

Author: Beccatelli, Giovanfrancesco

Title: Of the knowledge of the common lay-out of the keyboard of the harpsichords

Source: Bologna, Museo Internazionale e Biblioteca della musica, MS F8, 22-44

[-22-] [Number 5 add. m. sec.] On the knowledge of the common lay-out of the keyboard of the harpsichords

The keyboards of the harpsichords and of other similar Instruments are composed of white and black keys. The white ones express the natural notes and the black ones the ones accidentally altered. In order to know all the keys of a Keyboard it is sufficient to know eight of them, because the rest are repetitions of the same. Take eight white keyboards from any part of it. One will see that they contain five black keys. For instance, take the eight white keys from Cfaut to Csolfaut, as one can see here.

[Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 22; text: C. D. E. F. G. a. [sqb]. c.]

[-23-] Consider now the interval of the tone, which is divided into five fifths, as it was said at page three, and how, in the same way as the Sharp sign raises the note two fifths of a tone, the flat sign lowers it. The first of the above shown keys is Cfaut and the second one is Dsolre. Between them there is the interval of a Tone; and for this reason the black key is half-way between them, which is Cfaut with the Sharp sign. This black key, therefore, belongs to Cfaut. Therefore, since it is two fifths higher than Cfaut, it follows that from said black key to Dsolre there are three fifths to complete the distance of a Tone. Hence, the interval from Cfaut to the black key is of a smaller semitone and the one from the black Key to Dsolre is of a larger Semitone. The same occurs among the other white keys between which a black key is interposed, which corresponds to the Sharp sign. Elami follows after Dsolre, and there is also a Tone between them. For this reason there is a black key between them, which belongs to Elami, since it is its flat. Therefore, since the flat sign lowers the note by two fifths of a tone, it follows that said black key is two fifths below Elami, hence from said Black Key to Dsolre there are three fifths. Therefore, from Dsolre to the flat sign of Elami there is the interval of the larger Semitone, and from the flat sign to the Elami there is the smaller Semitone. The same occurs between the other white keys between which occurs the black key that is a flat sign. Ffaut follows Elami, and, since their distance is a larger Semitone, rather than a Tone, namely, of three fifths of a Tone, for this reason there is no Black key between them. From what was said one will understand that from the F to the following black key, since it is its Sharp, there are two fifths and from this black to the following G three fifths. Equally, from the G to the following black key, which is also its Sharp sign, there are two fifths of a tone, while there are three fifths from this one to the a. However, from the a to the following black key, since it is the flat sign of the [sqb], there are [-24-] three fifths of a tone, because the interval of two fifths follows from this black key to the following [sqb]. And since there are three fifths from E to F, as there is no intervening black key, thus, equally, there are three fifths from the [sqb] to the c. Having understood the Keys, and their distance from one to the other, it is necessary to discuss the Keys that are not found on common keyboards. For instance, should one give the sharp to the note a, this Diesis is not found on the common Keyboard. Instead of it, one plays the flat sign of the note [sqb], which is a fifth of a tone higher than the other one is, namely the sharpened a, since the Sharp sign must rise the note by two fifths of a tone, but from the B flat to the [sqb] there are three

fifths of a tone. This is practice because, as the particular key is lacking, it is necessary to employ the closest to it, which is said B flat. Similarly, should we have to give the sharp to the note D, which Sharp sign does not exist on the keyboard, it is necessary to adopt the flat sign of the note E instead of it, which is a fifth of a tone higher than the true Diesis of the note D. Equally, if one has to give the flat sign to the note a, this flat sign is lacking, hence the Sharp sign of the note G is used instead of it, which is the closest to the note a. Because from the a to the sharpened G there are three fifths of a tone, and the Flat sign must lower the note by two fifths, it follows that said Sharp sign is a fifth lower than the true Flat sign of the note a should be. Thus, one can account for all the accidentals whose specific keys are lacking on the common keyboard.

