SWELL PEDAL TECHNIC

BY

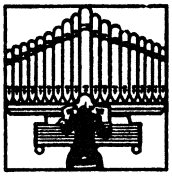
GORDON BALCH NEVIN

TWELVE EXPRESSIVE PIECES FOR THE

ORGAN

TOGETHER WITH AN ANALYSIS OF

THE FUNCTIONS OF THE SWELL PEDAL



OLIVER DITSON COMPANY

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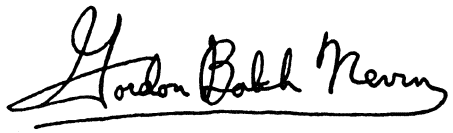
FOREWORD

THERE is much excellent material available for use in acquiring the digital and pedal dexterity necessary in modern organ playing; along these lines it would seem to be hard to add anything to the results of the labors of some of the greatest performers and teachers of the instrument.

There is, however, one side of the subject which has not been treated in any positive manner, viz: the artistic use of the expression controls of the organ.

It is not at all unlikely that the very brief period in which these controls have attained their tremendous importance may be taken as explaining the lack of instructive material on their use. Only within the past ten or fifteen years have the agencies inducted into service rendered the highest degrees of expressiveness possible.

Having discovered that the most erroneous and hazy ideas as to the functions of the expression controls exist in many quarters, the writer has gathered together the material composing this work, and has done so with an eye to the usefulness of the studies in church or other public work, thus avoiding the objection of many students to the usual studies: their uselessness after having served their brief purpose. With them has been given accurate directions for the correct use of the controls, and it is the hope of the writer that the work may be of some aid in clearing up a subject which has been too long shrouded in mystery or taught in a negative manner.



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ANALYSIS OF THE FUNCTIONS OF THE SWELL PEDALS TOGETHER WITH DIRECTIONS FOR THEIR USE

THE MECHANISM OF THE SWELL PEDALS

TO PROCEED in an intelligent manner with directions for the use of the swell pedals it is advisable to arrive at an understanding of the mechanical construction of the portions of the organ which lie under the control of these pedals. The purpose and function of these pedals is to place under dynamic control of the performer the otherwise expressionless degrees of power of the various stops.

The student should be cognizant of the fact that the organ is an aggregation of units--or potential organs—usually spoken of as "stops," each and every one of which is incapable in itself of any variation in the amount of tone produced; this fixed degree of power in each unit is characteristic of the instrument and will probably remain as such for a considerable time, if not indeed permanently. In explanation of this statement it may be said that the slightest variation in the pressure of wind supplied to a stop of normal eight feet pitch is sufficient to throw the stop completely "out of tune," the treble pipes showing much greater variation than the bass. Other methods of control have been developed to meet the need.

About two hundred years ago the first attempts at controlling the volume of tone of a portion of the organ were made: the pipes of some of the stops were enclosed in a box, or a small room, this box being constructed of some relatively *sound-proof* material, and shutters (pivoted narrow doors) were provided for admitting from, or retaining in, the box the steady volume of tone produced by the pipes. The shutters were connected by levers with a pedal and by moving this pedal the performer was able to open and close the shutters at will, releasing or suppressing the tone. This principle of control has remained unchanged from that day to this, the only developments being in the nature of refinements in detail leading to the increased comfort of the performer.

That this construction may be thoroughly understood we show in Figure 1 an illustration

of the conventional type of swell box with its shutters mechanically controlled by the swell pedal.

