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

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Chapter 5

Works without pedal indications

This third chapter on historical sources proposes multi-pedal solutions in works for harps with a single-action pedal mechanism, where there are no written instructions in the music.¹ The pedal solutions emanate directly from the scores based on the historical multi-pedal techniques found in treatises and methods, and the rare instructions found in a handful of musical scores.

These two areas of historical sources have been discussed in Chapters 3 and 4. When a phrase and passage has a similar harmonic structure as those found in the treatises, methods and scores with indications, then the same pedal movements can be applied to other pieces which do not contain any instructions. The pedal solutions are identified by actually playing the pieces and establishing the feet movements adhering to all the known eighteenth- and nineteenth-century primary sources.

It was this practical area of research that brought me to discover and identify certain pedal techniques that are exclusive to the single-action harp.² This includes double- and triple-peddalling, moving pedals with the heel and toe independently and the art of folding and unfolding the G or C pedals.

When these pedal techniques are put into practice, other problematic features that are specific to playing the harp dissipate. The most usual complaint amongst harpist and listeners is that pedals on old harps make noise. It is the author's opinion that most pedal noises result from applying a modern harp pedal technique to the earlier pedal harps. There is a tendency to over-use the action of fixing every pedal, which is indeed necessary on the double-action pedal harp, as the pedals on

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

²Spohr, *Sonate Concertante* Op. 115; Louis Spohr, *Fantaisie sur des Thèmes de Handel et Abbé Vogler*, op. 118 (Hamburg: Schubert, 1845).

the double-action pedal harp have three levels: flat, natural and sharp.³ However, fixing pedals on the single-action harp is an occasional action rather than the norm in classical and pre-romantic harp repertoire. Fixing can even often be a hindrance, when there are only two positions for the pedals: up or down, as seen in fig. 5.1, Plate V, 5.2 and 5.3. The simple movement of pressing and releasing is a smaller and more subtle movement, and can be done with ease. Most importantly, this action rarely entails pedal noises. The action of fixing pedals can however entail pedal noises and therefore should be avoided as much as possible.

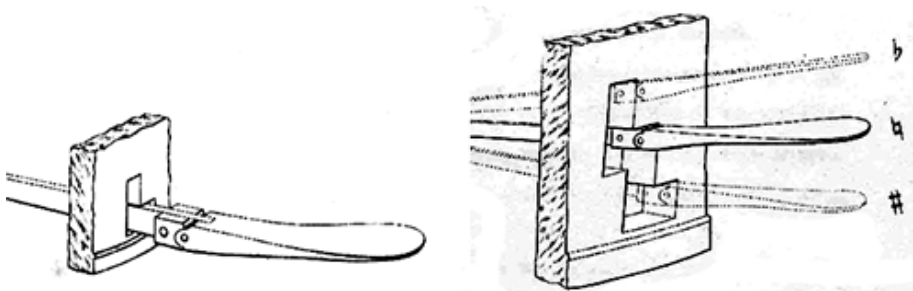


Figure 5.1: Erard, *The harp*, Plate V: single-action harp and Plate VI: double-action pedal harp.

A consequence of double-peddalling is that there are fewer pedal movements in a bar. There are rarely more than one or two moves per bar and pedalling either occurs on the strong beats of the bar or immediately before a notated accidental. Even if the hands are occupied with hundreds of scales or *arpeggi*, like in the music by Spohr, the feet movements become a slow dignified kind-of dance. This inevitably results in fewer pedal noises.⁴

The lack of pedal markings in most eighteenth- and early nineteenth-century harp pieces puzzles any modern pedal harpist, as it is common practice today to perform pieces with the pedal changes marked in the score either by the publisher, editor or the harpist themselves. However, when pedals have either an upper position or a lower position, the pedal markings are simply the accidentals already notated in the score. If these accidentals are read and double-peddalling is used as often as possible, and pedalling is approached as an integral part of the harmonic structure (and not merely an external mechanical action), then the author proposes that there is no need to ever write pedal markings in a score.⁵

This especially becomes apparent when music-making of the time is taken into consideration. *Airs*, sonatas and other chamber music were sight-read, seldom

³See Chapter 8.

⁴See Introduction: "Reviewing modern literature" for Barthel's criticism that triple-peddalling can create pedal noises. Barthel, "La harpe," 224.

⁵The author has been playing in this way for over two years, but acknowledges that is a difficult process, especially after nearly forty years of a modern training of writing in pedal markings in every piece. The author hopes that future generations of harpists can incorporate this musical practice into their study and performances of eighteenth- and early nineteenth-century harp pieces.

played more than once.⁶ Therefore, it is all the more reason that if pieces were published without pedal markings, it means that the harpists at the time could sight-read without them.

This chapter takes the same format as the previous two chapters. First, the “base” set-up key and enharmonics in a piece are discussed, showing how to identify these initial factors before playing a piece with no pedal markings. Two short songs for voice and harp are used to show the basic single-peddalling movements. Following this, the principal examples in this chapter are excerpts from Mozart’s *Concertante a La Harpe, e Flauto*, K.299⁷ and Krumpholtz’s *Recueil de douze Préludes*, Op. 2.

All the possible combinations of complex pedal techniques are then described. Krumpholtz’s *Préludes*, Op. 2 is a case study in complex pedal moves, as the short pieces include multi-peddalling. Up to now, a historically-inspired performance⁸ for a harpist may have included: historical ornamentation, fingering, articulation, elaboration, dislocation,⁹ rolled chords and *arpeggi* techniques. Pedalling can now become an intentional musical gesture and can be assimilated into any performance, considering that the movements of the feet produce at least half of the notes on the single-action harp and provide all the alterations and chromatic nuances in the harmony.

5.1 The “base” key

Before playing a piece, the first step that a harpist must do is identify the “base” set-up key, determining which fourteen actual pitches¹⁰ are essential in the piece and if all other accidentals found in the score are possible using enharmonic alternatives.¹¹ This process is done by looking for scale-like passages, step-wise movements and indispensable pitches in the melody, as these will all require a string for every note. The “base” set-up key is determined by not only the key signature of a piece, but also the accidentals in the piece.

Therefore, a simple rule is that the “base” set-up key must have, as a minimum, the same amount of flats or sharps as the key signature of the piece, but may also have more flats or sharps, but not less.¹²

⁶Haynes, *End of Early Music*, 100-101.

⁷I have performed this concerto several times, the last performances being in October 2012 with Wilbert Hazelzet, flute and the Amsterdam Baroque Orchestra, director, Ton Koopman. I used the pedal techniques detailed in this thesis.

⁸*Ibid.*, 14: “HIP”.

⁹Anna Scott, “Romanticizing Brahms: Early Recordings and the Reconstruction of Brahmsian Identity” (PhD, Universiteit Leiden, 2014), <http://www.hum.leiden.edu/creative-performing-arts/research/anna-scott-2014.html>, xix.

¹⁰See section 3.1.

¹¹See section 4.1.

