THE ORGAN

A Theoretical & Practical Treatise

BY

FREDERIC ARCHER.

LONDON & NEW YORK: NOVELLO, EWER AND CO.

THE ORGAN

A THEORETICAL AND PRACTICAL TREATISE

INTENDED TO ASSIST THE STUDENT IN ACQUIRING A SOUND KNOWLEDGE OF THE INSTRUMENT AND ITS PROPER MANIPULATION

WITH A

SERIES OF ORIGINAL EXERCISES AND ILLUSTRATIVE COMPOSITIONS WRITTEN SPECIALLY FOR THIS WORK

BY

FREDERIC ARCHER.

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PREFACE.

MANY excellent and exhaustive works have been written on the subject of the Organ, and the method of playing thereon; but although these voluminous treatises may be useful to students who desire to qualify themselves for a position in the first rank of Solo Organists, they undoubtedly contain a vast quantity of matter which others, simply wishing to acquire as readily as possible moderate proficiency, will find superfluous. On the other hand, the shorter elementary "Tutors" usually contain so little, and omit so much that is absolutely essential, as to be almost useless.

In writing the present work, my object has been to condense, in as brief and concise a form as possible, such necessary information respecting the nature and construction of the "King of Instruments," as will enable the ordinary Pianoforte student to acquire a sound elementary knowledge of its resources, and at the same time to afford him the means of forming such practical acquaintance with its proper manipulation as will amply suffice for all general purposes.

I would especially desire to add that it is impossible to over-estimate the services of a really good master, and this treatise is not offered to the public with the object of superseding his functions, but rather with the idea of assisting the beginner in his private practice, when he is, to all intents and purposes, left to his own resources. I venture, however, to hope that, even in cases where a competent instructor is not available, this work may be found useful.

I wish also to state that, in order to avoid perplexing and impeding the beginner, I have thought it desirable, in describing the various accessories of an Organ, to deal only with English Organs of ordinary size, purposely omitting to treat of those large Concert instruments, the manipulation of which requires special study.

As however, it sometimes happens that a few stops, to a certain extent peculiar to Organs of exceptional size, are used by some modern builders in order to increase the resources of instruments of smaller dimensions, I have explained their nature, and also included some other matter of interest, in an Appendix, which will be found at the end of the work.

FREDERIC ARCHER.

London, November, 1875.

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THE ORGAN AND ITS PROPER MANIPULATION.

I. An Organ possesses several keyboards; those intended for the hands, and technically termed *Manual Claviers* (or simply Manuals),* being placed one above another in such a manner that all are readily accessible to the player.† If there are three rows of Manuals, the upper one will be the *Swell;* the second, the *Great;* and the lower, the *Choir.* In instruments of less magnitude two rows of keys will be found, the upper being the *Swell*, and the lower the *Great;* while organs of the smallest description have but one Manual, which may partake of the character of either *Swell*, *Great*, or *Choir*, according to the taste of its designer.

II. The Swell Organ is so named from the fact of all its pipes being placed in a box, the front of which is composed of a series of Venetian shutters. These are set in motion by the Swell Pedal, which will be found projecting conveniently within reach of the right foot. On pressing this pedal the shutters will gradually be opened, thus causing the sound to escape in proportion to the pressure employed. On allowing it to rise they will be gradually closed again, thus producing, under skilful management, every effect of *crescendo* and *diminuendo*, or even a sudden *sforzando*. Therefore, as can readily be perceived, this particular Manual is invaluable for accompanying purposes, and also for producing delicate effects of expression; while the grandeur and impressiveness of a large Swell is one of the most important features in a fine organ. When the Swell is not required for producing graduated tone, a mechanical contrivance causes it to remain fixed open, although the foot may be withdrawn from the Pedal controlling it. For this purpose a small groove is cut, into which it falls on being pushed slightly to the right or left (as the case may be) when pressed down. On pushing it slightly in the reverse direction, it again rises. The same result is frequently obtained by the use of a wooden bar, hung slightly out of the vertical by the side of the Swell Pedal, at the lower end of which a notch is cut. When the Swell is opened, the bar naturally assumes a vertical position, and the Pedal remains fixed by means of the notch into which it glides. A slight push, in this case also, instantaneously removes the controlling power. The great practical advantage of this arrangement will become apparent to the student at a later period.

III. The pipes in the Great Organ are all of a larger and more powerful *calibre* than those to be found in either the Swell, or Choir, and the tone is consequently of a broader and more massive character.

IV. The Choir Organ was probably so designated because in old Cathedral Organs it was customary to place all the pipes belonging to this Manual in a separate case, overhanging the Choir-screen so as to be specially available for accompanying the choral portions of the service, the Swell in those days being of such limited compass as to prove of little use for that purpose. In this Manual will be found Stops of the same character as those in the Great Organ, but of a more delicate quality of tone. Most of the Solo Stops are also usually placed in the Choir Organ.

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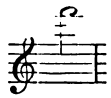
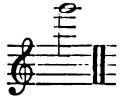
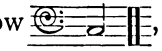
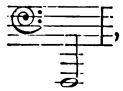
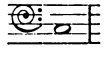
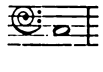
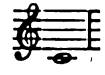
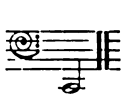
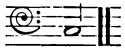
* The term *Clavier* means simply *a Set of Keys*, the prefix Manual or Pedal serving to indicate whether intended for hands or feet.

† See Appendix A.

V. In modern organs the ordinary compass of the Manuals is from  to  or  (four octaves and a half), although in some instances the Swell does not extend below  , in which case it is known as a "Tenor C Swell."* But even then, the notes of the keyboard are generally carried down to CC, the lower octave acting on the corresponding notes of the Great if the instrument contains but two rows of Manuals; should it, however, possess three, the Choir Organ is usually made available to supply the deficiency. This is a system of building to be condemned, and only excusable on economical grounds. Formerly the Manuals descended to  , and in some cases to  , and examples of this long range may still be met with in certain old organs;† but, after considerable controversy, the superiority of the CC compass has now been thoroughly established, and is universally adopted both by English and Continental builders.

In Germany the following system of nomenclature is adopted, in order to express the gravity, or acuteness in pitch, of any particular note. The notes from  to  are described by means of *capital* letters; those from  to  by *small* letters; and those of the next octave by small letters with *one stroke* below them—thus c̲. Then *two strokes* are used, and afterwards *three*, as in the following examples:—

VI. In addition to the keyboards already explained there is yet another—*The Pedal Clavier*—intended, as its name implies, to be acted upon by the feet, and it is therefore conveniently placed at a proper distance under the Manuals. By the use of this clavier, the player is enabled to supply the Bass without the intervention of the left hand, which can therefore assist the right in the manipulation of the several Manuals, and thus produce many effects peculiar to the Organ. The orthodox compass of the Pedal Board is from  to  (two octaves and a fourth), the Pedal keys themselves occupying the same space (in width) as the more extended compass of the Manuals, although the latter, comprising more notes, are necessarily of smaller dimensions. They should be so placed that  may be found *immediately beneath middle C of the other keyboards*. The great practical utility of this arrangement will become apparent when the student actually commences pedal playing. Pedal Claviers of a less scale are sometimes to be seen in small organs; but as the lowest note is now invariably CC, no difficulty will be experienced in rendering available such portions of the Pedal exercises, to be found in this work, that do not extend above the highest note of the lesser compass—the method of pedalling being in all cases identical.

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* In some old instruments the Swell does not extend below  , and in some rare instances middle C is the lowest Manual-note. But one of the most important improvements, introduced about the middle of the last century by one Samuel Green (the most intelligent organ-builder of that time), was the extension of the Swell compass; and it is to him that we owe the increased efficiency of this important department of the instrument.

† See Appendix B.

VII. The *Registers*, or *Stops*, now demand attention. These are placed to the right and left of the player, in such a manner as to be easily controlled by the hands.* Primarily, they are of two kinds—*Sounding* Stops, which cause the various pipes to speak, and *Couplers*, which simply act upon mechanical appliances. Each row of Manuals has its own special Sounding Stops, such Stops affecting that particular keyboard only. The name of the Manual to which they belong is frequently engraved on the Stops themselves; sometimes the information is conveyed by affixing a small metal plate immediately above or below the set of Stops referred to, or the names thereon are engraved in different colours; but occasionally it happens that neither of these means is adopted by the builder. Then, the only alternative is to draw the stops and test them individually. As a rule, however, it may be generally assumed that those belonging to the Great Organ are placed to the right of the player, and those affecting the Swell and Choir, on the opposite side.

VIII. As many Sounding Stops, although similar in *name*, are not identical in *pitch*, it should be understood, before proceeding farther, how they are to be distinguished. In order to do this clearly the student must direct his attention, in the first place, to the nature of the tone-producing *media—i.e.*, the Organ pipes. These, considered with respect to the manner in which that portion of them is constructed which in reality produces the tone, are of two distinct classes—viz., *Flue Pipes* and *Reed Pipes*.

IX. The Flue work includes such Stops as the Dulciana, Gamba, Diapason, Flute, and the like. Pipes of this class have an oblong opening (called the *mouth*) placed near the lower end, where the tone is emitted by the wind which has previously passed up the narrow opening, or *flue way*, at the foot; *the acuteness, or gravity of pitch, being caused by the length of the pipe.*

X. Reed work is of an entirely different character, the tone owing its origin to the vibrations of a small metal *tongue*, which is fitted on the "reed" (a small cylindrical brass tube partially cut away on one side). This is fixed in a "block," somewhat resembling the mouth-piece of a clarinet, and then placed within a short tube that receives the wind through a hole in its lower end, and the air being thus directed up to the "reed," sets the "tongue" in motion. Another tube, of greater length and increased diameter at its upper end, will also be found rising from the "block," into which it is firmly fixed. This affects the *character* and *strength* of the tone, the *pitch* being determined by the size of the mouth-piece and the length of the vibrating "tongue." The Oboe, Clarinet, Trumpet, and Stops of a similar character are constructed on this principle. In the large Pedal Reeds wooden tubes are sometimes used, but for all smaller pipes metal is exclusively employed.

XI. As already stated, the *pitch* of a flue pipe is determined by its *speaking* length. For instance: A Stop marked thus— 

(that being the speaking length necessary to produce CC on the Manual), is an *unison*, or 8-feet stop. If, on the other hand, the 

is drawn, every note struck will sound an octave *lower* than the former; while a 

will communicate with a set of pipes tuned one octave *higher* than the unison pitch, and so on. In order to secure uniformity, the pitch of reeds is always indicated in a similar manner, although this plan is practically incorrect. [See Section X.]

* Strictly speaking, the term "stop" signifies "a row of pipes;" and "register" implies the handle by means of which these pipes are made available by the organist. In England, however, considerable confusion exists about this matter.

XII. In considering the term, "*speaking length*" of a pipe, it is necessary to understand the construction of "harmonic" and "stopped" flue pipes. An 8-feet or unison tone can be produced from a pipe either 16 feet or 4 feet in length. In the former case, by means of a very heavy pressure of wind, the pipe is made to speak its "harmonic" octave, the result being increased power and brilliancy of tone. On the other hand, a stopped flue pipe of 4 feet length is made to speak an octave lower (or to yield an 8-feet tone), by the simple process of inserting a wooden plug in the upper end of the pipe, in consequence of which the "sound wave" is so affected as to give the octave below. The tone, however, in this case is of a much softer character. A *Stopped Diapason* (met with in every manual) is an instance of a Stop made on this principle. This system is also applied to Stops of other pitches, such Stops being always described as having the "*tone*" of an open pipe of the length necessary to produce the note required, on the CC key. In fact, this rule is always observed, even in the case of incomplete* Stops—so called because they are not carried lower than tenor C. Such Stops frequently exist; for instance, a *Dulciana*, or *Viol di Gamba*, is often of this limited compass, and therefore the Stopped Diapason is usually under the control of two Stops—  and  the latter of which acts on the lowest 12 notes only, so as to provide the missing notes in these incomplete Stops, by borrowing them from another of light tone that does extend to CC. Sounding Stops are also classified with respect to the pitch of the sound they produce, whether it coincides with that of the particular "key" struck or not, under three headings, as follows: Foundation Stops, Mutation Stops, and Compound or Mixture Stops.

XIII. *Foundation Stops* are those that produce notes corresponding in *name* with those pressed down, either in 32, 16, 8, 4, or 2 feet pitch; but the 8 feet of the Manuals, and the 16 feet of the Pedal Organ, are the most important, as they represent the *unison* or *ground-tone* of each respectively. As their name implies, these Stops form the foundation of Organ tone.

XIV. *Mutation Stops* are such as do not produce a note coinciding with the key pressed down, but one of its harmonic sounds. The only instances to be met with in modern Organs are the *Great Quint*, a Pedal Stop which sounds a fifth above the 16-feet (unison) pitch of that clavier; the *Quint*, a Manual Stop which will produce the fifth above the 8-feet unison; and the *Twelfth*, which sounds a twelfth above the unison manual pitch. None of these should be used, except in combination with several Foundation Stops of sufficiently strong tone to destroy their unpleasant individuality, and one of which, at least, must be more acute in pitch than the Mutation Stop employed. For this reason, the *Twelfth* must never be drawn without the *Fifteenth* (a Stop of 2 feet, sounding two octaves above the unison), and the *Quint* can only be rendered available in combination with *all* the 16-feet manual flue-work. The same remarks, of course, apply to the Pedal Organ.

XV. *Compound* or *Mixture Stops* are a combination of both Foundation and Mutation Stops. They give more than one sound for every note pressed down—sometimes as many as five—all of which, however, are harmonic sounds of such note. They ought only to be used in conjunction with the whole of the flue-work belonging to the clavier on which they are placed. Then, by filling up the intervals between the higher octave Foundation Stops, they impart a ringing and brilliant character to the general tone. The number of sounds produced by one of these Stops may usually, and *ought always* to be easily ascertained on reference to the Stop-knob, on which should be engraved 2, 3, 4, or 5 "ranks," according to the number of sets of pipes employed.

* Sometimes described as "Half Stops," although such a term is obviously incorrect.

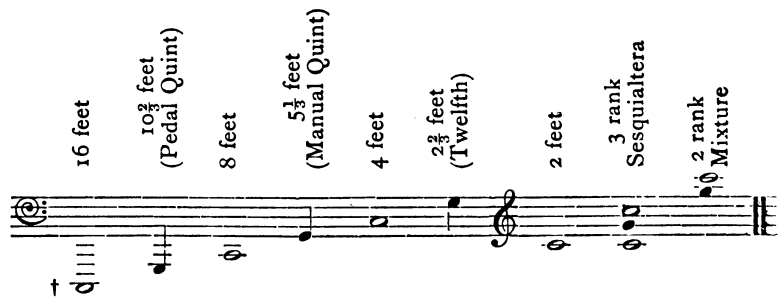
A careful examination of the following Tables will enable the student to form a general idea of the nature of all those Stops usually to be found in Organs of ordinary size :—

MANUAL STOPS.

	Name of Stop.	Pitch.	Relative Power of Tone.	Material of which the pipes are made	In which Manuals usually found.	Compass.*
Flue-Work.	Dulciana or Salcional	8 feet *tone* or 16 ,, *tone*	*pp*	Metal	Sw. Gt. Ch.	Tenor C
	Vox Angelica or Voix Celeste	8 ,, (2 ranks of Dulciana pipes)	*pp*	Metal	Sw. or Ch.	Tenor C
	Viol di Gamba	8 feet	*p*	Metal	Gt. Ch.	Tenor C
	Stopped Diapason or Lieblich Gedackt...	8 ,, *tone* or 16 ,, *tone*	*p*	Wood or Metal	Sw. Gt. Ch.	CC
	Clarinet Flute	8 ,,	*p*	Wood	Gt. Ch.	Tenor C
	Claribel or Claribella	8 ,,	*p*	Wood	Gt. Ch.	Tenor C
	Hohl Flöte	8 ,,	*p*	Metal	Sw. Gt. Ch.	Tenor C
	Keraulophon	8 ,,	*pp*	Metal	Sw.	Tenor C
	Open Diapason	32 ,, 16 ,, 8 ,,	*p*, *mf*, or *f*	Wood or Metal	Sw. Gt. Ch.	CC
	German Gamba	8 ,,	*f*	Metal	Gt.	Tenor C
	Quint	$5\frac{1}{3}$,,	*f*	Metal	Gt.	CC
	Flute Harmonique	8 ,, *tone* 4 ,, *tone*	*mf*	Metal	Gt. Ch. Sw.	Tenor C
	Wald Flute	4 ,,	*p*	Wood	Gt. Ch.	Tenor C
	Principal or Octave	4 ,,	*f*	Metal	Sw. Gt. Ch.	CC
	Twelfth or Octave Quint	$2\frac{2}{3}$,,	*f*	Metal	Gt.	CC
	Fifteenth or Super Octave...	2 ,,	*f*	Metal	Sw. Gt. Ch.	CC
	Piccolo	2 ,,	*p*	Wood	Sw. Gt. Ch.	Tenor C
	Sesquialtera		*f*	Metal	Sw. Gt.	CC
	Mixture		*f*	Metal	Sw. Gt.	CC
	Oboe	8 ,,	*p*	Metal	Sw.	CC
Reed-Work.	Vox Humana or Voix Humaine	8 ,,	*pp*	Metal	Sw.	Tenor C or CC
	Clarinet or Cremona	8 ,,	*mf*	Metal	Gt. Ch.	Tenor C
	Cornopean or Horn	8 ,,	*f*	Metal	Sw.	CC
	Trumpet or Posaune	8 ,, or 16 ,,	*ff*	Metal	Sw. Gt.	CC
	Clarion	4 ,,	*ff*	Metal	Sw. Gt.	CC
	Contra Fagotto	16 ,,	*mf*	Metal	Sw.	CC

The Manual "unison" is 8 feet.

The Solo Stops are to be found chiefly in the Choir Organ ; but all *foundation* Stops are available for this purpose—except the Principal, Fifteenth, and Clarion—if properly treated.



† The 32-feet C sounds an octave lower than the 16-feet pitch.

PEDAL STOPS.

	Name of Stop.	Pitch.	Relative Power of Tone.	Material of which the pipes are made.
Flue-Work.	Bourdon or Double Stopped Diapason	16 feet *tone*	*p*	Wood
	Violon	16 feet	*mf*	Metal
	Open Diapason	16 feet	*f*	Wood or Metal
	Bass Flute	16 feet 8 feet *tone*	*p*	Wood
	Principal or Octave	8 feet	*f*	Metal or Wood
	Great Quint	$10\frac{2}{3}$ feet *tone*	*mf*	Wood
Reed-Work.	Trombone	16 feet	*ff*	Metal or Wood

The Pedal "unison" is 16 feet.

* In some large instruments every *Stop* extends to CC.

XVI. Having thus briefly considered the character of Sounding Stops generally, the student must now proceed to examine the *Couplers*. These are of two kinds—Manual, and Pedal Couplers. By means of the former, we are enabled to connect (or "couple") any one of the Manuals to another. Thus, if the Coupler labelled 

be drawn, and the Great Organ keyboard used, every note is pulled down on the upper Manual simultaneously with that struck on the lower. In like manner, if 

be added, by still playing on the Great, the same effect will be observed with respect to the Choir Organ. If, when playing on the Choir, 

be drawn, the first-named Manual will also act in conjunction with it.* It will thus be seen that this useful piece of mechanism places new combinations at the disposal of the Organist, by rendering available simultaneously on one keyboard, Stops that belong to any other Manual. It is also possible to produce the effect of graduated tone on botn Choir and Great Manuals, by simply coupling them to the Swell. These accessories are also very useful when it is desired to produce a general *crescendo* throughout the instrument.† The Pedal Couplers act in a similar manner, connecting the lower portion of each Manual with the Pedal Clavier. These are also of great utility; for instance, if when using the Great Organ *ff*, the Pedals with a soft Stop drawn are coupled, a bass of requisite power is produced; and on suddenly changing to another Manual with subdued tone, it is simply necessary to push in the "Great to Pedal" Coupler, and, although all the Great Organ Stops are left drawn, a soft bass is instantaneously obtained without further trouble.

XVII. There are also other mechanical contrivances for drawing certain fixed combinations of Stops on the Great and Swell Manuals without the intervention of the hands. Sometimes, also, others are introduced which act on the Choir. These are designated "*Composition Pedals*," and will be found projecting in front of the player immediately above the Pedal Board. As the arrangement of these necessarily differs in various Organs, it will be necessary to test them, in order to ascertain which Stops are thereby affected. If the instrument possesses but two Manuals (Great and Swell), one of the *Composition Pedals* attached to the Great will always act on those of the soft Stops which produce a tolerable imitation of Choir Organ tone—a combination which, being thus readily obtained, is most useful. Great Organ Composition Pedals frequently act on the Pedal Stops, producing a corresponding balance of tone simultaneously. This is also a most desirable arrangement, for obvious reasons. A series of "Composition Pedals," causing a gradual *crescendo*, are usually arranged from left to right, although in some cases this order is reversed.‡ It need scarcely be added that all these mechanical appliances, skilfully used, increase the resources of the Organ to an immense extent.

XVIII. Having now briefly considered all that it is absolutely necessary to know in reference to the various accessories of an organ, the student may begin to make himself practically acquainted with the manipulation of the keyboard; but, before doing so, he ought thoroughly to understand in which essential points it differs from that of the Pianoforte. Those conversant with the last-named instrument are, of course, aware that its sounds owe their origin to the vibrations of strings set in motion by percussion, graduation of tone being produced by a carefully regulated action of the fingers, technically called "touch;" while sustained effects can be produced by means of the "Pedal," which shifts the position of the "dampers" in such a manner that they no longer act, and the natural vibrations of the "strings" consequently continue even after

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* See Appendix C.

† In some old Organs, a species of mechanism, technically known as a "Tumbler" Coupler, is to be met with. When such is the case, care must be taken to refrain from drawing it while the keys are pressed down, as the effect will be either to throw the fingers off, or produce a "*ciphering*" (sticking down of the Manuals) Possibly, both results will follow.

‡ See Appendix D.

the hands are withdrawn, (although, of course, in a gradually decreasing ratio) for a longer or shorter period, according to the force with which the keys are struck. But in the Organ, sounds are generated by means of compressed air passing through the pipes; the power of the tone is entirely uninfluenced by "touch," and its prolongation exists only so long as the keys remain firmly pressed down, during which time, however, the sound produced is of undiminished intensity.

XIX. The totally different nature of the two instruments being carefully considered, it becomes at once apparent that, in order to produce all those *legato* and *sostenuto* effects so peculiarly characteristic of the Organ, a different system of fingering will frequently be found necessary. From this circumstance, a mistaken idea still prevails to some extent, that organ-playing renders thorough proficiency on the Piano impossible, on the ground that elasticity of finger and all delicacy of touch are seriously impaired by practice on the former instrument. It is true that in former years the Organ "touch" was both clumsy and heavy, but modern improvements have so thoroughly remedied the defect, that the resistance now offered to the fingers need not be greater than in an Erard Piano; and, so far from spoiling the pianist's hand, the Organ rather developes its resources than otherwise. Mendelssohn was, perhaps, the finest organist ever known; but who will dispute the fact that he was also an equally fine pianist? Robert Schumann, who was not only a profound thinker, but also a man possessed of much sound practical knowledge gained by actual experience, speaks most decidedly on this point in his *Musikalische Haus-und Lebens-Regeln.* He says—"*Never miss an opportunity of practising on the Organ, for there is no other instrument that so effectually corrects impurity of style and touch.*" It is unnecessary to add anything in support of such testimony as this, and the student's attention may now be claimed for the following preliminary exercises, begging him to carefully observe the directions given as to the mode of practising them.

XX. A.—The fingers should be placed tightly on the surface of the keys, each note being pushed evenly and firmly down by *pressure of the finger only.* They must not be struck forcibly, as by so doing an unpleasant "choppy" effect is produced that must, above all things, be avoided.

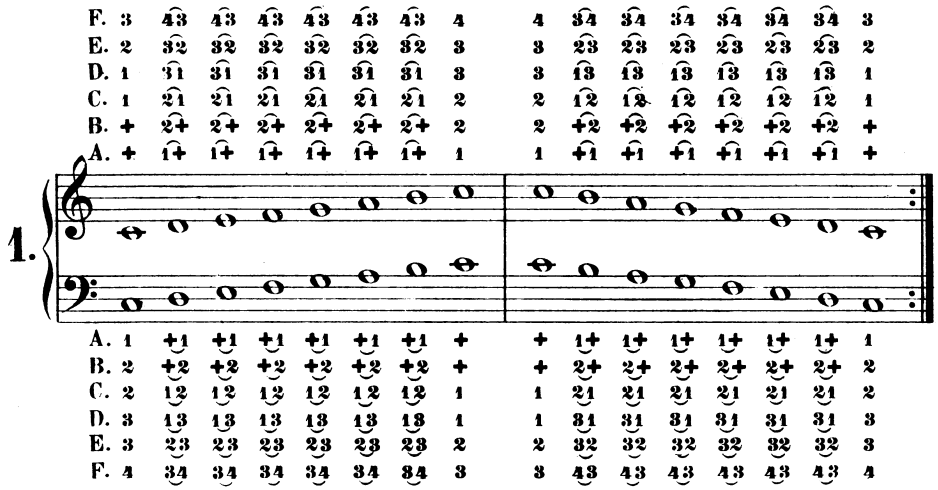
B.—In passing from one note to another, particular care must be taken lest the first should be retained too long, so as to produce a blurred effect when the next note is heard; but, while avoiding the slighest "break," one note must be allowed to glide, as it were, into the next. It will be found desirable to use the second joint of the finger as much as possible, in order to accomplish this successfully.

C.—The fingers must be changed simultaneously in both hands; and, in doing so, the notes on which this substitution of one finger for another takes place, should remain pressed down, and not be permitted to speak again with each change. This must be carefully attended to while practising the simple scales; and the increased difficulty in subsequent exercises, where chords are dealt with in a similar manner, will not cause the beginner much inconvenience.

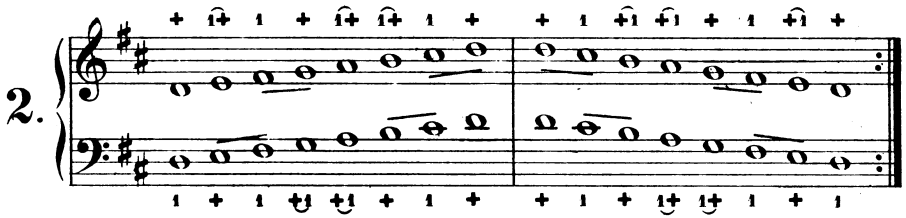
D.—Every note of a chord must be played precisely together; and all combined movement of the parts must be conducted in a similar manner.

In order to become thoroughly familiarized with these most important matters, the student is advised to commence the practice of these scales and exercises—simple as they may at first sight appear—with each hand separately, in very slow *tempo;* afterwards both hands can be employed and the speed gradually increased. Although the first experience at the keyboard may not be so interesting as the beginner might desire, yet, by employing a moderate amount of perseverance, so as to thoroughly master these *preliminary* studies before attempting to proceed farther, he will subsequently be amply repaid on realizing the countless advantages of working on a good foundation.

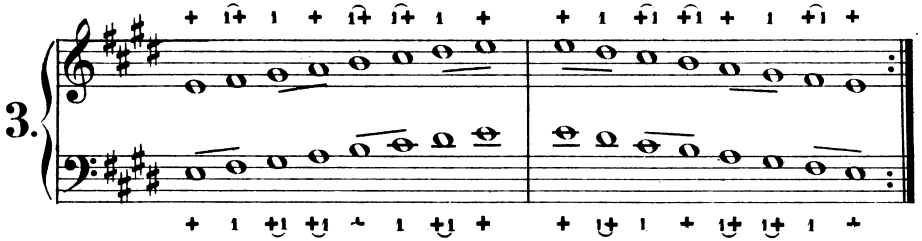
(Exercises 1 to 56 inclusive, can be played on the Great Manual; the Open Diapason having been previously drawn.)

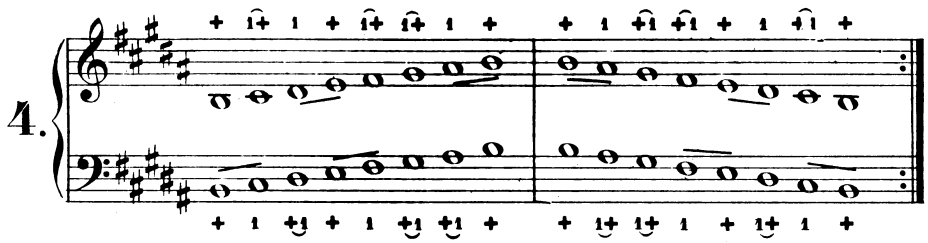


In the scales of G, D, F and B♭, the thumbs should not be used on black keys. D major is here given as an example; the thumb being passed under the fore-finger, or the fore-finger over the thumb, where the short lines are placed.

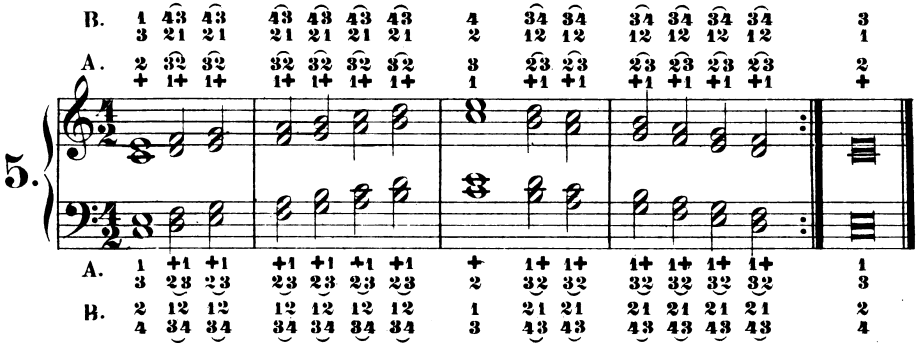


When two black keys immediately follow each other in an ascending scale the thumb should be placed on the first of them, but not on the second. In extreme keys, when three black notes follow each other consecutively the thumb should be used on the first and second of them, but not on the third. In descending, this method will of course be reversed in every instance – as in the following examples *

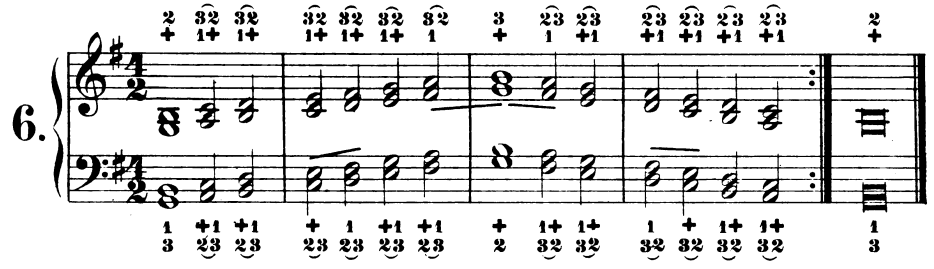




Scales in thirds.

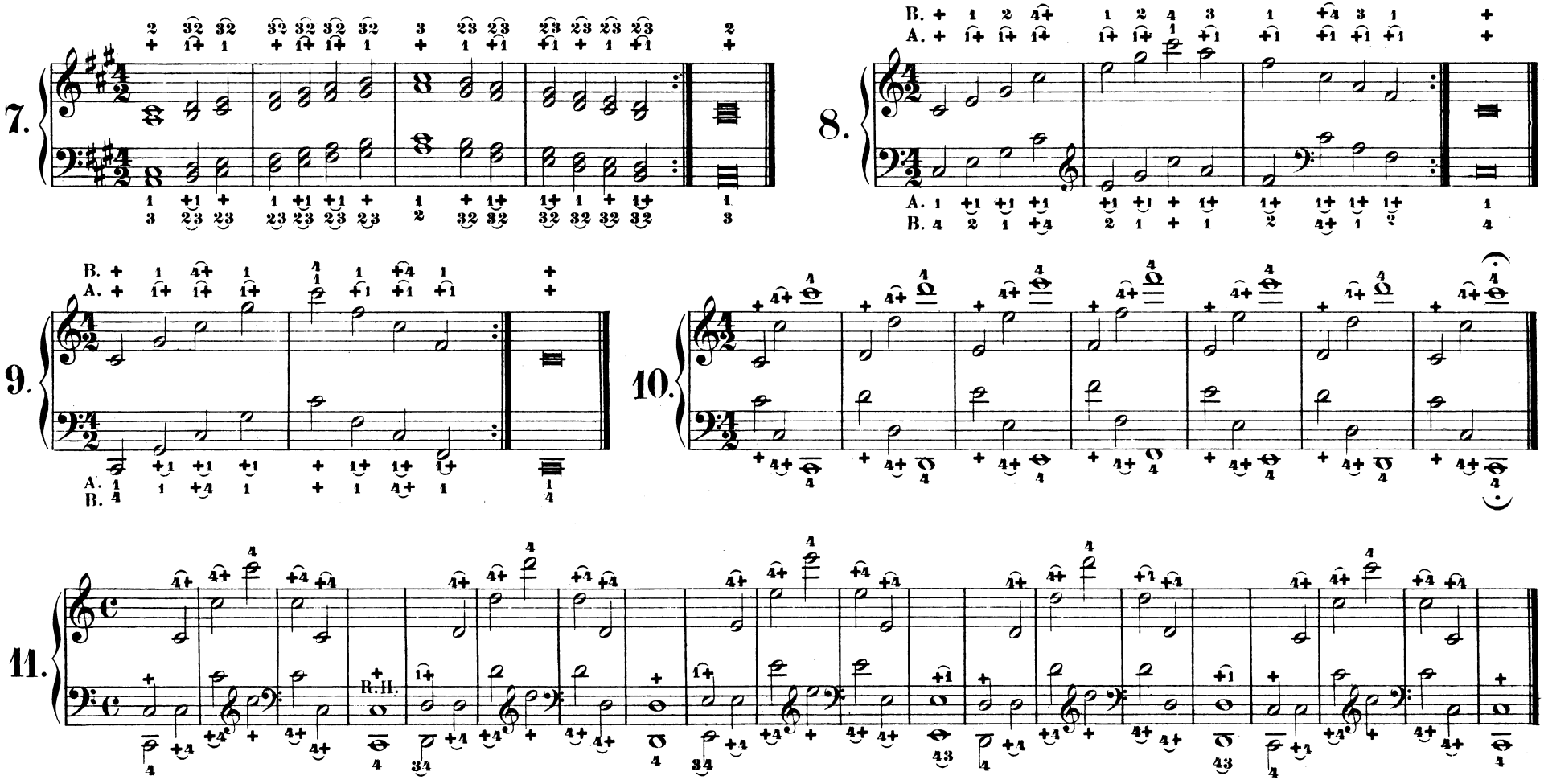


When black keys are used, the same system of fingering is adopted as in the case of single notes.

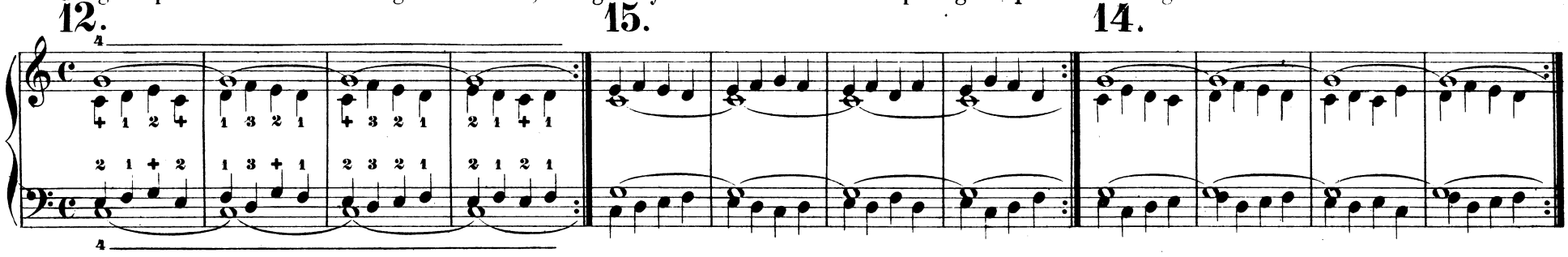


*These directions refer to the Right Hand – In an ascending Scale for the Left Hand this process of fingering is reversed.

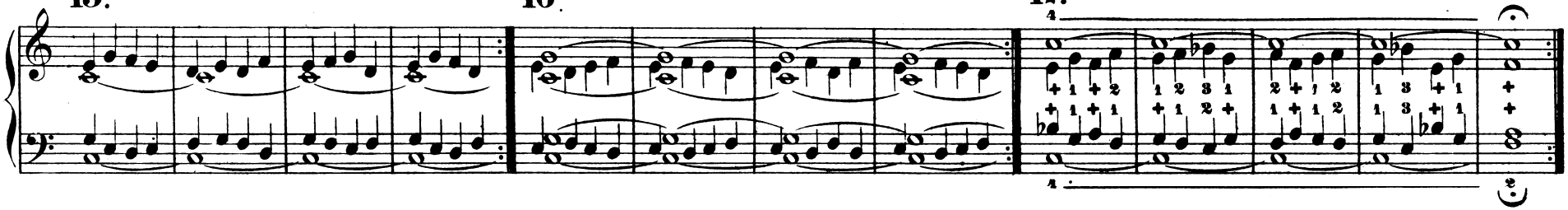
Exercises 8, 9, 10 and 11, are intended to assist the student in playing simple *extensions* with perfect smoothness.



Diligent practice of the following 7 Exercises, will greatly assist the student in acquiring independence of finger.



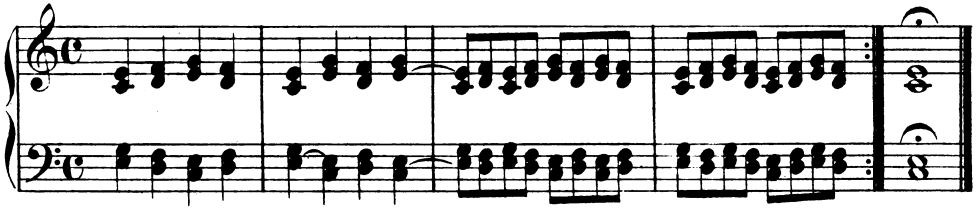
15. 16. 17.



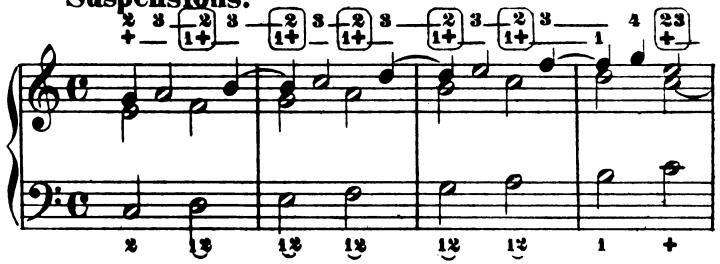
The change of fingering, indicated within the curved lines, is effected on the chord immediately beneath.

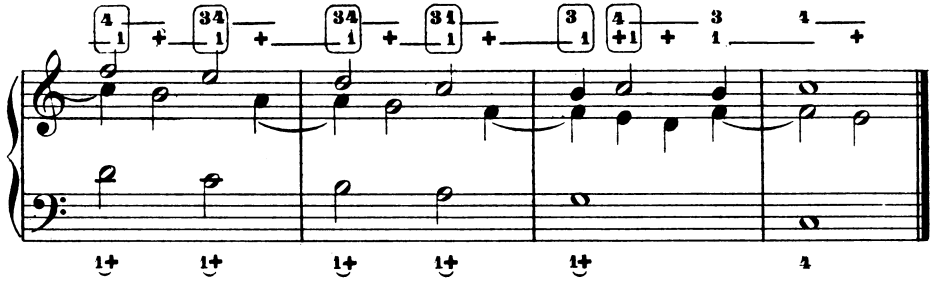
Suspensions.

18.

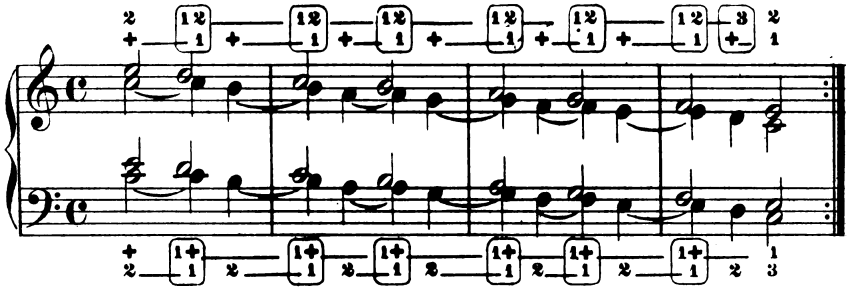


19.

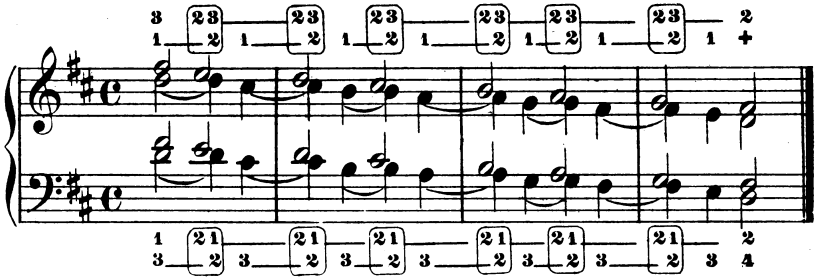




20.



21.



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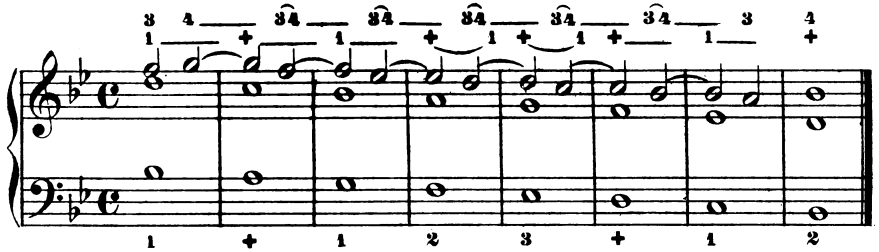

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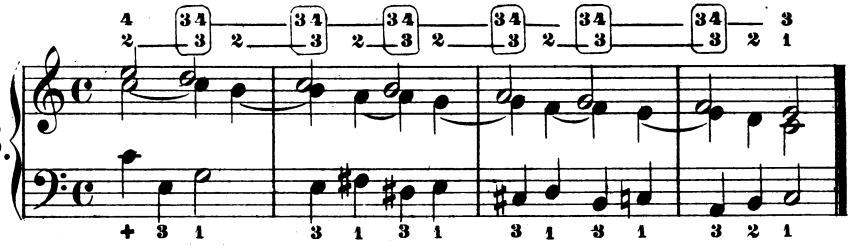
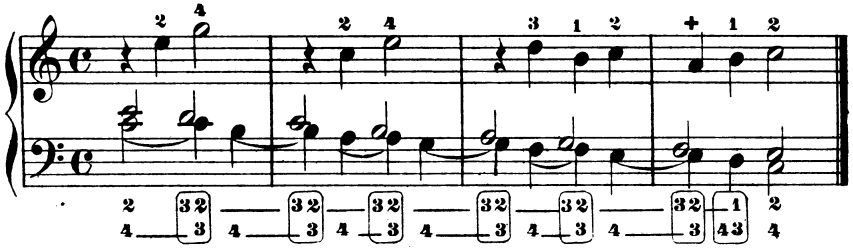
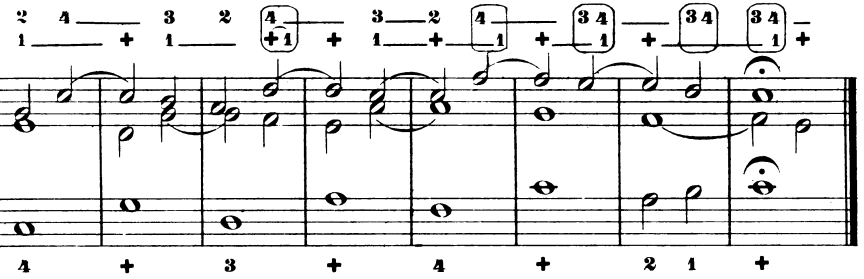


24.