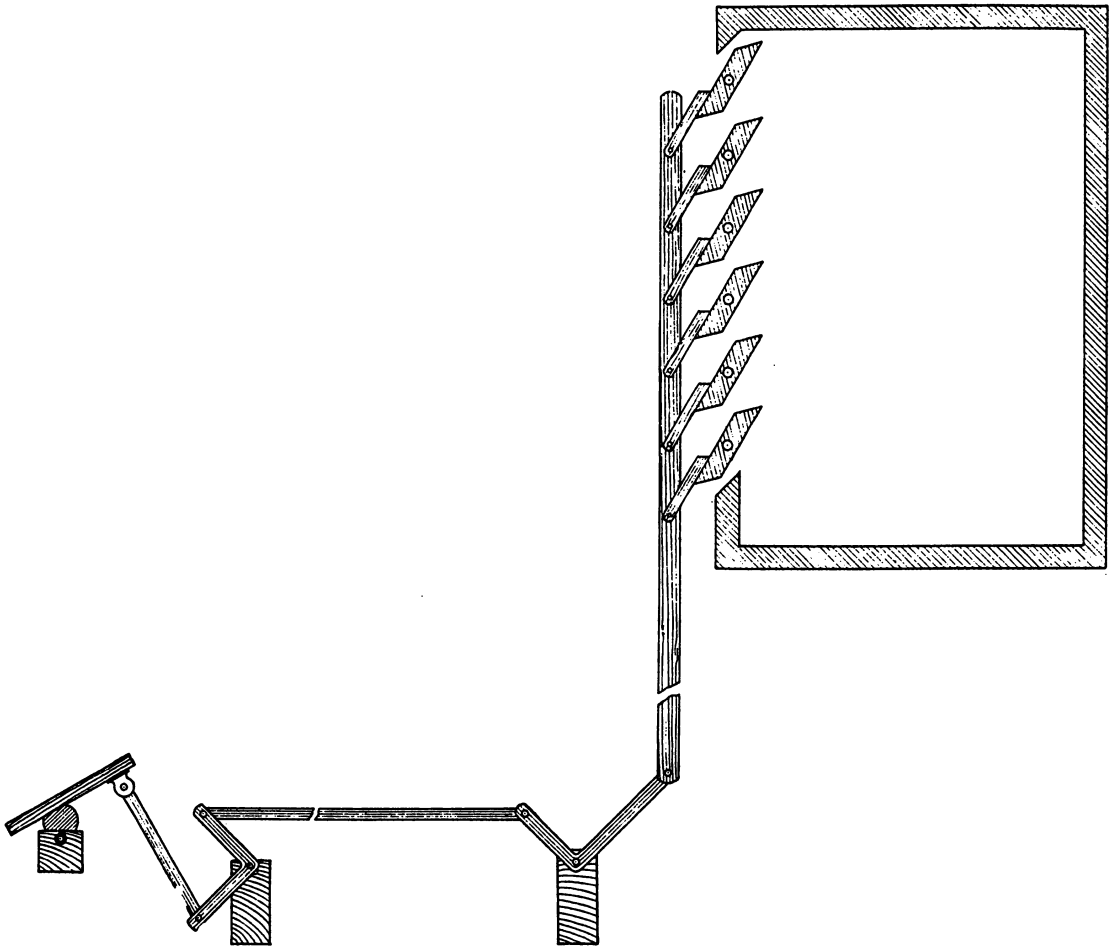


Figure 1. Pedal Control of Swell Box

Recent developments in the means of control have included the construction of the boxes in the form of chambers (rooms, sometimes of considerable size)—the walls of which are of brick, stone, concrete, tile, etc., with steel reenforcements, this construction producing a swell-crescendo of wide latitude. The introduction of power agencies: electro-pneumatic *Swell Engines* or *Motors*, by which the labor of opening and closing the large and heavy shutters is eliminated and by which new effects of accent and shading are rendered possible—is one of the most valuable of recent developments. It is hardly saying too much to state that from now on no organ can be considered up-to-date and effective if its equipment does not include electro-pneumatic control of the swell-shades. It is pleasant to be able to state that at the present time these agencies have been adopted as standard equipment by all of the best organ builders of the country.

THE TWO USES OF THE SWELL PEDAL

The principal functions of the swell pedals (and from henceforth we must be understood as referring to the entire mechanism under the control of the swell pedals when we adopt the easy and conventional term "swell pedal") are twofold:

1. As a means of expressive control of tone volume. This is the most important use of the swell pedals, and it is the function which particularly engages our attention in this work; it will be found treated under the heading "How to Use the Swell Pedal Effectively."

2. As a producer of smooth crescendo and diminuendo effects *in conjunction with stop manipulation.*

This latter use of the pedals is in the nature of a mechanical and aural deception or trick, and because of this fact does not fall in the same class as the more legitimate uses; it is, however, valuable at times and for that reason we will explain it for the benefit of those to whom it is not familiar. The basis of the trick lies in the fact that, with a good swell box, the player can, by regulating the amount of opening of the box, cause a diapason (with the box closed) to sound no louder than a dulciana (with the box wide open). The most notable instance of this wide dynamic flexibility is to be found in the large organ in the Auditorium at Ocean Grove, N. J., where—for demonstration purposes—a child's voice has been accompanied by a *Tuba Mirabilis* on fifty inches of wind! This stop—of terrific power, and quite capable of submerging a large brass band—was rendered docile and tractable for the use just mentioned by reason of the perfect construction of its swell chambers and shutters.