¹²Wulfhorst, “Louis Spohr’s Early Chamber Music (1796-1812)”, 353, Table VI/2: “In Spohr’s works for harp, the instrument was tuned to the main key of each work or movement (rarely to its subdominant key), generally a key with three or four flats.” Eight out of thirteen of the existing works by Spohr for the harp can indeed have a set-up “base” tuning key which is also the key of the piece, but this does not

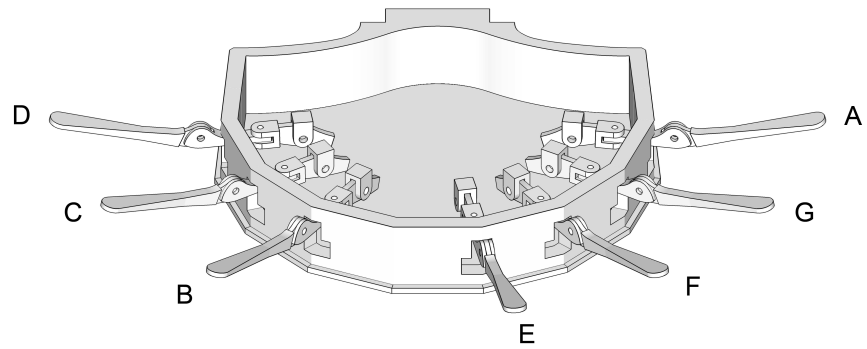


Figure 5.2: The positions of the pedals in the upper position.

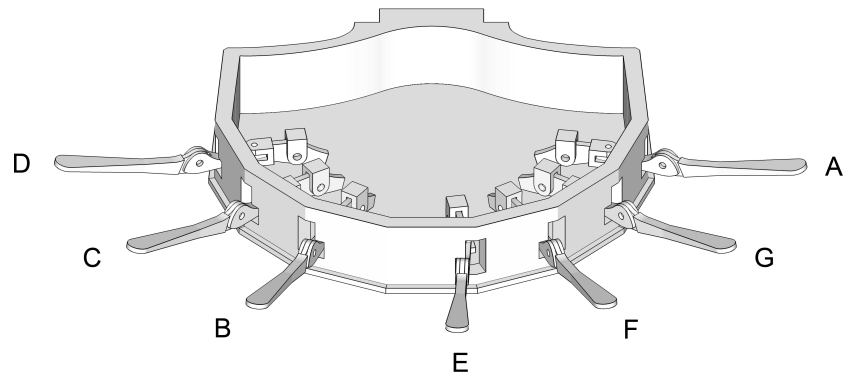


Figure 5.3: The positions of the pedals in the lower position.

5.1.1 Mozart, *Concertante a La Harpe, e Flauto*, K.299

The *Concertante a La Harpe, e Flauto*, K.299 (1778) by Mozart is taken as an example to show how to identify the "base" set-up key of a piece. The harpist reads or plays through the entire work determining which notes are essential and which ones can be played with their enharmonic alternatives. Table 5.1 lists the pertinent accidentals in the concerto.

Table 5.1: Accidentals that determine the "base" set-up key in Mozart's *Concertante a La Harpe, e Flauto*, K.299.

Notes	<i>Allegro</i>	<i>Andante</i>	<i>Rondo</i>
D \flat	151.		
D \sharp	48, 177, 228.		488, 614.
E \flat	159, 161-65.		
A \sharp	105, 176.		
A \flat			616, 634-36, 639-40.
G \sharp	141.		476-78, 486, 622, 657, 659.

The harpist's first question is usually whether D \sharp or D \flat is essential and to decide which pitch will be part of the fourteen actual pitches on the single-action harp. The instrument cannot have D \flat , D \natural and D \sharp as actual pitches. It can either have D \flat and D \natural or D \natural and D \sharp as natural pitches, so the harpist has to choose whether the D \flat or the D \sharp can be played with their enharmonic alternatives. The entire concerto contains only one notated D \flat in bar 151 (fig. 5.4) which can be played as C \sharp , whereas there are several occurrences of D \sharp and it is an essential component of the melodic line in bars 48, 177 and 228 of the *Allegro* and in bars 488 and 614 of the *Rondo*.



Figure 5.4: Mozart, *Concertante a La Harpe, e Flauto*, K.299, bars 150-55 with a notated D \flat in bar 151.

The pitches A \sharp and A \flat are both notated in the score, so the harpist needs to identify and decide which of these is essential and which can be played as an enharmonic.

apply to Op. 16 (B-flat major), set-up key of E-flat/A-flat major; WoO 27/28 (F minor), set-up key of D-flat major; Op. 118 (C minor/B-flat major) and Op. 35 (C minor), both with a set-up key of A-flat major.

The pitch A \sharp occurs twice, once as part of the melody in bar 105 (fig. 5.5) and once as part of the accompaniment in bar 176 (fig. 5.6). The A \sharp in bar 105 could be played as a pedal *glissando* using the B pedal, but this trill-like motif occurs in parallel passages, with other pitches where all the notes are plucked. If the A \sharp in bar 105 is played with the pedal, the resulting timbre would be quite different from all the other notes in the phrase and its integral part in the melodic phrase would be lost.



Figure 5.5: Mozart, *Concertante*, K.299, bars 103-6, notated A \sharp in bar 105.

Figure 5.6: Mozart, *Concertante*, K.299, bars 175-79, notated A \sharp in bar 176.

A \flat occurs in bars 616 (fig. 5.7), 634-36 and 639-40 (fig. 5.8) of the *Rondo*, but they are never part of a step-wise melody, so can be played as G \sharp , the enharmonic alternative of A \flat .

From this analysis, it can be seen that the *Concertante a La Harpe, e Flauto* by Mozart is conceived for a harp set-up in the “base” key of B-flat major. Alternatively, if only one movement of the *Concerto* is performed, then the harpist could set-up the harp in B-flat major for the first movement or E-flat major for the final movement. Both set-up keys work for the second *Andante* movement. The harp repertoire from

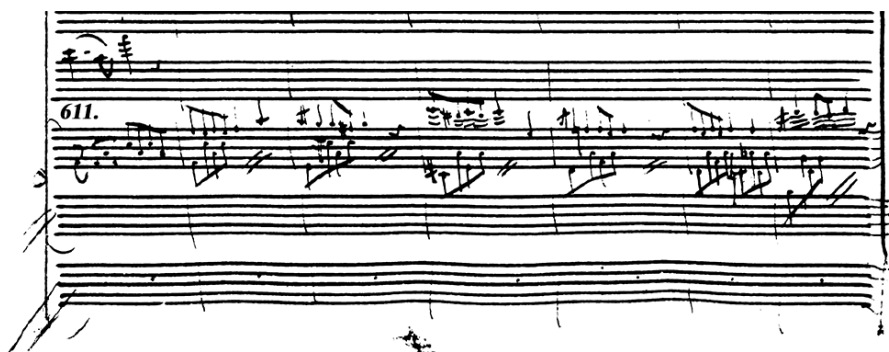


Figure 5.7: Mozart, *Concertante*, K.299, bars 611-17, notated A \flat in bar 616.

Figure 5.8: Mozart, *Concertante*, K.299, bars 633-41, notated A \flat in bars 634-36, 639-40.

the 1760's and 1770's is often written for a harp set-up in the "base" keys of B-flat or E-flat major.¹³

Mozart's *Concertante a La Harpe, e Flauto* was commissioned by the Duc de Guines, an amateur flautist and his daughter, Marie-Louise-Philippine Bonnières de Guines.¹⁴ She played the harp and Mozart gave her twenty-four compositional lessons. According to Mozart's letters to his father, she could play over two hundred pieces by heart.¹⁵ Two collections of music were dedicated to her, one by François Petrini and one by Krumpholtz.¹⁶

5.1.2 Krumpholtz, *Recueil de douze Préludes, Op. 2*

The *Préludes*, Op. 2, by Krumpholtz are fine examples that show the variety of "base" set-up keys that are possible on the harp. The subtitle of the collection reads:

"O'n apprend par ces preludes à se Servir des pedals par les differentes modulations recherchées."¹⁷

Préludes nos. 1, 2 and 10 require a "base" set-up key in A-flat major. *Prélude* no. 1 is in the key of A-flat major, *Prélude* no. 2 is in F minor and *Prélude* no. 10 is in A minor. If *Prélude* no. 10 is played with a "base" set-up key of A-flat major, there are several possibilities to use double-peddalling with the right foot in conjunction with triple-peddalling with the left foot.¹⁸ *Préludes* nos. 4-7 can be played with either a "base" set-up key of E-flat or A-flat major.