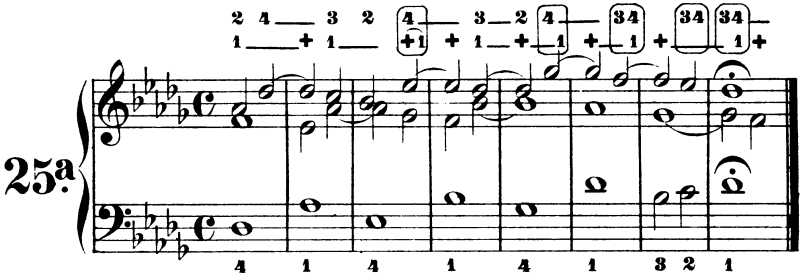


25.

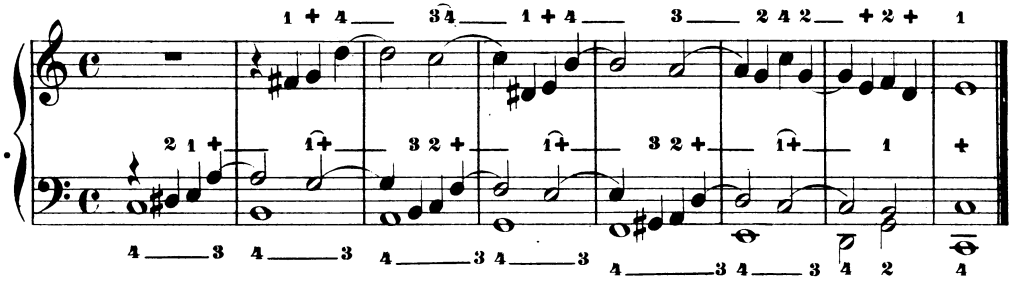


In the case of such progressions in extreme keys as embody wide *extensions*, or render it necessary to employ every finger, the thumb is used freely on the black notes – in fact the same method of fingering may be adopted without reference to key. (The following transposition of the preceding exercise will illustrate this.)

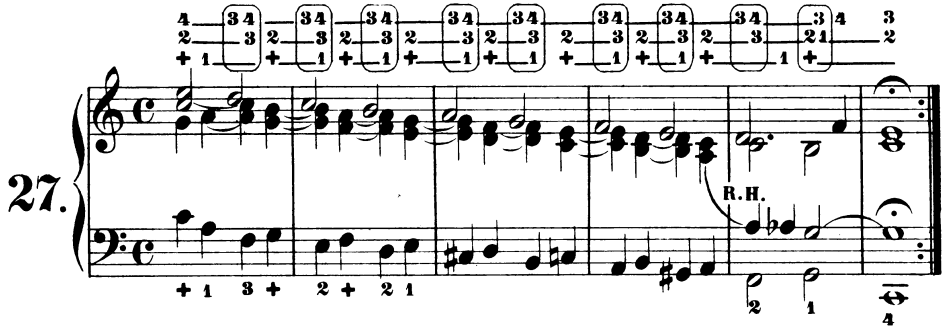
25a.



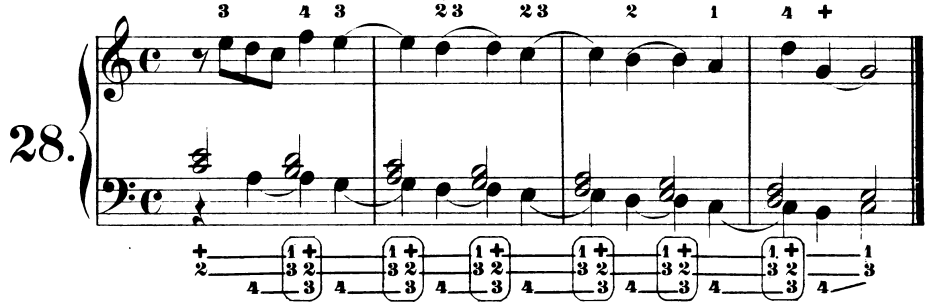
26.



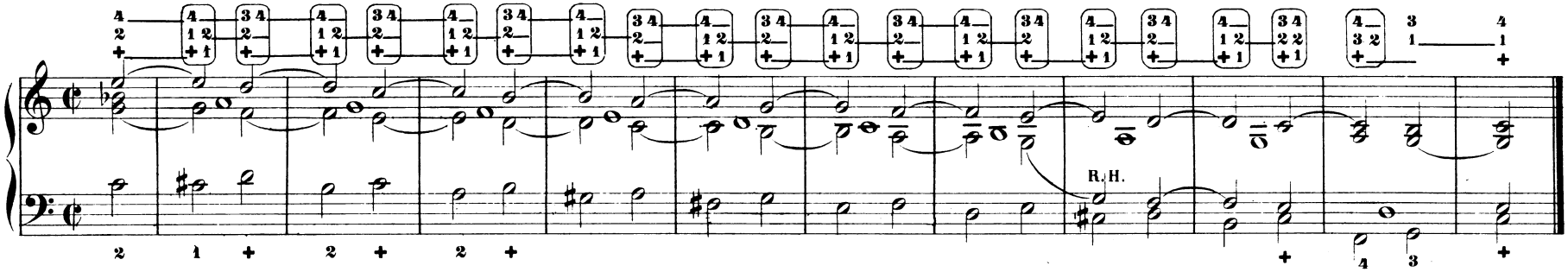
27.



28.



29.



30.

31.

The following exercises, are intended to be illustrative of the method of playing a succession of chords with perfect smoothness.

32.

molto legato

33.

*) When necessary, the intermediate fingers must also be used in order to accomplish the desired change — thus 

XXI. The object of the foregoing course of preliminary practice is to "form the hand" for strictly *legato* playing, by developing the muscular power of the fingers, and establishing their independent action. It will also be found that, by a strict observance of the system of fingering therein employed, the pianist will speedily overcome the difficulties associated with organ "touch". For this reason, the whole of these exercises have been written in such a manner as to avoid the necessity for infringing the system of constantly substituting one finger for another on the same note: but it is by no means to be understood that such a species of manipulation is always to be adopted in its integrity—indeed, that would be impossible—although it is essentially necessary that the student should thoroughly familiarize himself with it, as being the basis on which he must work. Presuming therefore that the fingers, by diligent practice, have now become sufficiently "educated", it will be found that the requisite smoothness can be attained in most instances by less elaborate means, and that a "mixed method" of fingering is the desideratum, even ordinary Pianoforte fingering being frequently used with advantage. This will be readily understood by reference to the following examples, when it will be seen that

(1) Change of finger on the same key is not resorted to, except when actually necessary.

(2) The longer fingers are frequently passed over the shorter ones.

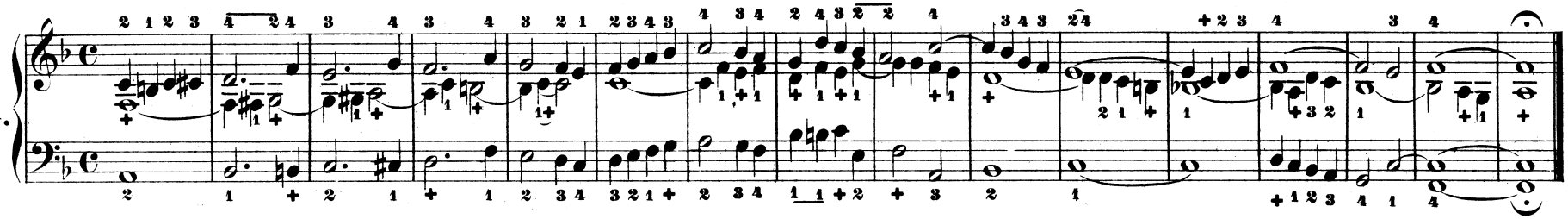
(3) It is also often desirable to slide the same finger from a black key to the immediately adjacent white one.

But in carrying out these modifications, the greatest caution must be exercised, in order to produce precisely the same *sostenuto* and *legato* effects as before, more especially when the position of any chord or chords, renders it necessary to divide the parts unequally between the hands; although, in such cases, it is often extremely difficult to avoid a perceptible "break" when the notes in question are transferred from one hand to the other.

It must also be remembered that all notes should be promptly raised at the precise moment their value expires, so as to preserve the necessary continuity of each individual part.

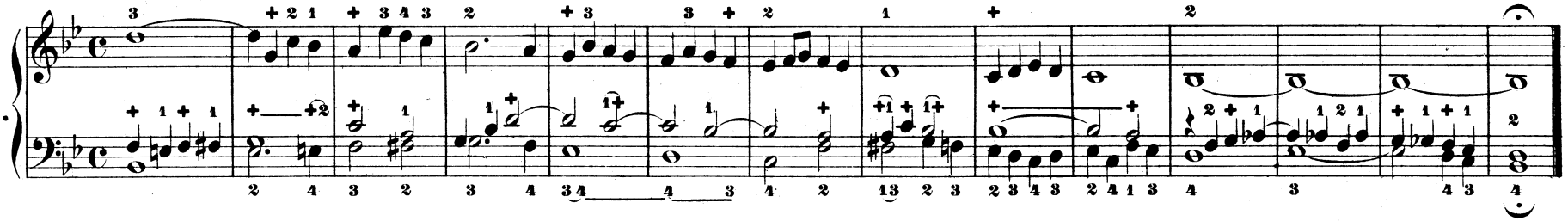
Exercise in 3 parts, in which two of them are assigned to the right hand throughout.

34.



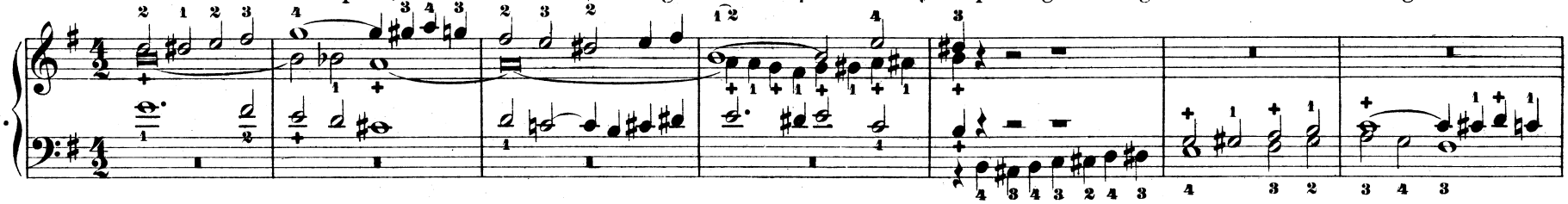
Exercise in 3 parts, in which two of them are assigned to the left hand.

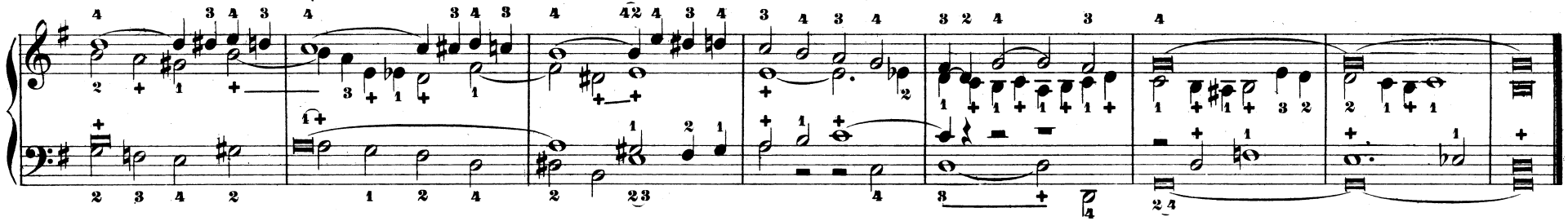
35.



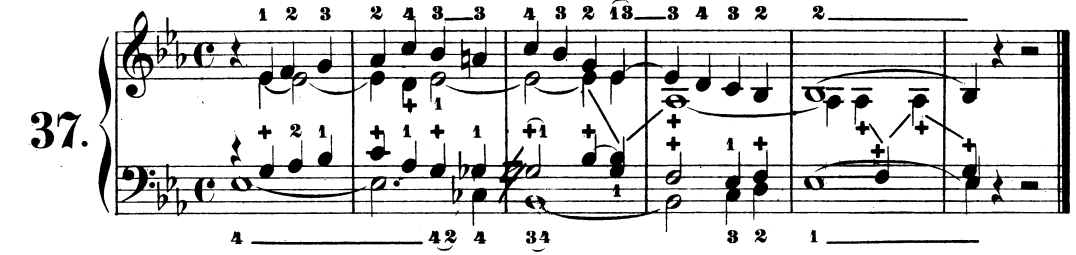
Exercise in 4 parts, intended to enable the beginner to acquire facility in passing the longer over the shorter fingers.

36.

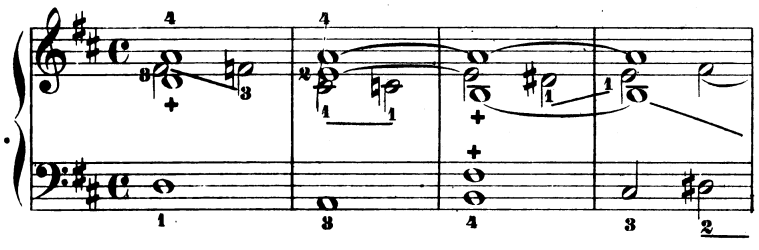




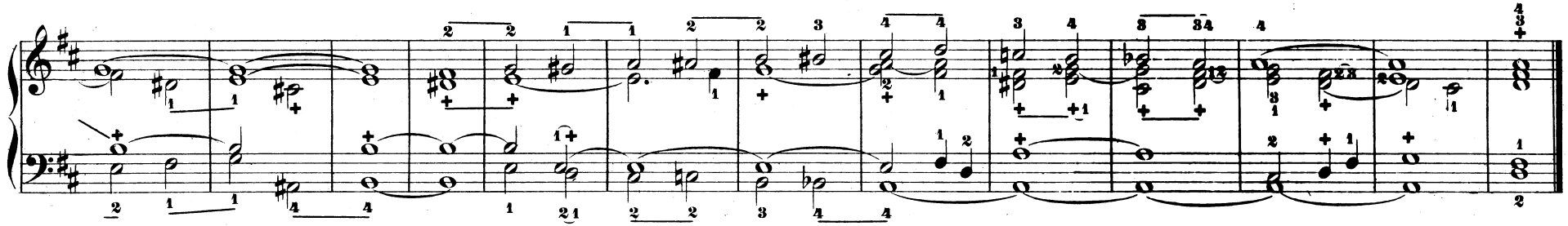
For the practice of transferring portions of a chord from one hand to the other— and the *glissando.*



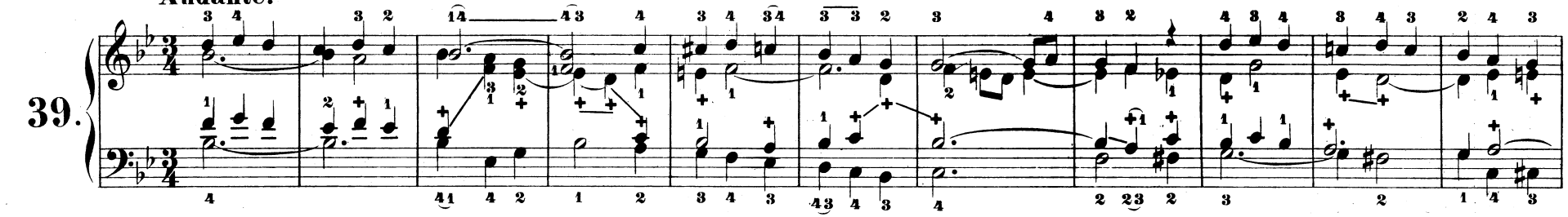
37.



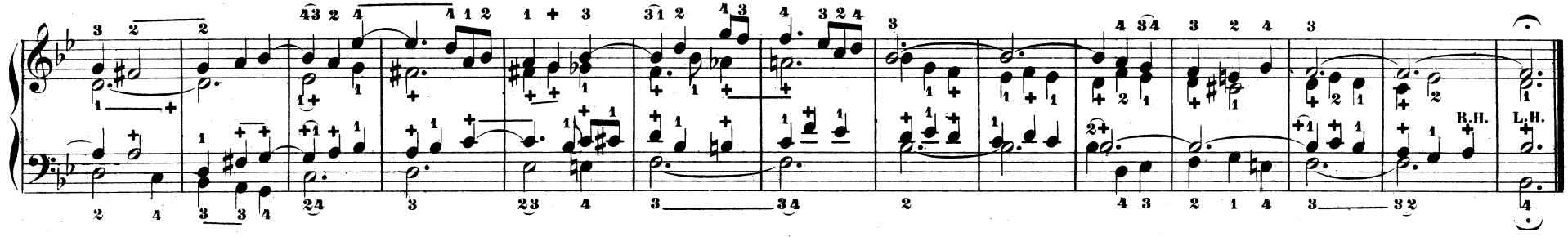
38.



Andante.



39.



XXII. An important detail of organ fingering, to which no reference is made in any work on the subject with which the Author is acquainted, he will here endeavour to explain; although it is difficult to do so clearly, otherwise than by actual experiment.

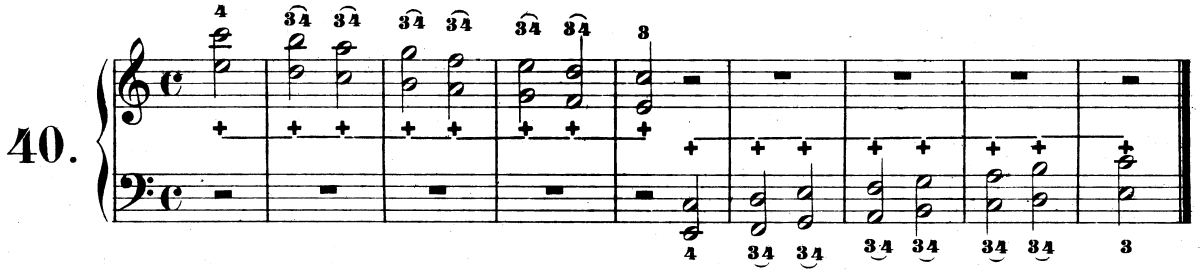
Even many organists are unaware that a series of white keys in a descending scale can be played perfectly *legato* by an oscillatory use of the thumb, unassisted by any other finger although in order to render it sufficiently pliable for this purpose, considerable practice will of course be necessary. The *modus operandi* in the case of the right hand, is as follows.

The under side of the thumb must be placed on the front edge of the key (where it should rest as far as the first joint), its upper end being raised just above the level of the Manual by a slight depression of the wrist. Then, the first joint must be bent backwards as far as possible over the next key below, the wrist raised and thumb dexterously straightened at the same time on the second note; when it can be struck with ease; and the effect to the ear will be precisely as though two fingers were used. This operation must be repeated for each subsequent note in the series, but great care must be observed when straightening the thumb, in order to liberate the last note neatly before the next is actually heard. The same method may be applied to ascending scale passages assigned to the left hand, and it is also possible, with some slight modification, to adopt it in the case of a white key followed by a black one. To a limited extent also, by reversing the process, ascending scales for the right hand, and descending scales for the left hand, can be similarly treated.

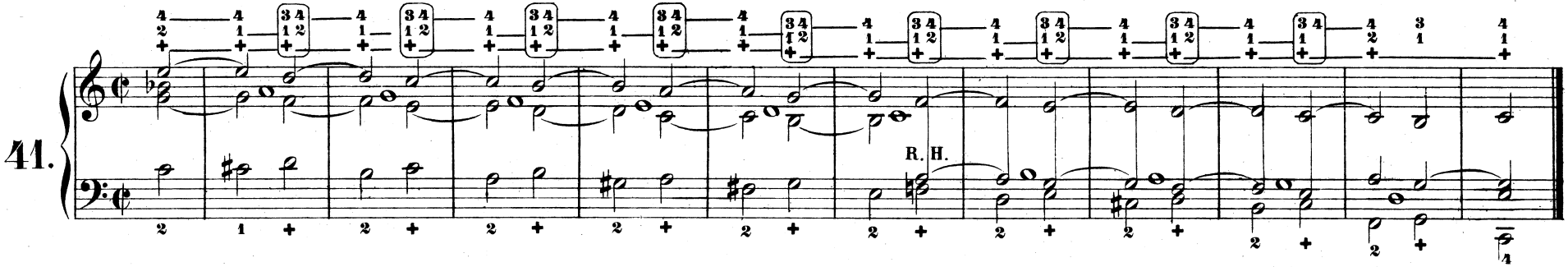
When this somewhat novel expedient can be accomplished with sufficient expertness, its practical advantages are of incalculable value, as will be seen hereafter.

The attempt should at first be made with single notes, afterwards in combination with others as shown in the following examples, in which, however, it will be found necessary to raise the point of the thumb concurrently with the change of finger on the upper notes. When this plan of procedure becomes familiar, the utmost freedom should be allowed in the use of the first joint as its pliability increases, and the elevation and depression of the wrist reduced to a minimum.

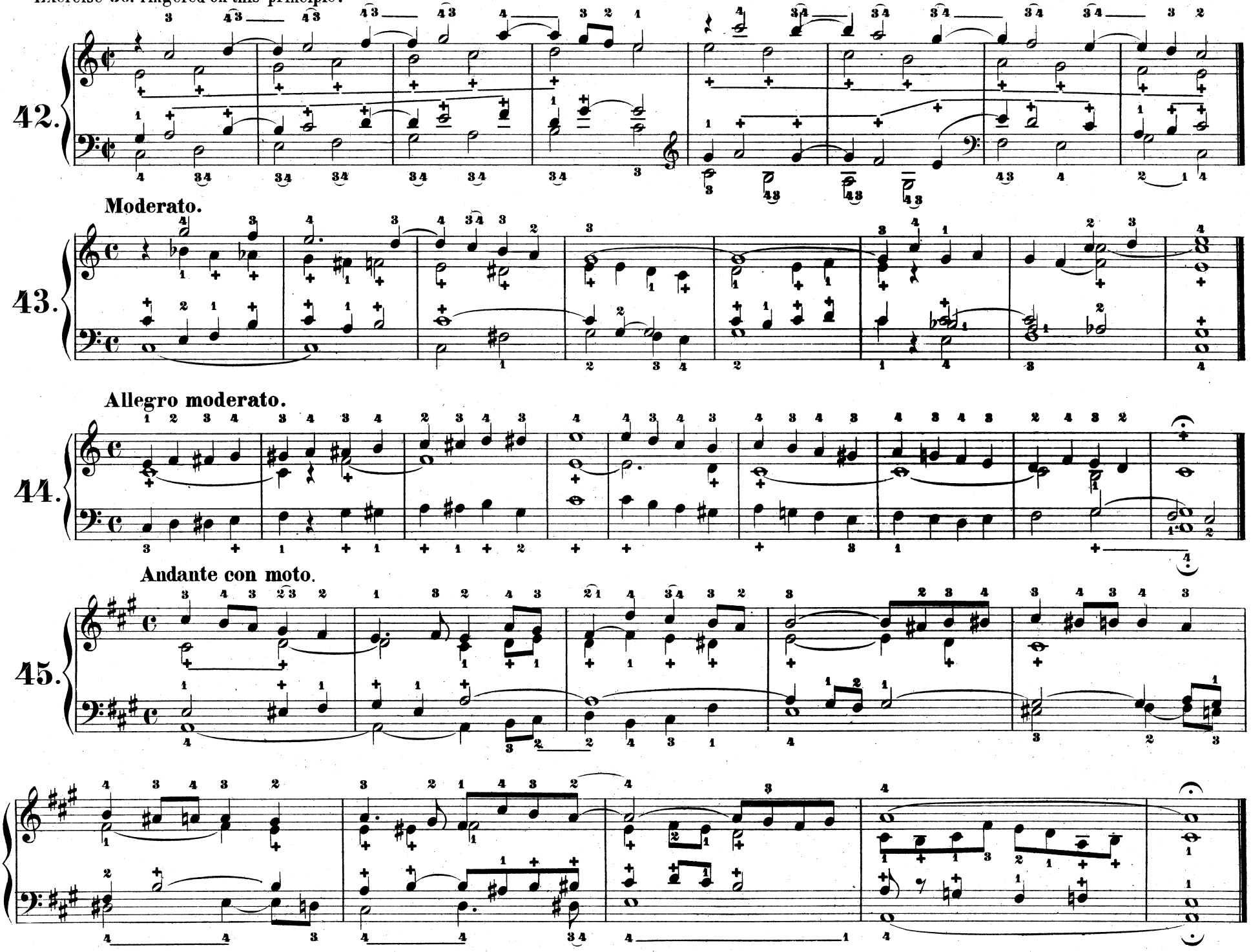
40.



41.



Exercise 30. fingered on this principle.

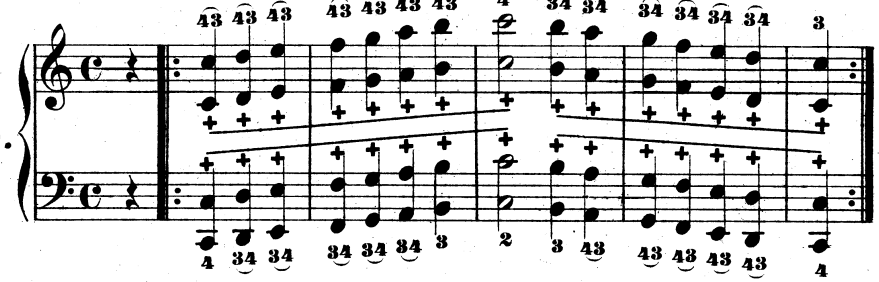


XXIII. In some passages of intricate construction, where it is well nigh impossible to attain perfect smoothness; if that effect be produced in the *extreme parts,* such a proceeding will generally veil any little lack of continuity in the purely harmonic portion of the progression. This remark will also partially apply to the performance of octaves, both in regular succession, and in *extensions.*

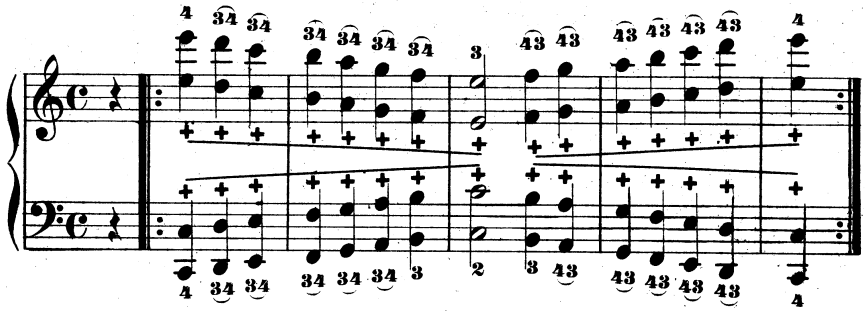
The following examples are given by way of illustration, but it must be remembered that the oscillatory use of the thumb should still be adopted wherever practicable.

Octave Scales.

46.

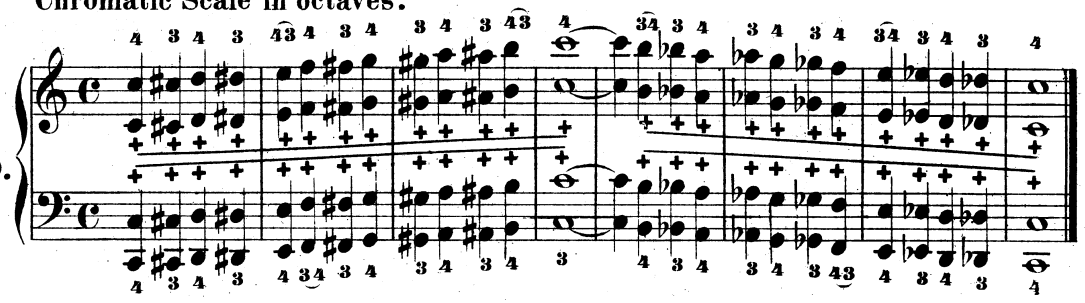


47.



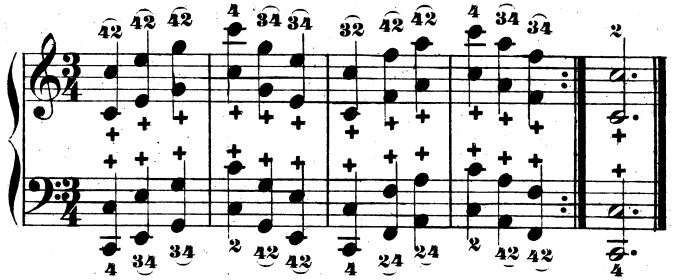
Chromatic Scale in octaves.

48.

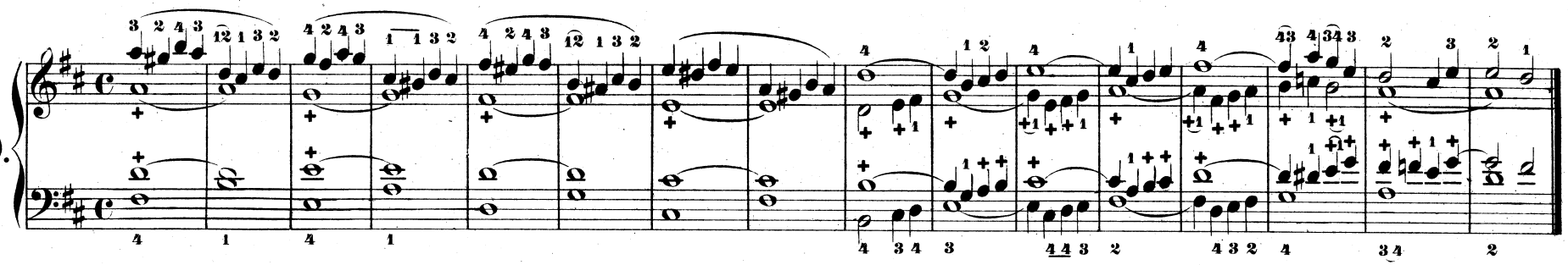


Octaves in extension.

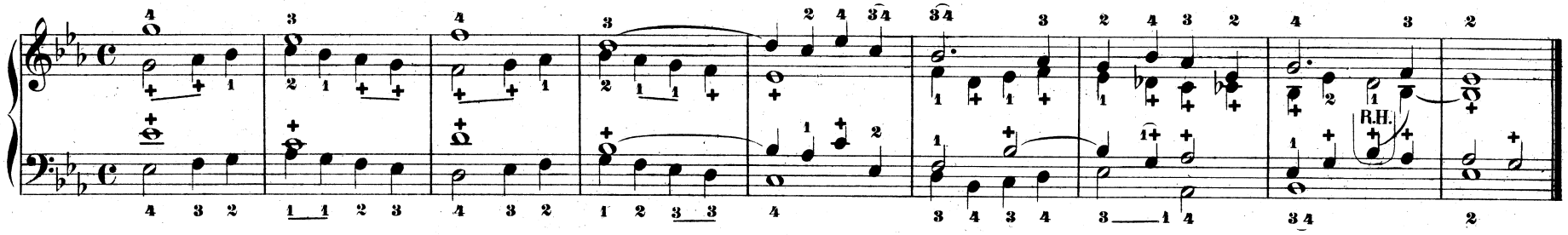
49.



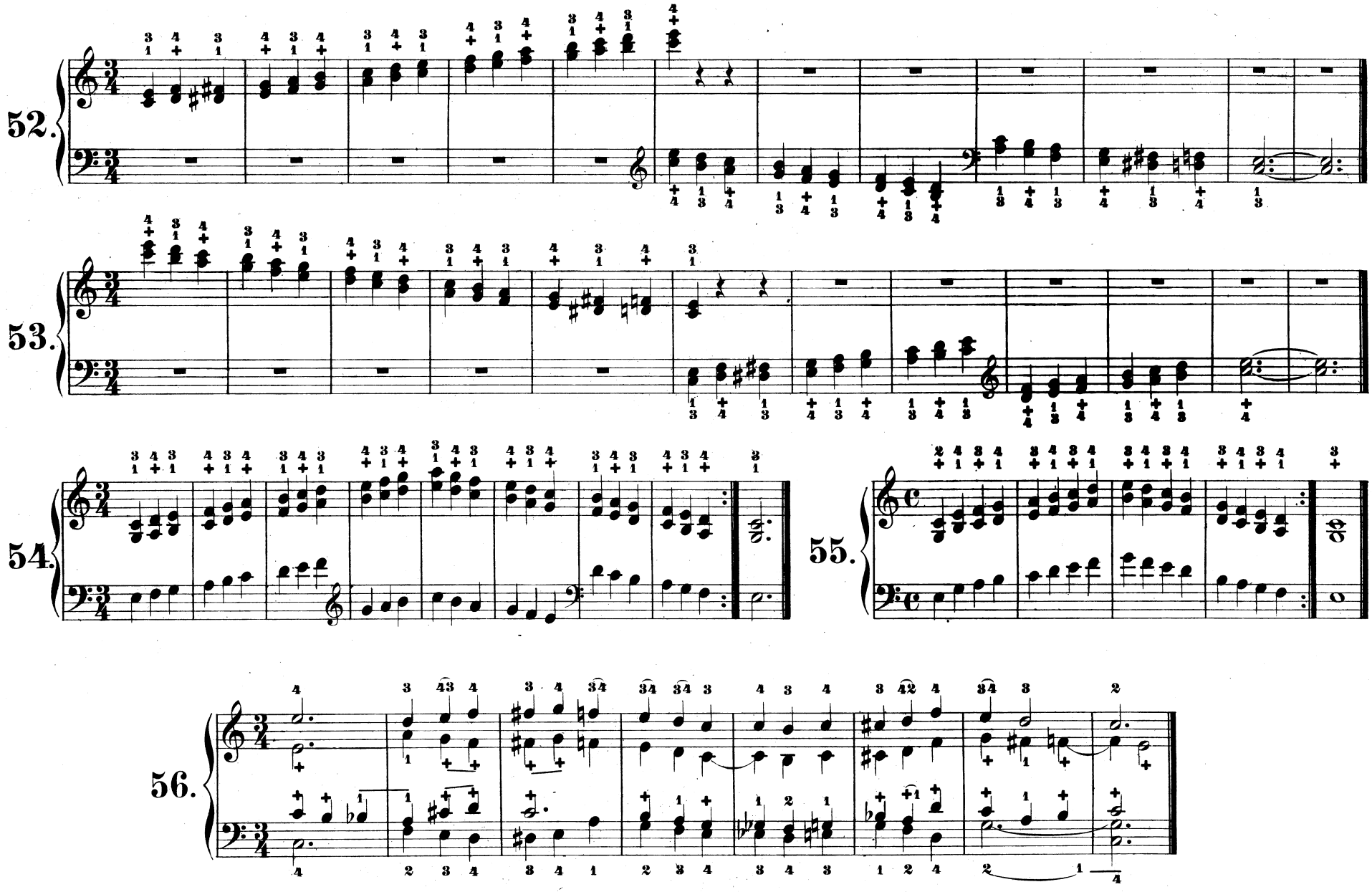
50.



51.



XXIV. The student ought now to be able to play a sequence of thirds or fourths in the manner following, which renders change of finger unnecessary. Exercises **52**, **53**, **54** and **55** should be practised in every key, and with both hands together, as well as in the manner indicated below.*



* In some keys a slight modification of this fingering will be necessary for the Left Hand such as the substitution of $\frac{1+}{4\,3}$ for $\frac{1+}{3\,4}$

* (Sw. with Oboe.)

Andante.

57.

(G! Diap. 8 feet.)

Moderato.

58.

R.H.

R.H.

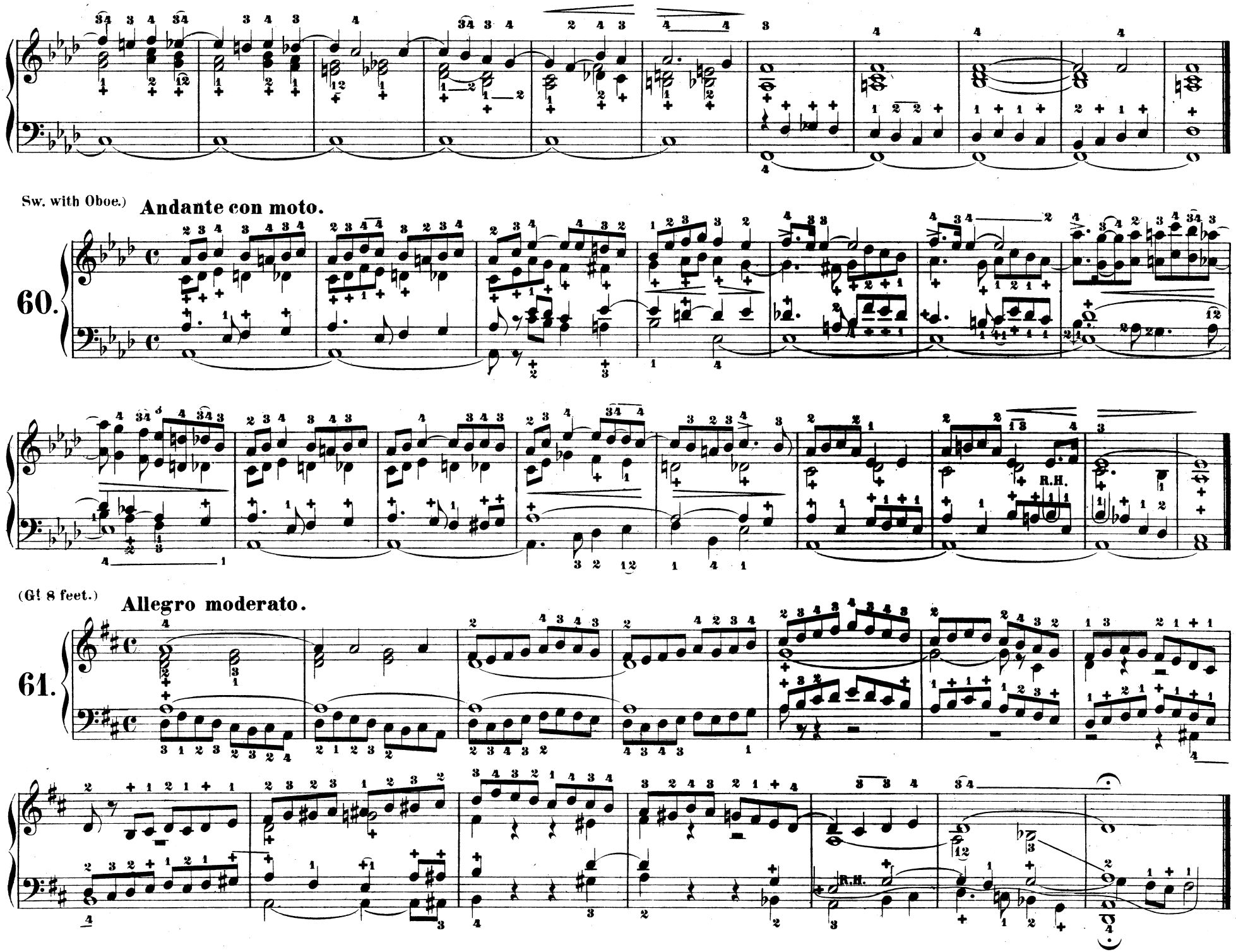
(Sw. 8 feet.)

Allegro moderato.

59.

(add Oboe.)

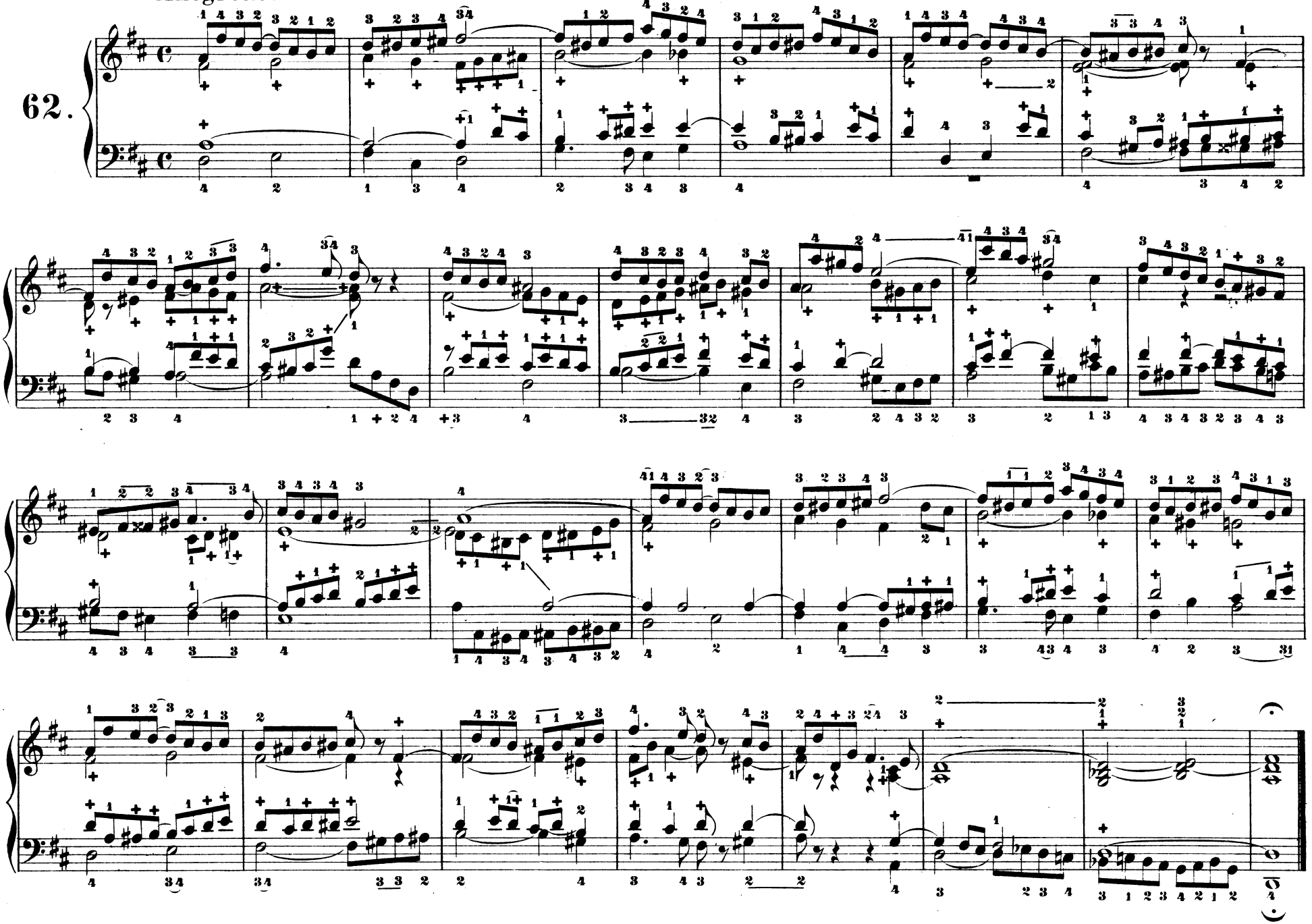
* For explanation of the method of indicating "stop combinations," see Section XXXI page 53.