Moreover, there are some Keyboards on which all the Black keys are divided into two parts. Here, the part of the keys that will be said to be at the front, since it is closest to the player, contains the above described Black keys, while the part that it is nearer the wooden plank, or, we could say, to the Strings, contains the one that are lacking in the common keyboard. For instance, if we consider the split black keys, the part at the front of the first key is the Sharp sign of the note C, while the back section is the Flat sign of the D; the part at the front of the second [-25-] Black key is the Flat sign of E la mi, while the back section is the Sharp sign of D sol re. The front part of the third black Key is the Sharp sign of the note E, while the back section is the Flat sign of the G. Equally, the front part of the fourth black key is the Sharp sign of the G, while the back section is the Flat sign of the a. Finally, the front part of the fifth black key is the flat sign of the [sqb], while the back section of it is the Sharp sign of the note a. The same follows with regard to their repetitions in different octaves. Moreover, if there were interposed a small black key, also split, between the notes E and F, as well as between the notes [sqb] and c, the front part of these keys would be the Diesis of the E and of the [sqb], while the back section is the Flat sign of the F and of the c. However, if they not be split, they are purely the above mentioned Sharp signs. This will suffice as to the Knowledge of the keys and of the Keyboards.

On the accompaniment of the Notes in general

Each note must have two Consonances as accompaniment as well as the Octave. These are doubled to fill up the harmony, according to what feels comfortable to the hands. La onde minori must be accompanied by two major consonances, because, were they not so, the Notes which are accompanied would not be minor. To explain this more clearly, I propose to use a simile. Imagine three Brothers, Tizio, Paolo and Giovanni. If Tizio has to be the younger, it is necessary that Paolo and Giovanni are older than him, while, if he has to be the oldest, it is necessary that the other two are younger. Finally, if he has to be the middle one, it is necessary that the other should be one older and one younger than he is. Similarly, since the notes are of three types major, middle and minor, they are also distinguished by the notes that accompany them, and, since because of the accidentals [-26-] each Note can be major, middle or minor, thus each Note can have also three different specific accompaniments. However, since it was said that the minor Notes must have Major accompaniments, thus the major notes must have minor accompaniments, while the Middle ones, which are also called Medians and Mixed, must have two accompaniments one major and one minor.

The ordinary accompaniment of a note is to have to have the Third and the Fifth. Of these the Third may be Minor or Major, but the Fifth must be always be major, because, when it is not, it is not consonant, as it has been shown already. The Notes of the minor ones must have the major Third and the Fifth as an accompaniment.

The Mixed Notes must have the minor Third and the Fifth.

The major Notes, since they must have minor accompaniments, and the Fifth is always major, for this reason they cannot have the Fifth, but they receive the minor sixth instead of it. Hence, their accompaniment is the minor Third and the Sixth also minor. It follows from this that when one accompanies, for instance, Gsolreut, and gives it the minor third and the minor sixth, it will be a major Note, if one gives it a minor third and a Fifth, it will be a middle Note, while, if one gives it a major Third and a Fifth, it will be a Minor Note. The same is understood to happen in all the Notes, both natural and altered.

On the motion of the hands

It is not good that the Left hand (which is called 'the Lower Hand' because it is in charge of the low register and it is not the one that accompanies but it is the one that plays [-27-] the fundamental note which has to be accompanied) should play a single Key, but it should play at least two, especially in the lower register. As a rule, therefore, it will play sometimes the octave, sometimes the Fifth or the Sixths and sometimes the Third above said fundamental Note. If the fundamental Note is in the lowest or almost in the lowest register, namely from Cfaut downwards, the hand will play the Octave. From Cfaut up to Ffaut one will play the Fifth or the Sixth, while from Ffaut upwards to alamire or up to [sqb] mi at the most, one will play the third. According to this rule one must consider that when one accompanies a melody in the F clef, the highest Finger of the left hand should not exceed the Note c in the highest register, or the note d at the most. This means that it should not exceed the sixth Line or the Sixth space. When one accompanies the Tenor clef, one will be allowed to follow the Notes where they are and accompany them with the third up to elami. From this note upward one will play only the fundamental Note, which means that the player will use a single finger, as one can see from the following example.

[Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 27]

The right hand, since it is in charge of the higher or upper part, is called 'the upper Hand'. This hand produces the accompaniment and, for this reason, it must play no less than three keys, which must be the Third, Fifth or Sixth, and Octave of the fundamental Note. It does not matter if these consonances are simple, doubled or trebled, as long as they are played with a comfortable hand position. This hand has every freedom to play the whole range up to the very high register, but, as a rule, it must not play below the Note C or [sqb] at the most towards the low register. This means that it should venture no further than the fifth space of the lower hand. Thus, its positions of accompaniment will start from said Note [sqb] upwards. We shall assign three positions of accompaniment to each note, as one will be able to see in the following examples.

[Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 28; text:Mano di sopra, sotto]

Of these examples, the first Box shows the first position, the second the second position and the third one the third.