If the *Préludes*, Op. 2 by Krumpholtz and the Mozart *Concertante a La Harpe, e Flauto* were part of Mlle de Guines' repertoire, then this would imply that as a harpist, she used at least three different "base" set-up keys on her harp, namely B-flat, E-flat and A-flat major. The harpist was flexible and prepared to re-tune at least one or two notes in each octave to perform pieces in different "base" set-up keys, apart from the most used "base" set-up key of E-flat major.

The author uses these three "base" keys regularly, with the additional "base" set-up key of D-flat major for three works by Spohr.

¹³See section 3.1 and Meyer, *Essai*, 5.

¹⁴Robert Adelson, "Mozart's First Composition Student: Mlle de Guines (1759-95)," in *Mozart-Jahrbuch*, 2002, 9-20.

¹⁵"Briefe und Aufzeichnungen," Letter, accessed May 6, 2016, <http://dme.mozarteum.at/DME/briefe/letter.php?mid=1013&cat=2>; Also transcribed in Adelson, "Mozart's First Composition Student," 11.

¹⁶François Petrini, *Quatre Sonates pour la harpe avec accompagnement de violon ad libitum*, op. 4 (Paris, [1774]). A copy of these sonatas has not been identified. It is not the Petrini, *Quatre Sonates*, which is located at the F-Pn. This collection was composed by the son of François Petrini, Henri Petrini (1775-c. 1800), harpist, composer and author of at least two harp *Méthodes*; Jean-Baptiste Krumpholtz, *Recueil de douze Préludes*, op. 2 (Paris, [1777]).

¹⁷"One learns by these preludes how the pedals work in the different sought-out modulations".

¹⁸The left foot operates the D, C and B pedals together in bars 25-26, 28-29, 31-33, while the right foot operates the F and A pedals together in bars 24-25, 27-28, 30-31. The left foot operates the E pedal in bars 24, 27, 30.

5.2 Enharmonics

Enharmonic substitutes are fundamental when playing the harp. Usually they are employed in *arpeggio*-like phrases¹⁹ but not in scale-like passages.

Krumpholtz's *Préludes*, Op. 2, is used here as an example to show the enharmonic substitutes required to play these pieces. Table 5.2 lists the key signature of each *Prélude* and the "base" set-up key of the harp. The pertinent accidentals in the score are then listed, with their enharmonic alternatives written within brackets. The third column shows the bars where enharmonics are used, according to the "Krumpholtz rule" which states that even when the actual notated pitch is available on the harp, the harpist substitutes those pitches with their enharmonic alternatives.²⁰

Table 5.2: Krumpholtz, *Recueil de douze Préludes*, Op. 2: key signatures, set-up key and enharmonics.

<i>PRELUDE</i>	KEY	SET-UP KEY	PITCHES	KRUMPHOLTZ RULE
1	A ^b maj.	A ^b	C [#] (D ^b) 10.	
2	F min.	A ^b	G ^b (F [#]) 54, 61.	
3	E ^b maj.	E ^b	G ^b (F [#]) 79, D ^b (C [#]) 40, 41, 75	A ^b (G [#]) 23, 24.
4	E ^b maj.	E ^b /A ^b	G ^b (F [#]), C ^b (B [♯]).	
5	B ^b maj.	A ^b		D ^b (C [#]) 67.
6	G min.	E ^b	D ^b (C [#]) 18, 22.	
7	F maj.	E ^b	D ^b (C [#]) 27, 28, C (D [♯]), E [#] (F [♯])	
8	D min.	E ^b		
9	C maj.	E ^b	D ^b (C [#]) 48, 50, 51.	
10	A min.	A ^b	A [#] (B ^b) 22, G ^b (F [#]) 27, C ^b (B [♯]) 28, D [#] (E ^b) 30.	
11	G maj.	E ^b		D ^b (C [#]) 67.
12	E min.	E ^b	D ^b (C [#]) 27-28, 35, 57.	E ^b (D [#]) 38, 39, A ^b (G [#]) 49.

5.3 *Jeu des pédales*

If both feet and the seven pedals that alter the vibrating length of the strings are taken in consideration, a total of nineteen simple single-pedal moves and

¹⁹An example is Mozart's *Concertante a La Harpe, e Flauto* K.299, bars 150-55, with a notated D^b in bar 151 (fig. 5.4) and a notated A^b in bar 616 (fig. 5.7).

²⁰See Glossary and section 4.1.

thirty-seven complex pedal moves are available to the harpist when playing the eighteenth- and nineteenth century repertoire.²¹ The works by Spohr contain all the pedal moves, (*Jeu des pédales*),²² listed below. Sometimes two complex moves are combined together, but these occur rarely and are treated as special cases.²³ In the list below, the total number of possible pedal moves for each category of pedalling is indicated in brackets, taking into consideration all combinations of pedals in category four.

1) **Simple single-pedalling (19)**

i. one pedal at a time, one foot at a time: D, C, B, E, F, G, A. (7)

ii. two pedals at a time, two feet: D/E, D/F, D/G, D/A, C/E, C/F, C/G, C/A, B/E, B/F, B/G, B/A. (12)

2) **Double-pedalling (D.P.)**

2 pedals at a time, one foot, either left or right: D/C, C/B, E/F, F/G, G/A. (4)

3) **Double-pedalling, fold away G/C pedals, (D.P. G↑C↑)**²⁴

2 pedals at a time, one foot: F/A, D/B. (2)

4) **Double-pedalling, fold away G/C pedals, heel and toe move independently.** Each combination has two solutions, one for the left foot and one for the right. (Total=20 moves)

i. Press 2 pedals together, release heel while fixing toe.

ii. Press 2 pedals together, release & depress heel, release together.

iii. Press 2 pedals together, release heel & toe separately.

iv. Press 2 pedals together, release toe & heel separately.

v. Press toe, press heel, release together.

vi. Press heel, press toe, release together.

vii. Heel & toe independently. Press heel/toe, press toe/heel, release separately.

viii. Press heel, release heel while pressing toe, release toe-pivoting motion.

ix. Press toe, release toe while pressing heel, release heel.

x. Release 2 non-adjacent pedals from a fixed position.

²¹Other moves may be possible, like the right foot moving the inner B pedal on the left-hand side of the harp, but this current research has identified these thirty-seven complex pedal moves. This list is also found in Appendix II.

²²See Glossary.

²³An example is found in Krumpholtz, Op. 2, *9^{ème} Prélude*. Bars 54-55 require a combination of moves 4 (i) and 4 (viii).

²⁴See Glossary, ↑ means fold away a pedal.

- 5) **Left foot moves the E pedal on the right-hand side of the harp (LFoot).**
(1)
- 6) **Triple-pedalling (T.P.)** (2)
- 7) **Pedal *glissandi*** (19)²⁵

5.3.1 Single-pedalling

The basic single pedal moves are pressing, releasing, fixing and unfixing one pedal at a time, or two pedals where each foot moves one pedal. These moves are demonstrated using two songs with different styles of harp accompaniment.²⁶ Neither song contains pedal indications on the score, which is the case for most eighteenth-century harp scores. There are two styles of accompaniment for the harp, either a bass line that is figured or a written-out accompaniment. The harp provides harmonic and rhythmical support, sometimes with a short solo introduction or *ritornello* between verses.