Sw. with Oboe.
Andante con moto.
60.
R.H.
(G! 8 feet.)
Allegro moderato.
61.
R.H.

(Soft 8 feet stops.)
Ch, or Sw.

Allegretto.

62.



XXV. French composers produce a charming and characteristic effect by the frequent employment of a simple device, known to contrapuntists as an "inverted pedal" and this artifice is almost invariably found to be a leading feature in their organ works. The student will already have observed in the examples hitherto given, that something of this kind is resorted to by more strictly legitimate writers for the instrument, in order to establish a perfect connection between one chord and another.

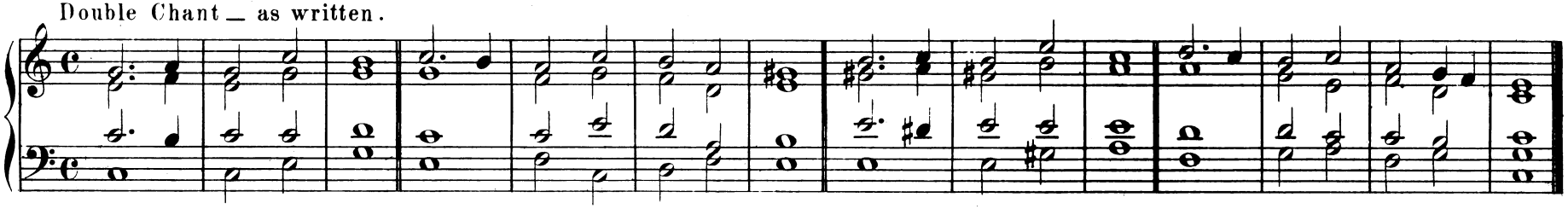
In all music written specially for the instrument, this peculiarity is always carefully indicated by the composer, but in the case of Church music (Chants, Chorales, Services, Anthems, etc.) the organ part is almost invariably a compressed vocal score, and great vigilance must be exercised by the player, so as carefully to retain all notes which are found existing in common, in succeeding chords. When, however, a note is thus repeated in the upper part, or melody, it is customary to strike it on each occasion, but even this is not always necessary, if the harmony changes. On the other hand, the student will find that "syncopations" are in every case indicated by *slurs*, and these should be strictly observed in their integrity, as they are not affected by the foregoing rule, being introduced for the production of special "effects." Compositions of a fugal character must also be played exactly as they are written, for obvious reasons. *

The beginner is strongly advised to mark carefully, by means of *slurs* any Church music he may be desirous of performing, in accordance with the rule given above, and it will be wise to continue the practice until he finds such an aid to memory no longer necessary. The method of doing so is clearly shown in the following examples.

* In playing arrangements of important instrumental works, similar treatment will be necessary to a limited extent, but inasmuch as the successful reproduction of orchestral effects is an object of special study, it is impossible to enter on a consideration of the subject within the limits of the present work.

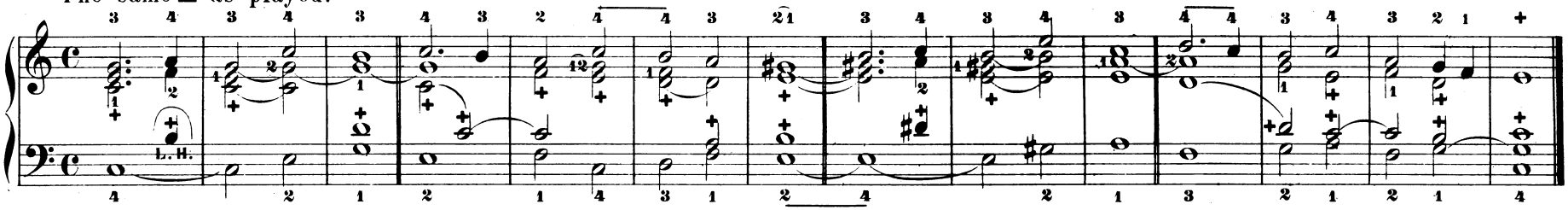
Double Chant — as written.

63.



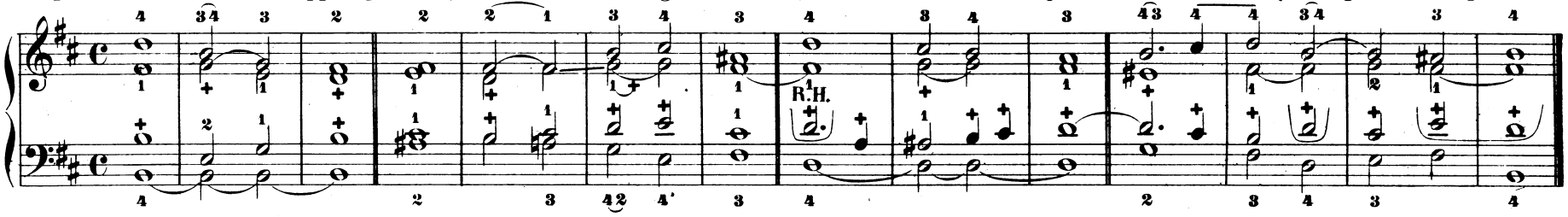
The same — as played.

63a.



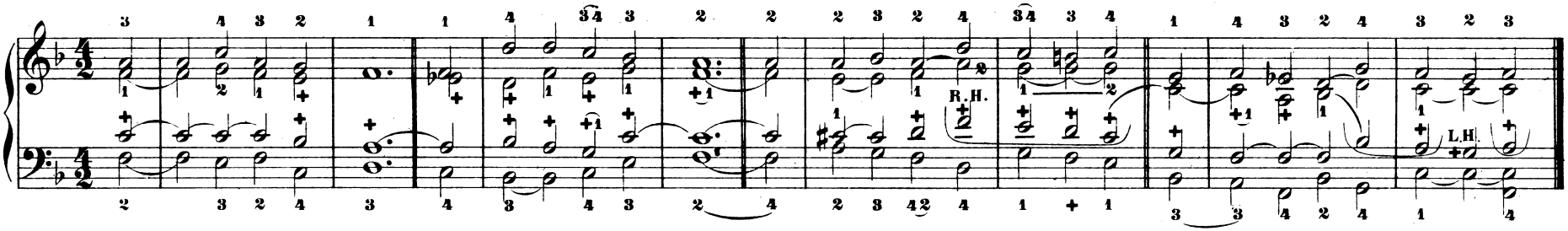
If preferred the F in the upper part may be retained throughout bars **3**, **4** and **5** in the following chant, as the harmony changes on each "pulsation."

64.

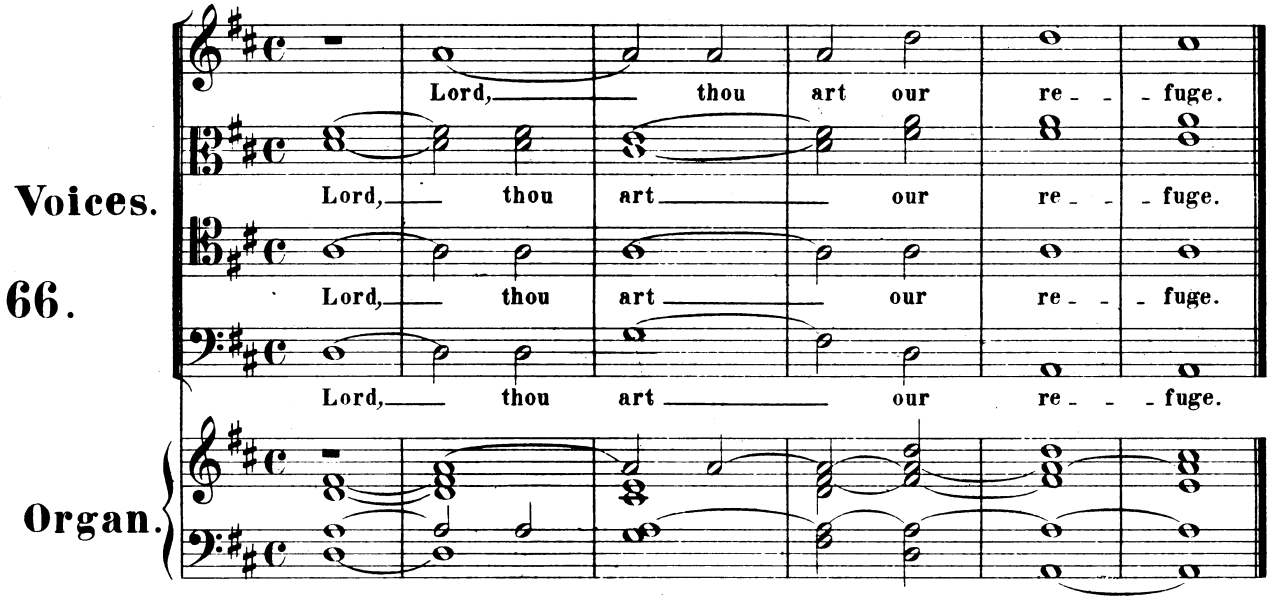


Chorale. "Notes in common" being marked, as recommended.

65.



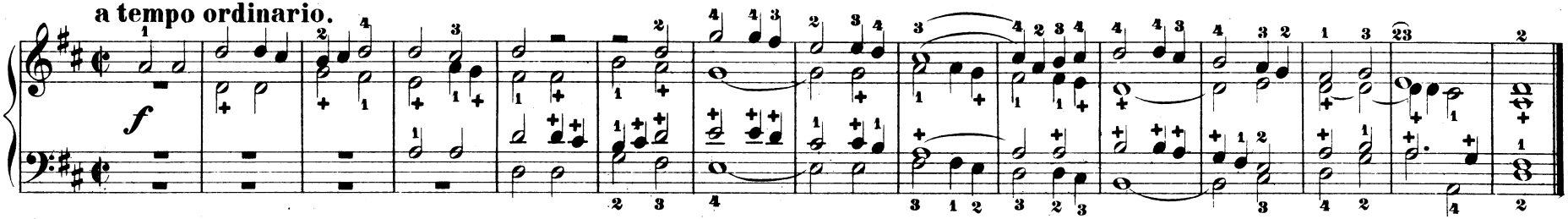
The student must carefully observe the manner in which the "syncopations" are treated at bars **2** and **3**, in the following extract.



In the remaining example of "Church music", as a repeated note, is the leading characteristic of the "subject", this must be reproduced throughout the subsequent "imitation", otherwise its identity would be lost. Therefore the rule as to "notes in common" must be disregarded.

a tempo ordinario.

67.



XXVI. Having afforded sufficient information to enable the student to understand the kind of mechanism applicable to the strict style, it becomes necessary to offer a few remarks on the proper performance of music of a more florid character. The essential points now are

1.) Rapidity and independence of finger. **2.)** Exact observance of rests and the due value of notes.

3.) A ready command of *legato* and *staccato* 'touch'.

Organ composers (of the French school, in particular) thus obtain effects on one manual, that would be otherwise impossible; a melody played *legato* being often accompanied by *staccato* chords, or *vice versa*, and the "inverted pedal" frequently employed simultaneously. Thus, the importance of neat mechanism — such as raising all the notes of a *staccato* chord precisely together, assigning to each note its exact value, etc. — in order to properly produce the exact effect required, becomes at once apparent.

In practising the following exercises, intended to be illustrative of this "free style", the student must endeavour to realise these conditions, and at the same time while avoiding all 'wrist action', allow the point of the finger to descend perpendicularly on the keys.

68.

(Soft 8 and 4 feet stops.)

Allegretto semplice.

69.

(Sw. 8 feet.)

Andante espressivo.

rall. *tempo*

70.

(Ch. 8 feet.) **Con moto.**

71. *legato*

(Sw. 8 feet.) **Allegretto grazioso.**

72. *rall.* R.H. *tempo* R.H. L.H.

Allegretto tranquillo.

(Sw. 8 feet.)

73.

(Soft 8 and 4 feet.)
Ch. or Sw.

Allegro non troppo.

74.

ten. *ten.* *marcato* *ten.*

Sw. Soft 8 and 4 feet.

Andante pastorale.

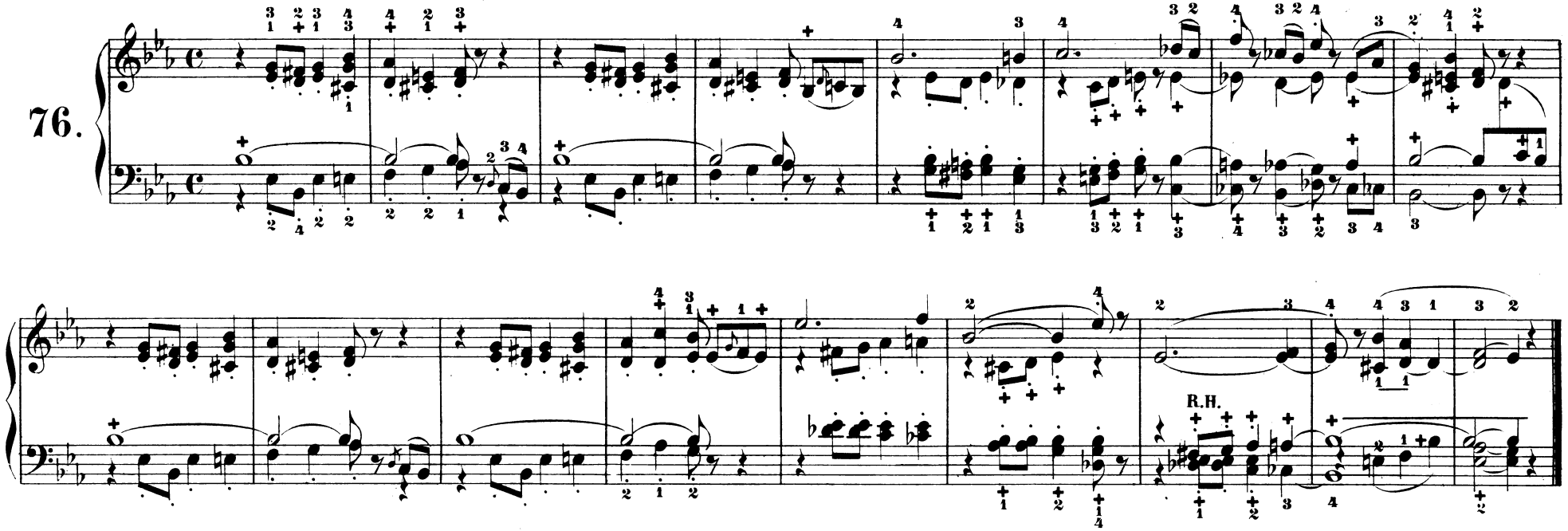
75.

ten. *cresc.* *dim.* *rall.*

(Ch. 8 feet.)

Allegretto scherzando.

76.



Andante religioso.

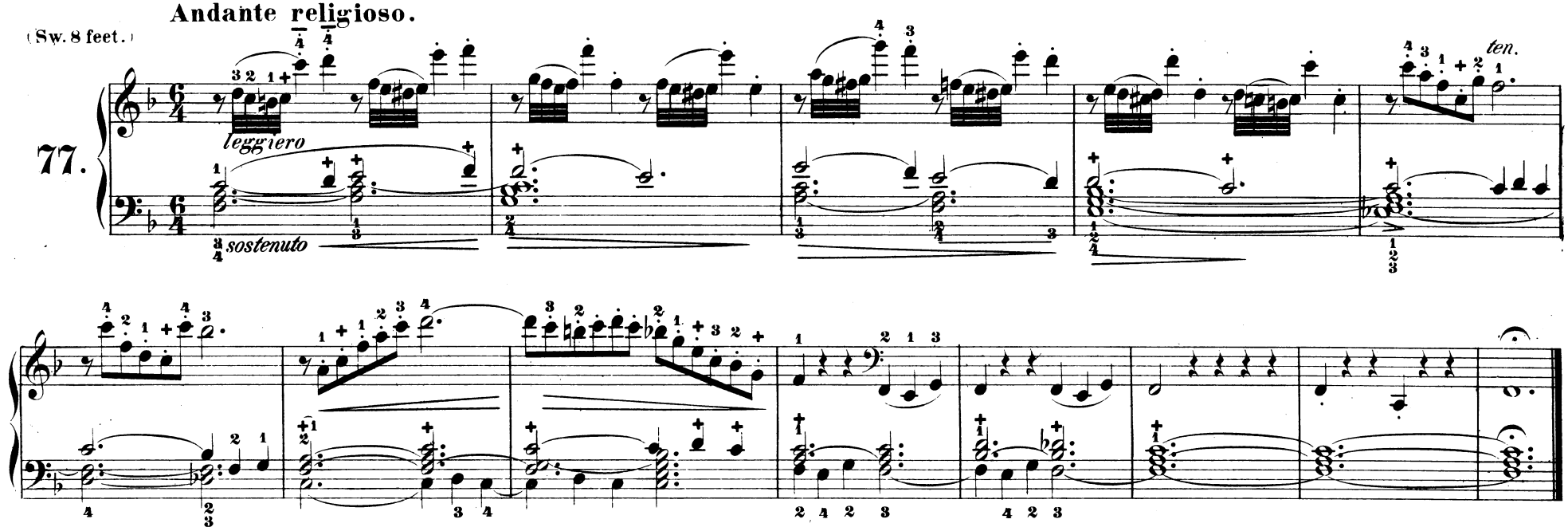
(Sw. 8 feet.)

77.

leggiero

sostenuto

ten.

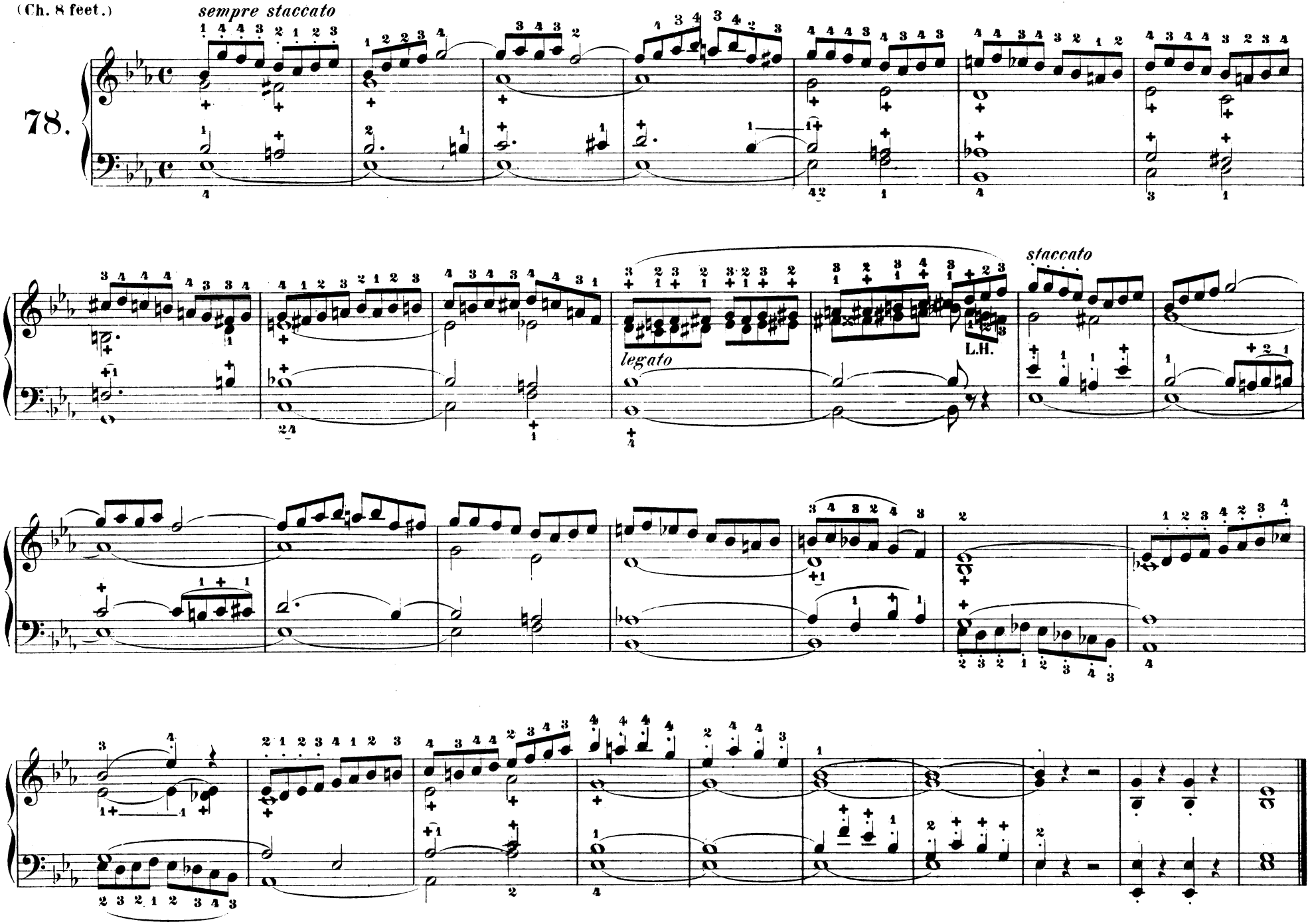


Con moto.

(Ch. 8 feet.)

sempre staccato

78.



CANON in the OCTAVE.

(Full Sw.)

Allegro.

79.

legato

1st time.

last time.

(G! to 15th (coupled to Full Sw.)

Allegro con fuoco.

80.

rall.

tempo

R.H.

XXVII. As the Student ought now to be sufficiently conversant with the use of the Manuals for present purposes, he may proceed to make himself acquainted with the Pedal Clavier and its management. On examining this portion of the Instrument, it will be seen that the Pedal Board, in its general arrangement, closely resembles the Manuals. The shorter keys, representing the black notes, are placed in alternate groups of twos and threes, and the only essential point of difference, is in the case of the semitones B♮, C♮ and E♮, F♮. which are here placed at a greater distance from each other. *) This peculiarity however, together with a remembrance of the fact that the middle C of the Pedals, is to be found almost immediately beneath the middle C of the Manuals, will greatly assist the player in readily finding any required note, without looking at the feet — a fault that must be studiously avoided.

The organ seat should be of such a height, as to enable the performer when seated at the Instrument easily to touch the surface of any long Pedal key, with either foot, while it is suspended in a horizontal position. The Pedals must not be struck with violence, but pressed firmly and steadily down, the heel and toe of each foot being employed on the long keys, and the latter exclusively, on the short keys.

The scale of C major can be easily played with one foot, throughout the compass of the Pedal board, and those of G, D, and F within the compass of an octave, but in all other keys, both feet must be used.

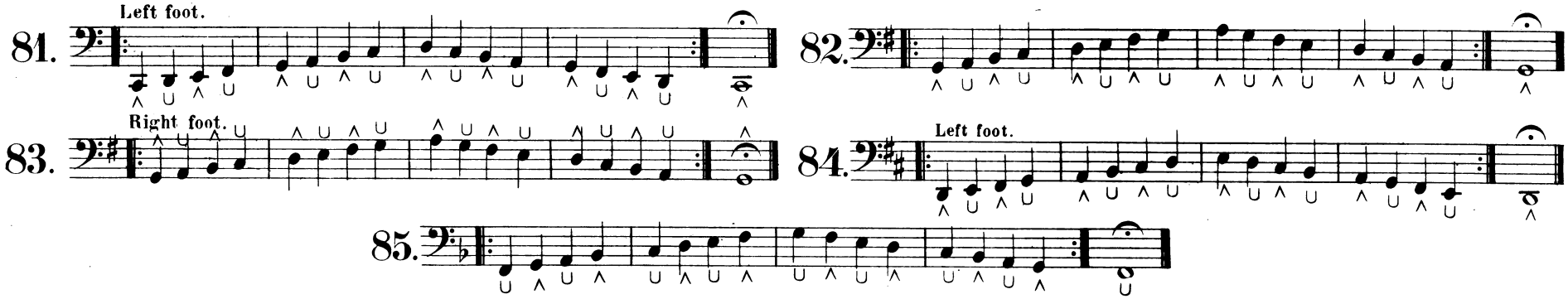
This latter method is in all cases to be preferred, as being more legitimate, and calculated to give the performer more command of this portion of the instrument; but as it often happens that a compulsory use of the Swell Pedal renders one foot practically useless, facility in the extended use of the other must be acquired.

In order to avoid looking at the feet, even at this initiatory stage, the "Great to Pedal" coupler, and an "Open Diapason" of 8 or 16 feet in the Great Organ should be used, so that a glance at this Manual will at once show if the correct Pedal notes are struck. But this plan must not be resorted to longer than is absolutely necessary to familiarise the student, to a limited extent, with the use of the Pedal Board; the proper course being to substitute a Pedal stop of 8 or 16 feet for the coupler, trusting rather to the *ear* than to the *eye* for guidance.

The method of Pedalling will be indicated in the present work by means of the following signs.

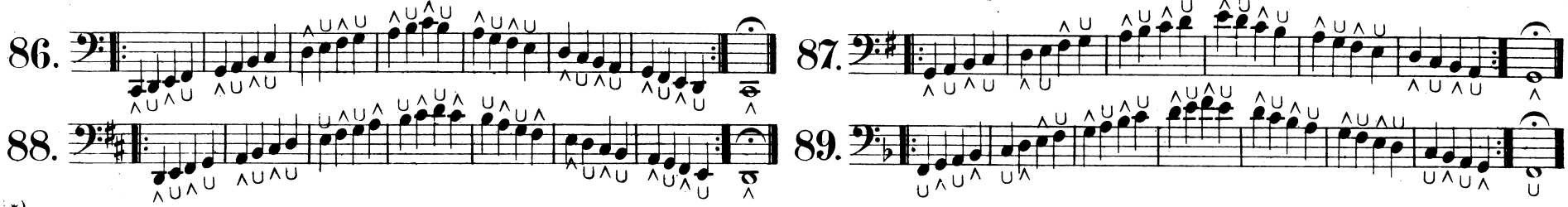
∧ signifying the toe, and ∪ signifying the heel. If it is intended that the *right* foot should be used, these marks will be placed *above* the stave, and if the *left*, they will be found *below*.

Scales to be performed with one foot.



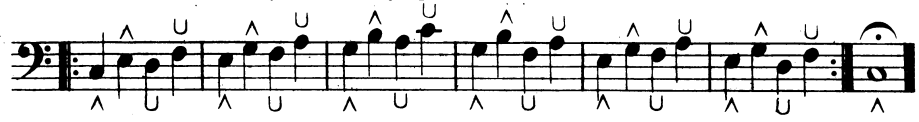
Scales of extended compass, played by means of both feet.

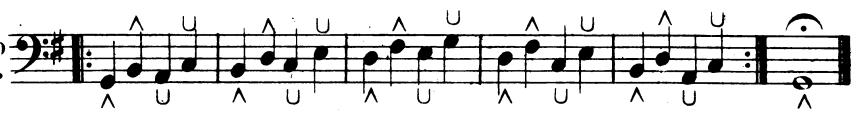
The employment of the second foot must always be managed with sufficient adroitness to render it impossible for the *ear* to detect when it is substituted for the other.

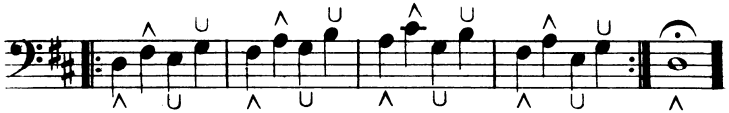


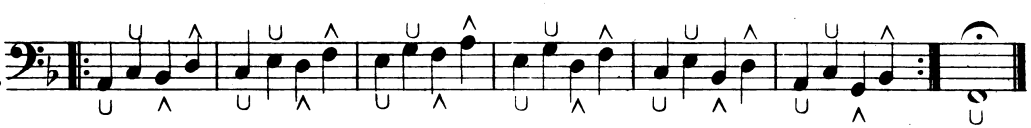
*) See Appendix, E.

Thirds (in the **4** keys already given.)

90.a 

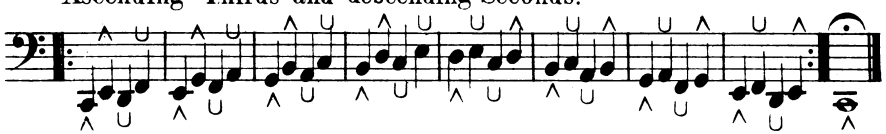
90.b 

91. 

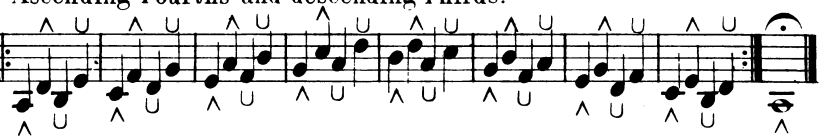
92. 

Exercises 93 to **98** inclusive, (on miscellaneous intervals) should also be practised in G. D. and F.

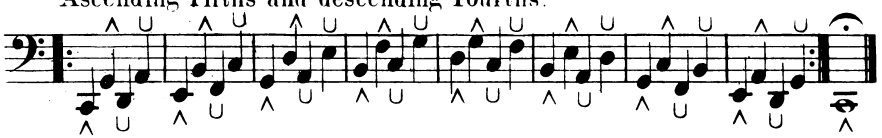
Ascending Thirds and descending Seconds.

93. 

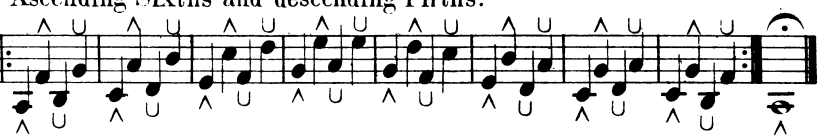
Ascending Fourths and descending Thirds.

94. 

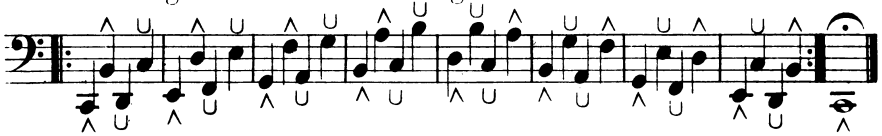
Ascending Fifths and descending Fourths.

95. 

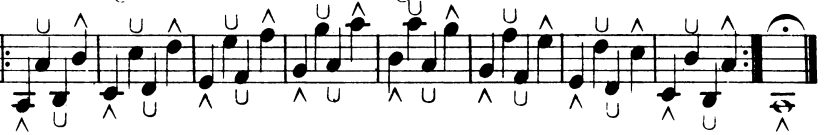
Ascending Sixths and descending Fifths.

96. 

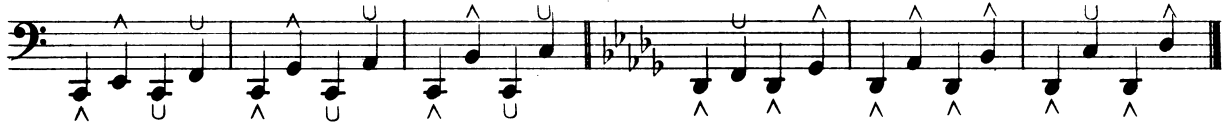
Ascending Sevenths and descending Sixths.

97. 

Ascending Octaves and descending Sevenths.

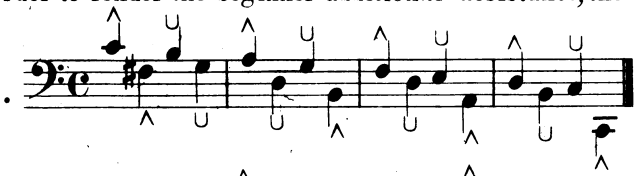
98. 

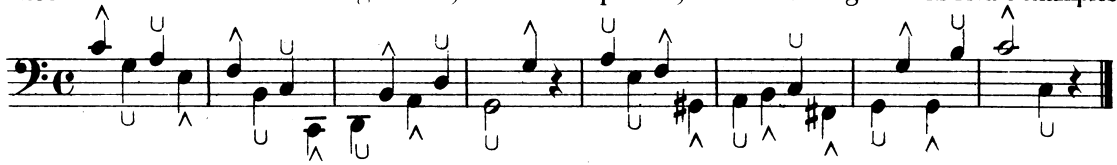
⁂ **Ex. 177** to **187** may now be attempted, as it is unwise to proceed farther at present with the study of Pedals alone; such a course tending rather to dishearten the beginner. He is therefore advised to take them in conjunction with the exercises for both Manual and Pedal as far as possible, returning to them again and again, until they are completed.

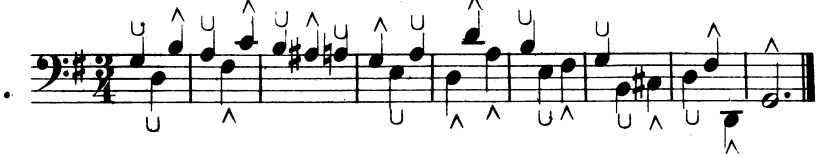
99.  etc. throughout the compass of the octave, rising by semitones.

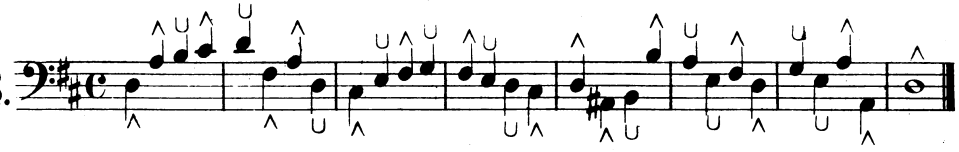
Mixed Intervals.

In order to render the beginner additional assistance, the tails of those notes intended for the right foot, are turned upwards, in the following more intricate examples.

100. 

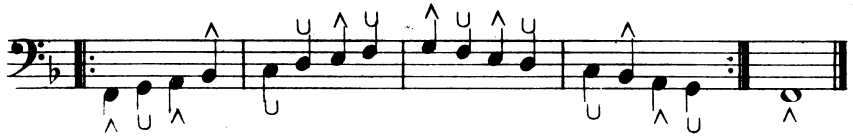
101. 

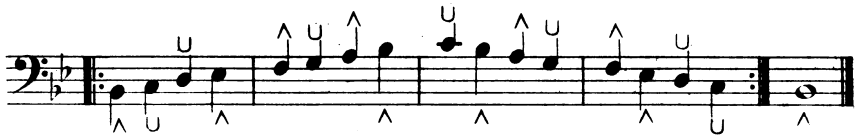
102. 

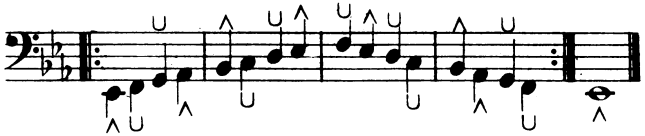
103. 

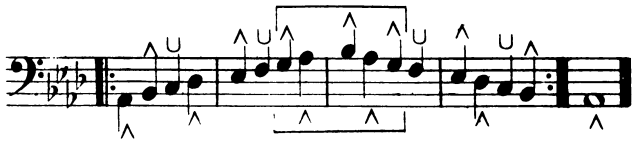
Major Scales in all keys.

In the performance of which it will be frequently necessary to cross the feet, in order that the toe may be invariably assigned to the short keys.

104. 

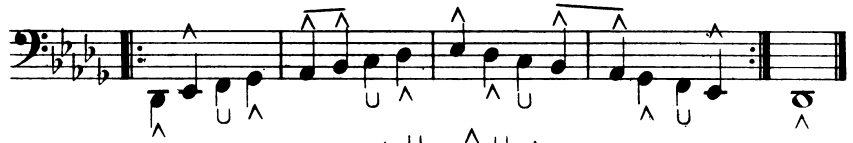
105. 

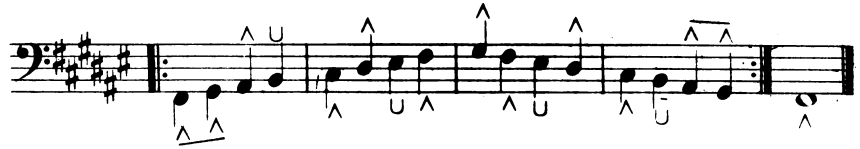
106. 

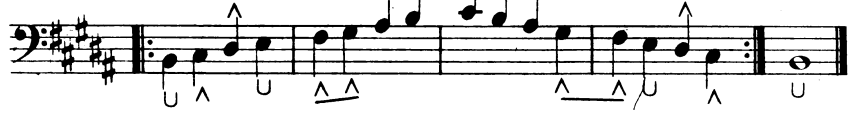
107. 

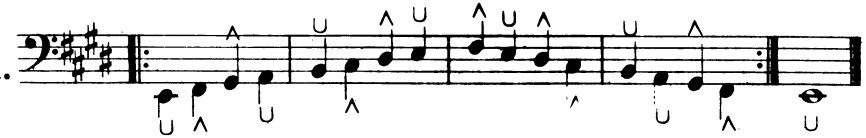
Although it is compulsory to use the toe only on the three highest notes of the scale of A ♭, the same perfectly *legato* effect must be produced as before.

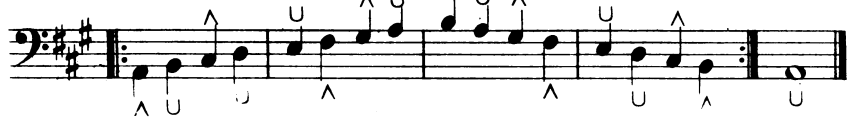
When **3** short keys follow each other consecutively, it is necessary to play the first two in ascending, and the last two in descending, with alternate sides of the same foot as below

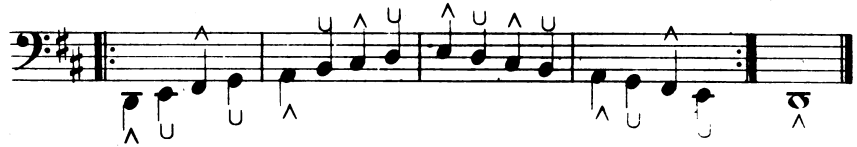
108. 

109. 

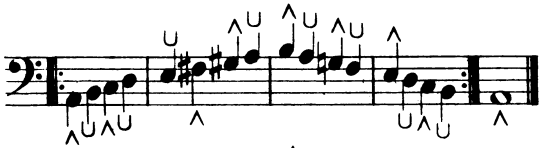
110. 

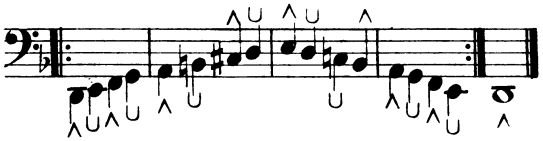
111. 

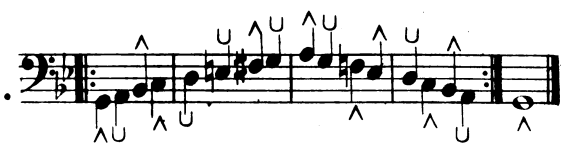
112. 

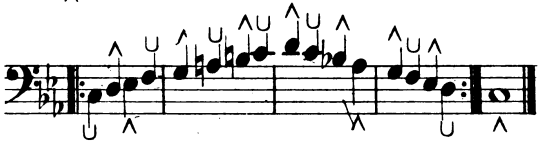
113. 

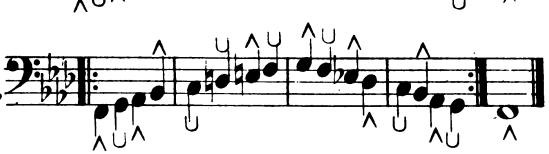
The 12 Minor Scales.

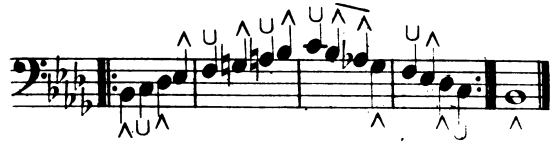
114. 

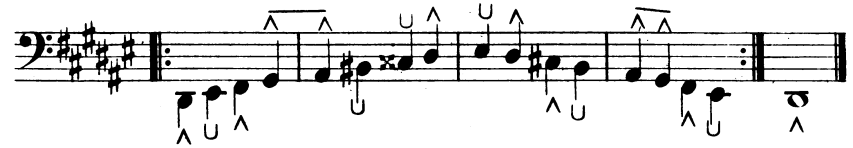
115. 

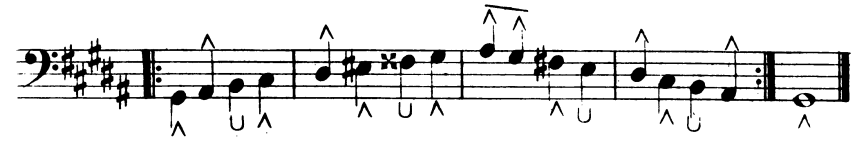
116. 

117. 

118. 

119. 

120. 

121. 

122.

123.

124.

125.

Exercises founded on Major and Minor scale passages.

126.

127.

128.

129.

130.

131.

The Chromatic Scale.

132.

For the practice of the *glissando.*

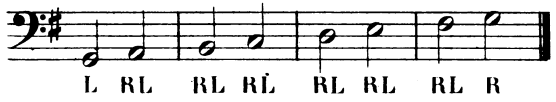
Allegro.

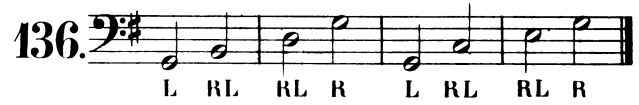
133.