One should ensure as much as possible that the hands should be close to one another and that they proceed by contrary motions, namely, if the notes of the lower hand ascend, the

upper hand descends, and the other way round, if the notes of the left hand descend, the right hand should ascend. Hence, if the upper hand must descend, it is necessary that it should start from a high position, while, if it has to rise, it is necessary that it should start from a low position. However, although these contrary motions cannot be adhered to all the time, nevertheless we shall endeavor to observe them without exception when the Notes move by step both ascending and descending, when the highest Finger moves from a Fifth to another Fifth. This will be observed both in the case of the Fifths and of the Octaves, because, otherwise, that high Finger will move to another Fifth or from an Octave to another Octave, which is forbidden, as it is considered by the masters of the Art as a very grave mistake, albeit in essence this mistake is not as grave as they make it out to be. This will suffice with regard to the movements of the hand, because the assistance of the Teacher [-29-] will provide what would be difficult explain verbally.

On the Tones

The term Tone has different meanings. Firstly, it means state of the voice or tension or tenure of the voice or, also, position, as, for instance, when one hears a Note or a sound and judges said note or sound to be in the Tone of alamire, of Cfaut or of Gsolreut et cetera. Secondly, it refers to the interval that is the greatest distance between a note and another one next to it, such as between Do and Re and between Re and mi, as it has been explained already. Thirdly, it means a particular group of notes or the system on which a Melody is based, such the First, Second, Third, Fourth Tone and so on in the Ecclesiastical Chants. When the word was used in this meaning it was synonymous of Mode, but I interpret the word Mode in what concerns modern Music to mean something different, albeit not remote from the other meaning.

The true Ancient Modes were as many as the different Species of the Diapason or Octave. The intervals that have different species are the ones that are composed of several smaller intervals, among whom there is the Semitone, since their species are as many as the smaller numbers that they contain.

All the intervals are considered in two ways, namely, simple and compounded. They are called simple when one considers only their extreme notes, for instance, if we consider the Fourth in this way: Do, Fa or Re, Sol or Mi, La. This Fourth is called 'simple', but when it is considered with its intervening sounds, namely, Do, Re, Mi, Fa, or Re, Mi, Fa, Sol, or even Mi, Fa, Sol, La, this Fourth is called 'compounded'. All the intervals can be classed in this way, and, if they are considered as simple, they are all of a single species, but, if they are considered as compounded, they are of as many species as the smaller intervals that constitute them.

[-30-] Therefore, since the Fourth is composed of three intervals, namely, two Tones and a semitone, for this reason it is of three species, whose variety derives from the different position of the Semitone. In fact, the Fourth represented by Do, Re, mi, Fa, contains the semitone in the third interval; the one represented by Re, Mi, Fa, Sol, contains it in the first one. These considerations extend to all the other intervals, hence the Octave is of seven species, by virtue of the varied disposition of its intervals, because it contains seven intervals, namely, five Tones and two Semitones, and for this reason the true ancient tones were no more than seven. But since by our ancients (note that, when I refer to the Ancients absolutely, I want to refer to the ancient Greek and Romans, while, when I mention our Ancients, I mean to refer to the writers who lived after the year one thousand) each species of Octave was considered in two ways, namely, divided harmonically and arithmetically, if we assign a Tone to each divided half, it follows that the Tones are fourteen. Indeed they would be as many if two of the Species of the octave

were not devoid of said divisions, one lacking the harmonic and another one the arithmetic one, hence, for this reason, the regular Tones remain Twelve and the two adapted to those deficient species can be called irregular.

To further the understanding of this matter I do not want to fall short of pointing out the different numbering of the species of the three main Musical intervals, which are the Fourth, the Fifth and the Octave.

These are the species of said Intervals according to the Ancients:

The first species of the Fourth occurs from [sqb], all'E.

The second species from C to E, and the third one from D to g.

The first species of the Fifth sits between the E and the [sqb].

The second one from F to c, the third one between g and d and the fourth one from a, to e.

[-31-] The first Species of the Octave resides from the [sqb] to the [sqb], the second one from C to c, the third one from D to d, the fourth one from E to e, the fifth one from F to f, the sixth one from g to gg, and the seventh one from a to aa.

According to our Ancients these species are considered differently, in the following way:

The first species of the Fourth occurs from a to d, the second from [sqb] to e, and the third one from c to f.

The first species of the Fifth occurs from D to a, the second from E to [sqb], the third one from F to c and the fourth one from g to d.