These songs rarely modulate, or if they modulate, no special technique is required to move an occasional pedal. The “base” set-up key of the harp is nearly always E-flat major. The pedals are fixed according to the key signature of the piece (or the relative major key for a piece in a minor key) and if an accidental is required, that pedal is pressed down and then released as soon as possible. This is the most basic way of pedalling, as described in section 3.4.2.

The first example (fig. 5.9) is a typical *Ariette*, “Vois tu ces Côteaux”, part of an anonymous collection of airs.²⁷ The airs in this three-volume collection are written on two staves, the upper treble clef is for the vocal line and other staff is a figured bass line.²⁸ This air is in C major and modulates to G major in bar 31 until bar 41, which is the final bar. No pedal markings are found on the score, but the sharp in the figured bass ciphers underneath bar 32 shows that an F# is required. Therefore, the F pedal is pressed down and then held down until bar 41.

The second example is an *Ariette* (fig. 5.10) for voice and harp with a written out accompaniment for the harp. P. J. Meyer’s *Ariette de Fermer*²⁹ is in G major and begins with a solo harp introduction. In the middle of bar 29, the air modulates to G minor. The harpist notes from the new key signature in bar 29 what pedals need to be released, namely the E, F and B for the minor section. When the key

²⁵This number includes seven single pedal *glissandi* moves plus pedal *glissandi* moves with two feet together. An example of pedal *glissandi* with two feet at the same time can be found in Marin’s *Sonatina III*, Op. 16, *Presto*, bars 92-93, fig. 4.18. Double-pedal *glissandi* with one foot are not included in this list.

²⁶See section 4.3.

²⁷*Recueil d’ariettes avec accompagnement de harpe et basse chiffrée*, vols. 1-3, 3 vols. (Paris: Bouin, 1787), Troisième Partie, Ariettes 1, 2.

²⁸*Basso continuo* figures are not only found in songs but also in concertos like Marin’s *Deux Concerto*, Op. 6.

²⁹Philippe-Jacques Meyer, *Recueil de chansons choisies dans les plus beaux opéra comiques avec accompagnement de harpe ou clavecin* (Paris: Chevardiere, 1765), 5.

Andante
Ariette

Voilà de ces étonnans et naïfs braves
qui dans tout un monde que l'on croit
ou de son voile se couvre, au lieu même elle amène
avec le rap-port comme l'oubli de tout, avec même la
sagesse à mon retour la dé...sirent tou...jours et

27
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avec la main de...venue qui dans les bras, s'ouvre
l'âme dans mes bras que de l'appas étonnement au cœur
toute sans tendre amour pendant le jour est redout
au di...leur et moi...s'empare, s'empare, la nuit sans...mais...
se même que moi de...sire et changer en plaisir

Bonne

Figure 5.9: Recueil d'ariettes, Troisième Partie, 2.

signature returns to G major in bar 37, for the *da Capo* section, the same three pedals are re-engaged.

5.3.2 Double-pedalling

The technique of moving more than one pedal at a time with one foot is found in many pieces in the repertoire. Certain harmonic sequences are rendered much easier when a foot moves two or three pedals together.³⁰ Double-pedalling (D.P.) also reduces pedal noises on the eighteenth- and early nineteenth-century instruments and eliminates the necessity to pencil in pedal markings in scores.

2: Double-pedalling (D.P.), two adjacent pedals are pressed down together and released with one foot

The double-pedalling moves described in Chapters 3 and 4 entail placing the left and/or the right foot across two or three pedals. The pedals are pressed down together and then later released together. The moves and musical examples in the treatises and methods all require a simple pressing and releasing action across two or three pedals. This also holds true for the indications found in the repertoire, as discussed in Chapter 4. Even when d'Alvimare indicates in his *Sonate III*, Op. 18, in F minor to press down and hold a total of six pedals together and then release three pedals per foot separately, the foot movements are still a simple up and down action.

It has been the author's experience that when placing a foot over two pedals, there are several other combinations of foot movements that are not described or written about in the eighteenth or nineteenth-century treatises, methods or pieces, which are garnered from reading and playing harp pieces. The music by Spohr calls for every combination of moving the heel and toe, together and separately, that is physically possible on the single-action harp. Each foot movement will be described and then some examples illustrate where these pedal movements can be used in the harp literature.³¹

The simple pressing and releasing action across two adjacent pedals usually occurs across the F and G pedals, the C and B pedals, or the D and C pedals. This type of double-pedalling is found in the methods by Backofen (B and C, F and G) and Naderman (C and D) and is described in section 3.4.4.1, and shown in fig. 5.11. Naderman also indicates double-pedalling with the F and G pedals in his *Thèmes favoris de l'Opera des Bardes*.³² This same movement can be used in d'Alvimare's *Sonate I*, Op. 18, in the final movement, *Polacca, Allegro* (bars 165 and 169).

Double-pedalling with the D and C pedals can be used in d'Alvimare's *Sonate I*, Op. 2, in the second movement, *And^{no}. Poco All^o* (bars 17-23). Double-pedalling with

³⁰Naderman, *École*, 92 and fig. 3.26.

³¹Other complex pedal moves may be possible, especially when performing music on the harp that was not originally written for the instrument. The author performs keyboard works, but these are not taken into consideration in this discussion, because they are not part of the original harp repertoire.

³²See section 4.3.1.

Romance. Ariette du Fermier 51

Moderata

que le Soleil dans la Plai-ne brule Troppeaux
que la brulan-te jeu-nes-se enflame et trou-

et Ber-gers, qu'une tempête sou-dai-ne vienne inonder nos Ver-gers. près de l'ob-
ble nos sous que la tremblante vialle-se rende nos pas lan-guis sans.

15.

qui nous l'chaîne Et qui nous li-e à son de-sir rien n'est pei-ne

24.

rien n'est pei-ne tout est plai-sir tout est plai-sir que le cours de la se-mai-
FID. Mineur

31 ^{1/2}

neuve-nie le re-pos qu'une saison incertaine augmente encore nos travaux. Près de l'ob-
Majeur

Figure 5.10: P. J. Meyer, *Recueil de chansons'ariettes*, 5.

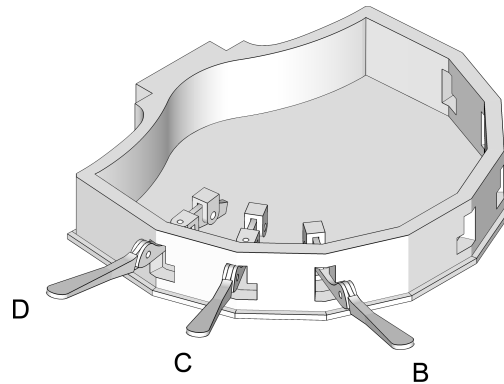


Figure 5.11: Double-peddalling (D.P) over the D and C pedals, left-hand side of pedal box.

the E and F pedals can be used in Spohr's Op. 113.³³

Rosalie Rebollo Pratt suggests that in the final movement of Mozart's *Concertante a La Harpe, e Flauto*, there is a double-pedal movement with the F and G pedals in bar 659 (fig. 5.12).³⁴ A double-pedal movement is indeed possible, but it is not a single manoeuvre. The heel is placed on the F pedal and the ball of the foot on the G pedal. The two pedals are pressed down on the first crochet of bar 659 and then only the ball of the foot is raised to release the G pedal on the fourth crochet, as the F remains sharp until the end of the phrase (bar 665). Moving the F and G pedals together, is usually facilitated when the E and A pedals are already fixed, so they are on a lower plane than the F and G. In Mozart's *Concertante*, only the E pedal is fixed on the lower plane, but this double-pedal move is still possible.

This same pedal movement can be found in Krumpholtz's *Prélude* No. 11, Op. 2, bars 90-94.

