz's *Principes* contains no information on this ninth pedal. However, instructions on how to operate this pedal, a list of symbols and its notation in pieces are found in Krumpholtz's Opp. 14 and 15.[152] The description and diagrams of Krumpholtz's *sourdine* pedal, or "Dämpfer" is explained in length in the German method by Herbst.[153]

The second type of *sourdine* pedal was described in 1785[154] and patented by Cousineau before 1803[155] and a description of this pedal and how to use it is found in his second *Méthode* of 1803.

> "En mettant le pied sur la pédale, on fait poser les pilotes sur la table, de sorte que la pression des pilotes intercepte le son, et produit l'effet de la sourdine. Lorsque l'on voudra obtenir l'écho, on fera partir d'une ou deux mains un accord et lorsque l'accord sera sonné, on lâchera la pédale de la sourdine qui produira l'écho (…). Ainsi on voit que, pour avoir l'écho, il faut sonner la corde avec la sourdine, et lâcher la pédale avec précipitation sans cette précaution l'effet serait manqué."[156]

No musical examples are included in the *Méthode*, but its use has been identified in some works by Cousineau.[157]

Conclusions

The eighteenth- and early nineteenth-century treatises and methods are valuable sources for discovering how and where to use all the pedals found on the harp. The descriptive information in the treatises is often supported by musical examples. There is, however, one aspect of pedalling that is not discussed in any historical method or treatise of the eighteenth century.

This is the use of the left foot to operate the E pedal, the first pedal on the right-hand side of the harp. This move is a natural corollary of double- and triple-pedalling and is first discussed by Backofen in 1827.[158] It shall be discussed in Chapter 5, as several musical passages cannot be played without using the left foot in this way.

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[150] See section 2.3.

[151] Mike Parker has played a harp with a *sourdine* pedal and says that it is "very effective". (Email correspondence, April 26, 2016).

[152] See section 4.5.1.

[153] Herbst, *Ueber die Harfe*, 13.

[154] "Arts," *Journal de Paris*, September 8, 1785, 1037.

[155] Cousineau, *Méthode*, 1803, 62.

[156] Ibid., 62: "By putting the foot on the pedal, the pilots are placed on the table, so that the pressure of the pilots intercept the sound, and has the effect of muting. When we would want to achieve an echo, we will play a chord with one or two hands and when the chord will sound, the *sourdine* pedal is released in order to produce the echo… Thus we see that, for making an echo, you have to pluck a string with the *sourdine* pedal, and release the pedal beforehand. Without this promptness the effect would be missed."

[157] See section 4.5.2.

[158] Backofen, *Anleitung*, 1827, 35. See section 3.4.4.1, 3.4.4.3, and Chapter 8.

There are also no musical examples, in the historical methods or treatises, to show how to operate the extra eighth and ninth effect pedals. The *pédale à renforcement* and Krumpholtz's *sourdine* pedal are operated by the left foot as they are on the left-hand side of the pedal box. This means that the left foot then cannot operate any of the other pedals on the left side of the harp, namely the B, C or D pedals. This situation will be analysed in section 4.5. Cousineau's *sourdine* pedal is located in the centre of the pedal box and can be operated by either foot. However, when operated, that foot is then unable to operate any other pedals.