The first species of the Octave spans from A to a. The second one from [sqb] to [sqb], the third one from C to c, the fourth from D to d, the fifth from E, to e, the sixth from F to f, and the seventh from g to gg.

According to correct modern musical thought, they should be thus:

The first species of the Fourth [Quinta ante corr.] from g to c, or from Gamma to C, the second one from a to d, and the third one from [sqb] to e.

The first species of the Fifth from C to g, the second from D to a, the third one from E to [sqb], and the fourth one from F to c.

The first species of the Octave from Gamma to g, the second from A to a, and successively in order up to the seventh species from E, to f.

Said species, according to the names of the Notes, are the following.

[Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 31; text: Della Quarta, Degli Antichi, De nostri, moderni, 1, 2, 3, La, fa, Sol, Mi, Fa, Re, Do]

[-32-] [Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 32; text: Della Quinta, degli antichi. de nostri, moderni, 1, 2, 3, 4, Mi, Fa, Sol, La, Re, Do]

Thus, from the notes that have been illustrated one can derive the names of the Notes of the described species of the Octave, which I omit, because they are not necessary to us, since we have to deal with our own Musical Tones. In order to learn them well, it is necessary to know that the Harmonic modes are two. The main of these is called Direct, and the other one is called Oblique. The Mode is an Harmonic situation produced by different consonances, but, since the Harmonic situations are two, one that calms and pleases the ear so that it requires nothing else, and the other one that does not have this effect, albeit it is equally sweet and sonorous, so that in the latter one hears a certain sort of impetus to reduce itself to the state of the other, for this reason I call the first one Direct Motion and the other one Oblique Motion. Moreover, since each one of these occurs in two ways, one more sonorous and the other one less so, I call the more sonorous perfect

Mode and the less sonorous imperfect mode, as I shall explain now.

The Direct Mode occurs when one ascribes the Third and the Fifth as an accompaniment to a given Note taken as fundamental. If the Third is major, it will be called Direct perfect Mode, while, if the Third is minor, it will be called imperfect.

The Oblique mode occurs when one ascribes the Fourth and the Sixth to the Base of the Tone. If the Sixth is minor, this mode is perfect, while, if it is major, the mode is imperfect. Hence, one can see that each of these modes has a perfect consonance of the Direct Mode as an accompaniment, and the Fourth of the Oblique mode. Thus the Third is the imperfect consonance of the Direct mode and the Sixth is the one of the Oblique. Let us move on to the Tones.

According to our Modern way of composing, the Musical Tones are no more than two, between which there is no other difference except as to the fact that they have the major or the minor third as accompaniment. Hence, it is said that the Tone is 'of major third' or 'of minor third'. [-33-] There is no other difference but this one in the Tones of modern Music. Each of these two Tones has its particular System. Since the Ancients described the Largest System in two ways, namely immutable and mutable, although this had for them a different meaning that it has with regard to the System of our two Tones, nevertheless, since there are similarities in certain aspects, for this reason I adopt these two terms, following their example, by calling one of the systems of our Tones immutable, and the other one mutable. Therefore, the systems of our tones, are nothing but the Composition of their Octave, since, if one exceeds it, whether upwards or downwards, there follows nothing, as it has been seen already, but the repetition of the same notes. However, as to this Octave of theirs, it is necessary to consider it partly above the principal Note of the Tone, and partly beneath it, because the true and joined understanding of the same requires it, not only because of the common styles of our compositions, but as to the difference of their Systems. Therefore, it is necessary to consider the Octave of our Tones in a similar way to the use of the Plagal Tones of the Ecclesiastical Chant, namely, a up to a fifth above the principal Note and up to a Fourth beneath, and thus the whole of the Octave will be considered. For instance, if the principal Note of the Tone is Csolfaut, if we ascend by a fifth we arrive at another Gsolreut, so that from the one to the other one there is the span of an Octave. All the Notes that are contained in the Octave from Csolfaut to Csolfaut are contained within this Octave. Besides this, it is necessary to consider the quality of the intervals that constitute said Octave. To do this with the greatest ease, it will suffice to call the Notes of said Octave with the names of the Notes that they require in the mode that I will illustrate now. [-34-] The Musical Tone is either of major third or of minor third. If the Tone is of major third, the Note of the Tone says Do and Fa, Do ascending and Fa descending, hence the Fifth above it will say Do, Re, Mi, Fa, Sol in ascending, and Sol, Fa, Mi, Re, Do in descending. Therefore, the intervals that constitute it are Tone, Semitone, Tone, Tone in ascending. Let us return to the Note of the Tone that says Fa in descending. The Fourth below it starting from the Tone will say Fa, Mi, Re, Do in descending, and Do, Re, Mi, Fa returning to the Tone. Hence its intervals are Semitone, Tone and Tone in descending and Tone, Tone and Semitone in ascending. Therefore, by calling said Notes by their name one immediately understands the quality of the intervals that constitute said Octave. This constitution of the Octave is called the System of the Tone. Moreover, since the Notes of said Tone of major Third are the same both in ascending and in descending, for this reason I call the system of the Tone of major Third Immutable System.