Double-peddalling with the C and B pedals (fig. 5.14) occurs in d'Alvimare's *Sonate I*, Op. 18, in the final movement, *Polacca, Allegro. Poco All^o* (bars 128-30, 133-34, 137-39, 165, 169), and in Dauprat's *Air Écossais Varié pour Cor et Harpe (ou Piano)*, Op. 22 (bars 25-26) which is analysed in section 4.3.1., and shown in fig. 4.15.

3: Double-peddalling with the G or C pedal folded away

The C and/or G pedals can be folded away flush against the resonance box of the harp so that the right foot can freely operate the F and A pedals with the right foot and the D and B pedals with the left foot. These moves are the most used of all the

³³See section 6.2.3.4.

³⁴Rebollo Pratt, "Krumpholtz," 56-57: "Salzedo erred when he condemned Mozart for having written two simultaneous pedal movements for the same foot. Again, this was very possible, and indeed, a much used device of the period. The harp construction was such that a player could easily move two pedals with one foot motion."

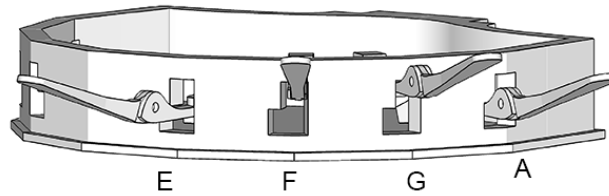


Figure 5.12: Double-pedalling (D.P.) over the F and G pedals, right-hand side of pedal box.



Figure 5.13: Mozart, *Concertante* K.299, *Rondo*, bars 656-663.

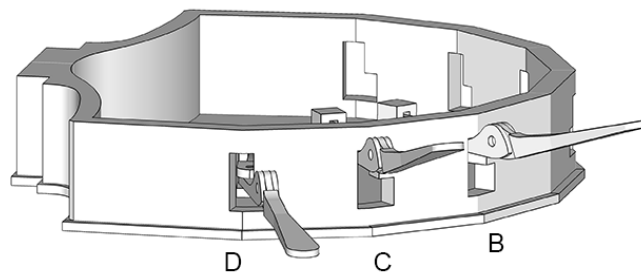


Figure 5.14: Double-pedalling (D.P.) over the C and B pedals, left-hand side of pedal box.

possible double-pedalling moves, especially with the right foot. With one movement of the right foot, the result is the diminished seventh chord on F#. It is the most described foot movement in methods and scores as discussed in Chapters 3 and 4, and shown in fig. 5.14 and 5.15.

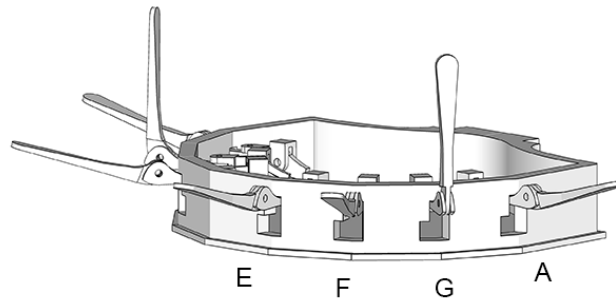


Figure 5.15: Double-pedalling (D.P.) with the G pedal folded away.

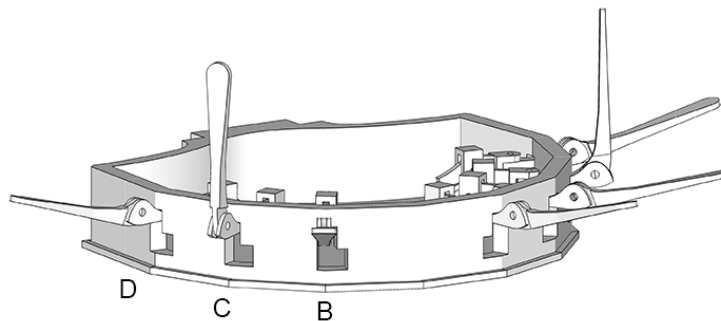


Figure 5.16: Double-pedalling (D.P.) with the C pedal folded away.

Double-pedalling with the F and A pedals is implied in many pieces including d'Alvimare's *Sonate I*, Op. 1, in the first movement, *All^o Vivace* (bars 86-98, 110-18, 120-25, 194-95). There is no G# in the whole piece, so the G pedal can be folded away from the beginning. The same applies to d'Alvimare's *Morceaux Choises de Pèrsée et Andromède, Ballet de Mr. Gardel, Musique de Mr. Mehul, Arrangés en Duo pour Piano et Harpe*. The G pedal can be folded away for No. 10, *Adagio non troppo*, and double-pedalling with the F and A pedals occurs in bars 1-2, 11-16. Another example is d'Alvimare's *Second Concerto*, Op. 30, where the same pedal

movement can be used in the first movement, *Allegro*, in bars 131-32, 199-201 and 211.³⁵ A final example of double-peddalling on the F and A pedals with the G pedal folded away is Petrini's *Troisième Duo pour deux harpes*, Op. 31, in the *Arpa Prima* part, *Allegro maestoso* in bar 147.

The *Fantaisie pour la Harpe*, Op. 35 by Spohr uses double-peddalling with the G pedal folded away for the entire piece and the C pedal is folded away for the whole piece, except for bar 43.³⁶

4: Double-peddalling with the G or C pedal folded away, heel and toe moving independently

When the G (G↑) or C (C↑) pedals are folded away, either the left or right foot is placed across two pedals, perpendicular to the harp. It is the heel that presses and releases the inner pedals, either the F pedal on the right-hand side of the harp or the B pedal on the left-hand side. The toe operates the outer pedals, namely the A pedal on the right-hand side of the harp and the D pedal on the left. If a pedal needs to be unfolded, the sign ↓ is used.³⁷ The heel and toe can be moved separately in various combinations, as listed below.

4 (i): Depress two pedals together, release heel while fixing toe

This pedal move is the second most common of double-pedal movements, especially with the right foot. It can involve either moving the F and A pedals or the D and B pedals. The pedals are pressed down together, then the inner pedal, F or B pedal, is released. At the same time the toe fixes the outermost pedal, either A or D. An example has been already identified in Dauprat's *Air Écossais Varié pour Cor et Harpe (ou Piano)*, Op. 22 and described in section 4.3.1.

4 (ii): Depress two pedals together, release and depress heel, release together

The right or left foot presses down two pedals, the heel is released and then depressed again. The movement ends when both pedals are released together.

4 (iii): Depress two pedals together, release heel and toe separately

The right or left foot presses down two pedals, the heel is released and then the toe is released later.

4 (iv): Depress two pedals together, release toe and heel separately

The right or left foot presses down two pedals, the toe is released and then the heel is released later. It is an uncommon foot movement, but can be found in Spohr's *Fantaisie*, Op. 35, bar 135, on the second *arpeggio*.

³⁵The *Second Concerto*, Op. 30, was recorded by Masumi Nagasawa and the Kölner Akademie, SKU 38108, (2002). The author provided the original print of the Concerto and prepared a critical edition of the score and parts. Regarding this recording Nagasawa wrote: "I have made all the A and F with double-peddalling when it was possible or if it was convenient in the pieces." Email correspondence, May 31, 2016.

³⁶See section 6.2.2.2.

³⁷See Abbreviations "G↑".

4 (v): Depress toe, depress heel, release together

In this situation, the toe presses the outer pedals, the A on the right or the D on the left, then later the heel is pressed down on the inner F and B pedals. Both pedals are then released together.

4 (vi): Depress heel, depress toe, release together

In this situation, the heel presses the inner pedals, the F on the right or the B on the left, then later the toe is pressed down on the outer A and D pedals. Both pedals are then released together.