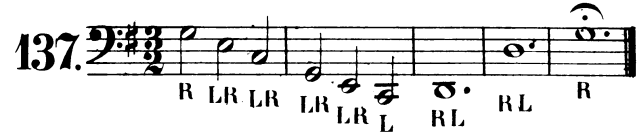
134.

Changing the feet on the same note.

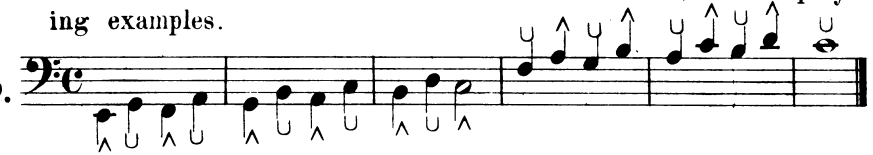
Great caution must be exercised lest the note thus operated on should be heard a second time.

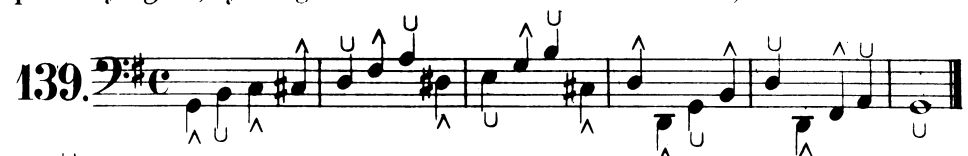
135. 

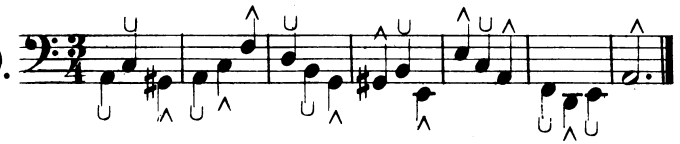
136. 

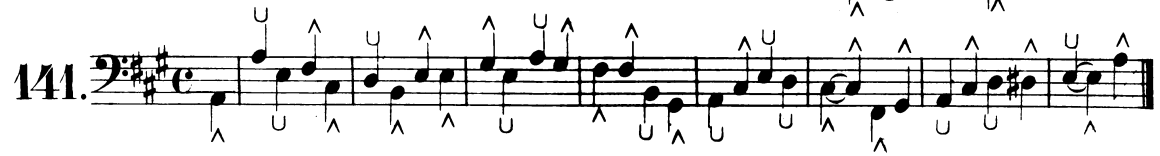
137. 

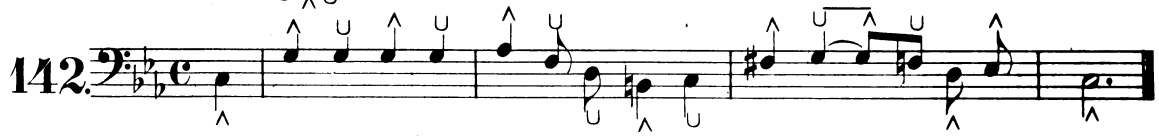
Intervals of a third (and sometimes even of a fourth) can be played perfectly *legato,* by using the toe and heel of the same foot; as in the following examples.

138. 

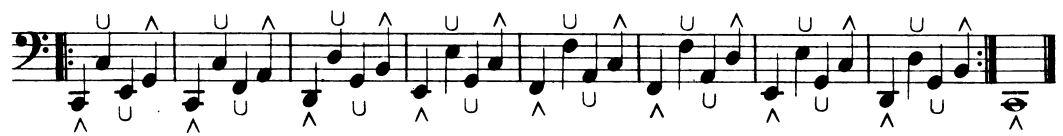
139. 

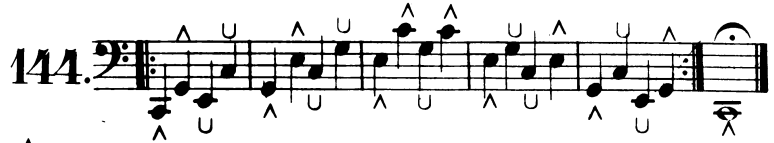
140. 

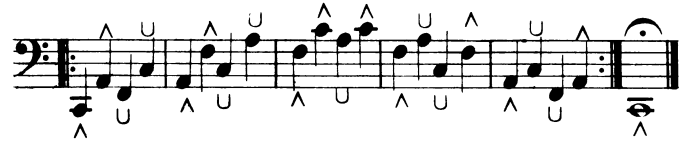
141. 

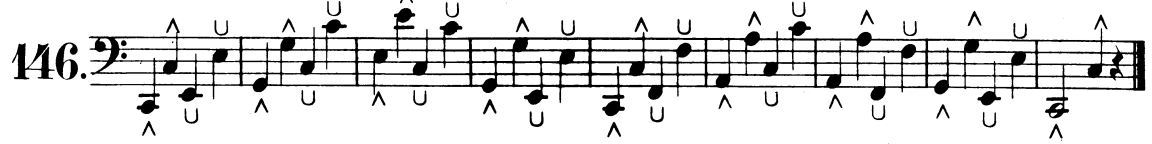
142. 

Passages founded on a series of intersected thirds and fourths for both feet can be accomplished without difficulty, and with the utmost smoothness, on adopting this principle, so far as their transverse position is concerned. The toe and heel will thus remain suspended over the required notes, which are played alternately with those assigned to the other foot, thus

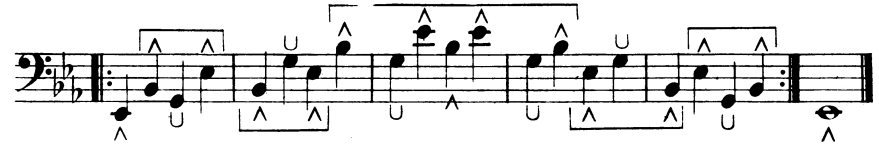
143. 

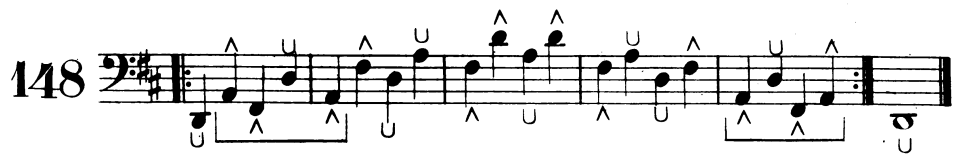
144. 

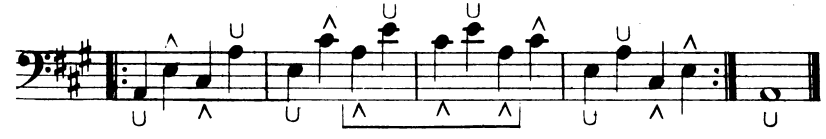
145. 

146. 

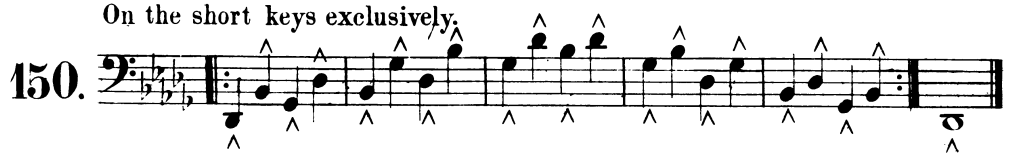
In some cases however slight modifications become necessary, as the short keys must always be played by means of the toe.

147. 

148 

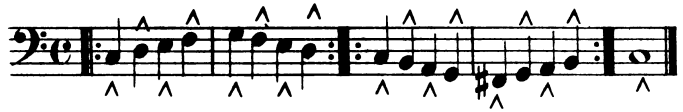
149. 

On the short keys exclusively.

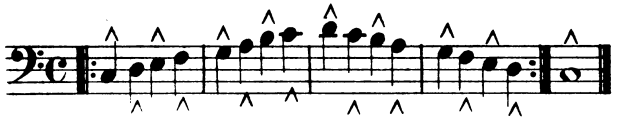
150. 

Crossing the feet has hitherto taken place in order to render a short key more readily available, but this mode of pedalling is also applicable to the others, indeed, it is frequently necessary, in order to secure a satisfactory rendering of passages in which distinctness is an important feature; as well as in the case of a series of notes arranged in *arpeggio* form. But, before attempting a trial of this method, a preliminary practice of the intervals (as already given in Ex. **93** to **99**) is strongly recommended; taking care to employ the toe only of each foot, and altogether abstaining from the use of the heel. Facility in the exclusive use of the point of each foot will thus be acquired; and but little trouble will then be experienced in becoming practically acquainted with the following exercises. It must be remembered however, that in crossing, the toe of the left foot should invariably be placed beneath the heel of the right in ascending, and the toe of the right foot will of course be placed over that of the left, in descending.

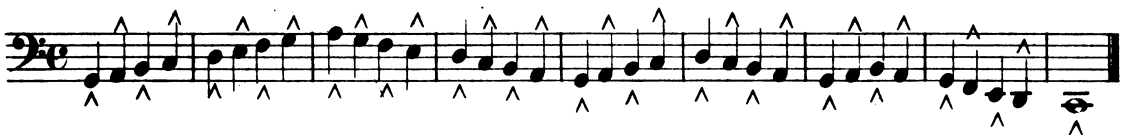
151.



152.

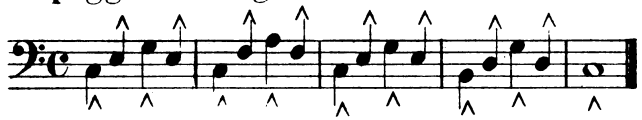


153.

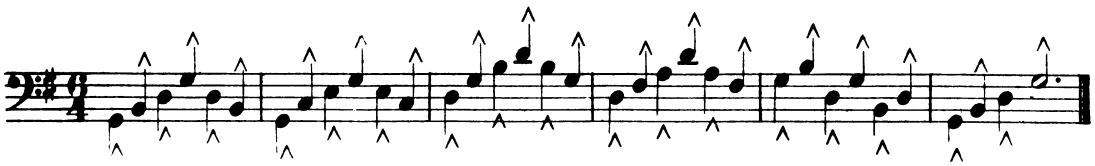


Arpeggio Passages.

154.

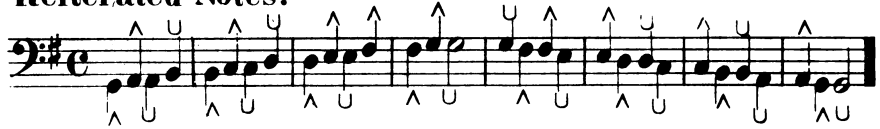


155.

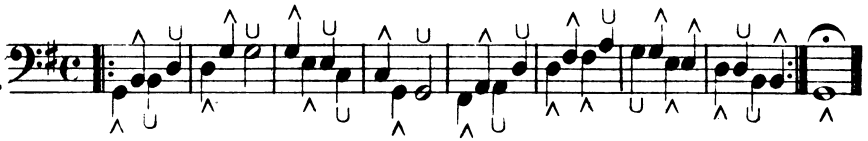


Reiterated Notes.

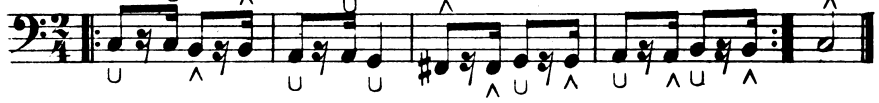
156.



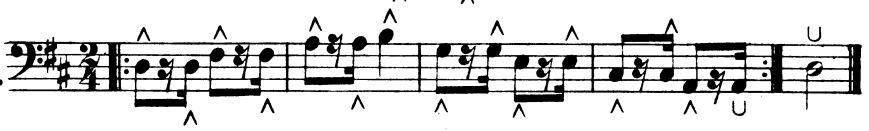
157.



158.

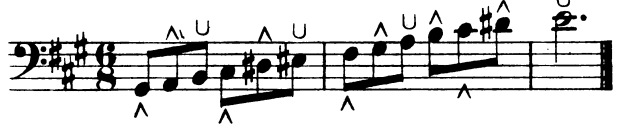


159.

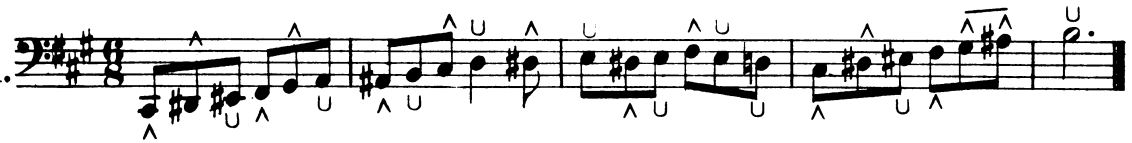


Irregular scale passages with the correct method of Pedalling.

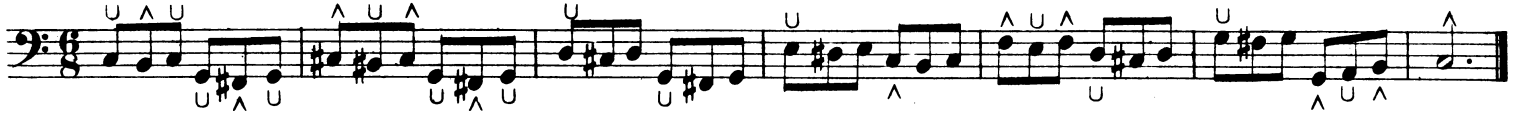
160.



161.



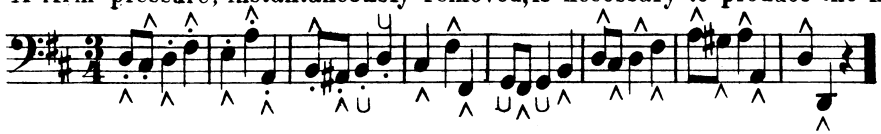
162. Groups of triplets for alternate feet.



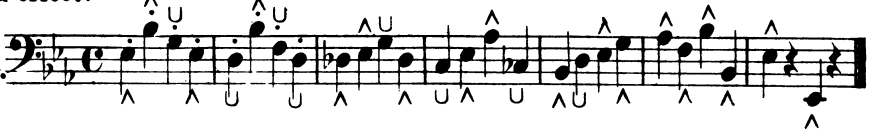
The "staccato" Pedal.

A firm pressure, instantaneously removed, is necessary to produce the intended effect.

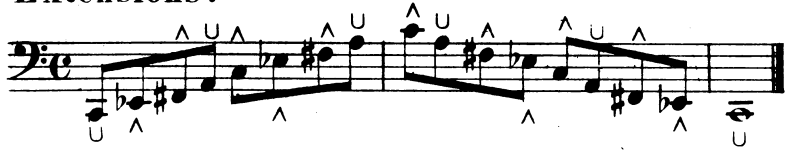
163.

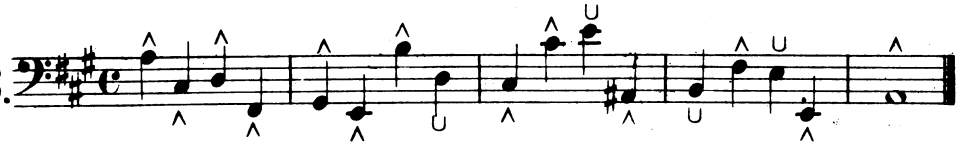


164.



Extensions.

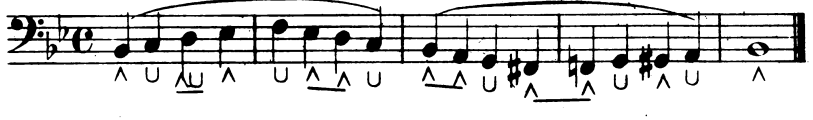
165. 

166. 

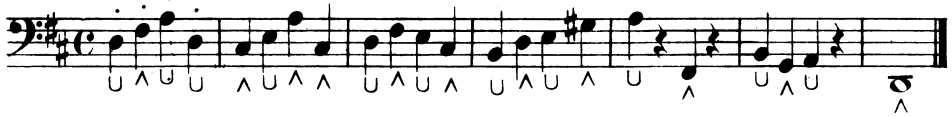
On the Employment of the Left Foot only.

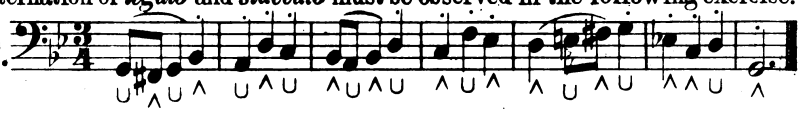
It is sometimes compulsory to change from the heel to the toe of the same foot, or vice versa in order to continue the performance of a *legato* passage.

167. 

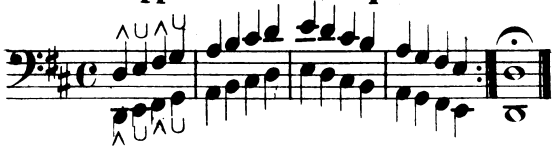
168. 

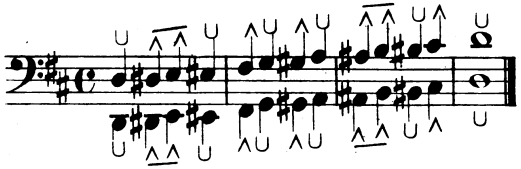
The alternation of *legato* and *staccato* must be observed in the following exercise.

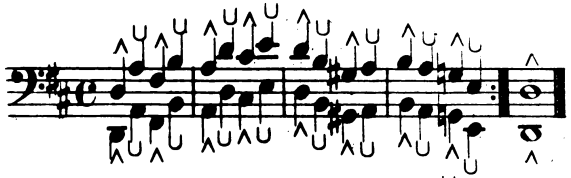
169. 

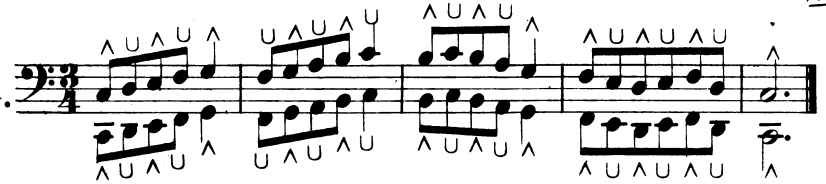
170. 

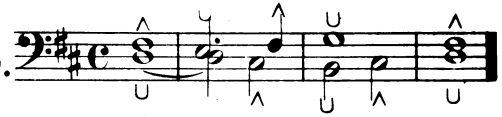
The "Doppio" or double pedal.

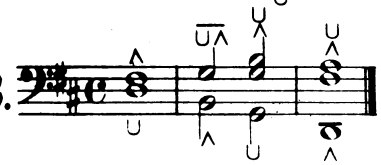
171. 

172. 

173. 

174. 

175. 

176. 

XXVIII.

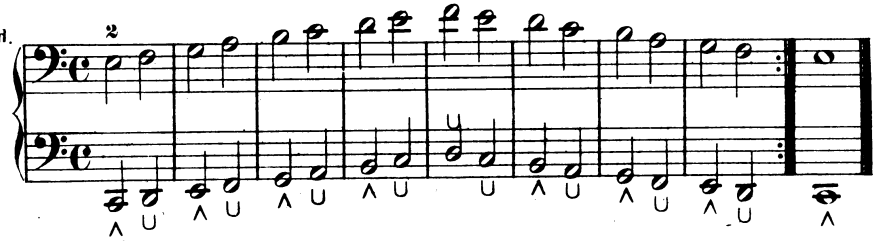
The Pedals, should always have an obbligato part assigned to them, as the Organist's resources are thus so immensely increased. For instance he is enabled to divide the parts orchestrally; he can play on two manuals simultaneously, thus producing contrasted variety of tone; or can occasionally spare one hand for the purpose of changing the stops. In fact he possesses most of the advantages that the use of an extra hand would confer on him.

But it cannot be denied that considerable practice is necessary, to overcome the natural inclination of the left hand to follow the foot, and thoroughly to establish an independent action. However, as this constitutes real organ playing, the difficulty must be grappled with and entirely mastered.

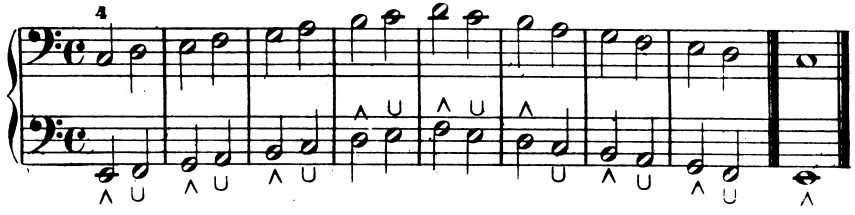
For this purpose, the following series of progressive exercises are provided, and if the beginner will practically study them *singly* and refrain from proceeding farther, until he can play with facility each one in its turn, the difficulties, which at first sight seemed almost insuperable, will speedily vanish.

14 Exercises in two parts intended to promote the independent use of left hand, and feet.

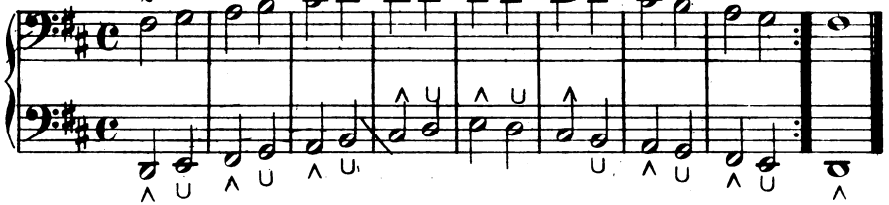
Left Hand.

177. 

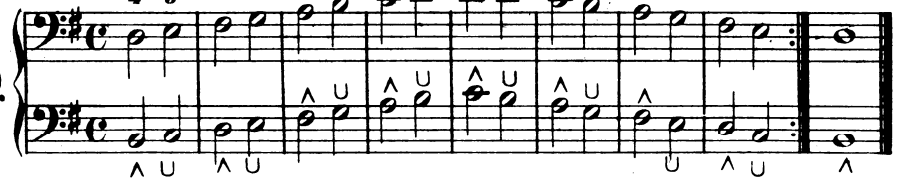
Pedal.

178. 

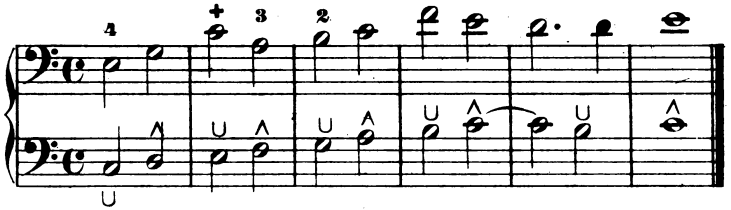
179.



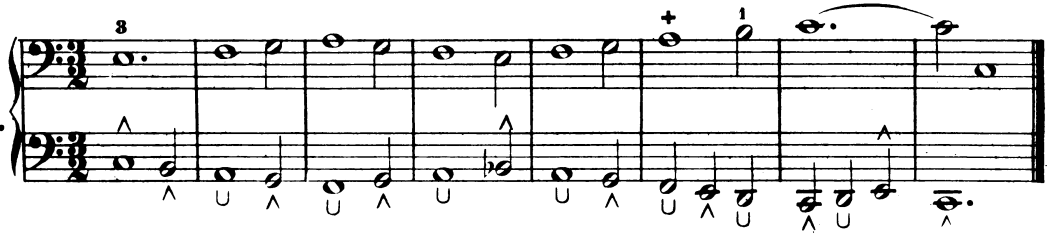
180.



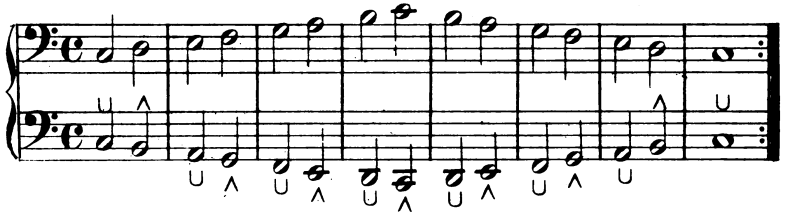
181.



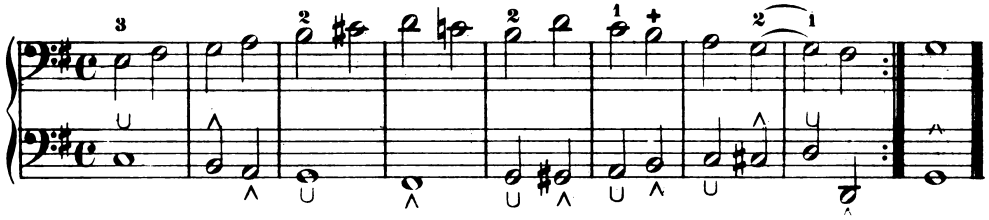
182.



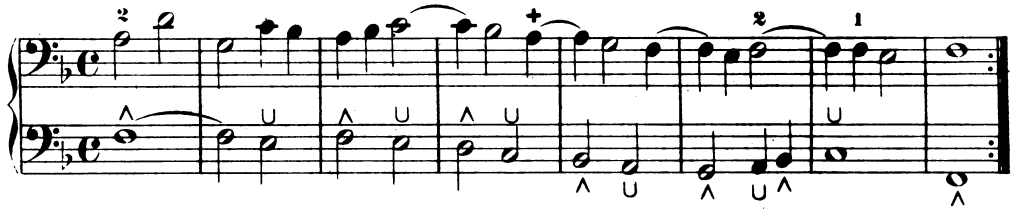
183.



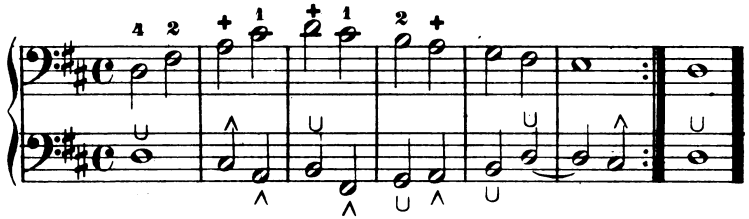
184.



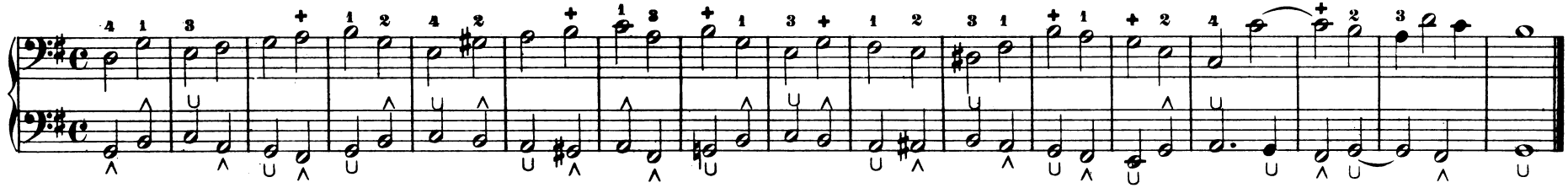
185.



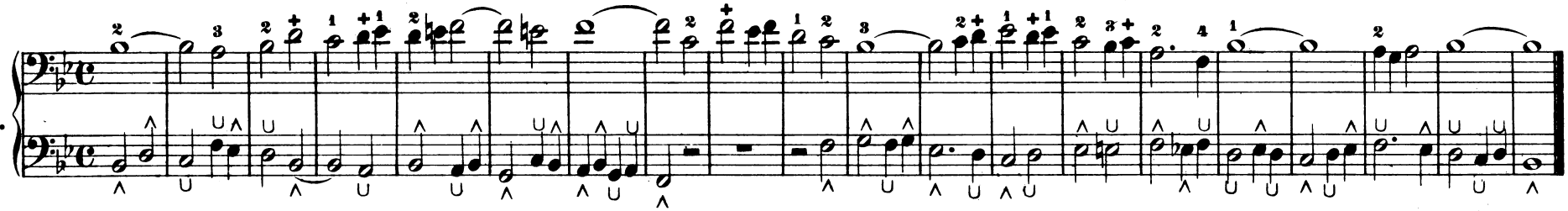
186.



187.

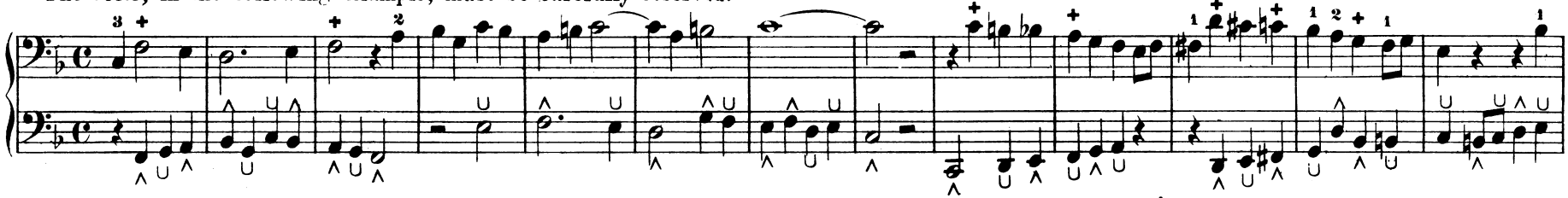


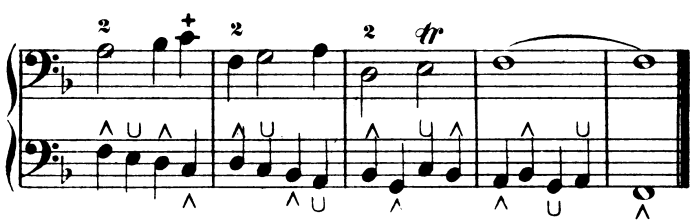
188.



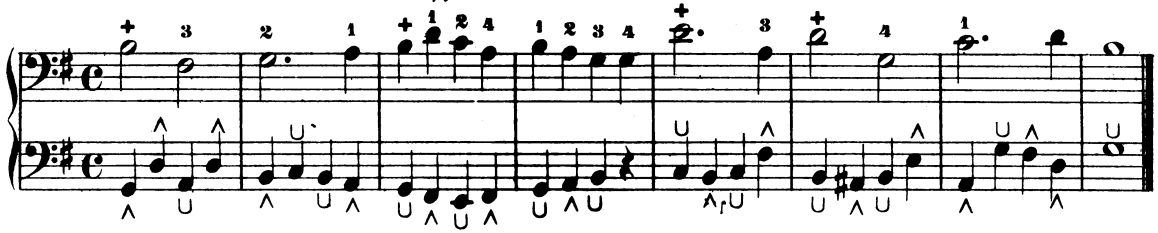
The *rests,* in the following example, must be carefully observed.

189.



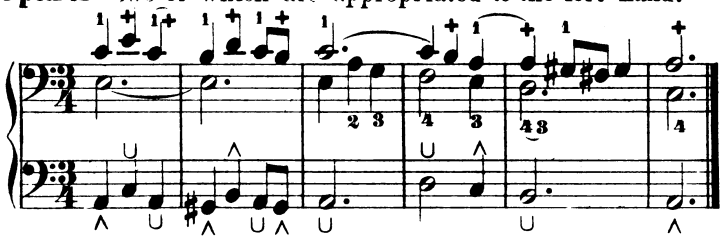


190.

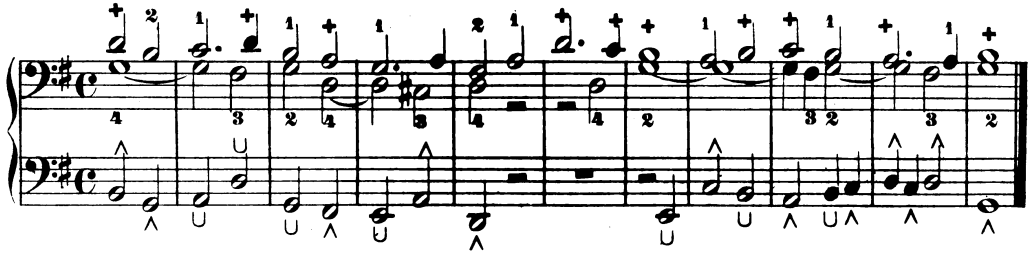


In three parts—two of which are appropriated to the left hand.

191.



192.

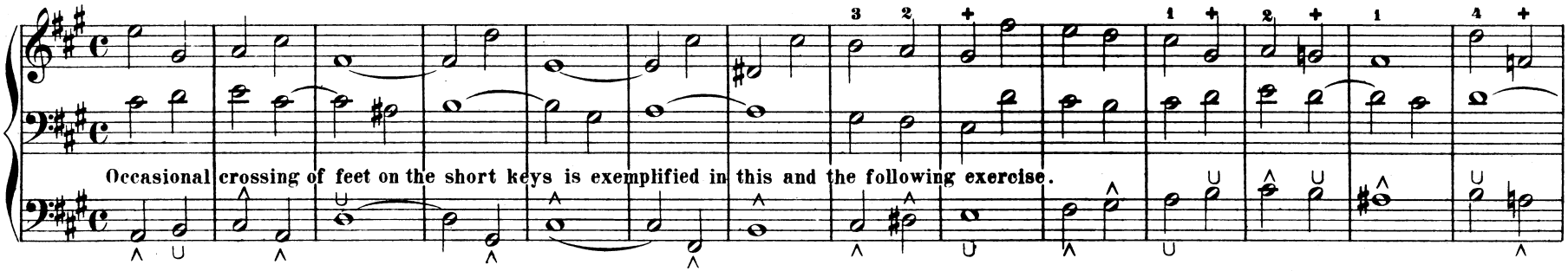


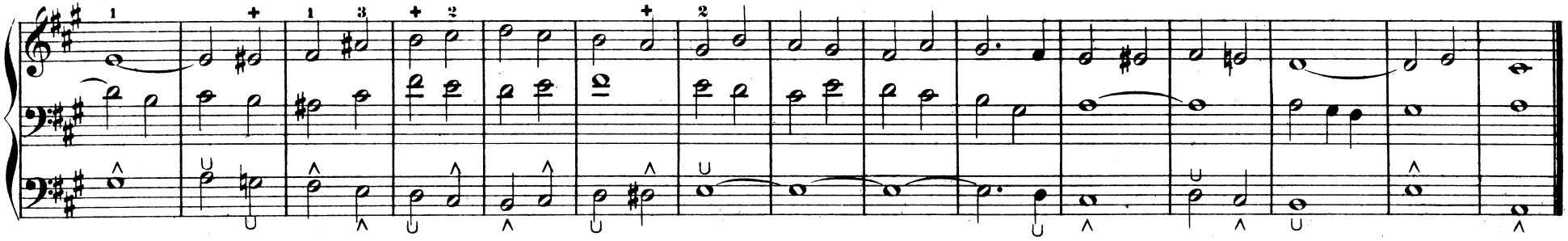
10 Exercises in three parts—equally divided between both hands and feet.

Manual.

193.

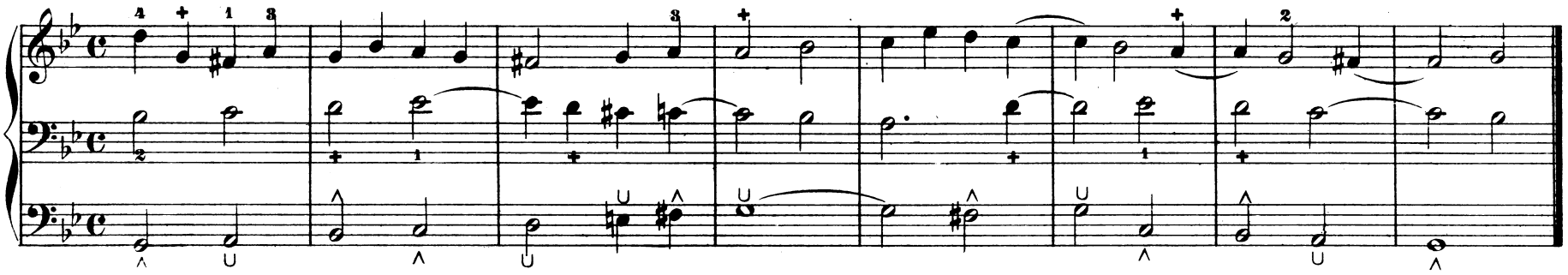
Pedal.





(G! soft 8 feet.)

194.



(G! soft 8 feet.)

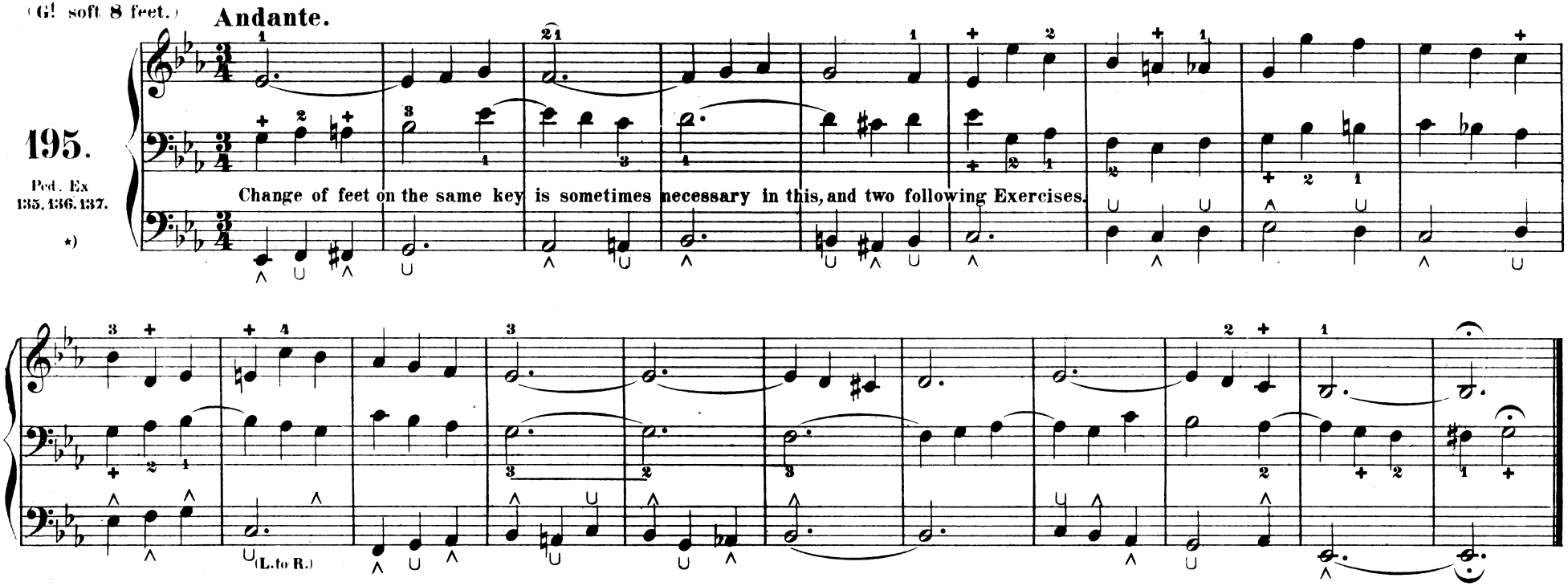
Andante.

195.

Ped. Ex 135. 136. 137.

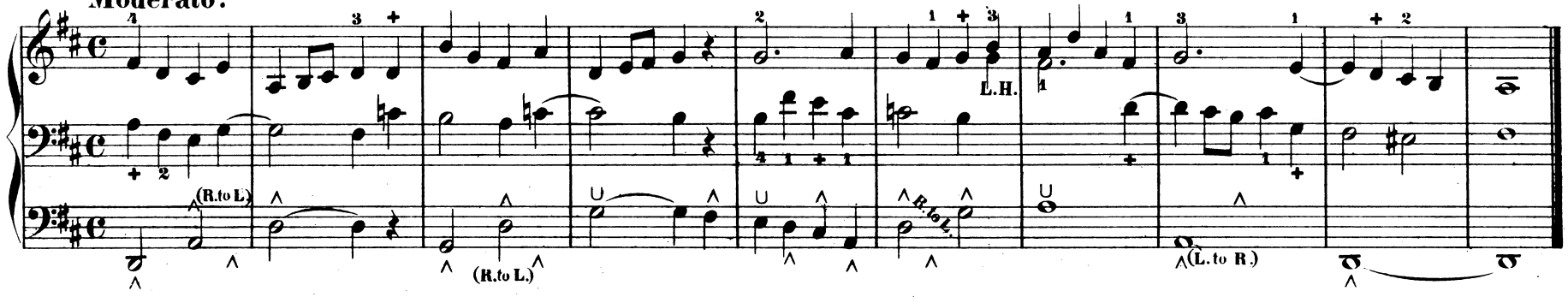
*)

Change of feet on the same key is sometimes necessary in this, and two following Exercises.



Moderato.

196.



*) Reference is here made to the Pedal Exercises, now illustrated in combination with the hands, and which should always be used as preliminary practice.

Andante con moto.

197.

Change of feet on the short keys.

Allegro moderato.

198.

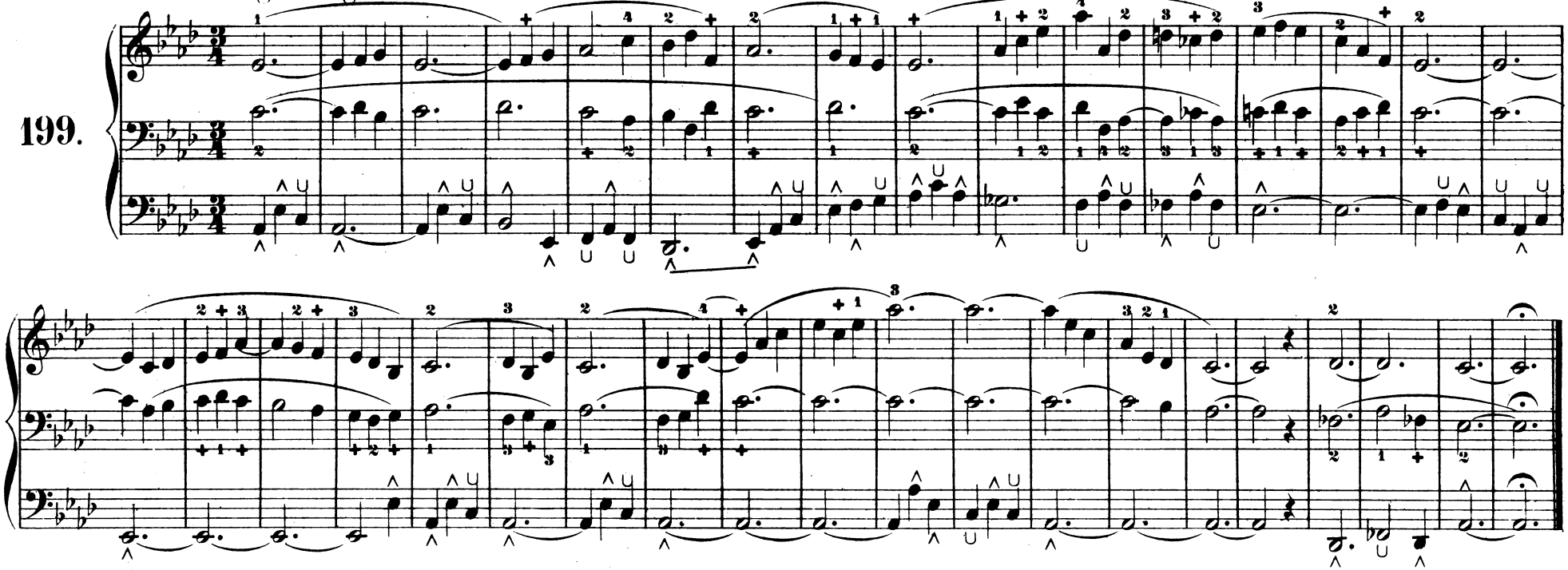
Ped. Ex. 138 to 142

In this, and the two following Exercises, the method of playing thirds with the toe and heel of same foot must be adopted.