If the Tone is of minor Third, the Note of the Tone says Re and Sol or La Re in ascending and Sol or La in descending. Hence the Fifth above it will say Re, Mi, Fa, Sol, La in ascending and La, Sol, Fa, Mi, Re in descending. Hence, the intervals that constitute it are

Tone, Semitone, Tone and Tone in ascending and Tone, Tone, Semitone and Tone in descending. The Fourth beneath it, which starts from the Note of the Tone which says Sol in descending, will say Sol, Fa, Fa, Re, and that third Note has to be altered to say Fa through an accidental sign, while in ascending again [-35-] to the Tone it will say then Mi, Fa, Sol, La. However, it is necessary to sharpen that Fa and that Sol, because the intervals must be Tone, Tone and Semitone in descending, and Tone, Tone and Semitone in ascending. Hence, since the notes comprised within this Fourth must be different in descending and in ascending, for this reason I call the System of the Tone of minor third Mutable System. Now, with several examples which I will add here with using the Notes, this Doctrine shall be easily understood.

[Beccatelli, Della cognizione della comune tastatura de Cimbali, 35; text: Dimostrazioni del Sistema del tuono di terza maggiore, minore, Quinta, Quarta, sopra, sotto, solre, Alamire, Csolfaut]

I hope that anybody shall understand and learn well by heart from everything that has been said and from the described illustrations that the Notes of the System of major third are always the same, both ascending and descending, while the ones of the System of minor third they are the same within the Fifth above, but they are variable within the Fourth, [-36-] since the two internal notes of said Fourth must be smaller in descending and larger in ascending than the Note of the Tone.

On the Circulation of the Tone and on its mutations

Given that there cannot be a musical composition, however short it may be, that stays always in the same Tone, but in order to develop it properly one is forced to change the Tone, and since the changes of Tone must be regulated according to what the principal Tone requires, and not enacted either inappropriately or at random, and finally, since one must start and finish a composition in the same Tone, for this reason said changes of Tone are called Circulation of the Tone, drawing their name from the definition of the Circle established by the the experts of Geometry, which is deemed to be a sort of circular Line, which terminates in the same point where it starts. First of all it is necessary to know the Direct and oblique mode of each Tone, as I have shown at page 23, because the Tone that has the Direct mode perfect, namely the Tone of major Third, must have the Oblique imperfect, which means that the fourth and the sixth, but so that the Sixth has to be major, while the imperfect consonances, that are the thirds and the Sixths must be in agreement with each other. Thus, the Tone that has the Direct Mode imperfect, namely the Tone of minor third, must have the oblique perfect, namely the fourth and the sixth, but so that the Sixth is minor.

This doctrine will be summarized by saying that in the Tone of major third even the Sixth must be used in its major form, while in the tone of minor Third the sixth has to be used in its minor form. Hence, placing the hands on the Instrument and accompanying the Note of the Tone with the third and the fifth and then the suitable fourth and sixth, from these accompaniments [-37-] one will see all its consonances in which the mutations of the Tone will follow one another according to the requirements of the length of the composition.

The mutation of the Tone consists in nothing but in changing the Note of the Tone or in taking as the principal Note of the Tone another different Note than the one that had been established earlier.

Now, in order to deal with these mutations, one must observe first, as it was said already,

that the Musical tone is of two sorts, namely, of major third and of minor third and the the Note of the Tone of major third says Do and Fa. Hence its quality is to be a median or mixed Note. From this one will learn that the Tone can never be Major Note, since it can never say mi. Hence, one will never be able to enact the mutation of the Tone in the Note that is only major, namely, that says only Mi. Once this is understood the following considerations will follow.