An example is found in Krumpholtz, Op. 2, *2^{ème} Prélude*, bars 57-60.

4 (vii): Heel and toe independently. Press heel/toe, press toe/heel, release separately

The right heel moves the F up and down, in order that the toe remains hovering over the A pedal, if it needs to be pressed down or released. The left foot can do the same movement, moving the B pedal only with the heel while the left toe hovers over the D pedal.

An example is found in Krumpholtz, Op. 2, *9^{ème} Prélude*, bars 42-46.

4 (viii): Depress heel, release heel while depressing toe, release toe-pivoting movement

The heel on the F or B pedal is pressed down. The F or B pedals are released while the toe presses an outer pedal (A or D) down. Then the toe releases the outer pedal. This pivoting movement with the foot means that one foot can move two separate pedals very quickly as the foot does not move but the heel and toe act as two feet on one side of the harp.

An example is found in Krumpholtz, Op. 2, *9^{ème} Prélude*, bar 47.

4 (ix): Depress toe, release toe while depressing heel, release heel-pivoting movement

The toe on the A or D pedal is pressed down. The A or D pedals are released while the heel presses an inner pedal (F or B) down. Then the heel releases the inner pedal. This pivoting movement with the foot means that one foot can move two separate pedals very quickly as the foot does not move but the toe and heel act as two feet on one side of the harp.

4 (x): Release two non-adjacent pedals from a fixed position

This movement may seem impossible to many harpists, but is relatively easy on the single-action harp. If the F and A pedals are fixed in the lower notch, they can be released together by sliding the whole foot to the right to unfix the pedal. The same can be carried out with the left foot on the left-hand side of the harp. These positions are illustrated in fig. 5.17 and 5.18.

An example is found in Krumpholtz, Op. 2, *12^{ème} Prélude*, bar 21, where the right foot unfixes the F and A pedals together.

5: Left foot moves the E pedal on the right-hand side of the harp (LFoot)

This movement entails that the left foot moves the E pedal, which is the first pedal on the right-hand side of the harp, as shown in fig. 5.19. This pedal move and others, where the feet move pedals on the opposite side of the harp, is described for the first time in 1827 in the third harp method of Backofen.³⁸ When the right foot is placed over two (F and A) or three pedals (F, G and A), it is a natural consequence that the E pedal needs to be moved with the left foot. This movement is easy to do, as the E pedal is the innermost pedal so the left foot can reach over to press down and release the E pedal. This technique is part of normal modern harp pedalling today.

Examples are found in Krumpholtz, Op. 2, *10^{ème} Prélude*, bars 24, 27 and 30 and also in Spohr's *Fantaisie pour la Harpe*, Op. 35, bars 107, 142-44.³⁹

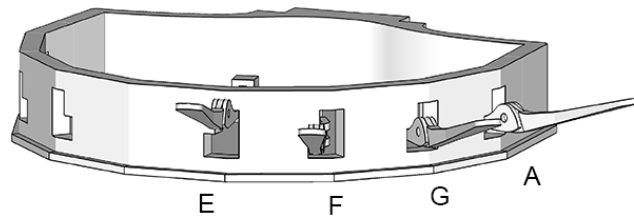


Figure 5.19: Left foot moves the E pedal on the right-hand side of the harp (LFoot).

5.3.3 Triple-pedalling**6: Triple-pedalling (T.P.)**

Three pedals are pressed down together with one foot, as shown in fig. 5.20. The pedals are held and then released within a few bars. This is usually carried out on the right-hand side of the harp, involving the F, G and A pedals, but can also be performed with the D, C, and B pedals on the left-hand side of the harp. In my own experience, triple-pedalling is not an essential foot movement and it can often be substituted with double-pedalling where the middle pedal is folded away.

The *Sonate III*, Op. 18, by d'Alvimare is one of two known works where triple-pedalling is obligatory for the right foot, pressing the F, G and A pedals down

³⁸Backofen, *Anleitung*, 1827, 35. See section 3.4.4.1, 3.4.4.3, and Chapter 8.

³⁹See section 6.2.2.2. for Spohr *Fantaisie*, Op.35.

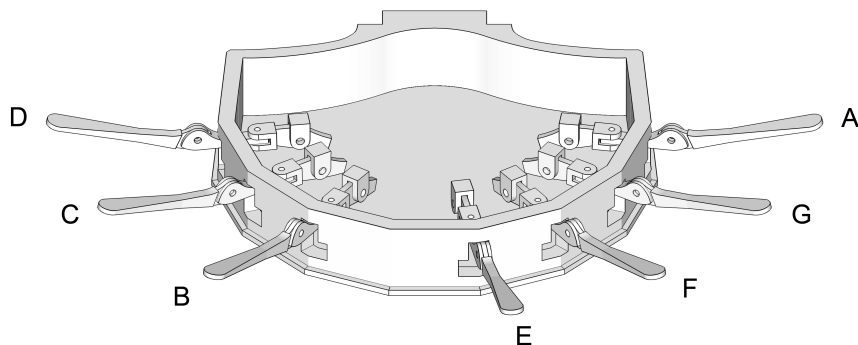


Figure 5.20: Triple-pedalling (T.P.).

together and then later releasing them together.⁴⁰ D'Alvimare also indicates to use triple-pedalling with the left foot, but it can be avoided and replaced with double-pedalling and a single-pedal movement in a subsequent bar, as described in section 4.3.1.

Other examples of triple-pedalling include Petrini's *Folies d'Espagne*, Op. 28, no. 11,⁴¹ where the composer or publisher indicates to the harpist to move the F, G and A pedals together. There is no notated G# in the entire piece, so the G pedal can be folded away before performing the piece. In this way, the triple-pedal movement, as described in the score, can be replaced with double-pedalling with the F and A pedals.⁴²

Sonata no. 3, Op. 1, by d'Alvimare contains five examples of triple-pedalling in the first movement. The G pedal cannot be folded away, as G# is required in several intermittent bars in the piece. The right foot is placed over the F, G and A pedals, pressed down and then released one or two bars later. This occurs in bars 67-68, 75-76, 222-23, 224-25 and 228-30.

Triple-pedalling can be used in Spohr's WoO 23 (*Adagio*, bars 2, 4, 17-18, *Allegro vivace*, bars 58-59), and Op. 113 (*Rondo*, bar 70), but all these bars also work with double-pedalling with the F and A pedals with the G pedal folded away.⁴³

Krumpholtz's *Prélude* no. 10 includes obligatory triple-pedalling for the left foot.⁴⁴

⁴⁰See section 4.3.1. With further research, more triple-pedalling moves will come to light.

⁴¹See section 4.3.1.

⁴²I use double-pedalling when performing this work, because it allows me move the F and A pedal independently. When I wish to improvise or elaborate upon the *Folia* theme, I am then freer to change harmonies with one foot movement.

⁴³See sections 6.2.3.1. and 6.2.3.4.

⁴⁴See section 5.4.

5.3.4 Pedal *glissandi*

Examples of pedal *glissandi* can be found in many pieces of the repertoire. This effect produces a dynamic accent between two notes as the first pitch is plucked and the second pitch is created by moving the pedal of the string just plucked.⁴⁵

The final *Rondo* movement of Mozart's *Concertante a La Harpe, e Flauto* K.299 includes pedal *glissandi* using the G, F and B pedals. Bars 728, 732 and 734 use pedal *glissandi* with the F and B pedals in the bass line (fig. 5.11). The G \sharp to G \sharp in bar 657 can also be played with the pedal (fig. 5.12). Rebollo Pratt also identified pedal *glissandi* with the F and B pedals, but suggests that bar 657 is also a pedal *glissando* using the A pedal, where the A \flat is played by the enharmonic G \sharp .⁴⁶ A pedal *glissando* A \flat -A \sharp with the A pedal is not possible if the harp is set-up in the "base" key of B-flat major. In this "base" set-up key the A string can produce the pitches A \sharp and A \flat , favouring the actual notated A \sharp as discussed in section 5.1.⁴⁷



Figure 5.21: Mozart, *Concertante* K.299, *Rondo*, bars 728-33.