(Sw. with Ob.)

Allegretto grazioso.

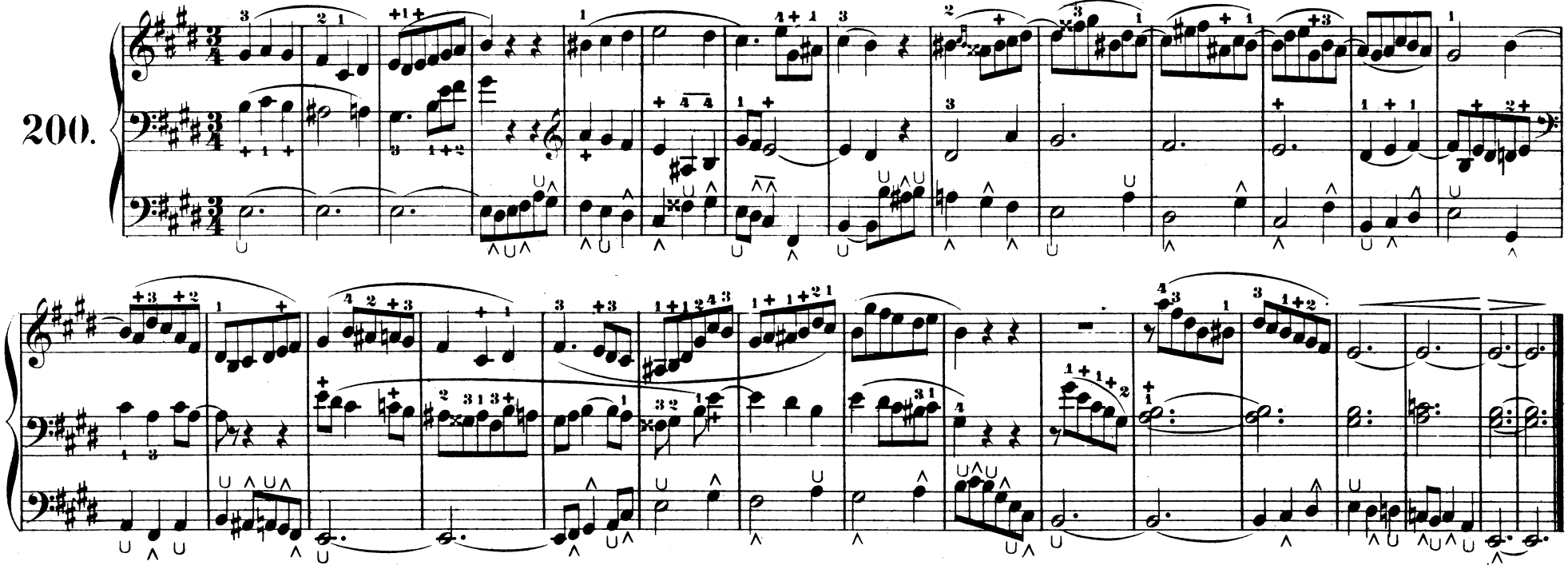
199.



(Sw. with Ob.)

Andantino.

200.



Moderato sostenuto.

201.

Ped. ex. 154. 155.

In order to play the *arpeggio* chords, in this and the following Exercise, repeated crossing of feet is rendered imperative.

(Sw. 8 feet.) **Allegretto.**

202.

14 Exercises in four parts.

203.

204.

205.

206.

207.

208.

209.

G! 8 feet Diapasons (coupled to Sw. with Oboe.)

Con moto.

210.

rall.

211. **Andante con moto.**

R.H.

(Sw. with Oboe.) **Andante.**

212.

L.H.

R.H.

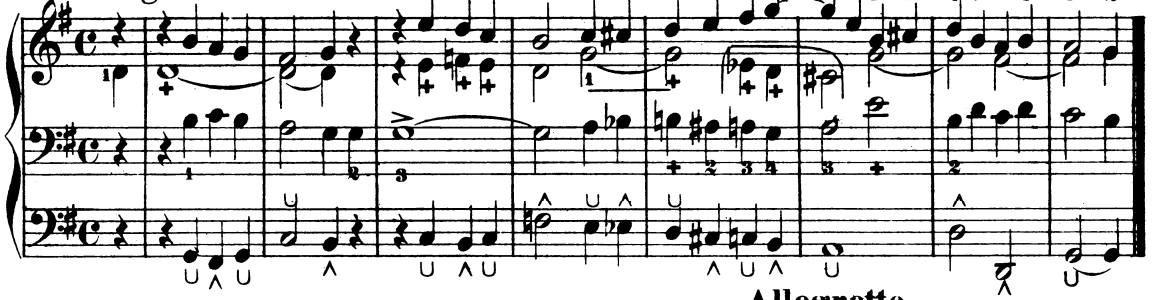
(Ch. 8 feet.) **Moderato.**

213.

(Sw. with Ob.)

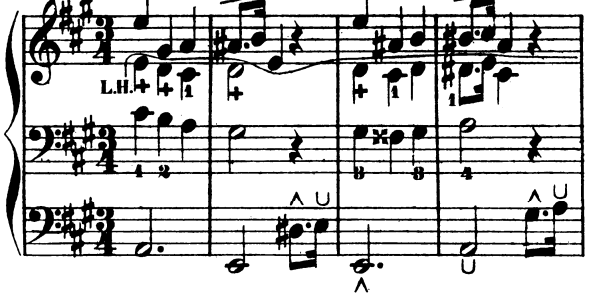
Allegretto.

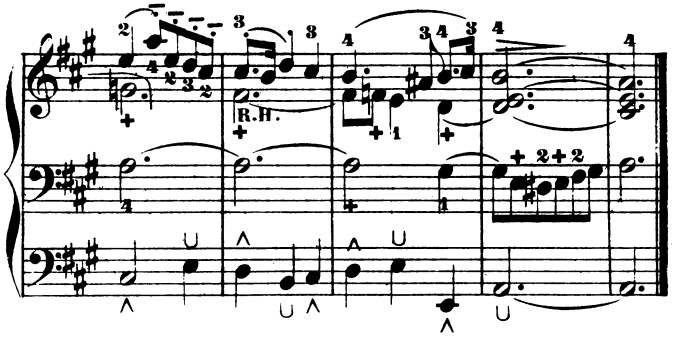
214.



(Sw. with Ob.) **Andante con moto.**

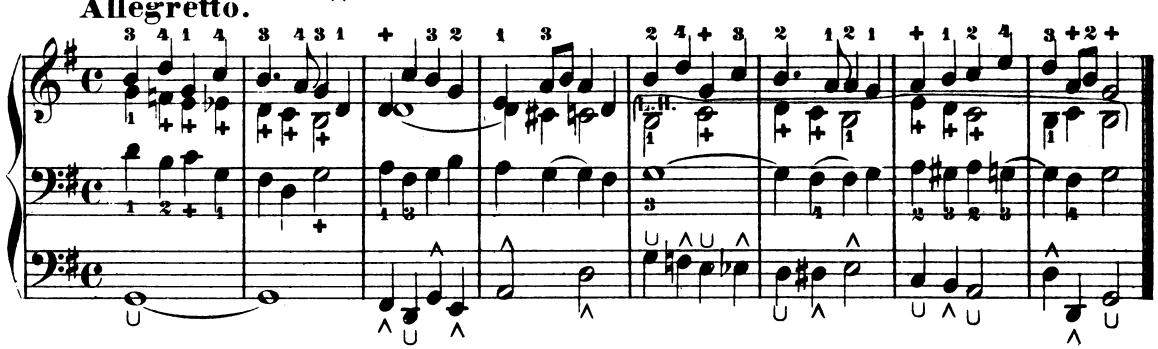
215.





Allegretto.

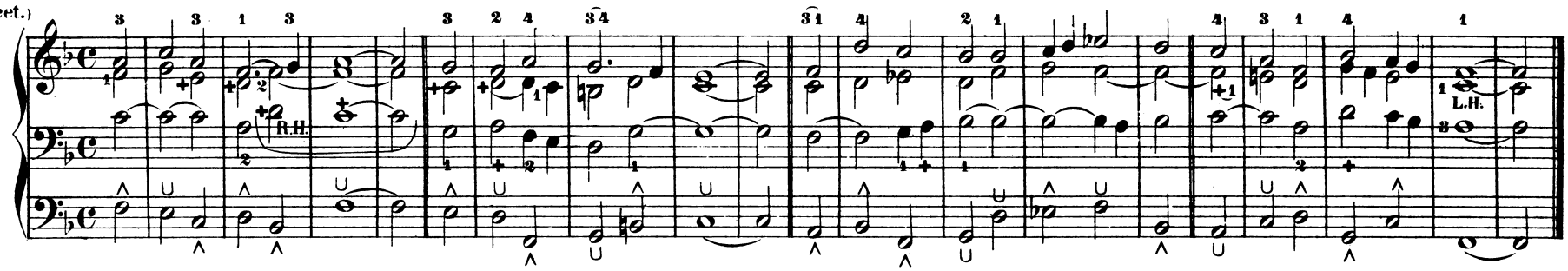
216.



It will now be advisable for the student to take good Chorales in dispersed harmony, copy them for himself on three staves from the Vocal score, assigning the Treble and Alto parts to the right hand line, the Tenor to the left hand, and the Bass to the Pedal stave; at the same time, carefully marking all the "notes in common" as already explained. This will afford invaluable practice. Two Chorales, one with plain harmony, and the other having florid counterpoint, are here inserted by way of examples.

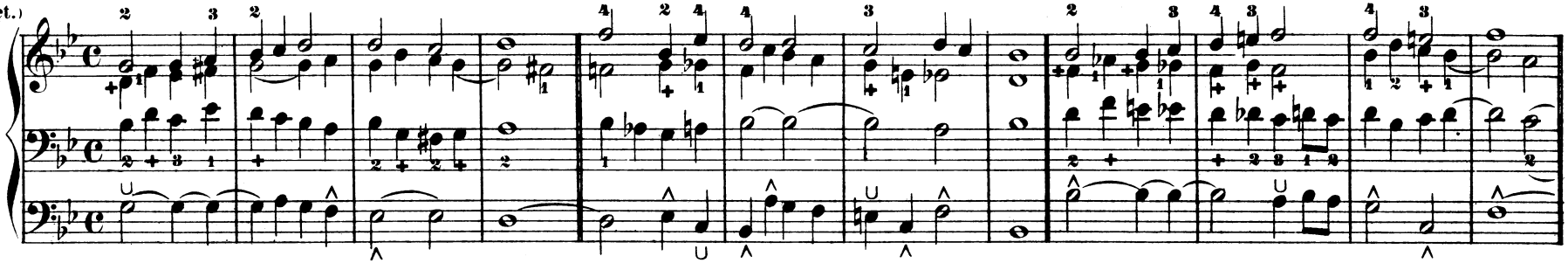
(G! 8 feet.)

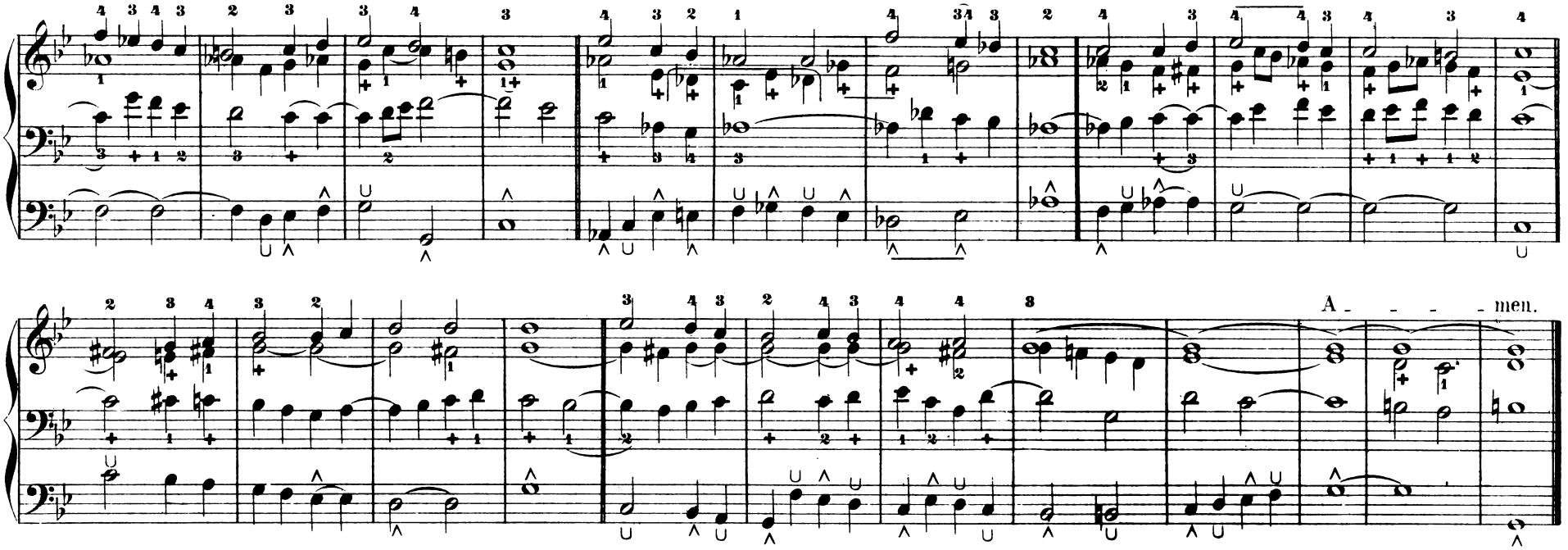
217.



(G! 8 feet.)

218.





XXIX.

It is now desirable that the student should have some general idea as to the proper use of the Stops, both singly, and in combination. As he already knows, the "foundation", or unison, tone of the manuals (which in combination must always predominate) is produced by the use of 8 feet stops, and that of the pedal, by 16 feet stops. Manual "flue" stops must be considered first. Their relative power of tone, having been already explained in the general scheme at page 7 it only remains to describe their special characteristics. The Stopped Diapason, Clarabella, and Flutes of 8 and 4 feet, from their rapidity of speech, and light, delicate tone, are better adapted for quick passages than for "fourpart playing;" unless a Dulciana, Viol da Gamba, Hohlflöte, or some stop of slower speech and more pungent tone be added, then the effect is charming. The German Gamba, if used as a Solo Stop in any way, must, on account of its singular uncertainty of speech, be always combined with a soft stop of opposite character, such as a Lieblich Gedact of the same pitch.

Undoubtedly the most legitimate *large* Organ tone is produced by the employment of the 16 and 8 feet Diapasons on the Great Manual, in combination with all the other 8 feet flue work, including the German Gamba, which imparts peculiar richness of tone. It is also desirable to "couple" the Swell Manual with similar stops drawn, as by that means a slight *crescendo* and *diminuendo* can be produced when desired. The Pedal stops used must of course match in tone; the 16 feet open Diapason, Bourdon, Violon and 8 feet Principal, will be found suitable; should more body of tone be required the "Great to Pedal" coupler can also be added.

It may be observed here, that the *continual* use of the "doubles" (Manual stops of 16 feet pitch) is to be avoided; but when judiciously employed they add immensely to the dignity of the general effect. Many object to their use in the performance of Fugues, but independent of the fact that they are always thus employed in Germany, nothing can be finer than the result they produce in solid compositions of this character. As it is desirable to preserve the relative pitch of Manual and Pedal however, when the "doubles" are drawn, as a general rule a 32 feet stop should be added in the Pedal Organ, if possible.

In employing 4 feet tone in conjunction with that of 8 feet, it is necessary always to select such Stops as will amalgamate satisfactorily; for instance, to strengthen a Stopped Diapason of 8 feet, a soft Flute of 4 feet must be selected; but an 8 feet Diapason of strong sonorous tone, will require a 4 feet Principal; a stop of more power, and bearing more resemblance to this stronger "ground" tone. In order to still farther intensify and impart more gravity of character, in the latter case add a 16 feet Diapason in same Manual. In arranging a gradual increase of tone, 4 feet flue stops must be added to those of 8 feet in the proportion of 2 to 3, afterwards drawing Twelfth and Fifteenth, Mixtures, and finally, Reeds.

In the case of the Swell, it is usual, first, to add the Oboe to the 8 feet Flue work, afterwards stops of 4 feet etc.

For the Choir Organ, the same general rule as that applicable to the Great, will hold good.

Solo Stops must be accompanied on another Manual (usually the Swell as these stops are generally placed in the Choir and Great) the tone of the ac-

companying Manual being of course so reduced as to be subordinate, although discernible. In using the Clarinet, it is advisable to combine it with a Stopped Diapason. All other Solo stops, except the German Gamba, can be used singly, although they may be combined in certain ways; for example — a 4 feet Flute can be added to another soft Solo stop of 8 feet. Again, in rapid passages, a Bourdon of 16 feet combined with a Piccolo of 2 feet, is sometimes employed with quaint effect.

A good result is also sometimes obtained in an organ of ordinary size, by coupling the 8 feet Reeds in the Swell, if their compass extends to C C, to 4 feet Flue work in the Great, playing on the latter Manual *an octave lower.* This artifice will produce the effect of a 16 feet Reed.

But as successful Solo combinations depend almost entirely on the "voicing" of the various stops at command, (which varies considerably in different instruments,) and the individual taste of the player, it is impossible to do more than give general hints for guidance. However as it is customary to insert full directions as to the *quality* of tone desired by modern composers in their published organ music, the requisite experience is soon practically acquired.

The following statement will give a general idea as to the *class* of sounding stops it is desirable to use, in order to produce ordinary degrees of tone from ***ppp*** to ***fff***. on the Great Manual. The treatment necessary to produce similar effects in other portions of the instrument, is of course, precisely similar.

ppp — Dulciana.
pp — add Lieblich Gedact, 8 feet.
p — add Hohlflöte and Viol.da Gamba, 8 feet.
mf — add Diapasons 16 and 8 feet and 4 feet Flute.
f — add all the flue work, up to Fifteenth.
ff — add a portion of the mixture work and a soft Reed.
fff — add all the Reeds and remainder of the mixture work.

XXX. Organ composers frequently prefer to indicate the *quality* of tone required, rather than direct the employment of particular stops, simply because, as already explained, "voicing" varies so much with different builders, that the exact balance of tone desired cannot always be produced by the same means, and writers therefore often prefer to leave the matter to the judgment of the Organist, whose knowledge of his instrument ought always to enable him to carry out the author's intention. Solo stops however, are usually mentioned specifically.

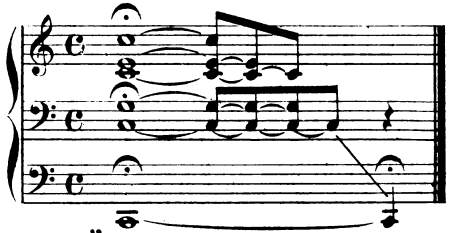
XXXI. But on the other hand, some general directions are of frequent occurrence, and as it would be exceedingly perplexing to the player, if the whole of the stops required in ordinary combinations were enumerated, the necessary information is epitomized in the following manner:

"Swell with Oboe" (or Sw. Reed.) Swell Manual, with the 8 feet Flue Work and Oboe.
"Swell without Oboe" ——— 8 feet Flue work only
"Swell with Reeds." ——— add all the other Reeds.
"Full Swell." ——— Draw the whole of the stops in this manual.

It will be seen, that the 8 and 16 feet Flue work is always implied, and the stops actually mentioned are those that limit the extent of power required, for instance

"Gt. Full to Fifteenth." (or simply to 15th.) The whole of the Flue work, 16 feet pitch to 2 feet.
"Full with Mixtures" ——— add Sesquialtra and Mixtures.
"Full" ——— Draw the whole of the Gt. Organ stops.

XXXII. It may be as well to explain here also, that in concluding an organ piece of soft character, the notes of the final chord must not be raised precisely together, but the upper one should be released first, the next below immediately afterwards, and so on, allowing the Bass or Pedal note to linger for awhile, somewhat in the manner of a downward *arpeggio,* thus



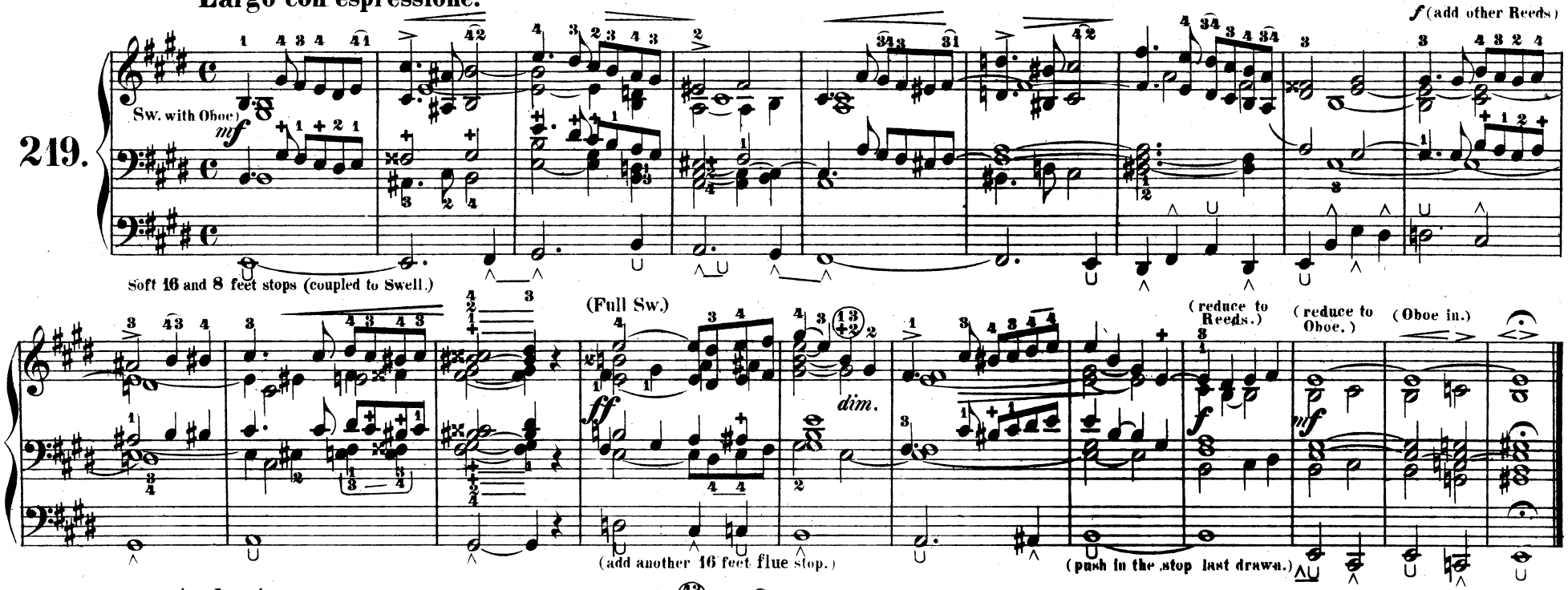
In pieces written for loud stops, a firmer and more determined "touch" is always requisite, particularly if massive and solid harmonies are employed; then the final chord should be raised promptly, and not in the manner indicated above. The effect of this, especially in a building of good acoustic qualities, is remarkably fine.

These general rules are invariably observed by good organists.

8 Short Studies for One Manual.

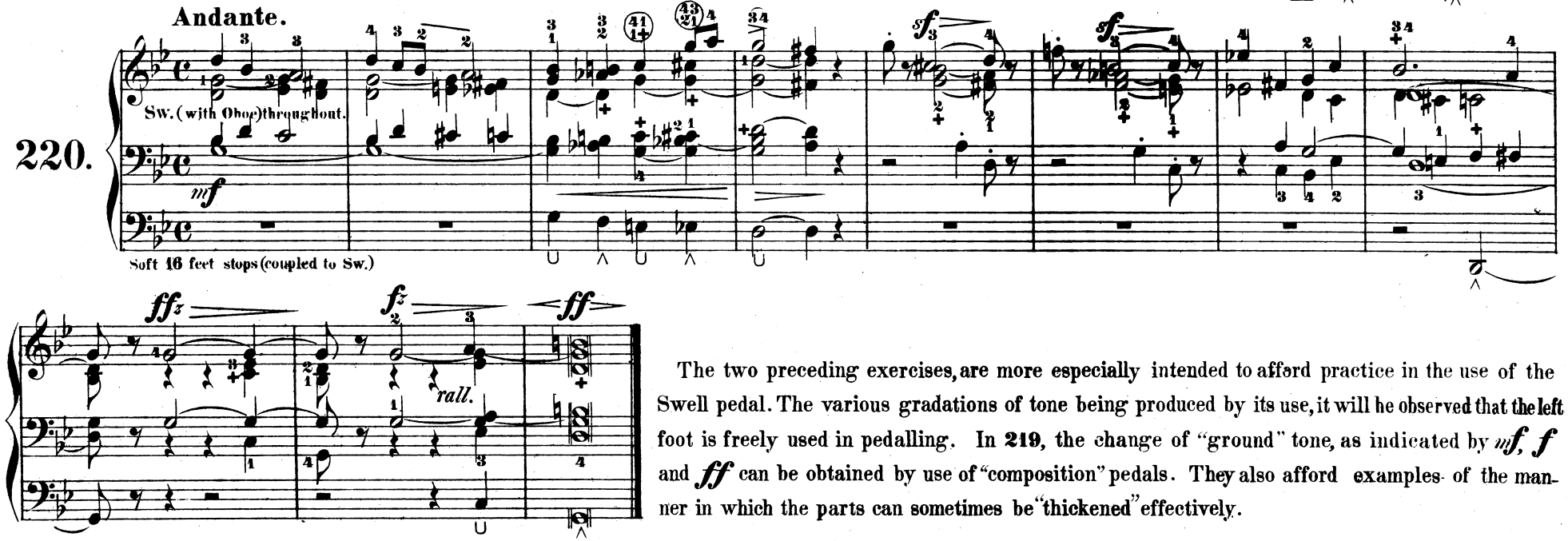
Largo con espressione.

219.

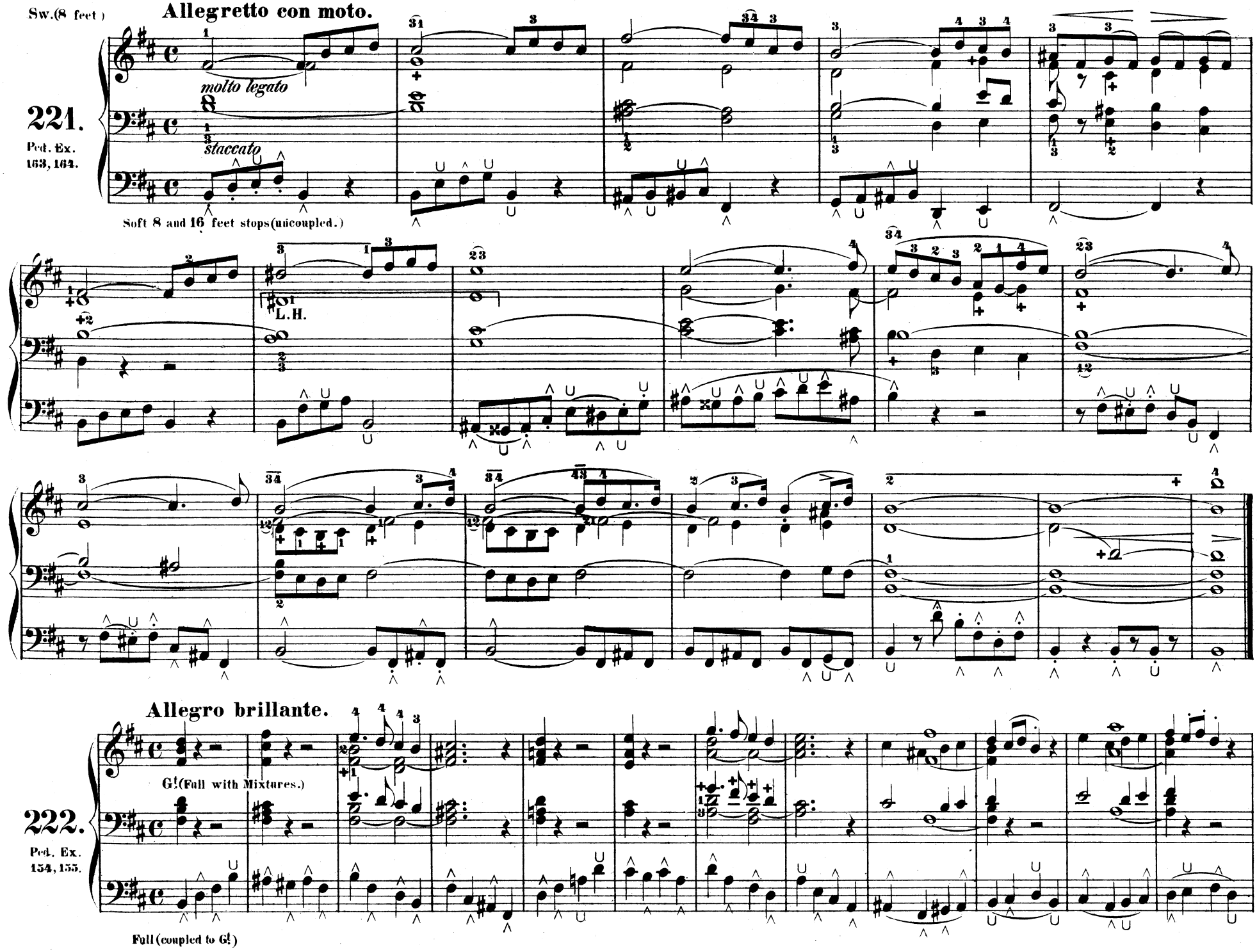


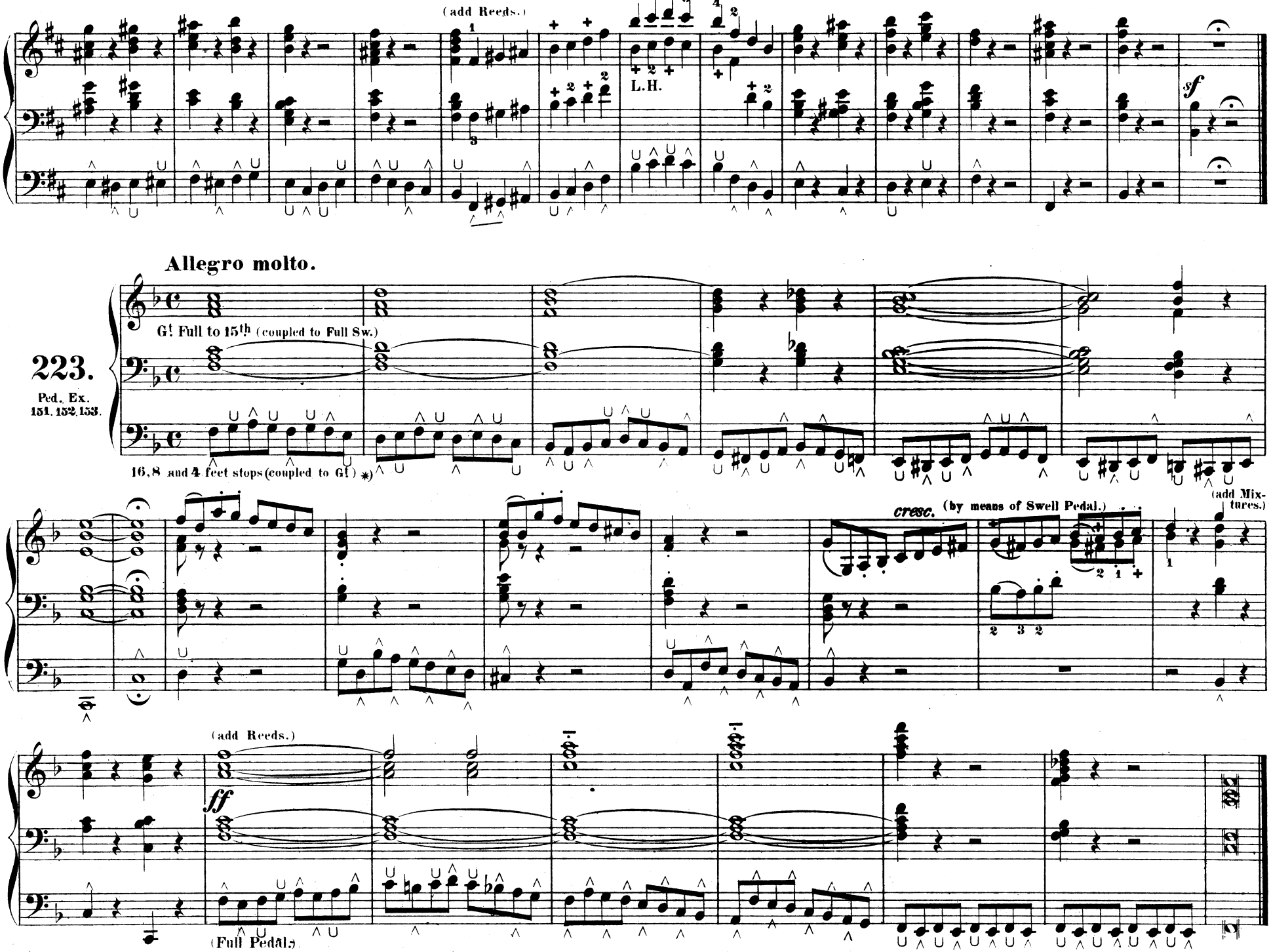
Andante.

220.

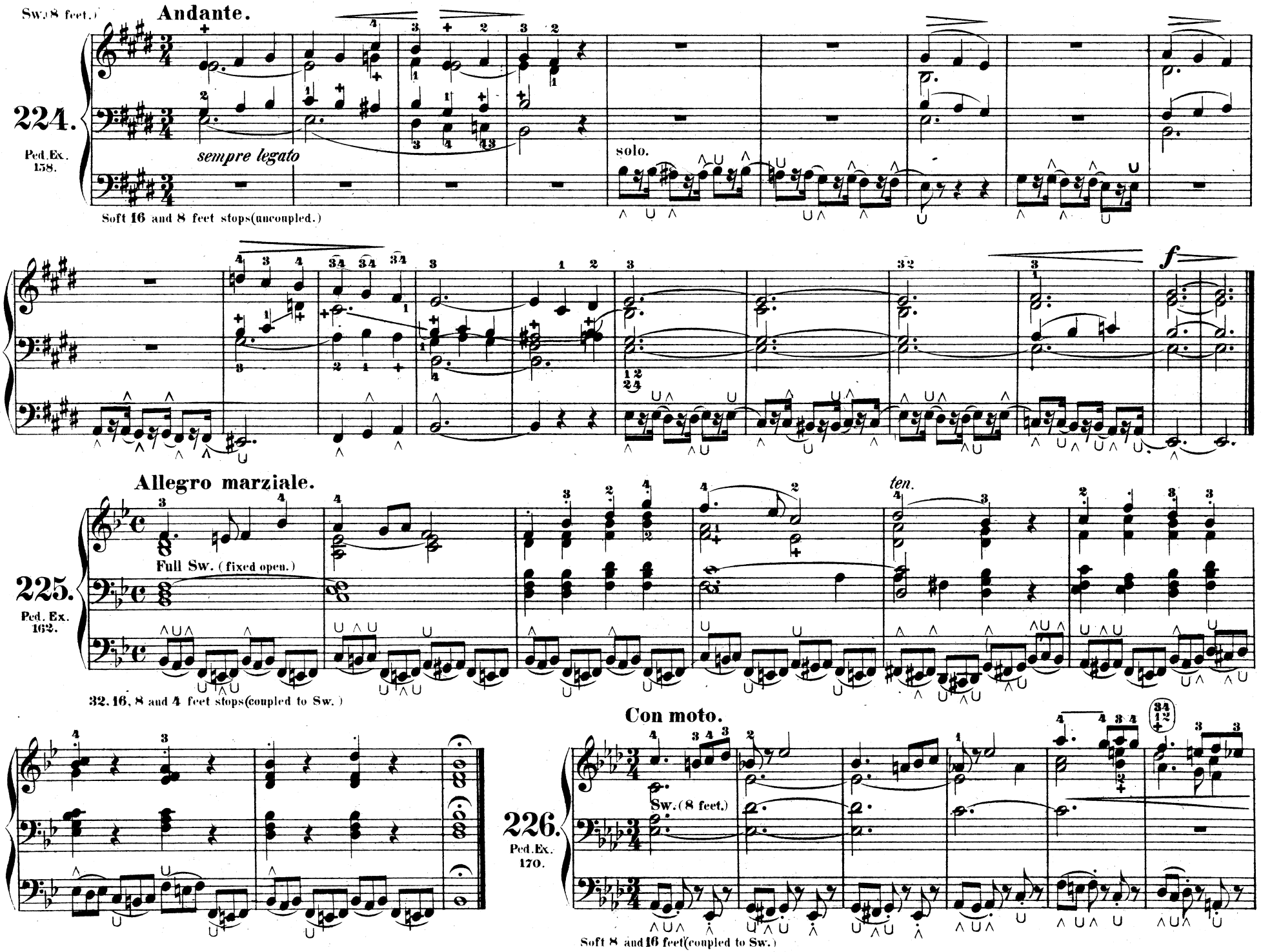


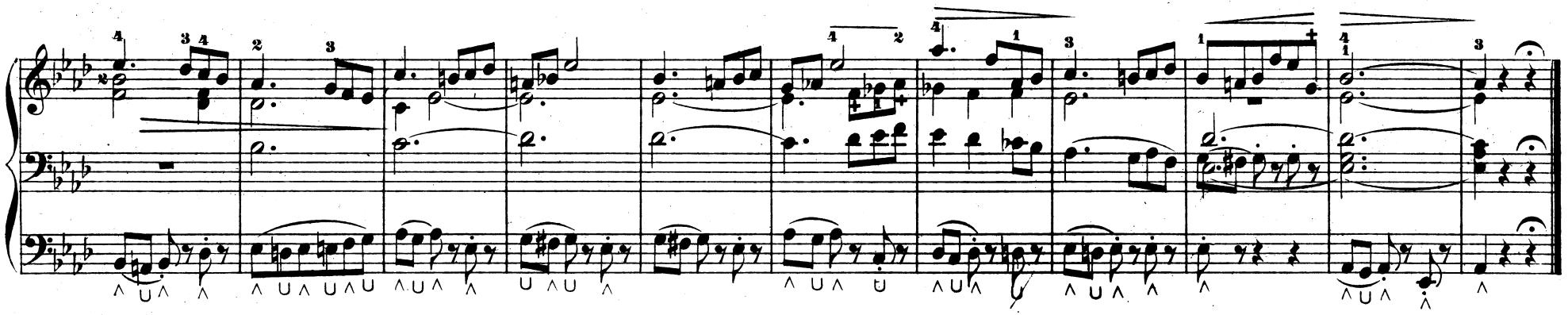
The two preceding exercises, are more especially intended to afford practice in the use of the Swell pedal. The various gradations of tone being produced by its use, it will he observed that the left foot is freely used in pedalling. In **219**, the change of "ground" tone, as indicated by *mf*, *f* and *ff* can be obtained by use of "composition" pedals. They also afford examples of the manner in which the parts can sometimes be "thickened" effectively.


Sw.(8 feet)
Allegretto con moto.
molto legato
221.
Ped. Ex.
163, 164.
staccato
Soft 8 and 16 feet stops(uncoupled.)
L.H.
Allegro brillante.
G!(Full with Mixtures.)
222.
Ped. Ex.
154, 155.
Full(coupled to G!)



*) Unless "Reeds" are specially mentioned, these directions always apply to "flue" stops only.


Sw.(8 feet.)
Andante.
224.
Ped.Ex. 158.
sempre legato
solo.
Soft 16 and 8 feet stops(uncoupled.)
f
Allegro marziale.
225.
Ped.Ex. 162.
Full Sw. (fixed open.)
ten.
32, 16, 8 and 4 feet stops(coupled to Sw.)
Con moto.
226.
Ped.Ex. 170.
Sw.(8 feet.)
Soft 8 and 16 feet(coupled to Sw.)



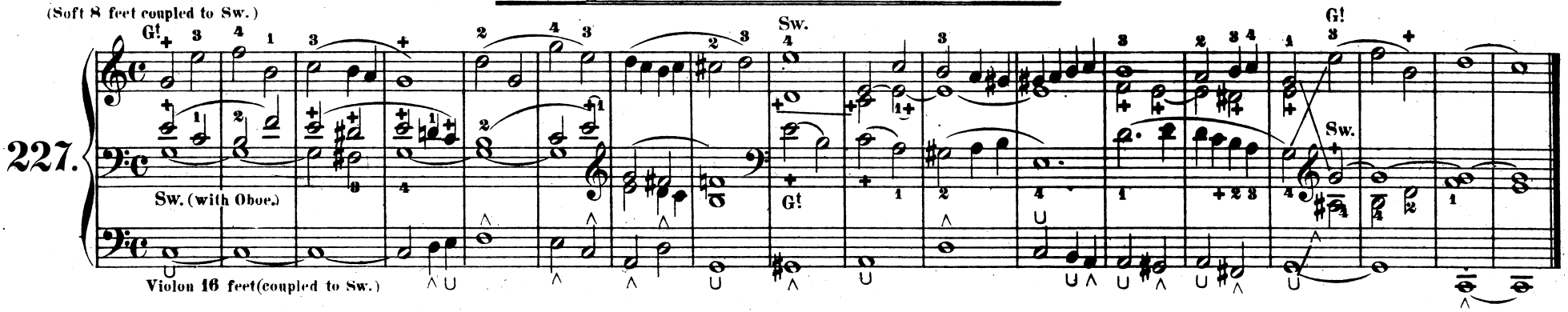
In the performance of music intended for more than one manual, it is frequently necessary to transfer the hands rapidly from one keyboard to another, sometimes even in the middle of a phrase. To accomplish this operation with the requisite neatness, considerable dexterity is necessary, as no hiatus in the progress of the parts can be permitted. In cases of this kind, when passing from Swell to Great, the hand should be allowed to slide down from the upper to the lower manual, but in reversing the process, the fingers should be straightened in such a manner as to raise the wrist as high as possible; an expedient calculated to assist the player considerably in reaching the Swell keyboard. When rests intervene, this mode of procedure is of course unnecessary.