The main mutations of the Tone must follow in the consonances of Direct Mode, namely in the third and fifth, and the in the ones of oblique Mode, namely, the fourth and Sixth, but in the following order. If the mutation of the Tone is made in the perfect consonances, namely, in the fifth and in the fourth, the Tone must follow in these Notes the nature of the principal. In other words, if the principal is of major third, those Notes as well must be Tone of major third, while, if the principal is of Tone of Minor third, equally they shall be Tone of minor third. If the mutation is made in the imperfect consonances, they will be in inverted correspondence with the principal, because, if the principal is Tone of major third, in those Notes it will be Tone of minor third, and also conversely, if the principal is Tone of minor third, it will be Tone of major third in those Notes. The reason of this, besides the nature of the Melody which requires them, is that one cannot alter the System of the principal Tone but with a single accidental, namely, by adding a Sharp or eliminating a Flat sign to the most minor key, or by adding or taking away, or by adding the Flat sign or removing the Sharp sign to the most major. Besides the Mutations occurring in the Consonances, one can have a mutation in a Dissonance. [-38-] The Dissonant Notes that are naturally musical are the second and the seventh. Now, one can realize the mutation on one of said Dissonant Notes in every tone, but, since in both Tones one of said Dissonant Notes is the Note uniquely major, in the one what will be such it will not be possible to realize the mutation of the Tone. Let us examine this in practice. In the Tone of major third the most major Note, which is the same as saying the uniquely major note is the seventh of the Tone. Hence, in said Tone it will not be possible to realize the mutation on the seventh; hence it will be done on the second, which is the median Note, as it says re. In the Tone of minor third, the Note most major is the second. Therefore one will not be able to realise the mutation of the Tone, but it will be done on the seventh, which is minor Note, or median minor, because it says Fa or Sol. Moreover, when the tone is changed on said Dissonant Notes, it will be the opposite of the principal, as it was said with regard to the imperfect mutation, namely, if the principal is of major third, the Dissonant Note will be Tone of minor third, and thus in the opposite way, because this is what the principal System of the Tone requires. I said here above that the most major Note in the Tone of minor Third is the second. Somebody, taking into account the demonstration given at page 35 of the tone of Dsolre minor third, might say that one can see in its ascending fourth the Note of natural Ami, or one might at least say that the Flat sign is not placed clearly in front of Bmi, and, for this reason, one has to say that, since the Note Bmi is the sixth of Dsolre, hence the Sixth and not the second is the most major Note, hence that Diesis placed in front of Csolfaut is purely accidental. One answers to this that I did say that in the Tones the sixth must be used in the same way as the third is. Therefore, in the tones of minor third even the sixth has to be used in the minor. Also, if the sixth is minor, it follows that the second remains the most major Note. Besides, it is not necessary to place the Flat sign to the sixth in the key signature, because that Note must be major in ascending, but one must be careful that here it is understood that this means in ascending up to the Note of the Tone, which means that the Sixth ascends to the Seventh, and the Seventh, equally, is the Note that, rendered major, ascends to the Tone. Otherwise, in fact [-39-] it would not be major. Hence, since that Note is not always minor, it is not necessary to place its Flat sign in the key signature.

For the stated reason, namely, that the natural flow of the melody abhors the passage of the Tone in the major Notes. In the tone of major third, although the third is the imperfect consonance of the Direct Mode, which means it is the Note of the principal mutations, nevertheless, since it is a major Note, albeit it is not the most major, it is very often avoided, and the Sixth, the other imperfect, is used in its place, especially in short pieces. To say something about these mutations, I shall say, that the main mutation is the one of the Fifth, followed by the one on the Third, but it is left to the Composer to decide whether one should be employed before the other one. It is true, however, that in the Tone of Major Third, because of the reason explained above, the Composer will avoid approaching the mutation of the third in the first place unless he is not compelled to it by the necessity to express some excess of feeling.

After having employed the mutations in the consonances of Direct Mode, if the composition is long, the composer will move on to the ones of oblique Mode. Similarly, it is the composer's decision whether to enact one or the other, namely, whether the one on the fourth or the one on the Sixth. I shall say, nevertheless, that, just as in the Direct mode ordinarily the mutation on the perfect one is the first, namely, first on the Fifth and then on the Third, thus in the oblique mode, which is nothing but a conversion of the Direct mode, it will be appropriate to employ the one of the imperfect and then the one on the perfect one, namely, first the one on the Sixth, and then the one on the fourth. However, one cannot establish any rule on this matter. I shall say simply that the perfect consonances surpass in excellence and privilege the Imperfect ones.