Figure 5.22: Mozart, *Concertante* K.299, *Rondo*, bars 656-63.

⁴⁵Matthias Thiemel, "Accent," *Grove Music Online*, n.d., <http://www.oxfordmusiconline.com/subscriber/article/grove/music/00098>.

⁴⁶Rebollo Pratt, "Krumpholtz," 56-57.

⁴⁷In my experience, one rarely finds an actual notated G \sharp substituted by the enharmonic A \flat in the harp literature. One rare example is d'Alvimare's *Sonate III*, Op. 18 in bar 118. This is contrary to the "Krumpholtz rule" which states that usually a notated A \flat is substituted by the enharmonic G \sharp . See Glossary.

Table 5.3 shows some examples of pieces in the harp repertoire which contain pedal *glissandi*.

Table 5.3: Pedal *glissandi* implied in harp pieces.

	WORK	PEDAL	BARS
Mozart	<i>Concertante a La Harpe, e Flauto</i> <i>Rondo</i>	<ul style="list-style-type: none"> • G • F • B 	<ul style="list-style-type: none"> • 657. • 728, 732, 734. • 728, 732, 734.
D'Alvimare	<i>Trois Sonates, Op. 2, no. 2 Vivace</i> <i>Agitato</i>	<ul style="list-style-type: none"> • E • E • F 	<ul style="list-style-type: none"> • 43, 45, 48, • 51, 53, 56. • 44, 46, 52, 54.
D'Alvimare	<i>Trois Sonates, Op. 2, no. 3 All^o</i> <i>Brillante</i>	<ul style="list-style-type: none"> • F • C 	<ul style="list-style-type: none"> • 70. • 68.
D'Alvimare	<i>Trois Sonates, Op. 14, no. 1 All^o</i> <i>Moderato</i>	<ul style="list-style-type: none"> • F • B 	<ul style="list-style-type: none"> • 65, 67. • 130, 132.
D'Alvimare	<i>Fantaisie avec Sept Variations</i> <i>5^{eme} var., Adagio</i>	<ul style="list-style-type: none"> • F 	<ul style="list-style-type: none"> • 1 , 2, 9, 10, • 21, 25, 26.
D'Alvimare	<i>Three Sonatas for the harp, no. 1</i> <i>Pastorale Andantino</i> ⁴⁸	<ul style="list-style-type: none"> • F 	<ul style="list-style-type: none"> • 12, 28.
D'Alvimare	<i>Three Sonatas for the harp, no. 3</i> <i>Adagio</i>	<ul style="list-style-type: none"> • B 	<ul style="list-style-type: none"> • 31.

⁴⁸The collection of three sonatas has no opus number. It has been identified in RISM as ID no.: 853000257. See Abbreviations.

5.4 Case Study: Krumpholtz, *Recueil de douze Préludes*, Op. 2

I was inspired to immerse myself in an in-depth study of the complete collection of *Préludes* by Krumpholtz, when I was preparing a performance of Krumpholtz's Concerto No. 6, Op. 9 for the World Harp Congress in Sydney, July 2014.⁴⁹ The subtitle of the collection "O'n apprend par c'es preludes à se Servir des pedals par les differentes modulation recherchées" already gives a hint to the function of these short pieces.⁵⁰ The collection as a whole is an excellent introduction to historical pedalling: the pieces range in difficulty and include a variety of feet movements. *Prélude* No. 8 contains no multi-pedalling, whereas *Prélude* No. 10 contains triple-pedalling for the left foot in alternative bars to double-pedalling with the right foot. I used *Prélude* No. 10 as the basis of the cadenza for the first movement of my performance of Krumpholtz's concerto in 2014.

The *Préludes* are the basis of the author's historical pedalling teaching method, in conjunction with Appendix III. It shows harpists how to use pedals in the most musical way possible, understanding the harmonic implications of moving pedals, so that they are not mere mechanical movements. A scheme of pedal instructions for each *Prélude* has been prepared which includes all the information a harpist requires in order to perform the *Préludes* using historical pedalling including:

- Key of *Prélude*.
- The "base" set-up key for each *Prélude*.
- Which enharmonics to use and where.
- The use of the "Krumpholtz rule".
- Suggested pedal *glissandi*.
- Double-pedalling, triple-pedalling and places where the left foot moves the E pedal.
- Critical remarks on the score and any additional comments.

⁴⁹I would like to thank Alice Giles for the invitation to perform a concerto at the World Harp Congress, the first time the single-action harp was featured as a solo instrument with orchestra at the Congress. I performed Krumpholtz's Concerto no. 6, Op. 9 and Bochsa's *Fantaisie Brillante avec introduction et finale sur la dernière Walse de C. M. de Weber*, Op. 302, on July 24, 2014, at the City Recital Hall, Sydney with the Orchestra of the Antipodes. I performed on a *Louis XIV* model harp (A=415Hz), made by Beat Wolf and the property of ANU, Canberra. A DVD of the performance with the orchestra of the Antipodes is included with this thesis.

⁵⁰See section 5.1.

The following pedal moves can be found in Krumpholtz's Op. 2, as in Table 5.2. Simple double-peddalling occurs with the E and F pedals and the F and G pedals with the right foot, and with the C and B pedals with the left foot. Double-peddalling with the G and/or C pedal folded away also occurs. Other pedal moves include a combination of double-peddalling, triple-peddalling, the left foot operating the E pedal and pedal *glissandi*.

- 1) **Single-peddalling**
 - i. One pedal at a time, one foot at a time.
 - ii. Two pedals at a time, two feet.
- 2) **Double-peddalling (D.P.)**
2 pedals at a time, one foot, either left or right.
- 3) **Double-peddalling, fold away G/C pedals, (D.P. G↑C↑)**
2 pedals at a time, one foot.
- 4) **Double-peddalling, fold away G/C pedals, two pedals at a time, heel and toe move independently.**
 - i: Press 2 pedals together, release heel while fixing toe.
 - vi: Press heel, press toe, release together.
 - vii: Heel & toe independently. Press heel/toe, press toe/heel, release separately.
 - viii: Depress heel, release heel while depressing toe, release toe-pivoting movement.
 - x: Release 2 non-adjacent pedals from a fixed position.
- 5) **Left foot moves the E pedal on the right-hand side of the harp (LFoot).**
- 6) **Triple-peddalling (T.P.)**
- 7) **Pedal *glissandi***

5.4. CASE STUDY: KRUMPHOLTZ, RECUEIL DE DOUZE PRÉLUDES, OP. 2 141

Table 5.2. shows the set-up key, enharmonic “Krumpholtz rule”⁵¹ and multi-pedalling moves for the twelve *Préludes* in Krumpholtz’s Op. 2. This is an overview of the complete collection.