10 Progressive Studies for Two Manuals.

Allegro moderato.

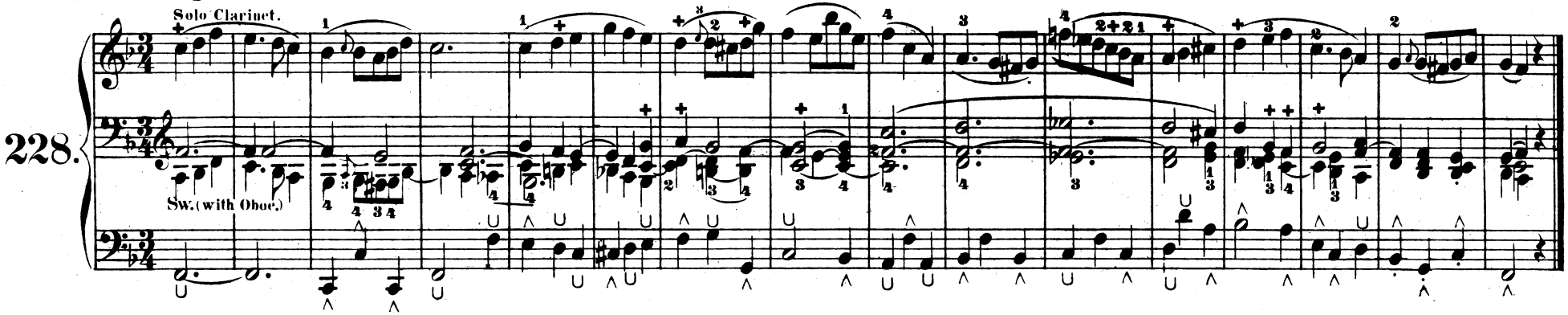
(Soft 8 feet coupled to Sw.)

227.



Allegretto.

228.



Andante con moto.

Sw. (with Oboe.)

229.

Gt Op. Diap. 8 feet (coupled to Sw.)

Soft 16 feet stop (coupled to Sw.)

Andante.

Gt 8 feet (coupled to Sw. with Oboe.)

230.

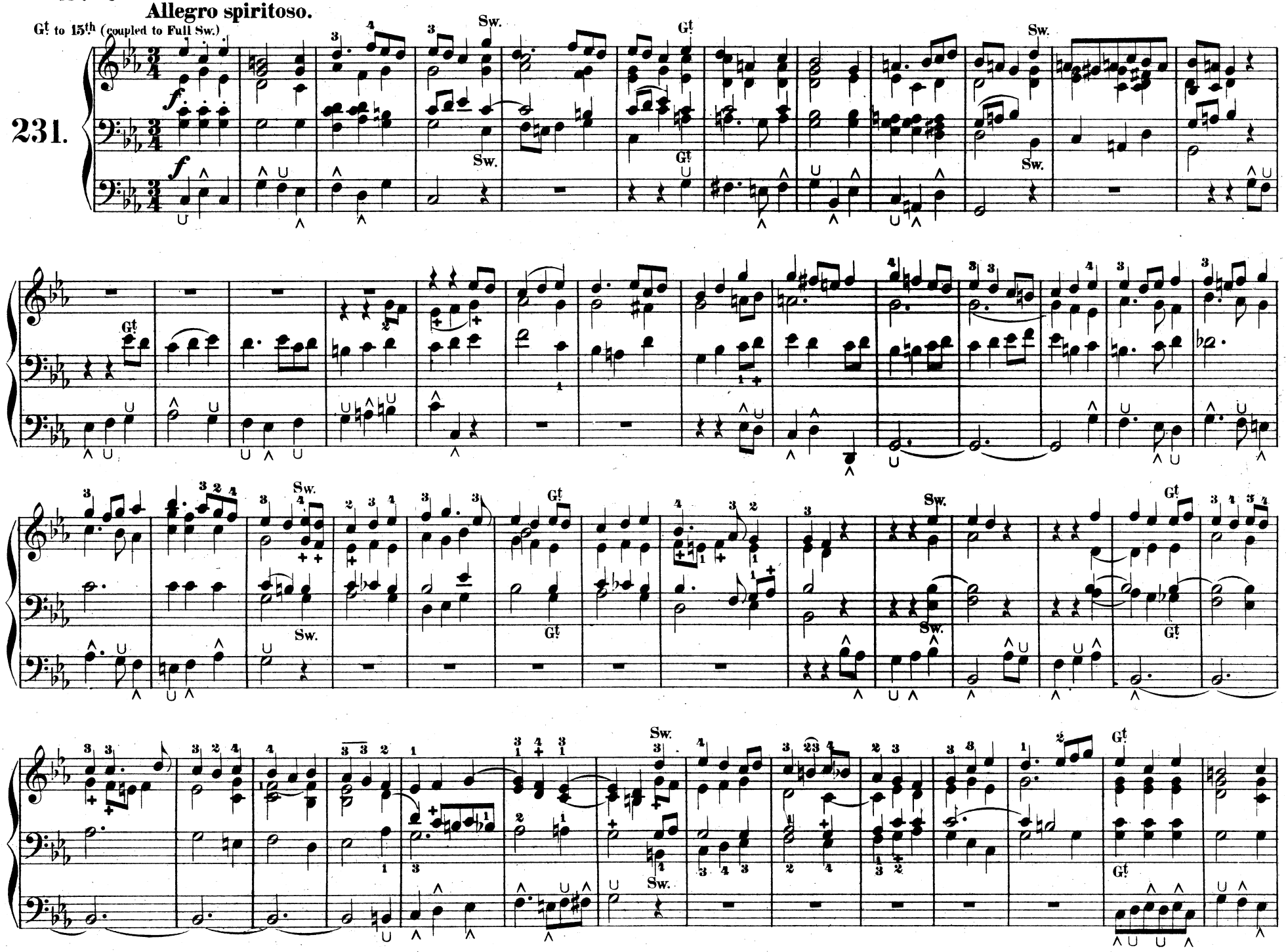
Soft 16 feet stop (coupled to Gt)

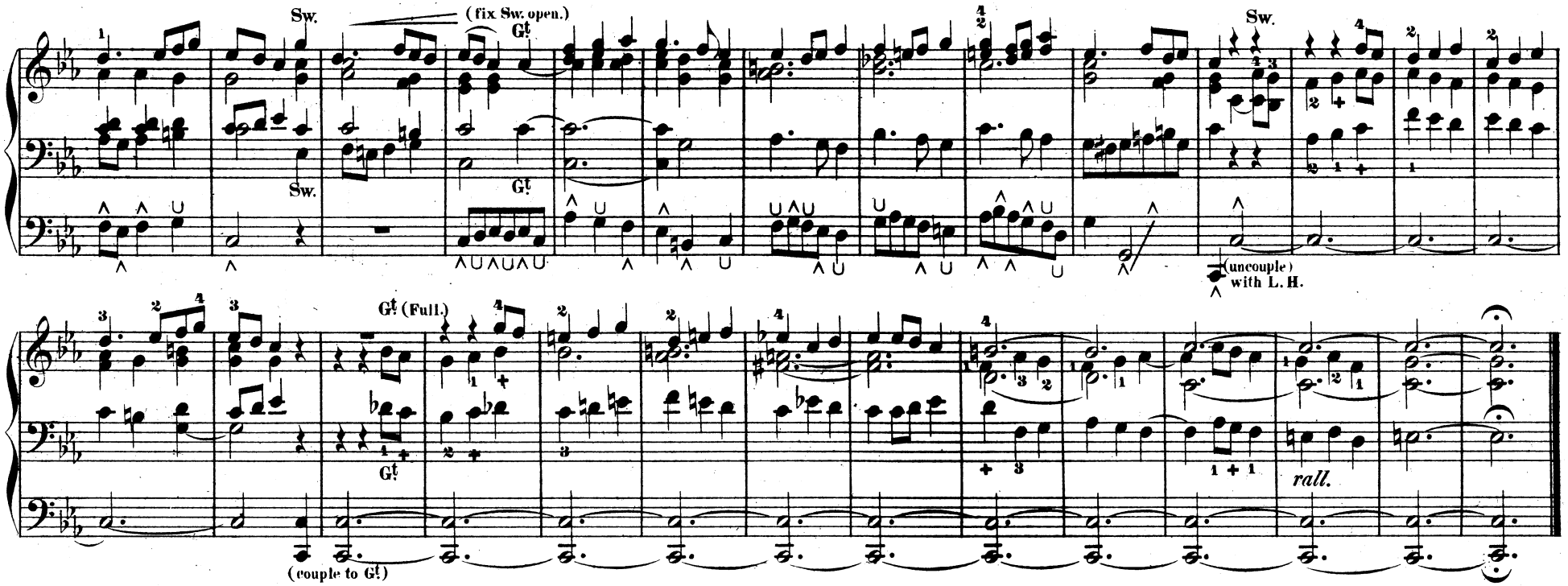
(uncouple)

The following study, being of a bold and massive character, demands the employment of a firm *semi-staccato* "touch", the rule as to "notes in common" not applying in this, and similar instances.

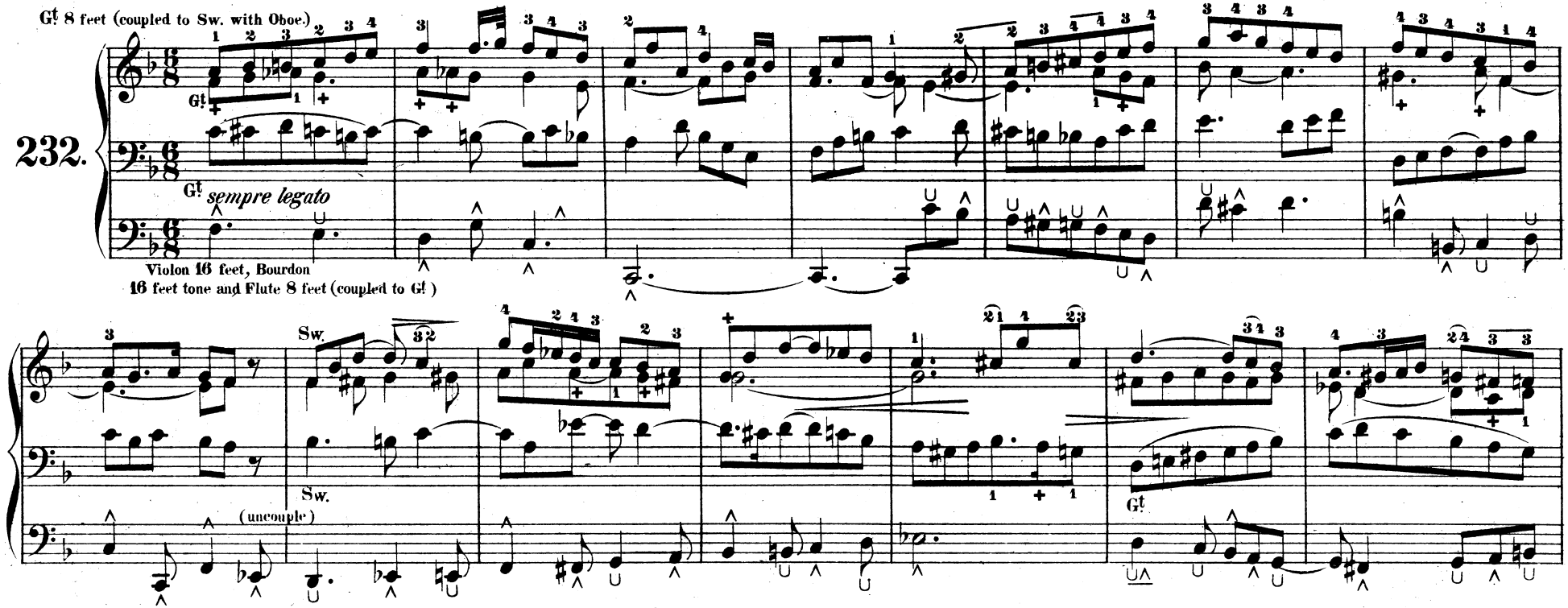
Allegro spiritoso.

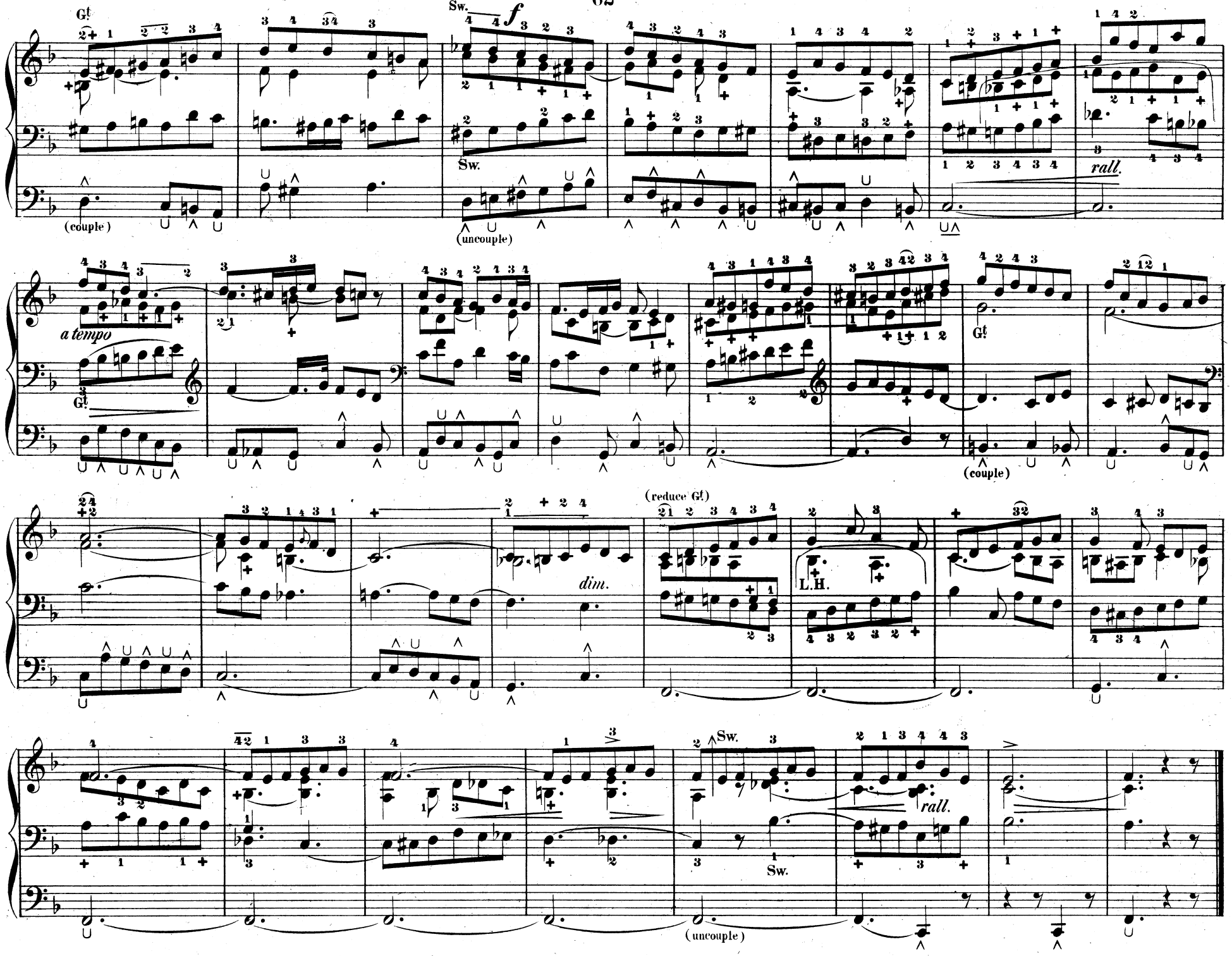
231.





Andante con moto.




G!
Sw.
f
Sw.
(couple)
(uncouple)
rall.
a tempo
G!
G!
(couple)
(reduce G!)
dim.
L.H.
Sw.
rall.
Sw.
(uncouple)

XXXIII. A charming effect is often produced by playing on two manuals simultaneously with one hand. This is usually effected by the thumb, as will be seen in the following examples; all notes engraved thus ◊ ♦ being played on the G! manual, either by the right, or left thumb, according to the stave on which they are placed; while the remainder of the hand is retained on the Swell.

233. **Larghetto.**

Prepare: G! soft 8 feet (coupled to Sw.)

Sw. (with Oboe.) R.H. Sw. G! Sw. Sw.

Soft 16 and 8 feet (uncoupled.) (couple to Sw.)

rall. G! Sw. (uncouple) *rall.*

234. **Andante con moto.**

Prepare: G! soft 8 feet (coupled to Sw.)

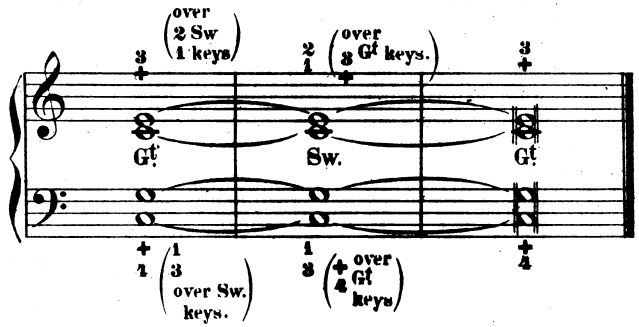
Sw. with Oboe. G! Sw. Sw. G! Sw.

Violon 16 feet (coupled to Sw. throughout.)

G! (couple to G!) Sw. G! *mf* Sw. (uncouple G!) G! *p* Sw.

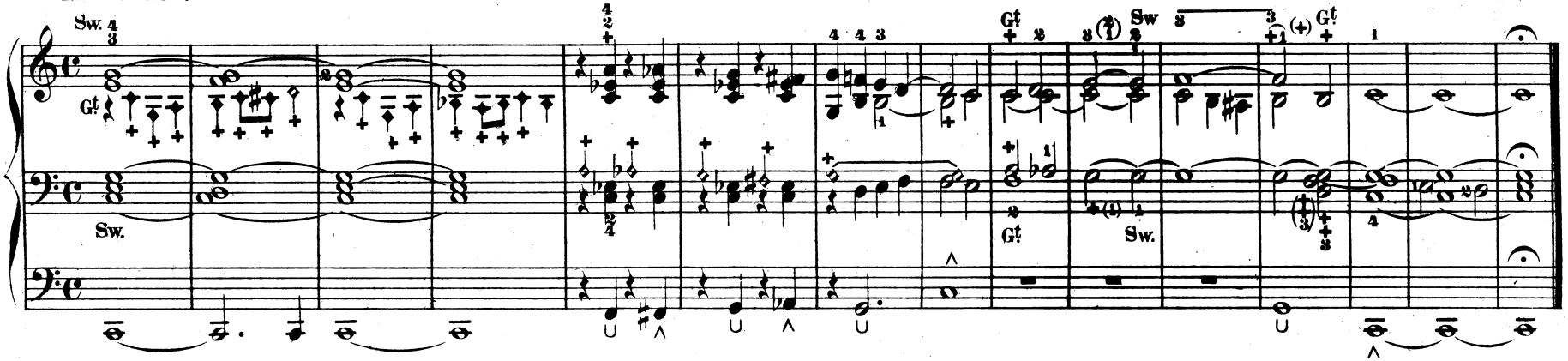
XXXIV. In pieces of a slow and sustained character, if it is necessary to substitute one manual for another on a repetition of the same chord, it will be found desirable, when the position of the chord in question renders such a course practicable, to liberate a sufficient number of fingers, and place them over the required notes in the 2nd manual (or as many as are within reach) while the hand still remains over the first key-board. *)

By these means, the change can be effected without rendering the slightest break perceptible — vide



Moderato.

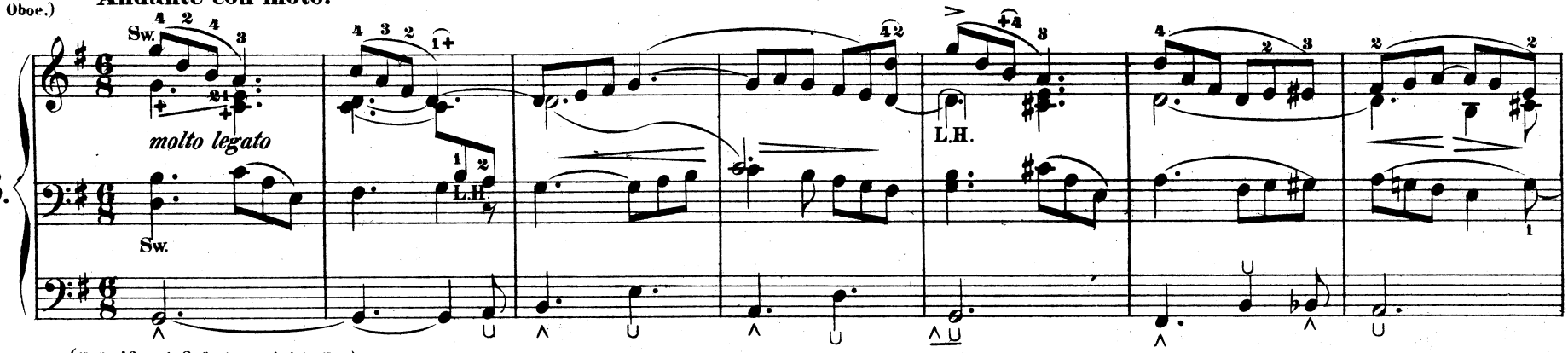
235.



Prepare: Gt soft 8 feet, (coupled to Sw. with Oboe.)

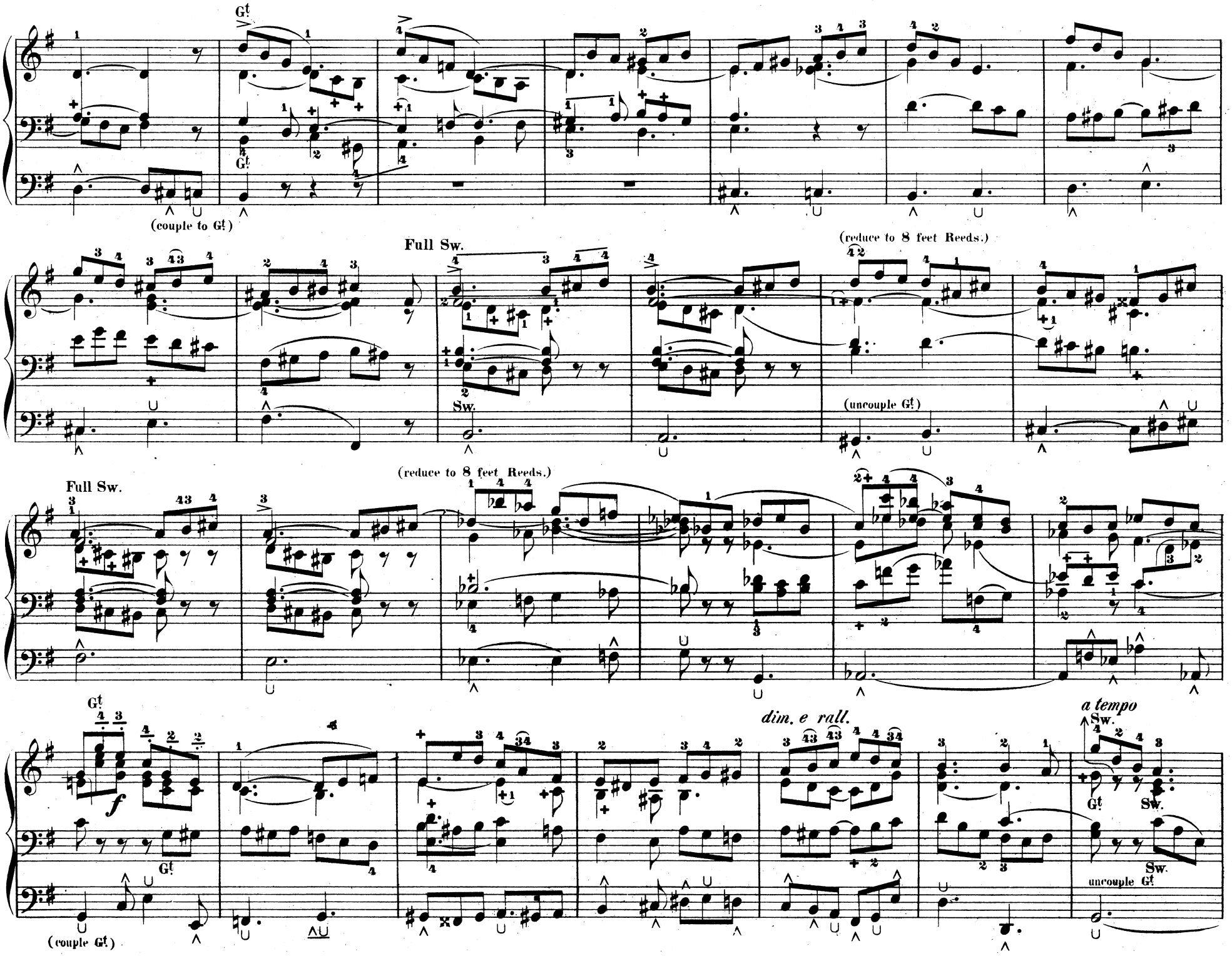
Andante con moto.

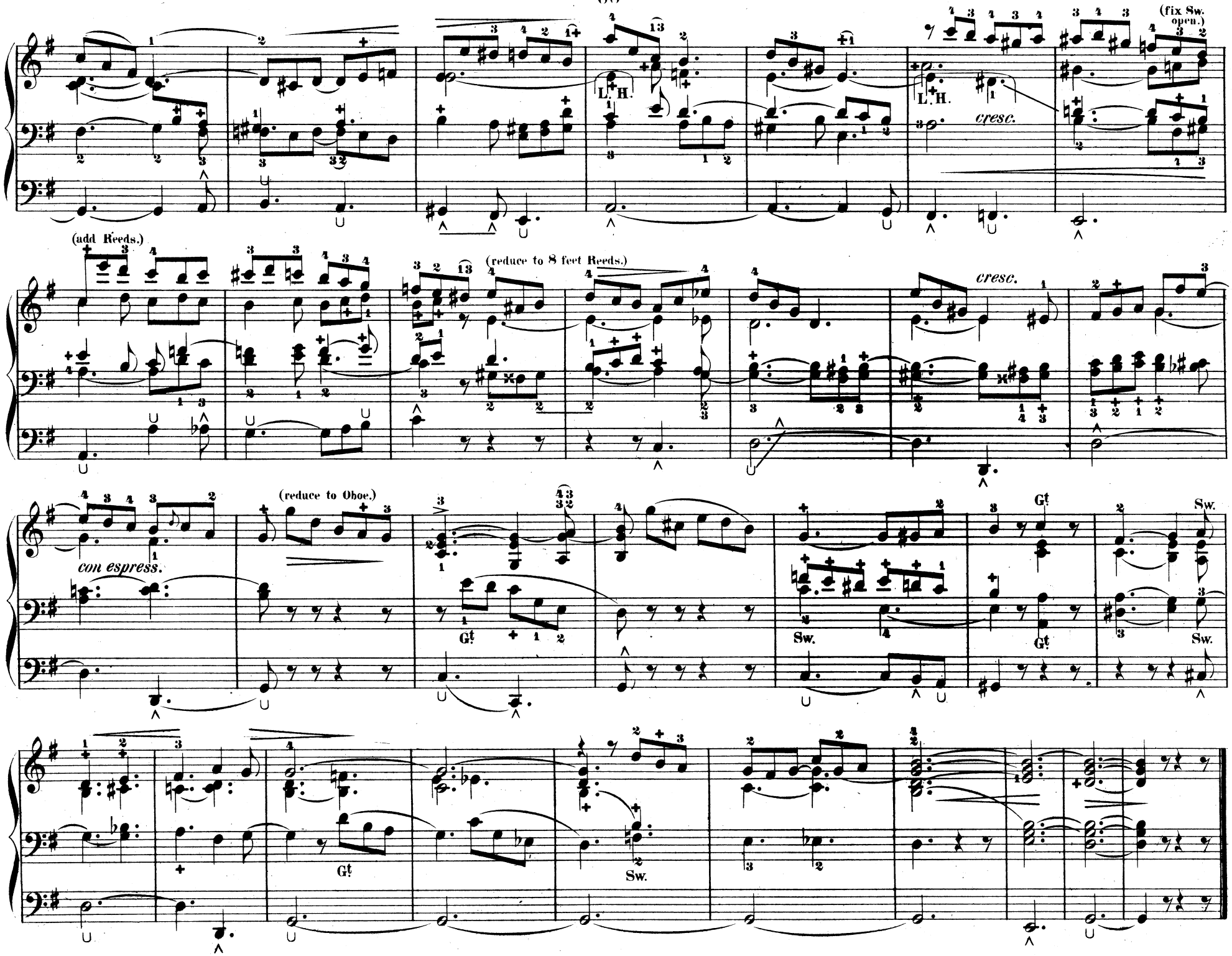
236.



(Soft 16 and 8 feet coupled to Sw.)

*) Facility in the use of the thumb on a second manual, as shown in the two preceding examples, will render this easier of accomplishment.


Gt.
(couple to Gt.)
Full Sw.
Sw.
(reduce to 8 feet Reeds.)
(uncouple Gt.)
Full Sw.
(reduce to 8 feet Reeds.)
Gt.
f
(couple Gt.)
dim. e rall.
a tempo
Sw.
Gt.
Sw.
uncouple Gt.


(fix Sw. open.)
L. H.
L. H.
cresc.
(add Reeds.)
(reduce to 8 feet Reeds.)
cresc.
(reduce to Oboe.)
con espress.
Gt
Sw.
Gt
Sw.
Gt
Sw.
Gt
Sw.
Gt
Sw.

Prepare:
Sw. with Oboe.
Gt soft 8 feet stop (coupled to Sw.)
Ch. stoppd Diap. and Dulciana 8 feet with soft Flute 4 feet.

10 Advanced Studies in different styles for Three Manuals. *)

237.
Ped.Ex.
156 157.

Andante con moto.

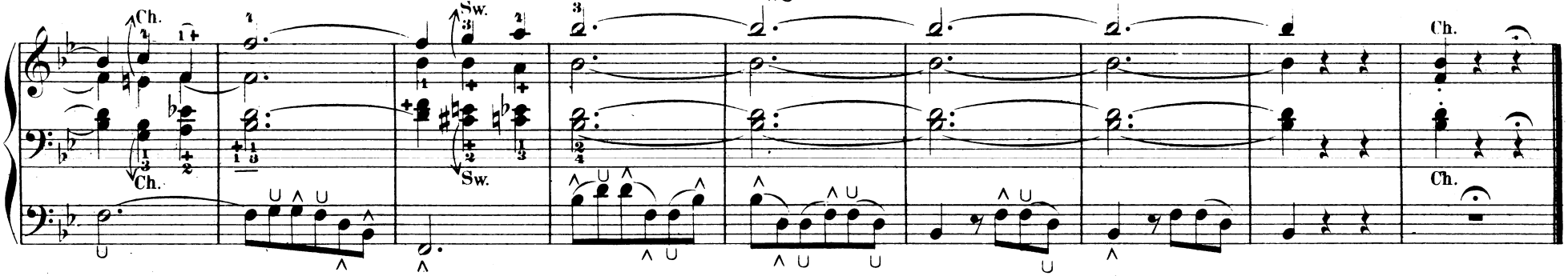
Ch. Sw. Gt

Soft 16 and 8 feet (uncoupled.)

agitato

put in Ch. Flute and Sw. Oboe.

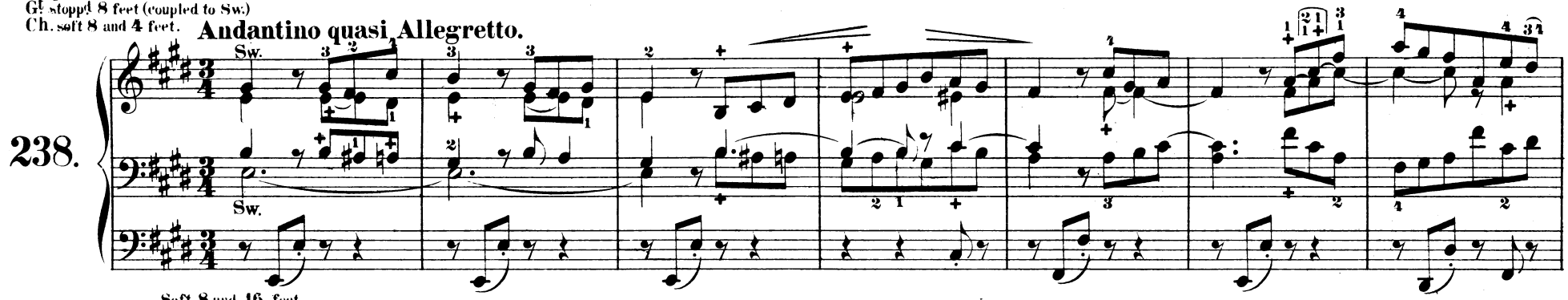
*) By the use of composition Pedals, or otherwise, the arrangement of stops on the Gt Manual can be rapidly changed so as to produce Choir organ tone; and thus in many cases, pieces written for three manuals can be performed on two.



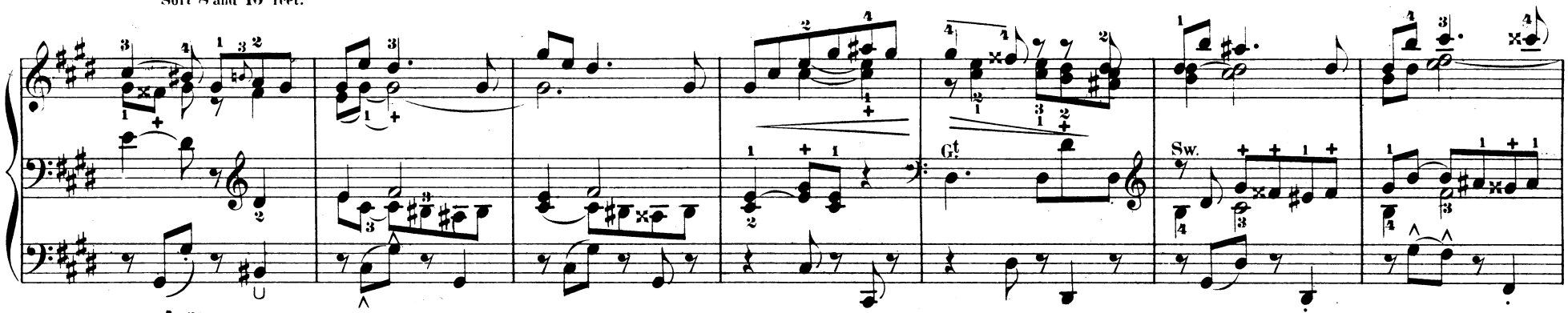
Prepare: Sw. with Oboe.
Gt. stopp'd 8 feet (coupled to Sw.)
Ch. soft 8 and 4 feet.

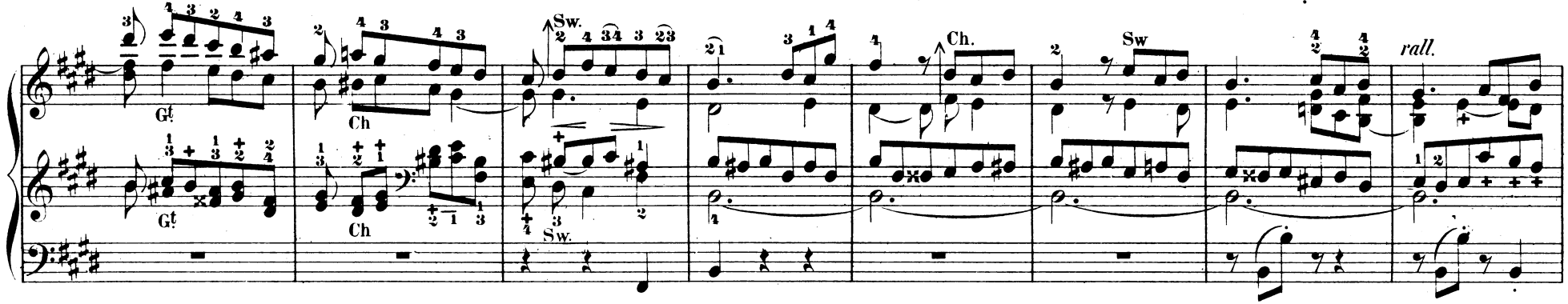
Andantino quasi Allegretto.

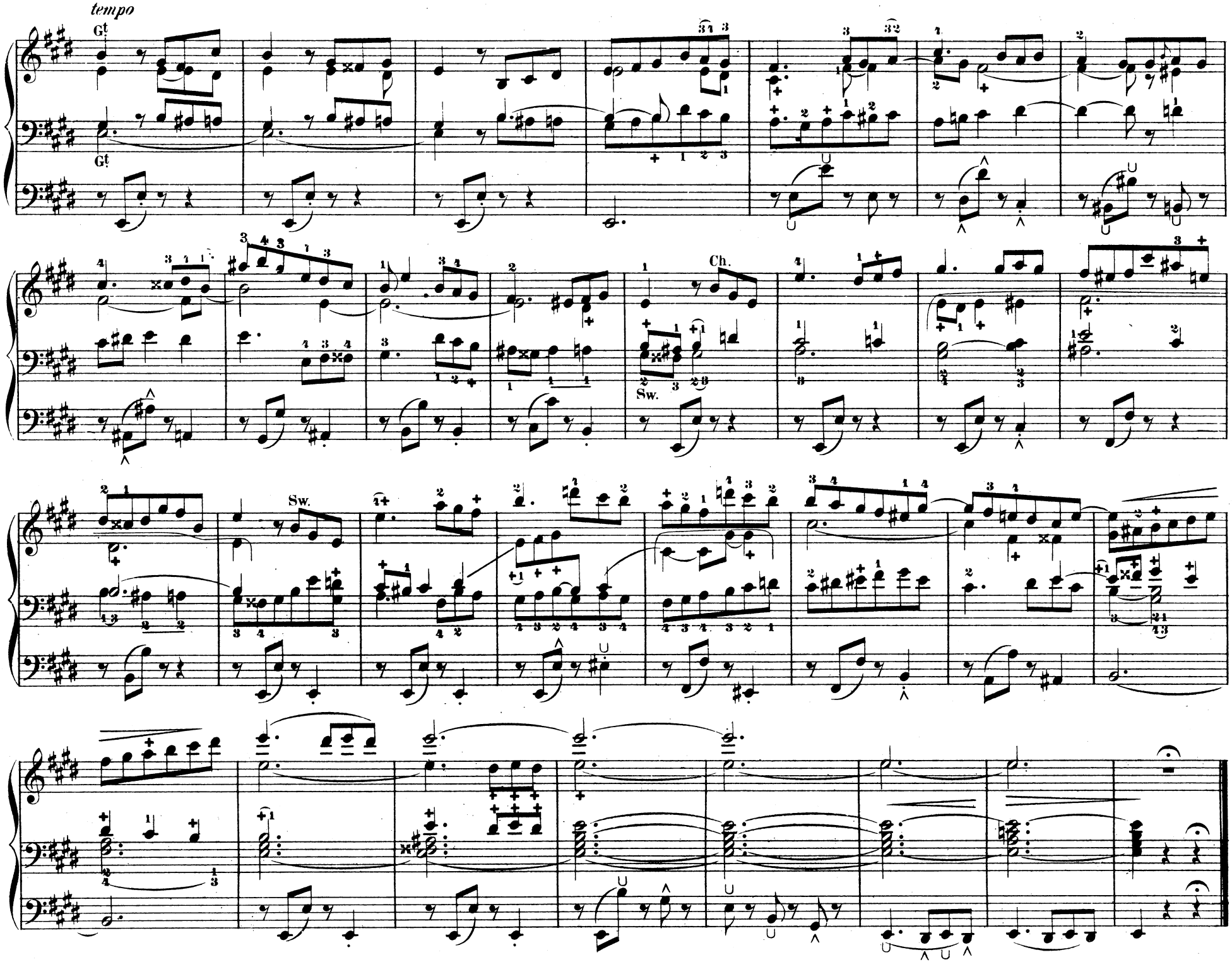
238.



Soft 8 and 16 feet.