Also, for this reason and by their virtue one may sometimes trespass the given rule not to alter the System of the Tone with more than a single accidental, which is the case precisely of the mutations in the Dissonant Notes. I will reply here, that, when the Tone is change in the perfect Notes, they must follow [-40-] the principal nature of the Tone, while, when the tone is changed in the Imperfect ones, as for instance in the Dissonant Notes, these must correspond to the principal Tone in the opposite way. To clarify further what I have to say, I shall produce some examples in both of the Tones and, to render them more effective, I shall employ tones with two accidentals in the key signature, which means that they are removed from the natural pure System. Take as Note of the principal Tone Dsolre major third. Its System will carry two Sharps in the Key signature. However, these Sharps, since they are specific notes of said System, must be considered as natural Notes of it. Then, realize the mutation of the Tone on the Fifth, namely on Alamire. Since this one also is perfect consonance of the principal tone Dsolre, for this reason it must also be a Tone of major third. Consequently, its System is enlarged by a Sharp, because, as long as Alamire is the Tone, it is necessary to consider the Diesis on Gsolreut, which is the most minor Note of the System of Dsolre, as fixed. Therefore, this is the whole alteration that the principal System, namely the mentioned System of Dsolre, can suffer. However, said Alamire, since it is perfect consonance of the principal has the privilege of being able to realise, if one wants, a new mutation on its Fifth or Fourth, on the basis of its perfect Consonances. However, its Fourth is the same Note as the principal Tone, so we shall consider its Fifth, which is Elami. Elami is the dissonant of the principal, where one can realise the mutation of the Tone according to the rules, with this proviso, however, that it must be of the Tone opposite to its principal, which means it must be Tone of minor third.

Notwithstanding this rule, if the mutation on Elami is realized on the basis of it being the fifth of Alamire, since the Fifth is a perfect consonance, and, since the perfect consonances must follow the nature of the principal Tone, it will be necessary, in this case, for said Elami to be Tone of major third. [-41-] Because of this need, the System of the principal Tone will be altered with the addition of two Sharp signs, namely Gsolreut

and Dsolre. One may say that this is a very great liberty with regard to the fact that the Note itself of the principal Tone is altered, but this liberty is tolerated by virtue of the Fifth of the principal Tone.

Another Example in the System of minor third

Take as principal Tone Csolfaut with the minor third. Its System will carry two Flat signs in the Key signature, which are the Flat sign of Bmi and of Elami, which must be considered as its own natural Notes. Moreover, since the Tone is of minor third, the sixth as well, because of its circulation, must be minor. Therefore, one must employ the Flat sign of Alamire as well. This, however, cannot be considered as placed in the Key signature, because that Note must be major in ascending, since it has been shown already in the Systems that the Notes placed on the Fourth below the Tone, when they ascend up to the Tone must be major, and that they must be minor only in descending, I illustrate here in the Tone itself of the above said Csolfaut with the minor third.

[Beccatelli, On the knowledge of the common lay-out of the keyboard of the harpsichords, 41]

One may object to this example that, for the same reason, the Flat sign must not be placed in the Key signature in front of Bmi, because it also must be minor in descending and major in ascending.

I reply that in Said Tone the Third must necessarily say Fa, and every Fa must have another Fa, either a fourth or a fifth below, because from one to another natural semitone there can be no less than a fourth and no more than a fifth. If the Flat sign were not be placed in front of Bmi, but only in front of Elami, there would be two natural semitones at the distance of a third or of a Sixth, which cannot be. Moreover, because of the practical reason that I mentioned with regard to the Notes, the Flat sign of Elami is required in this System, but Elami cannot have the fixed Flat sign unless Bmi has it as well, since this Note is major [-42-] than Elami. Therefore, in order to be able to assign the fixed Flat sign to Elami, it is also necessary to assign it to Bmi. However, do let us return to our task. Realised the mutation on the Fifth, namely Gsolreut, in this Tone of minor third, it will not be possible to realise a new mutation on its Fifth by virtue of it, as it was said that it is possible to do in the Tone of major Third, since the Fifth of Gsolreut is Dsolre, which is the second of the principal Tone. In fact, as it is the most major Note in that System, it cannot be made, as it was said already, Note of the Tone. However, the fourth will be able to have that privilege that in this case cannot have the fifth of the Tone. Produce the mutation on the fourth, namely Ffaut, which can have, as a privilege, a new mutation on one of its perfect Notes. However, its Fifth is the same as the Note of the tone, so we shall consider its Fourth, which is Bfa. However, Bfa is the dissonant of the Principal, where one can realise a mutation of the Tone, but in the opposite way to the principal. Therefore, since the principal has the minor third, it is necessary for the Bfa to be Tone of major third. Nevertheless, if the mutation on Bfa is done on the basis of it being the fourth of Ffaut, since the Fourth is a perfect consonance, and, since the perfect consonances must fall in agreement with their principal, it will be necessary in this case for the said Bfa to be a Tone of minor third. For this reason, it will follow that, as long as Bfa will be Tone of minor third, two other fixed Flat signs will be added, namely Alamire and Dsolre, while the one of Gsolreut will be used by circulation. All this can be done, as it was said, because of the privilege of the perfect Consonances of the principal Tone. Nevertheless, except in the case of very long composition, this freedom would not be laudable, since