Table 5.4: *Recueil de douze Préludes, Op. 2: Jeu des pédales*

NO.	SET-UP KEY	K. RULE	Pedal <i>gliss.</i>	D.P.	T.P.	LFoot
1	A _b		F/A 82-83.		D/C/B 113-14.	
2	A _b			D/B 26, 57-60.		
3	E _b	A _b (G [#]) 23, 24		F/A 43-44, 73-74, 79-81.	F/G/A 43-44, 73-74, 79-81.	
4	E _b			F/A 27-34.		
5	A _b	D _b (C [#]) 67.		C/B 99-100; E/F 101-2.		
6	E _b		G _b - _h 13.			
7	E _b			C/B 45-51.		
8	E _b					
9	E _b			F/A 44-48, 54-55.		
10	A _b			F/A 24-25, 27-28, 30-31.	D/C/B 25-26, 28-29, 31-33.	24,27,30.
11	E _b	D _b (C [#]) 67		F/G 90-94.		
12	E _b	E _b (D [#]) 38, 39, A _b (G [#]) 49	A _b - _h 6. F	/A 21, 53-60.		

⁵¹See Glossary.

5.4.0.1 Krumpholtz's *Préludes*, Op. 2: Pedal solutions

The following twelve tables are the instructions to how to perform Krumpholtz's Op. 2, using historical pedal techniques. The items included are the "base" set-up key, enharmonics and the pedal movements in each *Prélude*. Any remarks regarding errors in the printed score or additional comments are noted below each table.⁵²

Table 5.5: Krumpholtz 1^{er} *Prélude*

Key	A-flat major
Set-up key	A-flat major
Pedals: option 1	Fold up G pedal at beginning. Play the C# in bar 10 as written.
Pedals: option 2	Fold up the G & C pedal at beginning and play the C# in bar 10 as D \flat .
Pedals: option 3	Fold up the G pedal at beginning and play the C in bar 10 as written, fold up C pedal for <i>Minuetto</i> .
Enharmonics	C# (D \flat): 10 (optional).
Pedalling	D.P. 3: F/A 82-83, D/B 113-14; T.P.: D/C/B 113-14.

Critical remarks:

- b. 12: \sharp sign on G is for E.
- b. 15: \flat missing on E.
- b. 69: first note in r.h. is a E \flat , not G as written.
- b. 94: first note in l.h. is C, not D as written.
- b. 124: l.h. A is \sharp . (\sharp sign is incorrectly on C and not on A).

Table 5.6: Krumpholtz 2^{ème} *Prélude*

Key	F minor
Set-up key	A-flat major
Pedals	Fold up the C pedal at beginning.
Enharmonics	G \flat (F \sharp): 54, 61.
Pedalling	D.P.: 4(i) D/B 26; 4(vi) 57-60.

Critical remarks:

- b. 57: B \sharp and A \flat in r.h.
- b. 80: r.h middle of bar, top note is D, not E \flat as written.
- b. 44: could be with A \sharp .
- b. 57: r.h. could be C \sharp .

⁵²I used this scheme and Appendix III to teach the harp class of the Norwegian Academy of Music historical pedal techniques. This masterclass took place on May 10-12, 2016. I would like to thank the harp class and Isabelle Perrin for their willingness to experiment with me.

Table 5.7: Krumpholtz 3^{ème} *Prélude*

Key	E-flat major
Set-up key	E-flat major
Pedals	Fold up G pedal in 40.
Enharmolics	D ^b (C [#]) 40, 41, 47; G ^b (F [#]): 79; A ^b (G [#]): 23, 24.
Pedalling	D.P. or T.P., 3: F/A 43-44, 73-74, 79-81.

Critical remarks:

- b. 75: l.h. E[♯].
- The low F[#] may need to be re-tuned.

Table 5.8: Krumpholtz 4^{ème} *Prélude*

Key	E-flat major
Set-up key	E-flat or A-flat major
Pedals	Fold up G pedal at beginning.
Enharmolics	Play all G ^b as F [#] , C ^b as B [♯] .
Pedalling	D.P. 4(vi): F/A 27-34.

Critical remarks:

- b. 1: l.h. lowest note is C. (not D).
- b. 26: G[♯], not G^b.
- b. 33: r.h. A[♯].

Table 5.9: Krumpholtz 5^{ème} *Prélude*

Key	B-flat major
Set-up key	E-flat major
Pedals	Fold up G pedal in 40.
Enharmolics	D ^b (C [#]) 67.
Pedalling	D.P.: 3: C/B 99-100; E/F: 101-2.

Critical remarks:

- b. 45: l.h. extra ♯ sign on C.
- b. 54: r.h., first note is an A[♯].
- b. 58: r.h. first A is A[♯].
- b. 119: l.h., should read A, F, B^b, F.

Table 5.10: Krumpholtz 6^{ème} *Prélude*

Key	G minor
Set-up key	E-flat major

Enharmonics	D \flat (C \sharp) 18, 22.
Peddalling	Pedal <i>glissando</i> 13 (optional).

Table 5.11: Krumpholtz 7^{ème} *Prélude*

Key	F major
Set-up key	E-flat or A-flat major.
Enharmonics	D \flat (C \sharp) 27, 28; C as D \sharp ; E \sharp as F \sharp .
Peddalling	D.P.: 3: C/B 45-51.

Critical remarks:

- b. 53: r.h. is D \sharp .
- b. 57: l.h. is A \sharp .

Table 5.12: Krumpholtz 8^{ème} *Prélude*

Key	D minor
Set-up key	E-flat major

Table 5.13: Krumpholtz 9^{ème} *Prélude*

Key	C major
Set-up key	E-flat or A-flat major.
Pedals	Fold up the G pedal at beginning.
Enharmonics	D \flat (C \sharp) 48, 50, 51; D \sharp (E \flat) 22, 23, 28, 29.
Peddalling	D.P.: 4(viii) F/A 44-51, 4 (i, viii) 54-55.

Critical remarks:

- b. 3: r.h. First E is actually F.

Table 5.14: Krumpholtz 10^{ème} *Prélude*

Key	A minor
Set-up key	A-flat major.
Pedals	Fold up the G pedal in bar 13.
Enharmonics	A \flat (G \sharp) 10-12; D \sharp (E \flat) 30; C \sharp (D \flat) 20-34; A \sharp (B \flat) 22; G \flat (F \sharp) 27; C \flat (B \sharp) 28.
Peddalling	T.P.: 3: D/C/B: 25-26, 28-29, 31-33; D.P.: F/A 24-25, 27-28, 30-31. LFoot: 24, 27, 30.

Table 5.15: Krumpholtz 11^{ème} *Prélude*

Key	G major
Set-up key	E-flat major.
Enharmolics	D ^b (C [#]) 69; D [#] (E ^b) 21, 22, 25, 28.
Pedalling	D.P.: 3: F/G 90-91.

Table 5.16: Krumpholtz 12^{ème} *Prélude*

Key	E minor
Set-up key	E-flat major.
Pedals: option 1	Fold up the G pedal at beginning.
Pedals: option 2	Fold up the G pedal from bar 6.
Enharmolics	D ^b (C [#]) 27-28, 35, 37; D [#] (E ^b) 40-41; A [#] as B ^b .
Pedalling	D.P.: 4(x) F/A 21, 4(vi, i combination) 53-60. Pedal <i>glissando</i> in bar 6.

Critical remarks:

- b. 23: E^b in l.h.
- b. 25: second B is B^b in l.h.
- b. 38: l.h. D is C, last G is F[#].
- b. 56: l.h. last note is C[#].
- b. 57: l.h first note is E^b.

Conclusions

The harp treatises and methods show only a few musical examples for how and where to use multi-pedalling. This current research discusses the five known pieces where multi-pedalling is indicated by the composer or publisher, found in sections 4.3.1.1-4.3.1.5. The third group of primary sources, with its implied pedal solutions on scores without written instructions, further enriches the mass of historical sources. This shows that complex pedalling was an inherent part of playing the single-action harp. The most intricate moves are found in the works by Louis Spohr and these are analysed with respect to the pedal moves in the following chapter.