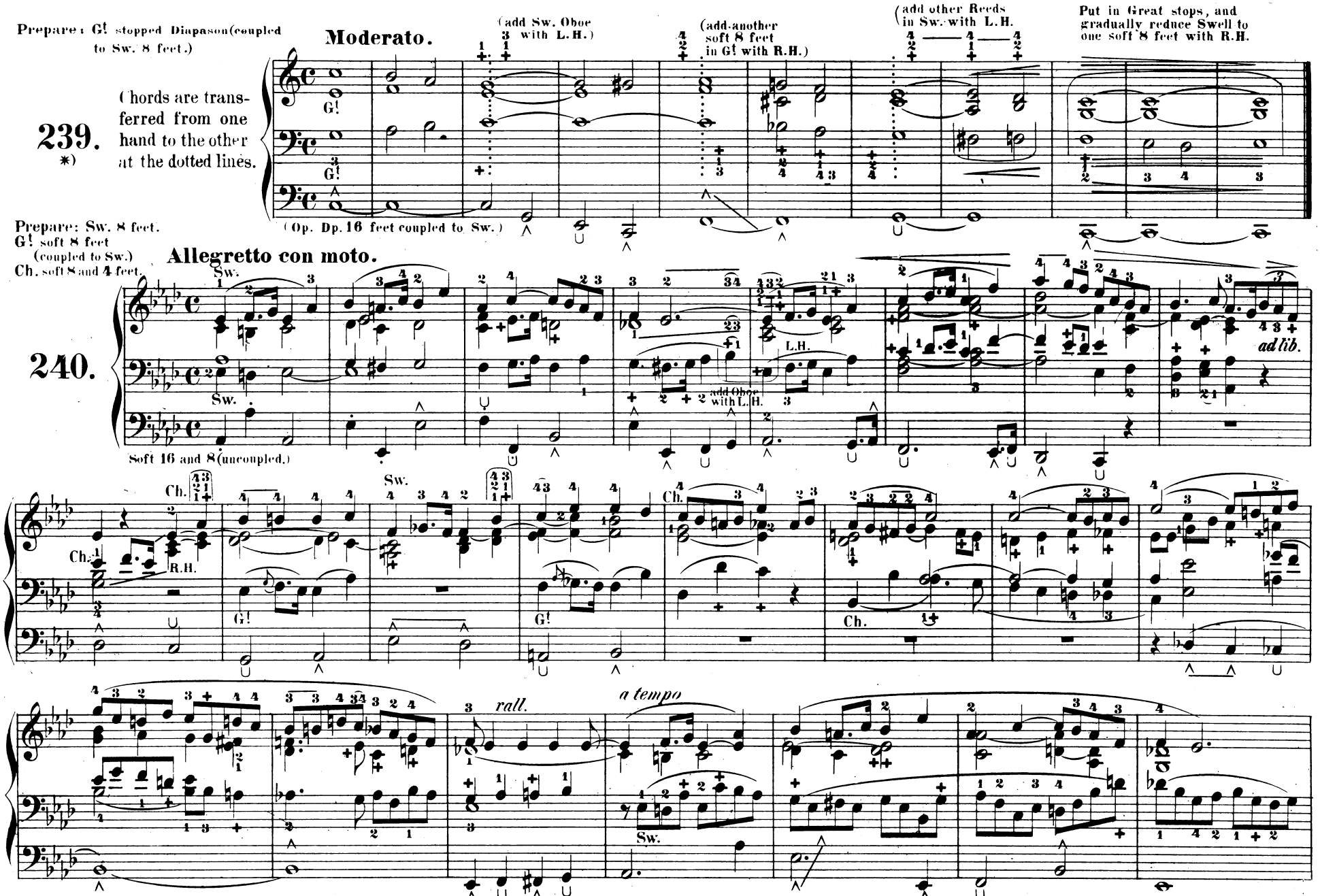




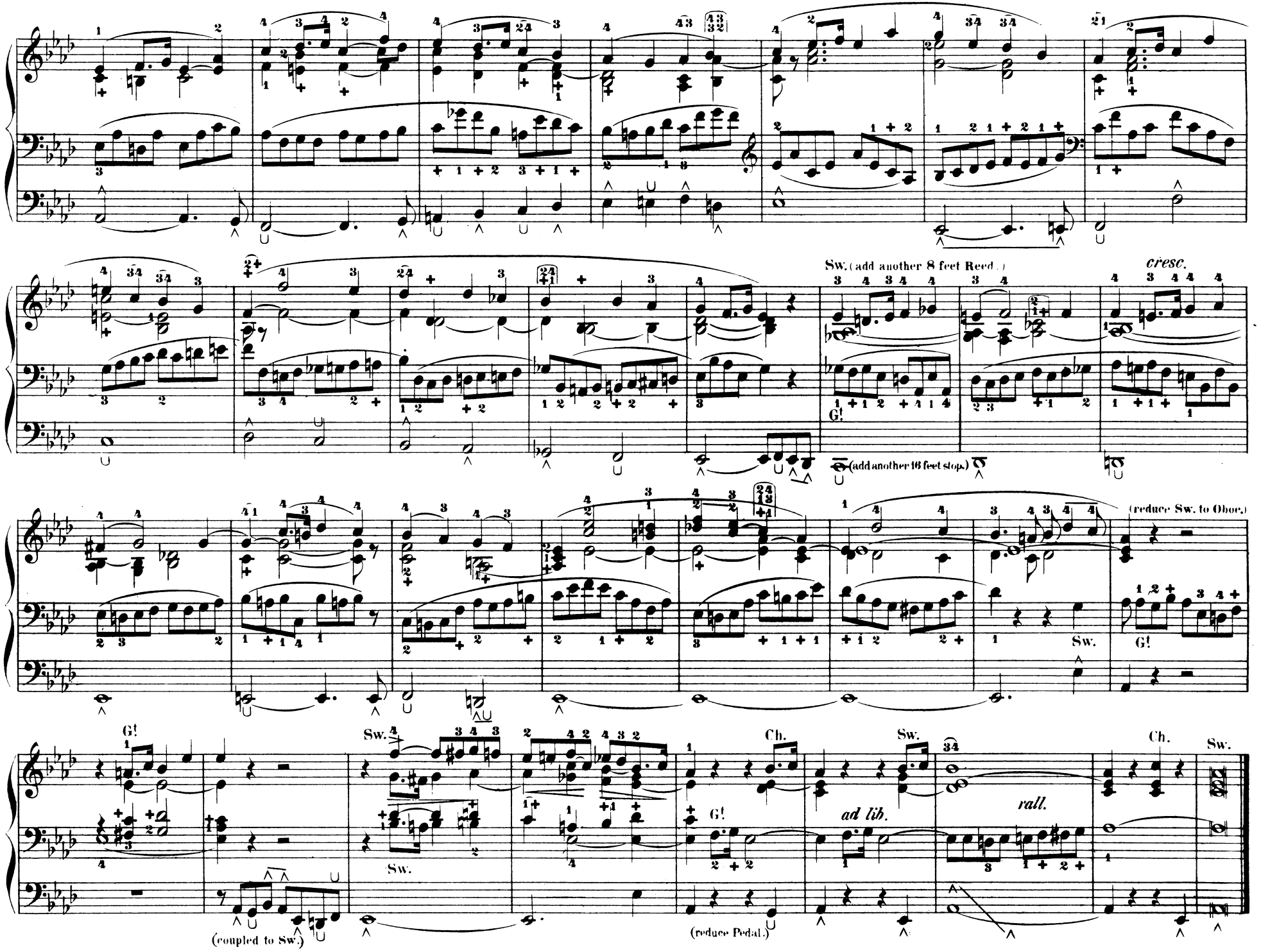

tempo
Gt
Gt
Ch.
Sw.
Sw.

XXXV. When it is necessary to change stops not under the command of "composition pedals," during performance, one hand must be spared for the purpose, although no interruption in the matter of "time" can be permitted. It is therefore frequently essential temporarily to transfer certain notes from one hand to the other, in order to do so.

In the remaining studies — particularly in № 239 —, this manipulation is clearly shown, as well as the method of reducing tone, when concluding pieces of a quiet character.

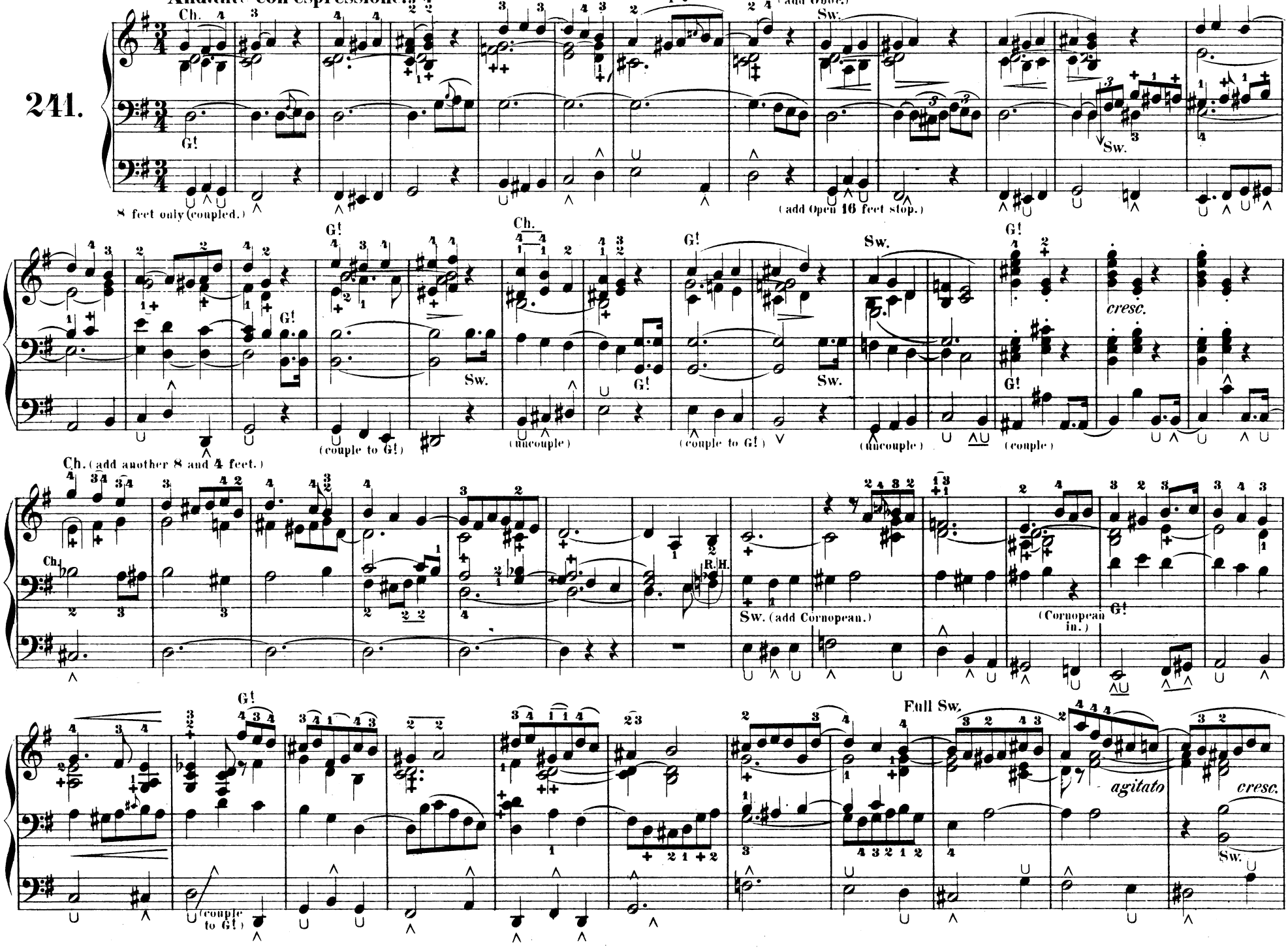


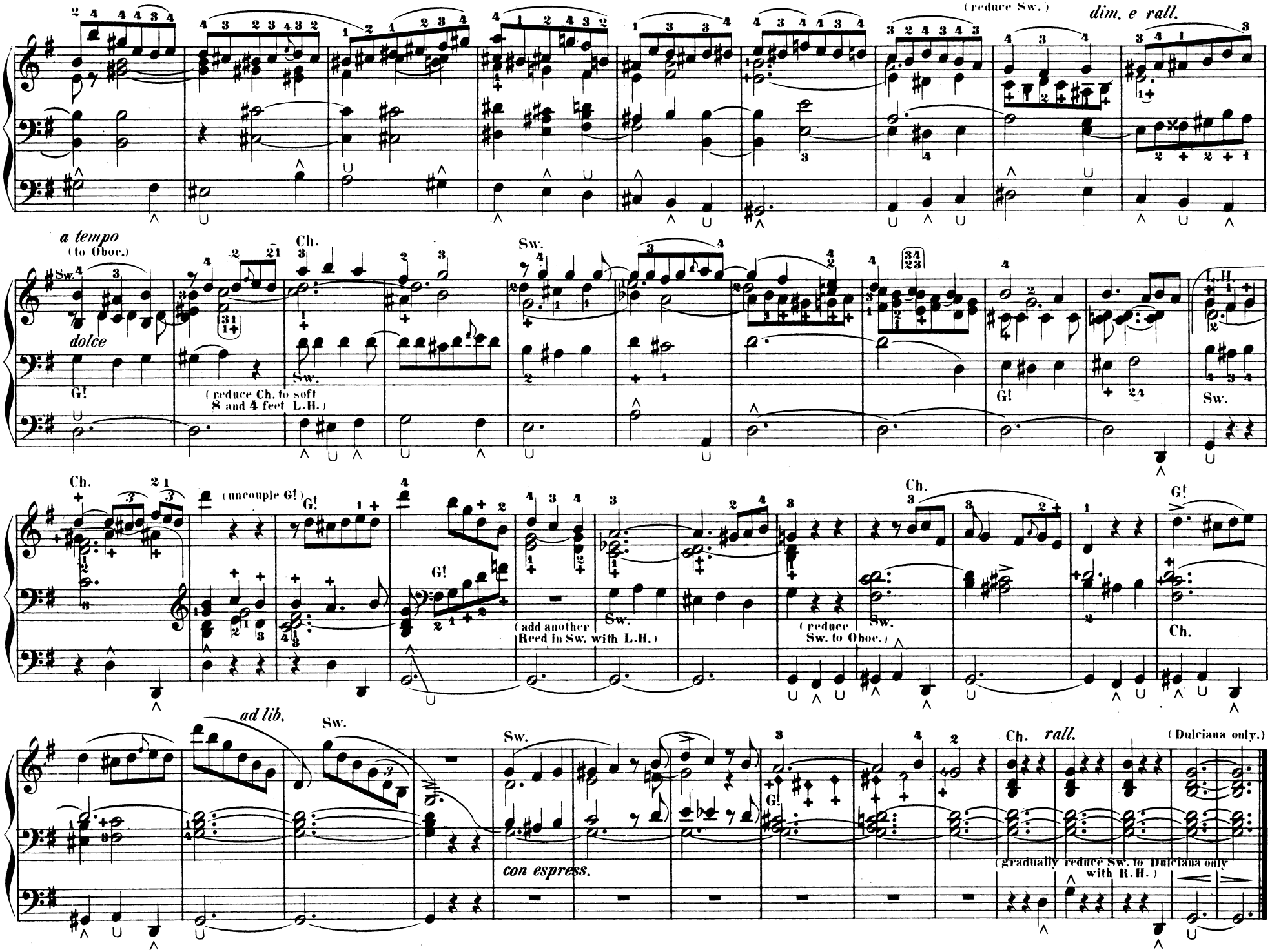
*) It is here assumed that the stops assigned to the Great are placed to the right of the player, and those of the Swell on his left, should it be otherwise however, the necessary modification of the directions given is sufficiently obvious to render farther explanation unnecessary.


Sw. (add another 8 feet Reed.)
cresc.
G!
(add another 16 feet stops.)
(reduce Sw. to Oboe.)
Sw.
G!
Ch.
Sw.
ad lib.
rall.
(coupled to Sw.)
(reduce Pedal.)

Prepare: Sw. 8 feet.
G! 2 soft 8 feet stops(coupled to Sw.)
Ch. soft 8 and 4 feet.

241. Andante con espressione.



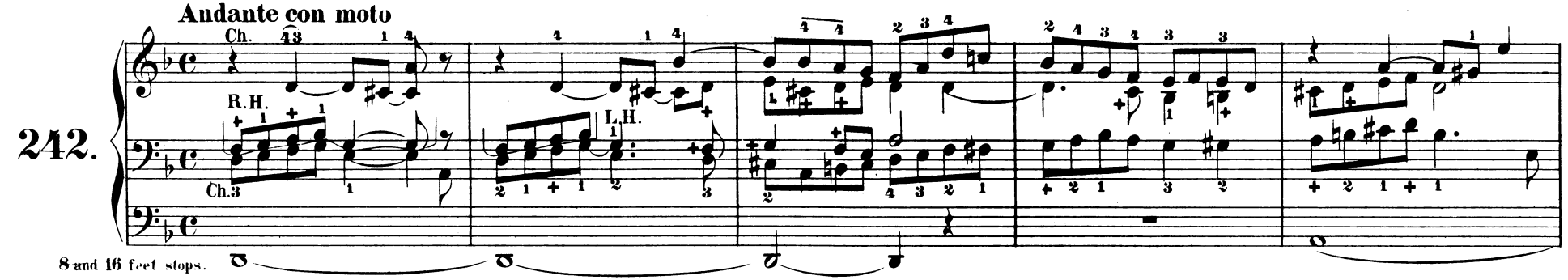

(reduce Sw.)
dim. e rall.
a tempo
(to Oboe.)
Sw.
dolce
G!
Ch.
Sw.
(reduce Ch. to soft 8 and 4 feet L.H.)
Sw.
G!
L.H.
Sw.
Ch.
(uncouple G!)
G!
G!
(add another Reed in Sw. with L.H.)
Sw.
Ch.
(reduce Sw. to Oboe.)
Sw.
Ch.
G!
ad lib.
Sw.
Sw.
con espress.
G!
Ch.
rall.
(Dulciana only.)
(gradually reduce Sw. to Dulciana only with R.H.)

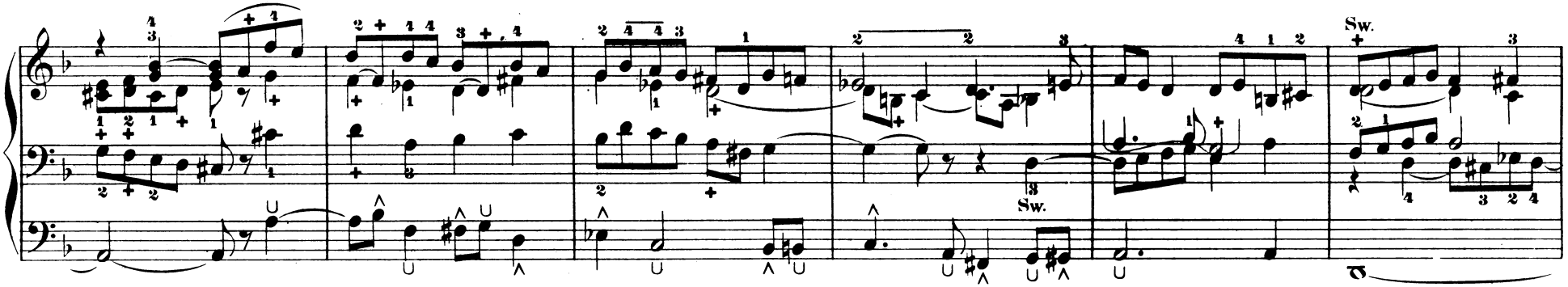
Prepare: Sw. Full.
G! 16, 8 and 4 feet (uncoupled.)
Ch. Full, excepting Reeds.

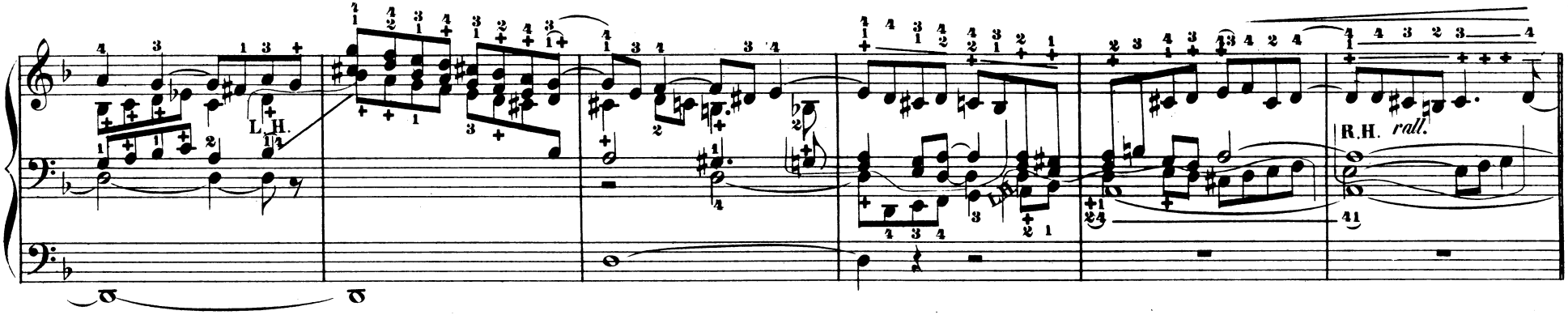
PRELUDE and FUGUE.

242.

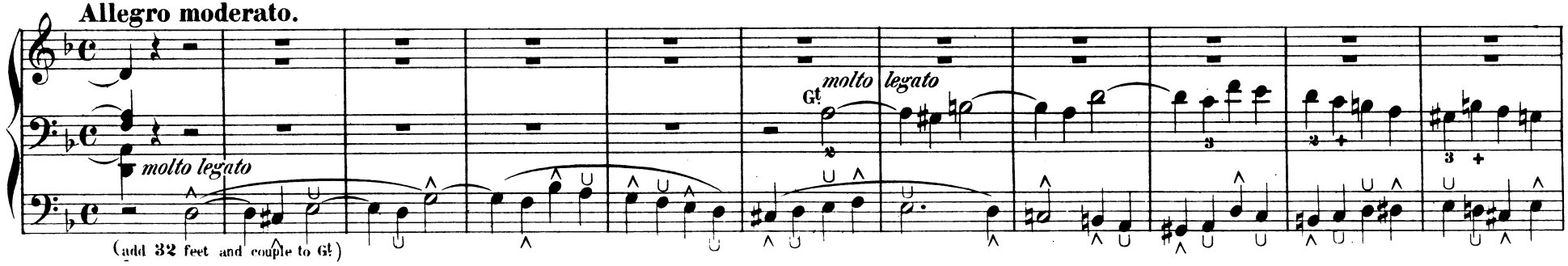
Andante con moto

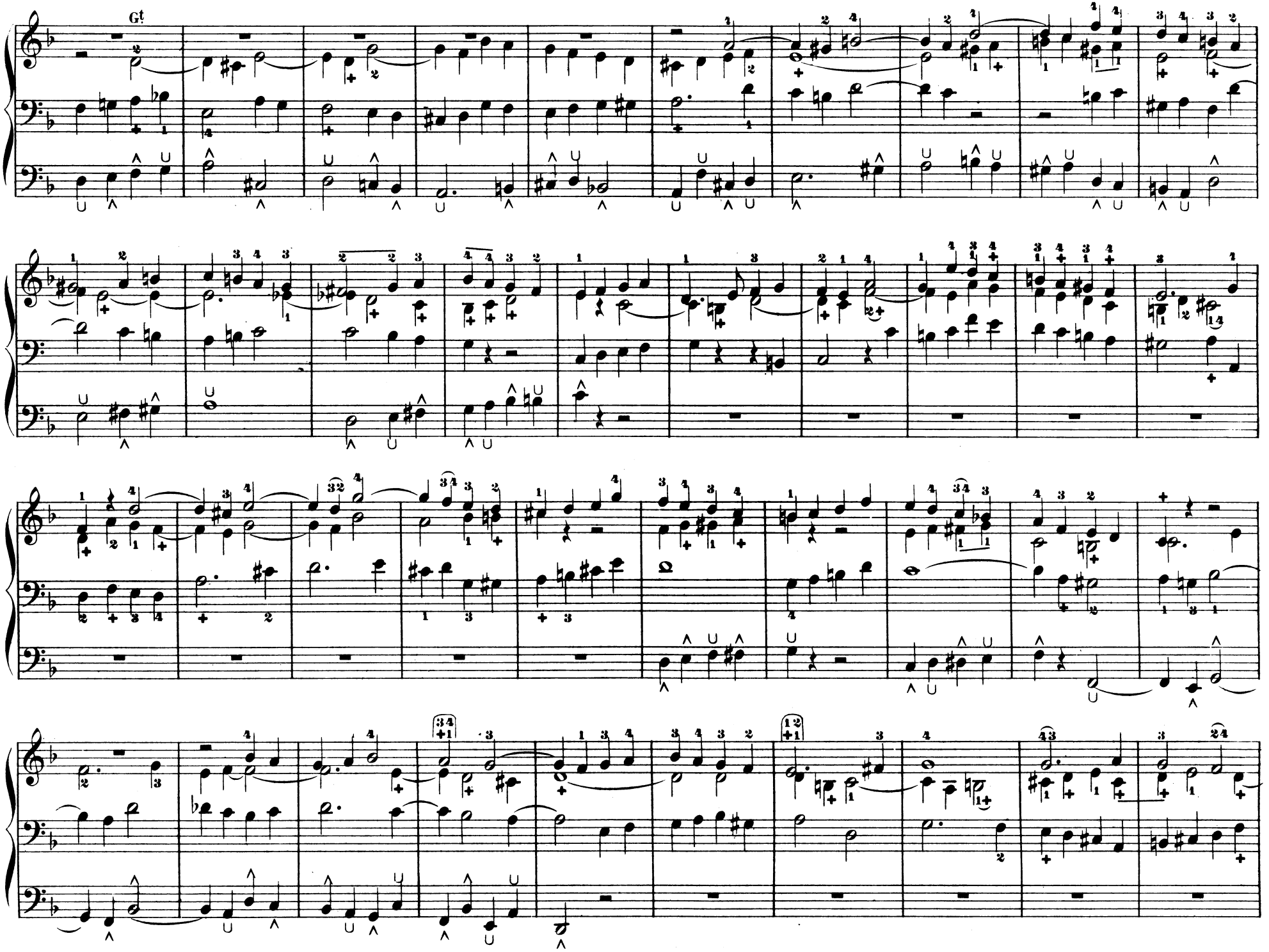


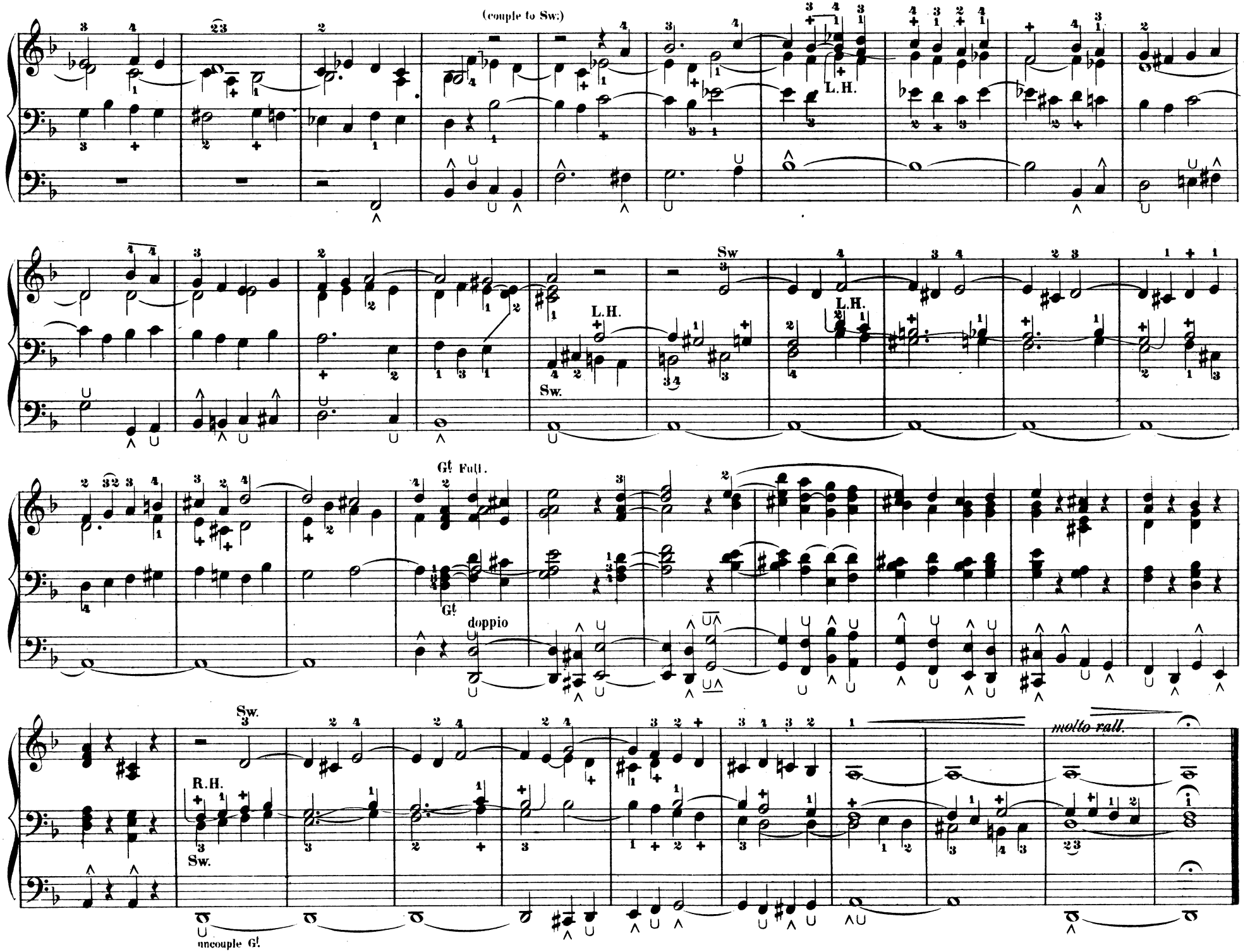




Allegro moderato.




Gt


(couple to Sw.)
L.H.
Sw
L.H.
L.H.
Sw.
Gt Full.
Gt
doppio
Sw.
R.H.
Sw.
uncouple Gt.
molto rall.

Prepare: Sw. with Oboe.
G! 8 feet (coupled to Sw.)
Ch. soft 8 and 4 feet.

Allegro moderato.

243.

Soft 16 and 8 feet. (uncoupled.)

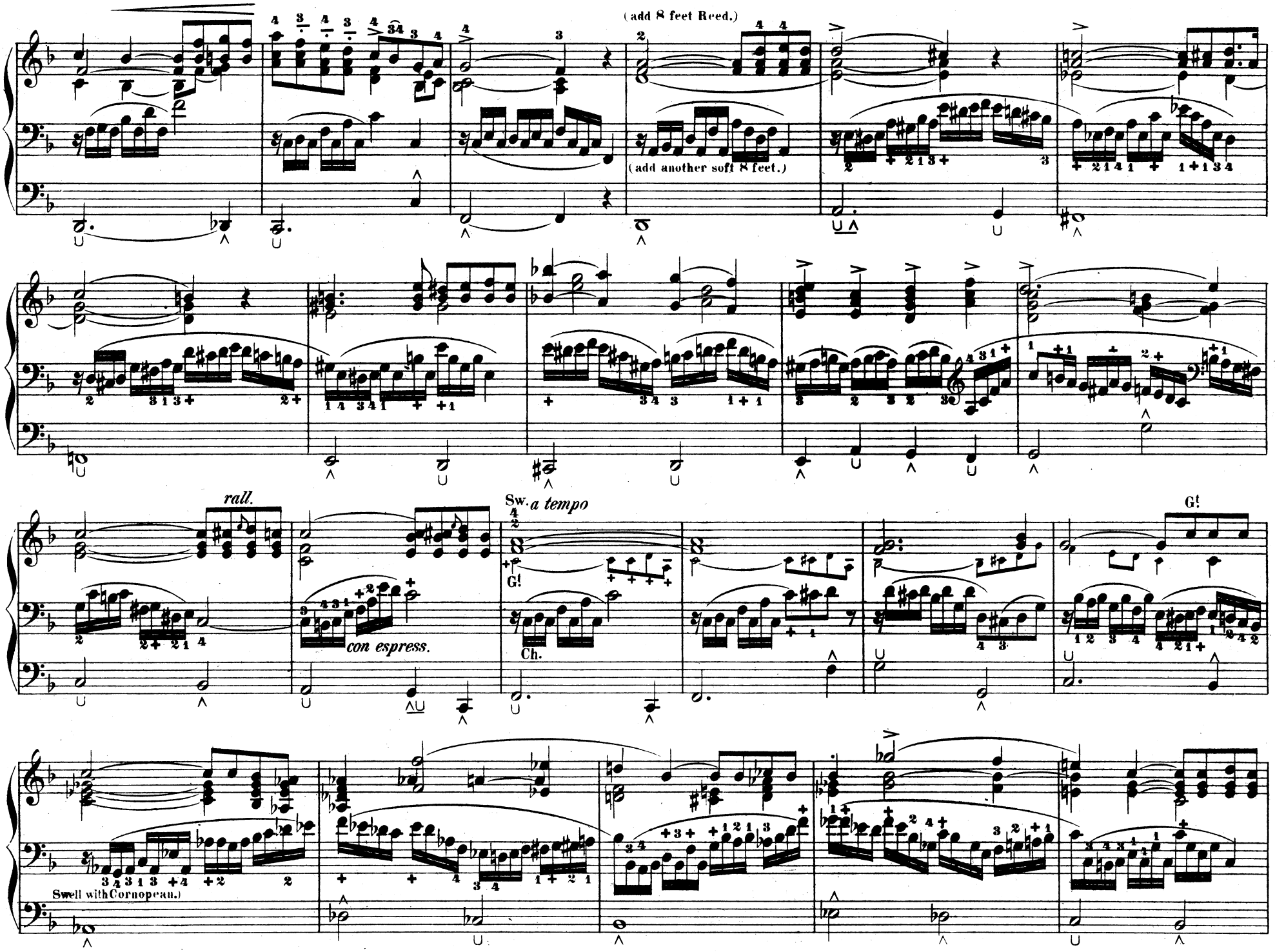
Prepare: Sw. 8 feet.
G! Claribel and Dulciana (uncoupled.)
Ch. soft 8 and 4 feet.

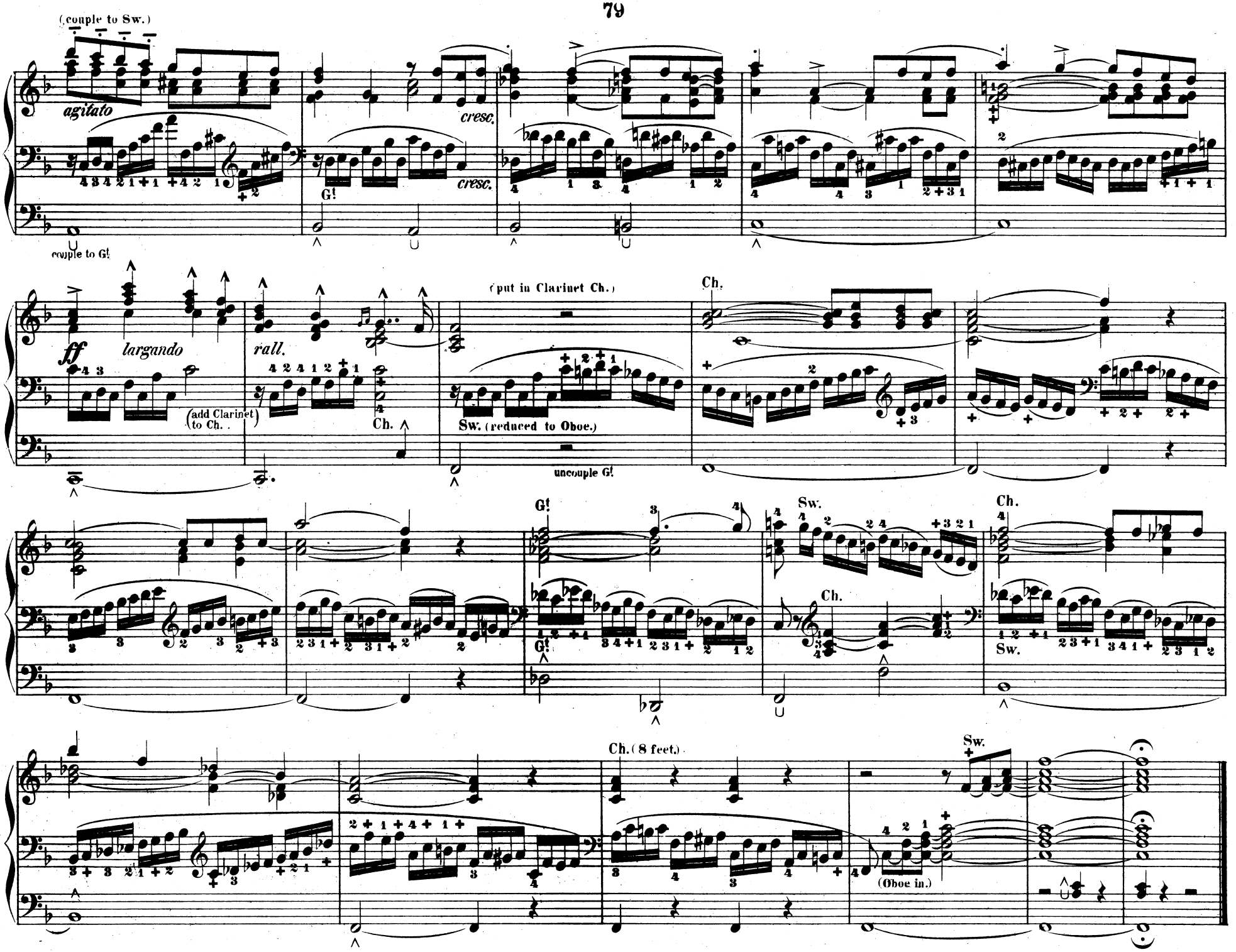
Andantino.

MEDITATION.

244.

Soft 16 and 8 feet stops (uncoupled.)


(add 8 feet Reed.)
(add another soft 8 feet.)
rall.
Sw.
a tempo
G!
Ch.
con espress.
G!
Swell with Cornopean.)

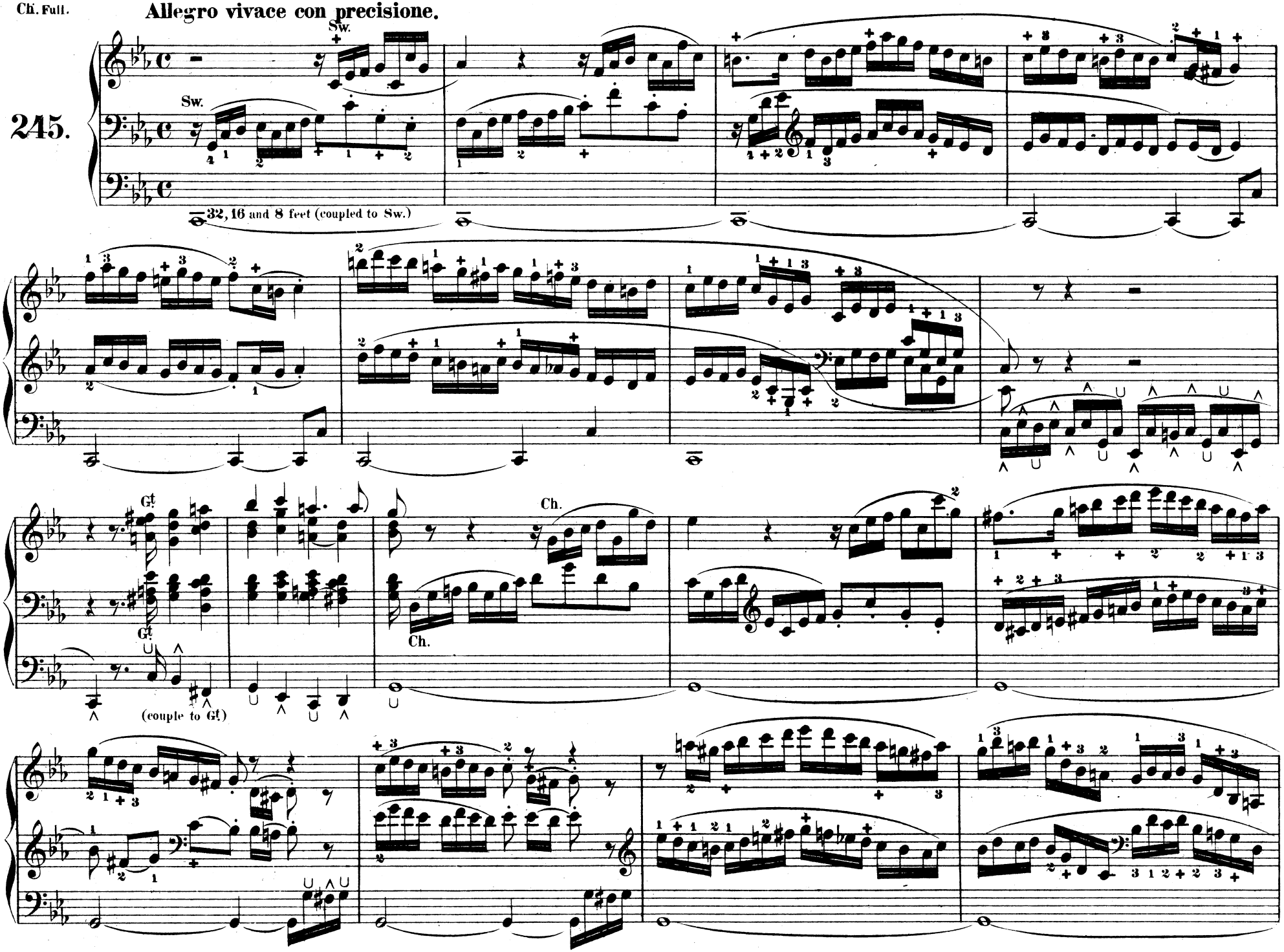

(couple to Sw.)
agitato
cresc.
G!
couple to G!
ff
largando
rall.
(add Clarinet to Ch.)
Ch.
(put in Clarinet Ch.)
Sw. (reduced to Oboe.)
uncouple G!
Sw.
Ch. (8 feet.)
(Oboe in.)

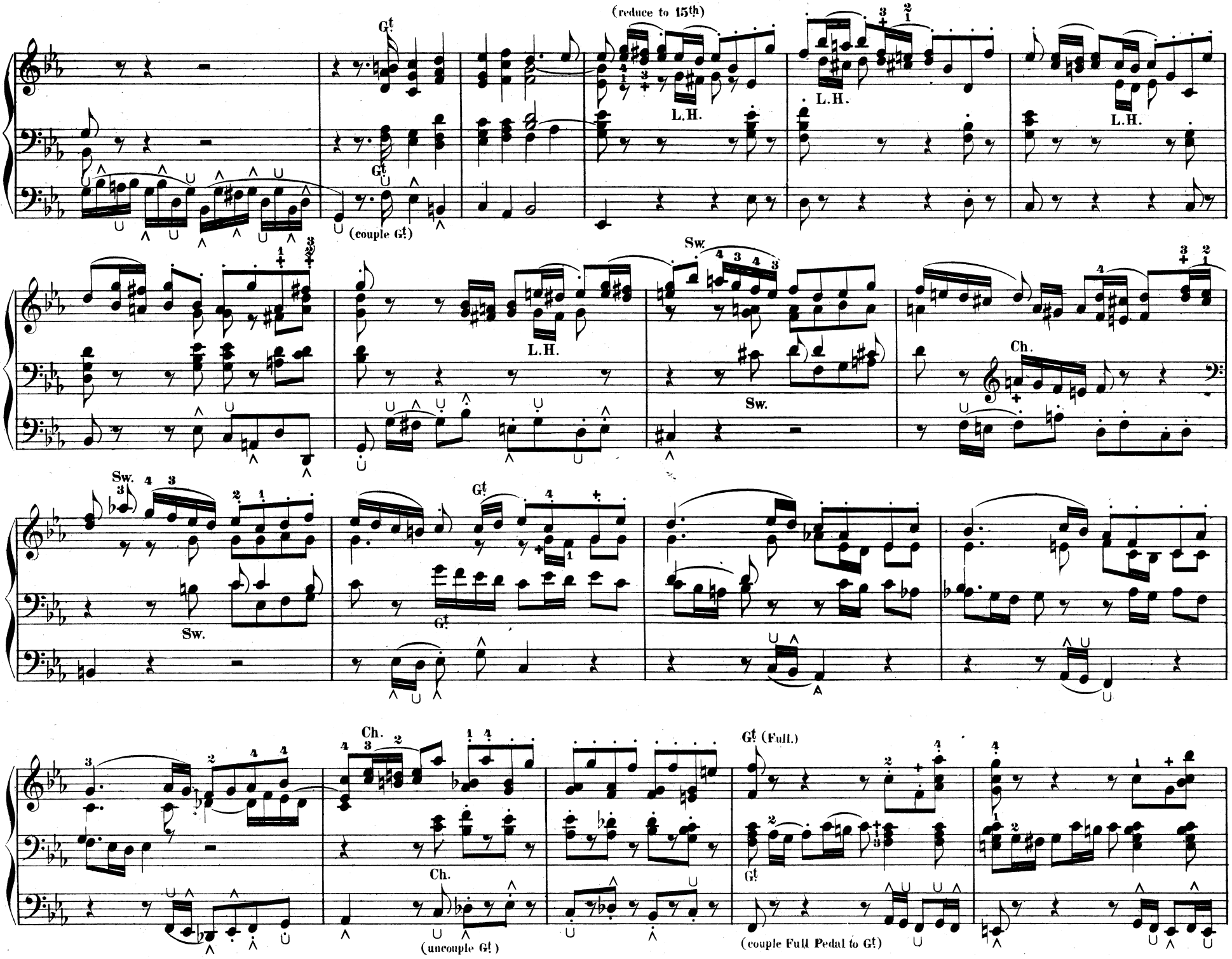
TOCCATA.