good order requires that the System principal Tone should remain unaltered as much as possible.

In the System of the Tone of major third I did not talk about the privilege of the Fourth of the Tone as I illustrated it [-43-] here in the System of the Tone of minor third, because the fourth of the first System corresponds to the Fifth of the second with reciprocal conversion. This means that, as it was said of the fifth of the latter that its fifth is the most major Note, and its fourth becomes the Note of the tone, thus, with regard to the Fourth of the former it was said that its fifth is the note most major and its fourth appears to be the same as the Note of the Tone. Thus, with regard to the Fourth of that one will be proven to be the Note of the Tone itself, and its Fourth the most major Note, and for this reason there is no room at all for its privilege. The usual and appropriate basis to mutate the Tone in the dissonant Notes, or in the system of major third to take it to the second, and in the System of minor third to take it to the seventh, must be of Tone opposed to their principal one for pure consideration of the imperfect Consonances. In fact, in the System of major third the mutation in the second must be done either as Sixth of the Fourth, or as Fourth of the Sixth. I will explain myself. In the Tone which we have discussed, namely, Dsolre major third, the Second is Elami, but Elami is also sixth of Gsolreut, which is Fourth of the Tone, and as Fourth of The Tone it is a Note of privilege. Hence, for this reason, it will be possible to pursue the mutation also in its imperfect, so much so, that it has no place in it the privilege to mutate the Tone in its perfect. However, since it is redundant to realise the mutation through it in its third, since it is the same as the Sixth of the tone, it will be realized in its Sixth, which is the second of the tone. Also, since the Fourth, being a perfect consonance must agree in its Tone with its principal, which means that it must have the major third in the Tone which we are discussing, it follows that Elami, as its Sixth, or imperfect, must be Tone of minor third. This is with regard to the mutation of the sixth of the Fourth. The mutation of Elami as Fourth of the Sixth was mentioned because it is Fourth of Bmi and Bmi is sixth of the Tone. Therefore, since Bmi is imperfect, it must have minor [-44-] third, whenever the Tone is changed. Consequently, Elami as well as its fourth will have to have the minor third, so, the mutation realized through one or the other way will have to be Tone of minor third.

Moreover, in the System of the Tone of minor third, leaving aside many considerations for reasons of succinctness, I shall say that the mutation on the Seventh must be done either as third of the Fifth or as Fifth of the Third. In the Tone of Csolfaut minor third mentioned above, the Seventh is Bfa. This Bfa is the third of Gsolreut, which is the fifth of the principal Tone. Therefore, the mutation on said Bfa can occur as it is the third of the Fifth. Moreover, said Bfa is the fifth of Elami with the Flat sign. This is the third of the principal Tone, hence the mutation on Bfa can occur as fifth of the Third. In both ways it will be tone of major third because Gsolreut, as it is the Fifth, must follow the nature. This means that, since it is a Tone, it must be of minor third and must be opposed to Bfa as its imperfect, hence it will be Tone of major Third. Similarly, Elami with the Flat sign, since it is the Third of the tone, as it is a Tone, will be opposed to its principal and it will be Tone of major third. Finally, Bfa, as its fifth, which is a perfect consonance, being a Tone, will be of similar Tone, namely of major third.

Since these Doctrines have not been well not been known and have been uncommon up to the present day, they will not be very easy to understand. Nevertheless a good Teacher will be able to fulfill with direct explanation to what might not have been explained by me with complete clarity. I will state as a conclusion simply that everything that I said and explained on these two Systems of the Musical Tones is true and well supported, and, on whichever Note one builds the Tone of major or minor third, be them natural or altered Notes, their Systems, namely the order of their Sounds and their Intervals will be always

and unalterably the same.