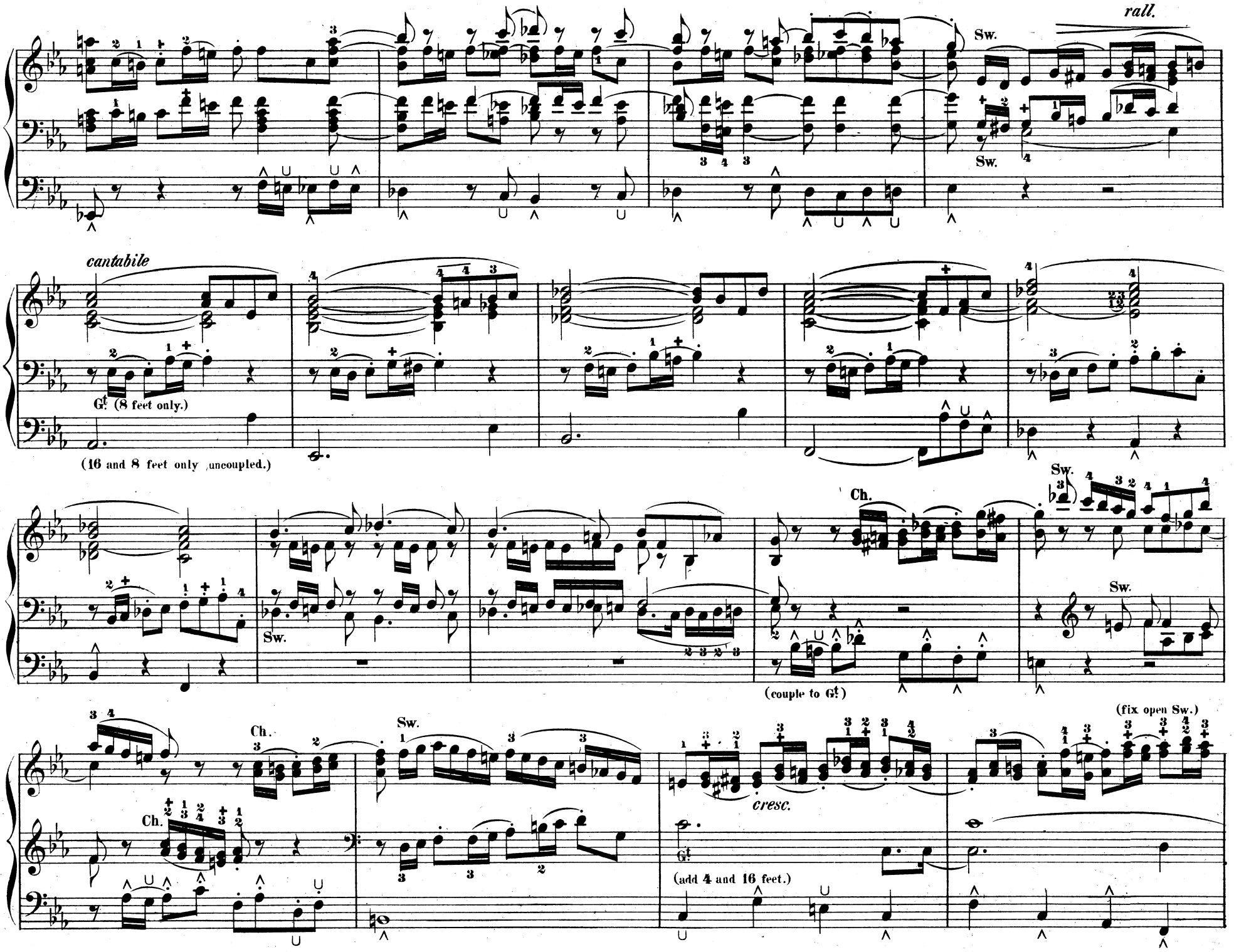
Prepare: Sw. Full.
Gt. Full (coupled to Sw.)
Ch. Full.

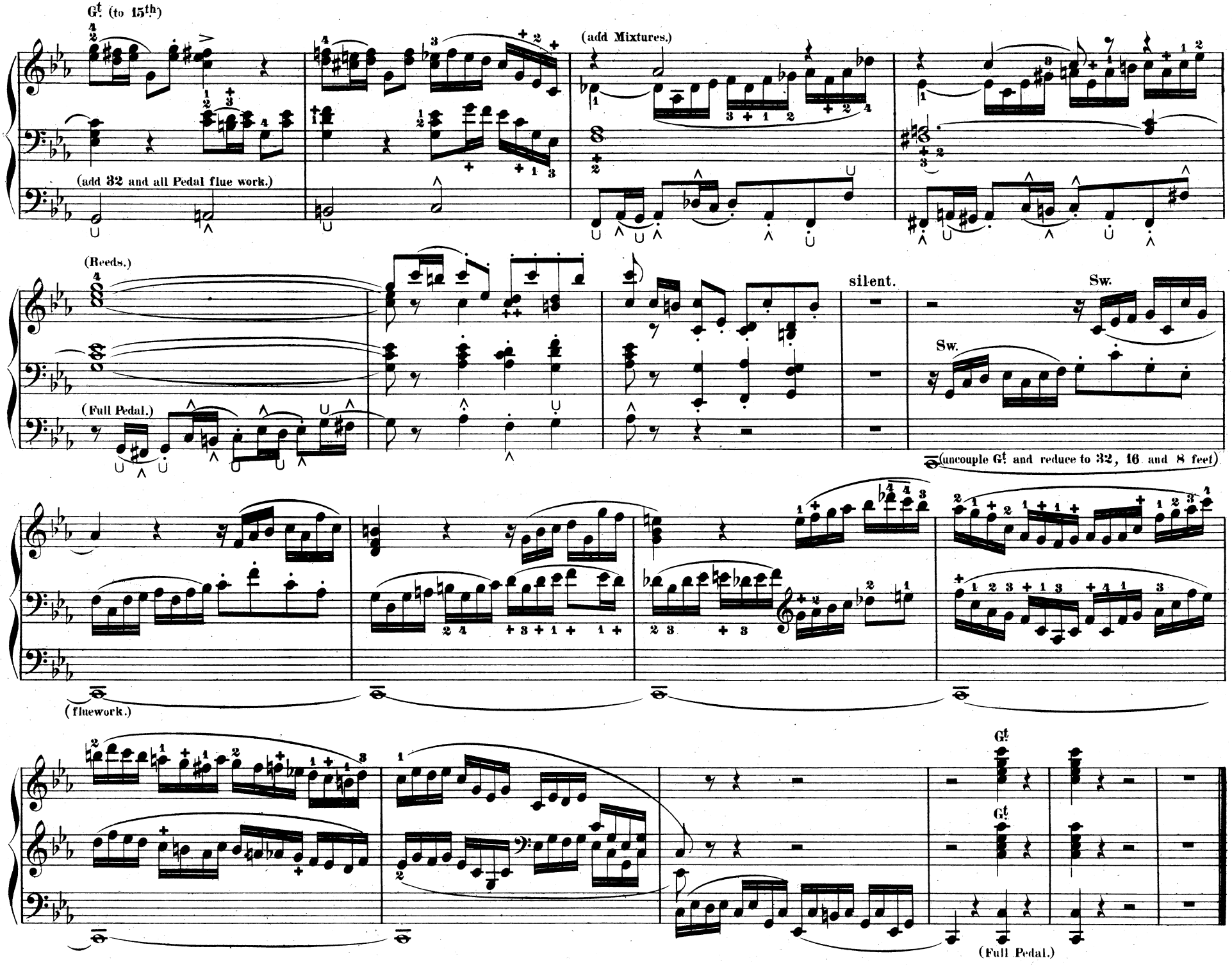
Allegro vivace con precisione.

245.




(reduce to 15th)
Gt.
L.H.
L.H.
L.H.
(couple Gt.)
Sw.
L.H.
Sw.
Ch.
Sw.
Sw.
Gt.
Gt.
Ch.
Ch.
(uncouple Gt.)
Gt. (Full.)
Gt.
(couple Full Pedal to Gt.)


rall.
Sw.
Sw.
cantabile
G! (8 feet only.)
(16 and 8 feet only, uncoupled.)
Ch.
Sw.
Sw.
Sw.
(couple to G!)
Ch.
Ch.
Sw.
cresc.
(add 4 and 16 feet.)
(fix open Sw.)


Gt. (to 15th)
(add Mixtures.)
(add 32 and all Pedal flue work.)
(Reeds.)
(Full Pedal.)
silent.
Sw.
Sw.
(uncouple Gt. and reduce to 32, 16 and 8 feet)
(fluework.)
Gt.
Gt.
(Full Pedal.)

TRIO.

Prepare:
Sw. with Oboe
G! one soft 8 feet Stop (coupled to Sw.)
Ch. soft 8 and 4 feet Flutes.

246.

Allegretto.

Ch.

sempre legato

Sw.

stacc.

Violon 16 feet and Flute 8 feet.

Ch.

G!

(put in Ch. 4 feet.)

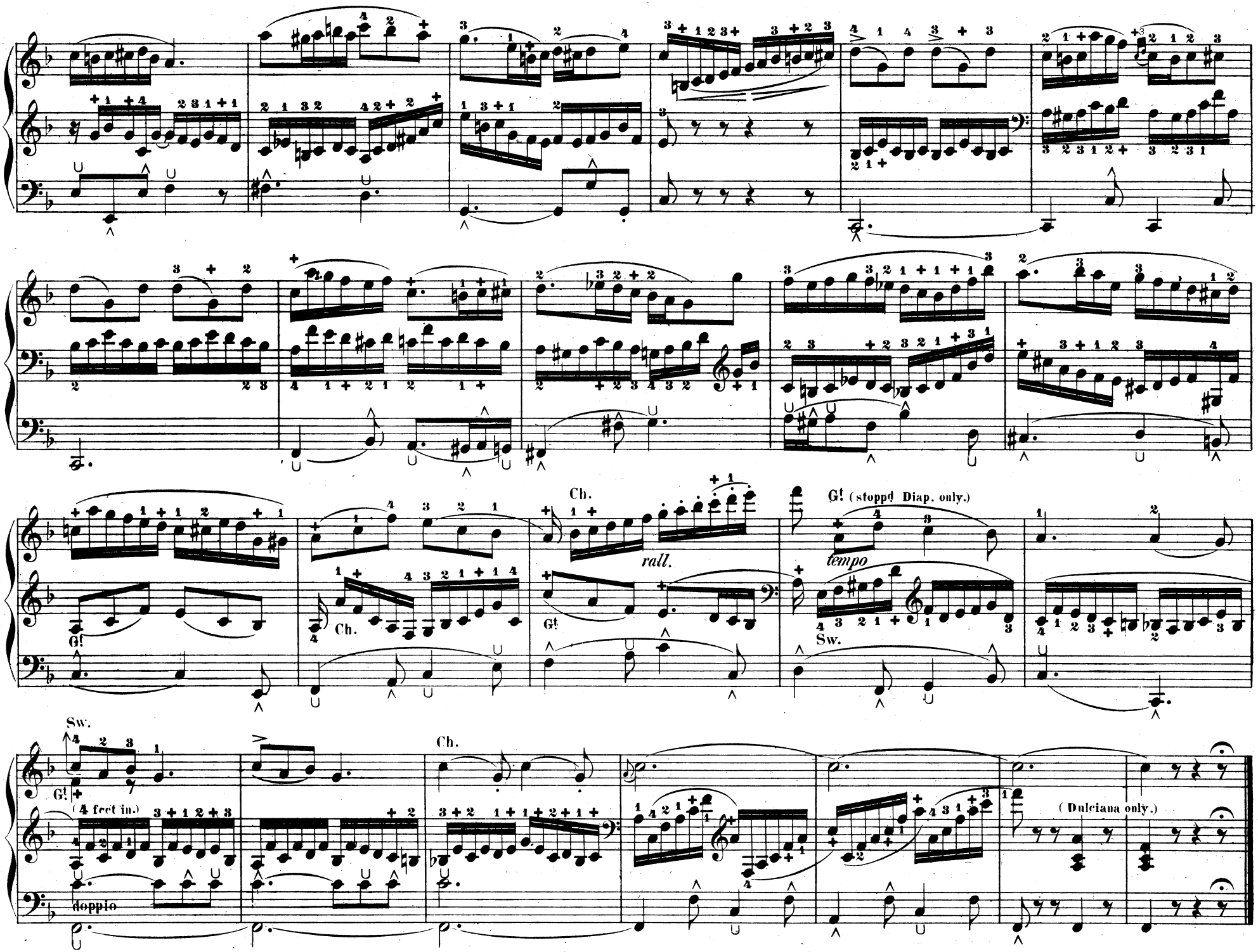
rall.

a tempo

Sw.

Ch.

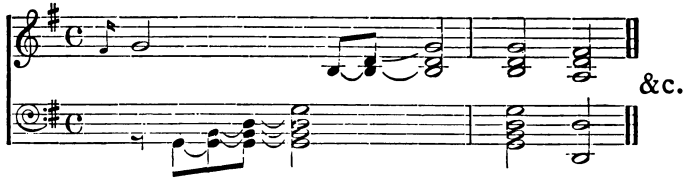
G!


G!
Ch.
rall.
G! (stoppd Diap. only.)
tempo
Sw.
(4 feet in.)
doppio
(Dulciana only.)

The student, having now been afforded the opportunity of making himself practically acquainted with the various details of Organ manipulation, a few final directions are added, the observance of which will greatly assist him in avoiding many of the faults peculiar to inexperienced players.

XXXVI. (A.) When using the Swell Pedal, it should be allowed to fall and rise with a steady even motion; for nothing can be more vulgar and unsatisfactory than exaggerated expression, and a jerky or irregular movement of this controlling power naturally produces such a result. In the case of a *sforzando*, however, of course a sudden pressure is absolutely necessary, but this is the only exceptional instance. (See Ex. 220.) Again: its constant use should be avoided, for, in addition to the evil already pointed out, such a course induces a habit of pedalling with one foot only—a decidedly objectionable practice, which should never be resorted to except when absolutely necessary.

XXXVII. (B.) If the composition about to be played commences with a sustained chord, it must be struck firmly, and care exercised so that every individual note of it is heard simultaneously, avoiding anything like an *arpeggio* effect. Even when accompanying voices, the upper note of a chord is always sufficiently prominent to enable singers to discern it at once, without assistance. Many organists of the olden school, however, frequently commenced the performance of a Psalm tune thus:—



thinking that, by such means, they assisted the choir in effecting a good start! Even now, some cathedral organists endeavour to emphasize a "lead," by the employment of the *appoggiatura*, although nothing can possibly justify such a practice.

XXXVIII. (C.) In pieces written for the soft Stops on Great or Choir Manuals, it is better to play all the chords exactly as they are written, rather than add other notes with the idea of obtaining a better effect; for instead of producing that result, the balance of parts is thereby lost and the symmetry of the whole disturbed. It must be remembered that subdued unison organ tone, from its natural density, is very ponderous, and for that reason, thickening of the parts (especially in the lower portion of the Manuals) is particularly undesirable. On the other hand, when loud Stops of more acute pitch are added to the "ground tone," either in Swell or Great, the number of parts may often be increased with the most satisfactory result, provided that it be done judiciously; and for this reason it is very important that the organist should have some knowledge of the theory of Music. (See Exs. 219 and 232.)

XXXIX. (D.) Arrangements for "Organ or Pianoforte" should be carefully avoided, because in these, full chords for the left hand,—and often at the very bottom of the keyboard,—are freely used. Other glaring improprieties are also to be found in abundance. Such productions are peculiar to this country, and it is to be regretted that sometimes they bear the names of professional organists, who certainly ought to have more respect for their reputation than thus to aid in lowering the standard of Art, and openly advocate what is actually false, both in principle and practice. It should always be remembered, "that which is worth doing at all, is worth doing well;" and, in order to avoid a little trouble, the student should not avail himself of these so-called "arrangements," but rather endeavour to use the Organ *legitimately*, and play from three staves whenever practicable.

XL. (E.) An organist should never undertake the performance of music beyond his powers of execution, but rather seek to give the best possible "reading" of such compositions as he can play with facility. This will enable him to make real progress, and also prove to be a method of procedure alike satisfactory to performer and audience.

XLI. (F.) When playing unfamiliar music, or compositions of an exciting character, undue acceleration of *tempo* should be carefully avoided. In the performance of Fugues, especially, this must be guarded against.

XLII. (G.) Too many organists consider that the perfection of their art consists simply in mechanical accuracy, losing sight of the fact that a large organ is an eminently sympathetic instrument, and capable of expressing every phase of musical emotion. Perfect manipulation is an essential point, but unless both brain and fingers are exercised, the student will, at best, become a mere musical machine. At the same time a becoming reverence for the author should at all times be felt, and while avoiding exaggerated expression, the player must be content to render every passage exactly as written. A composer's intention ought not to be sacrificed in order to display executive ability.

XLIII. (H.) All unnecessary movement of the body, even while executing extended pedal passages, must be avoided, and any appearance of effort carefully concealed. This is a habit easily acquired *at first*, but difficult of attainment afterwards.

XLIV. (I.) As far as practicable, all Stops likely to be required on each Manual for the performance of any particular composition should be drawn before commencing to play.

XLV. (J.) In extempore playing, the inventive powers should be kept under control. It is essential to start with some defined plan, even though it be the elaboration of one simple phrase; any tendency to indulge in excessive modulation must also be checked, until by considerable practice sufficient presence of mind is acquired to render a return to the original key, in a natural manner, easy of accomplishment at any moment it may be necessary. It should be remembered that in this case, at all events, the somewhat equivocal aphorism which states "that the end justifies the means," does not apply.

Before taking leave of the student, the Author proposes to supplement these remarks by a few plain and simple instructions as to the proper method of accompanying the musical portion of an ordinary Church Service; but before doing so, he begs to remind those students who wish to become thoroughly proficient organists, and real "artists," that unceasing study and constant practice are indispensable conditions. The object of this work will have been fully accomplished if it should prove to be the means of awakening the sympathies of even one real musician, and cause him to devote his energies to the cultivation of a branch of Art rendered immortal by the labours of a John Sebastian Bach.

ON THE PROPER USE OF THE ORGAN IN CONNECTION WITH DIVINE SERVICE.

XLVI. The Introductory Voluntary.—A short piece of quiet and subdued character should be selected for this purpose, in the performance of which either the Great Organ Diapasons or soft 8-feet Stops in any Manual should be employed. Original compositions, or good arrangements of instrumental or vocal works, may be made available.

XLVII. The Proper Mode of Accompanying the Canticles, &c.—It is customary in nearly all Churches, although the Psalms may be read, to chant the whole of the *Venite*. The chant itself should be "given out" either on the Choir, with soft 8 and 4-feet Stops, or, in the absence of a Choir Organ, the Great with a similar combination of registers should be substituted. If preferred, the Swell, with 8-feet Diapason and Oboe, may be used for the purpose. Verses 1 and 2 should be accompanied on the Great with Swell coupled, such Stops being drawn in each Manual that will produce a *forte* effect, the exact amount of tone being regulated by the vocal strength of the choir, which must on no account be overpowered. For the remaining verses, the Choir and Swell are most suitable. In the case of the last verse, however, it is customary to couple the Great Manual to Pedals, and double the bass on that Manual with the left hand, still playing the other parts on either Choir or Swell. For the *Gloria Patri*, either the Great Manual *forte* or the Full Swell should be used. As the *Venite* contains an uneven number of verses, if a Double Chant (sufficing for two verses) is selected, the last two phrases are repeated for that one immediately preceding the *Gloria Patri*. In the case of a Single Chant, however, this is of course unnecessary.

For the *Te Deum*, the Chant should be "given out" in the manner already explained, verses 1 and 2 being accompanied on the Great Manual *forte*, as well as the *latter half* of verses 7, 8, and 9, and the whole of verses 10, 14, 15, 24, and 25. The others require the employment of more subdued tone, which can be varied in the manner deemed to be most in accordance with the character of the words.

The remarks concerning the *Venite* are applicable to the *Benedictus*.

If the *Benedicite* is sung, it is desirable to employ the Great Organ for the preliminary verses, as in the case of the Canticles already alluded to, and for the latter half of the remainder; the previous portion being accompanied either on Choir or Swell. The propriety of this is suggested by the nature of the words.

XLVIII. Enough has now been explained to indicate the proper method of treating the *Jubilate*, the Canticles of the Evening Service, and also the Psalms (if they are chanted); but it will be well to consider the means by which uniformity in apportioning the words to the various notes of the Chant is insured. For this purpose "pointing" is introduced. The following affords an example of this process:—

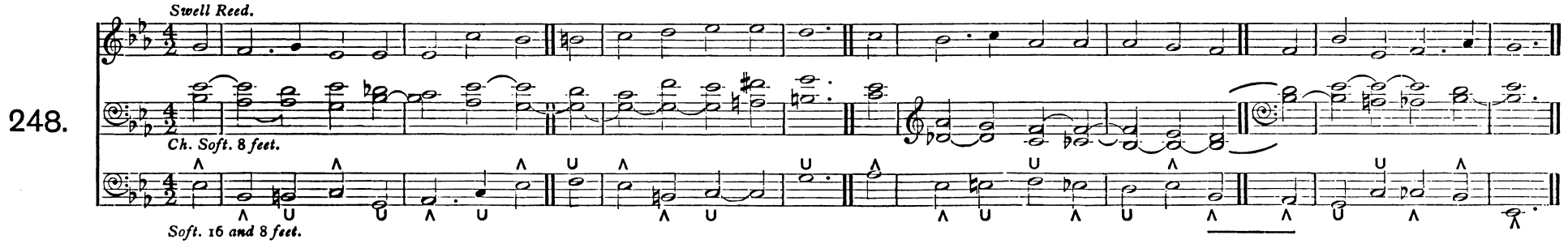
We praise | Thee O | God ‖ : we acknowledge | Thee to | be the | Lord. ‖

The upright lines correspond with the bars in the chant to which these words are sung. This species of composition having no rhythmical form, but rather partaking of the nature of accompanied recitative, the *Reciting Note*, which is always to be found in the first bar of each phrase, is of irregular length, and the words are so divided that the other portions of the chant may be sung in strict time. The organist should therefore commit the chant itself to memory, so that he may give his undivided attention to the "pointing" of the words, and thus render substantial assistance to the members of the choir. For acquiring facility in this somewhat difficult branch of the accompanist's art, there is no better plan than to embrace every opportunity of hearing really good chanting, and at the same time mentally follow the organist in the performance of his task, using a Psalter similarly "pointed" for guidance.

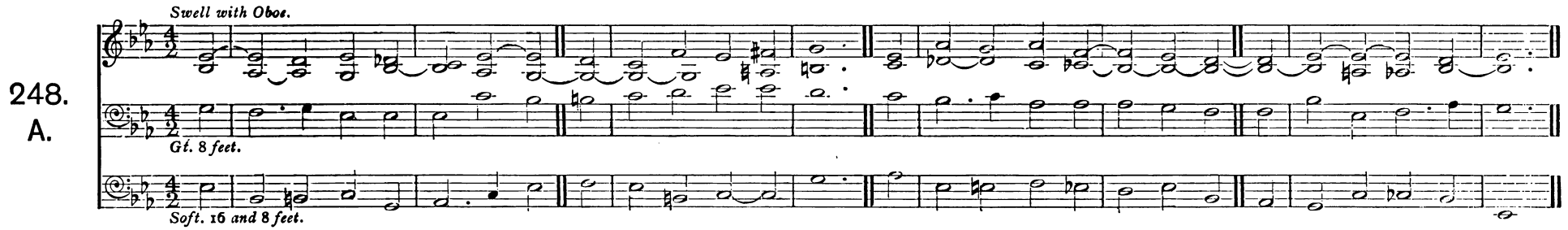
XLIX. It frequently happens that a choir, from various causes, when accompanied by subdued organ tone, exhibits a tendency to get "flat." In such cases it is not wise to resort immediately to the employment of additional Stops in order to strengthen the accompaniment, and thus offer violence to all artistic effect; but the treble part may be played on another Manual of stronger tone, either in 8 or 4-feet pitch. This expedient will generally be found to furnish sufficient aid in setting matters right, if promptly done.

L. With respect to Hymns, the tune should be "given out" either on *one* Manual with soft Stops, or on *two* in the manner indicated below—which is in all respects preferable.

No. 1.—Melody in the Treble.



No. 2.—Melody in the Tenor.



As to the accompaniment of the entire Hymn, no method can be more undesirable than that adopted by organists of a certain school (now happily almost extinct), who always play the first and last verses on the Full Organ, in total disregard of the sense of the words. The proper course will be at once obvious to any intelligent student—viz., to consider the sentiment of the verbal text, and vary tone and expression accordingly.

LI. In the case of Services and Anthems, the portions marked "*Dec.*" (or *Decani*)—which in Cathedrals are intended to be sung by those members of the choir who occupy places on the Dean's side—and those marked "*Can.*" (or *Cantoris*)—assigned to the others who sit on the Præcentor's side—should be accompanied on Choir and Swell respectively. When marked "*Full*" (a term signifying that the whole choir sing), the Great Organ should be used.

LII. The Final Voluntary.—As a rule, a bright and solid composition should be selected for "playing out." Oratorio Choruses by Handel, Mendelssohn, and others; Fugues of J. S. Bach, and all accepted writers of that school, are especially suitable.

Attention to these general hints as to this important element of the English Church Service will, it is hoped, prevent the young organist from committing any glaring improprieties; although, as he gains experience, various modifications of customary rules will naturally suggest themselves.

LIII. It must be confessed that Church Music and the manner of its performance is certainly a vexed question. Some advocate the exclusive use of the ancient "Plain Song;" while others entertain iconoclastic views, and insist on the expediency of abolishing the use of legitimate Cathedral Music, and substituting excerpts from modern works written for voices and orchestra originally intended for performance in the concert room. Then, again, as to chanting: some think its chief excellence lies in excessive rapidity, and others argue that a very slow enunciation of the words is more devotional. The same variety of opinion exists as to the *tempi* of chorales.

In considering the class of Music most fitted for adoption in this age of progress, it certainly seems unwise to reject the masterpieces of the old Cathedral composers; but, at the same time, it is highly desirable that the higher forms of modern Art should also be made available for the "Service of Song," always provided that sound judgment be exercised in the selection of appropriate works. Music of a frivolous character, utterly at variance with the solemnity and earnestness of Divine worship, should be rigidly banished from our Churches, especially so-called Psalm and Hymn tunes "adapted" from secular works, which, it is much to be regretted, are so extensively employed. The use, also, of ultra-secular compositions as voluntaries, cannot be too strongly deprecated; even the March forming part of Mendelssohn's "Midsummer Night's Dream" music, although possibly one of the finest specimens of this species of composition in existence, ought certainly never to have become established as an almost indispensable adjunct of the Marriage Service, being always associated in the minds of those present with the fairy comedy from which it is inseparable.

Such innovations are of no recent date. On the contrary, from the very earliest ages secular tunes have been appropriated to religious purposes; but in those remote days, when melodies were handed down by tradition (the method of writing music being as yet undiscovered), it was doubtless an inevitable evil; however, such an excuse is no longer available. We are literally overwhelmed with excellent compositions written specially for Church use, and no necessity therefore exists to supplement them by purely secular music.

A correspondent of the *Spectator*, writing under the pseudonym of "Physibulus" in 1767, complains of this evil, but attributes it to the fact that many Church musicians of that day were engaged in the theatre, and in consequence "introduced in their farewell Voluntaries a sort of "musick quite foreign to the design of Church Services, to the great prejudice of well-disposed people." He then goes on to say that—"Those "fingering gentlemen should be informed that they ought to suit their airs to the place and business; and that the musician is obliged to keep to "the text as much as the preacher." The result of this evil practice is thus described:—"When the preacher has often with great piety and art "enough handled his subject, and the judicious clerk has with utmost diligence called out two staves proper to the discourse, and I have found in "myself, and the rest of the pew, good thoughts and dispositions; they have been all in a moment dissipated by a merry jigg from the organ loft."

These remarks, so quaintly expressed, are singularly pertinent, and by way of conclusion, the Author feels that he cannot do better than recommend them to the consideration of all Church Organists of unorthodox proclivities.

APPENDIX A.

"SOLO" AND "ECHO" ORGAN.

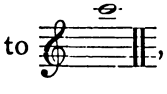
LIV. In some very large instruments a 4th Manual is to be found placed above the Swell. This is termed the "Solo Organ," and, as its name implies, contains stops that are intended exclusively for Solo purposes. A heavier pressure of wind is supplied to it, consequently increased power

of tone is one of its leading characteristics, thus rendering similarly named Solo Stops, in other Manuals, available for producing the effect of an echo, or contrasted power of tone. The *Tuba Mirabilis*, an harmonic Reed Stop of immense power, which may be of either 16, 8 or 4 feet tone, is placed in this portion of the instrument, although it sometimes happens that an 8-feet register of this kind may be inserted in an Organ possessing but 3 Manuals, when it will generally be found in the Great. It must, however, at all times be used with the greatest circumspection, as it completely annihilates the combined power of the rest of the instrument, much in the same manner as the "brass," sometimes enforces attention in the modern Orchestra, and therefore its employment in combination, must be reserved solely for the production of occasional effects. If treated simply as a Solo Stop, it may be accompanied either on the Great, or Full Swell.

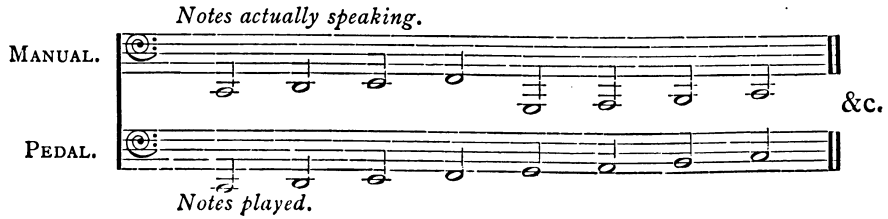
LV. In former days, the Swell was sometimes called the Echo Organ, but the latter term has now a distinct signification, certain stops of exceedingly delicate tone being placed in a separate Swell Box, and either acting on an extra Manual, or else attached to the Swell Key-board, thus producing an "Echo" to the Swell itself; but this device is only to be met with in a few instruments of exceptional size.

APPENDIX B.

"SHORT OCTAVES," "RETURN PEDAL PIPES," "EQUAL AND UNEQUAL TEMPERAMENT."

LVI. The Manual range of the Organs built immediately after the Restoration, consisted of 4 octaves from  to  , and Pedal Pipes being altogether unknown, the Organ Builders of that day commenced to extend the compass downwards for the purpose of supplying more deep and sonorous tones. This they effected at first in a somewhat singular manner, viz., by making the CC♯ sound AA, and adding one note below the CC which sounded GG. This was called a "Short Octave" Manual, and a few specimens are still to be met with. After this, the intermediate semitones from CC to GG, and later still to FF, and even CCC were added, and the system of substituted notes abandoned. The modern Pedal Organ, however, renders any Manual note below CC entirely unnecessary, as it not only extends the compass downwards to CCC, but renders these lower notes easily available; although, in older Organs that have been enlarged and modernized, it is by no means an uncommon circumstance to find GG Manuals still retained, while CC Pedals have been added.

LVII. When this is the case however, in order to utilize the 5 lower notes on the Manual, *Return Pedal Pipes* are frequently adopted. The object of this expedient is, of course, economy, for instead of providing an independent 16-feet Pedal Stop extending throughout the compass of the Pedal Board, the low GG of the Manuals is attached to the G Pedal; the 7 remaining notes below acting on the Manuals one octave higher—a most objectionable system, and very perplexing to the performer. The following will explain the matter more clearly:—



LVIII. One word as to the proper system of *tuning* the Organ. This has been a fruitful theme for discussion, and there are many who still prefer the old plan of "*unequal* temperament," urging in support of their argument, that the major keys of C, G, D, F and B♭, and the minor keys of A, D and G are all *mathematically* in tune; whereas, if the principle of "*equal* temperament" be adopted, *no* key will be in tune according to the fixed laws of Acoustics. But, on the other hand, there is one fatal objection to the unequally tempered scale, viz.:—All the keys, except those named as being strictly in tune, are left so bad, that it is impossible to use any of them; and yet, strange to say, our greatest Cathedral Organist, who has gained a world-wide celebrity for his fine extempore playing, and whose compositions are no less excellent, although an earnest defender of unequal temperament, exhibits a decided preference for the more *extreme keys*, both in his performances and writings. However, there can be little doubt that the principle of dividing the inequalities of 12 *fixed* sounds in the octave equally amongst the whole, is practically most correct; for, although no one key is *mathematically* in tune, still the *ear* is scarcely sensible of this fact. Again, it is difficult to see why a system of tuning, universally adopted for the Pianoforte, should be inapplicable to another instrument, which is similarly constructed as far as the arrangement of its key-board is concerned.

APPENDIX C.

"SUB-OCTAVE AND SUPER-OCTAVE COUPLERS."

LIX. In addition to the Couplers already mentioned, there are others of more recent invention that enable the player to produce many novel and useful effects. These are called *Sub-* and *Super-Octave* Couplers; the former causing the notes an octave below those pressed down to sound simultaneously with them, and the latter affecting the notes an octave higher in a similar manner, either on the same Manual or others. It will thus be seen that if care be taken not to encroach on the highest or lowest 12 notes of the Manuals, passages in double octaves can be played by means of single notes, and full chords can be extended in the same way. Again, by drawing 

using an 8-feet Reed in the Swell and a soft 8-feet Stop in the Great, the effect of a double reed is produced. Many charming results may also be obtained by the judicious employment of the Choir *Sub-* or *Super-Octave to Great*, or the Swell Super-Octave to Great, either for Solo purposes or otherwise. The Pedal *Octave Coupler* is always a *Super*-Octave, and, in Organs with a limited number of stops in this department of the instrument, is a most useful addition; especially, if the compass of the existing stops be extended for twelve notes above its legitimate range, so that the Octave Coupler may be thus rendered complete. Another advantage arising from this arrangement lies in the fact, that by a simple mechanical contrivance these twelve added pipes can be "borrowed," and in combination with those of the 16-feet Stop above middle C, be made to form another independent Pedal Register of 8 feet, which can be used either separately, or in combination.

APPENDIX D.

"SFORZANDO PEDAL," "COMBINATION PISTONS," "VENTILS," "TREMULANT."

LX. The *Sforzando* Pedal couples the Great to the Swell Manual, and thus instantly increases the power of the latter to a greater extent than is attainable by the use of the Swell Pedal; but, having a "double action," it only produces this result while pressed down, and on allowing it to rise, the "coupling" action is disconnected. As its name implies, it is useful for producing sudden *sforzando* effects. Sometimes, it simply acts on the Swell Sub- and Super-Octave Couplers, and this is perhaps the best arrangement, as the general character of the tone thus augmented is unaltered. In other cases, it simply couples Solo to Great, thus rendering a "Tuba" on the former Manual particularly useful.

LXI. The "Pneumatic Combination Piston" is an exceedingly ingenious invention, which enables the player to produce the most rapid and complicated change of stops, without removing the hands from the keys or using the feet. A series of these "pistons" or "knobs" is placed under the Manuals they affect in such a manner as to be readily commanded by the thumbs of either hand, and are so adjusted as to act instantaneously on the slightest pressure. The importance of these appliances, especially in a large instrument, cannot be too highly estimated.

LXII. French instruments are provided with another species of mechanism, controlled by "*Pédales de Combinaison*," but it is of little practical utility, and therefore rarely introduced by English builders. The stops are engraved in two colours, red and black, the supply of wind to the former being intercepted by means of *ventils;* but on pressing the *Pédales de Combinaison* (one of which is assigned to each Clavier, both Manual and Pedal), these obstacles are removed, and the wind passes freely from the bellows to the pipes. By means of this arrangement, the organist is enabled, in the course of a piece, to draw such red Stops as he may require in combination with others unaffected by the *ventils*, and yet continue to play on the Clavier to which they belong, without causing them to speak; but, by availing himself of the *Pédale* acting on them (which for greater convenience is so adjusted as to remain fixed in a "notch" when pressed down), they are immediately placed at his disposal. Should he desire again to discontinue the use of the Stops in question, it is of course necessary to release the *Pédale*. Although this invention is not devoid of ingenuity, the reader will at once realize the fact that, if more than two combinations are required on any Clavier, it is absolutely necessary to remove the hands from the keyboard in order to change the Stops; and, for this reason, even the old system of "Composition Pedals" is far preferable.

LXIII. The Tremulant is also set in motion by the employment of a Pedal. This is another appliance of French origin, and is generally used to give increased effect to the *Voix Humaine* and some other soft Stops. It causes an unsteadiness of wind, and thus produces an undulating effect resembling the *vibrato* in singing, or *tremolo* in violin playing. It should, however, be used with great discretion, as it soon becomes wearisome, and can scarcely be considered a strictly legitimate adjunct of Organ playing.

APPENDIX E.

"SCALE OF PEDAL BOARD," "CONCAVE AND RADIATING PRINCIPLE."

LXIV. French and German Organ Builders have agreed on the adoption of an uniform "scale" for the Pedal Board, but in England, it varies considerably. This is, of course, as perplexing to the Organist, as keys of a varied width would prove to a Pianist, and it is highly desirable that some step should be taken with a view to remedy such a serious defect in the construction of our instruments.

LXV. Formerly, the Pedal Keys presented a perfectly level surface to the feet, and the width of the Pedal Board was the same, both in front and at the back; but, in order to bring this important portion of the Organ more readily under the control of the performer, the *radiating*, and afterwards the *concave* principle was adopted. The most satisfactory arrangement, however, is a combination of both these systems, so that the keys radiate from a point behind the player, and those to the right and left rise gradually on a curve. The whole Pedal Board is thus placed under command, without rendering the slightest movement of the body necessary.

APPENDIX F.

LXVI. A LIST OF TECHNICAL TERMS EMPLOYED BY FRENCH AND GERMAN ORGAN WRITERS, WITH THEIR ENGLISH EQUIVALENTS.

FRENCH.	GERMAN.	ENGLISH.
Clavier du Grand Orgue	Haupt Werk	Great Organ.
Clavier de Récit Expressif	{Ober Werk* / Ober Manual*}	Swell Organ.
Clavier du Positif	Unter Manual	Choir Organ.
Clavier des Bombardes	....	Solo Organ.
Grand Jeu	{Volles Werk / Volle Orgel}	Full Organ.
Tirasse	Koppel	Coupler.
Jeux de fonds	....	Foundation Stops.
Tirez	....	" Draw."
Otez	....	" Put in."

* In German instruments containing but two rows of Manuals, these terms are frequently used to signify the *Choir* Organ, which in these cases is almost invariably attached to the upper Manual.

APPENDIX G.

"CIPHERING," TUNING OF "REEDS" AND STOPPED "PIPES," DEFECT IN "DRAW-STOP ACTION."

LXVII. As trifling defects are constantly arising in an Organ, that directly interfere with the player, and many of which are easily rectified, some of the most frequent casualties are here explained, in order that the Organist may be enabled to apply the necessary remedy whenever practicable. Most of these mishaps owe their existence to change of temperature. For instance, in hot and dry weather the touch will generally become "shallow," and as the keys do not fairly fulfil their appointed object, the wind is not admitted in sufficient bulk; consequently, many of the pipes, especially those affecting the lower portion of the instrument, sound out of tune. Occasionally the "stopper" of a "closed" wooden pipe shrinks from the same cause and falls within the pipe, thus destroying its pitch and quality of tone. In damp weather, on the contrary, the "touch" becomes deeper, and "ciphering" (or an involuntary sounding of any note so affected without the intervention of the player) frequently results. However, a moist atmosphere invariably improves the tone of wooden pipes. A "Cipher" can frequently be "knocked off" by a smart and rapid blow on the key. Sometimes it is caused by some irregularity in the "coupling" mechanism, and when such is the case, if the stop controlling it is pushed in, the annoyance will generally cease. "Ciphering" is, undoubtedly, one of the most troublesome mishaps likely to occur, and as it may arise from so many causes utterly beyond the control of the Organist, the assistance of the tuner is often necessary to remedy the defect.

LXVIII. Reed Pipes are very susceptible of atmospheric change, and the slightest amount of increased heat will sharpen their pitch, although the flue-work will generally remain unaltered. For this reason, it is always advisable to leave the Swell fixed open when not in use, so as to equalize the temperature as much as possible within the box, more especially as the most delicate Reeds are always placed in that portion of the instrument. Reeds are tuned by means of wires that pass through the "blocks," (*see Sec. X.*) and are so adjusted as to regulate the speaking length of the "tongues," against which their lower curved extremities press. If it is desired to flatten the pitch, these tuning wires must be pushed gently upwards; if to sharpen it, the proceeding must, of course, be reversed. No portion of a Reed Pipe should be touched by the hand during the process of tuning, but a small bar of metal may be used with which to *tap* the wire in the required direction. The presence of dirt, or an equally trivial cause, will often alter the pitch of one or more pipes of this class, and it is therefore important that the Organist should know how to attend to so small a matter.

LXIX. Stopped wooden pipes also frequently require similar attention. They are tuned by simply elevating or depressing the "stopper" placed within their upper ends, according to the alteration of the pitch required. When it is necessary to tune, an assistant should hold the defective note on the key-board together with its octave; or, in lieu of this, another register of similar pitch may be added. There will be little difficulty in finding the required note, as the sound will betray its position; particularly, when it is remembered that the pipes belonging to the Great Organ are placed immediately behind those forming the front of the case. The Choir (when not enclosed in a separate case) is placed still farther in the rear, and the Swell will be found over the Choir. The Pedal Organ is either distributed at the back and sides of the case, or placed altogether at the back.

LXX. One other simple defect must be mentioned, viz., the displacement of a pin connecting one arm of the draw-stop action with another, thus rendering the register useless. The exact point at which this has occurred can be easily ascertained on examination, and may be as readily re-adjusted. These are all accidents directly affecting the comfort of the player, but others that may arise he had better leave until they can receive experienced attention.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