The method of using this second function involves a combination of two motions: in building up a crescendo, the player combines with each drawing of stops *a slight closing of the swell box,* the two being accomplished at the same instant. The cycle of motions is as follows: Partly open swell; draw stop, and simultaneously close swell somewhat; partly open swell; draw stop, and close swell, etc., as many times as desired. Graphically it is as pictured in Figure 2:

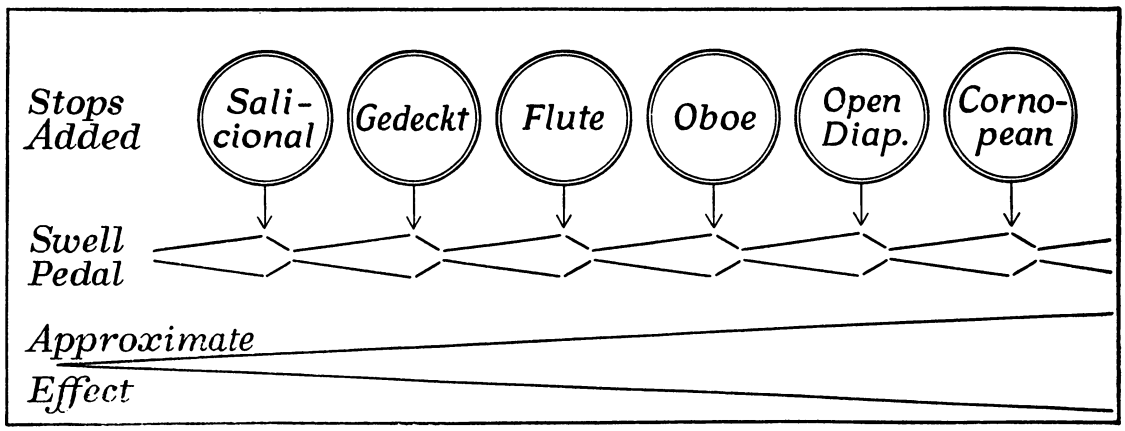


Figure 2. Building up a Crescendo

The process of producing a diminuendo is, of course, exactly the reverse of the above, viz: with each stop *pushed in*, the swell box is *opened* slightly, thus "covering" the hiatus left by the elimination of the stop.

This method of producing a smooth crescendo and diminuendo is of immense value in rendering such compositions as the well known Dubois *Fiat Lux* and other numbers in which the cumulative emotional effect is greatly dependent upon the smoothness and freedom from "breaks" of the crescendo.

We now pass on to the functions of the swell pedals which are the cause and reason for this work, viz:

HOW TO USE THE SWELL PEDAL EFFECTIVELY

The uses of the swell pedal considered as a means of emotional expression, are as follows:

1. *In shading and enunciating phrases.*

The first, foremost and the really vital function of the swell pedal is *to properly exploit phrases.* This statement cannot be too carefully assimilated! The writer has yet to run across any explanation of the use of the swell pedals in any Method for the Organ which even remotely resembles this rule, and yet it is the only possible scientific and logical basis for the use of the pedal. No other explanation can be advanced which will be applicable to virtually each and every case considered; regarded as an appendage to the art of phrasing the use of the swell pedal becomes quite simple.

Briefly, the requirements of phrase-enunciation are:

1. The phrase should be *commenced* with a *slight accent*, and be gradually increased in volume during the first part of the phrase.

2. The *end* of the phrase *must be diminished*, something of a "fade-away" being simulated on the final note,

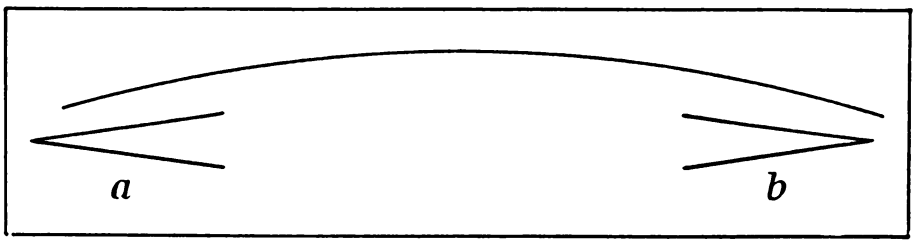


Figure 3. Shading a Phrase

In Figure 3 is shown the *necessary* shading of a single phrase. In this illustration none of the smaller inflections and variations possible in the body of the phrase are shown. In considering the *necessary* shadings, at the beginning and ending of the phrase, it may be well to lay down one unalterable rule which is in complete harmony with the points just given, viz:

Never use the swell entirely closed for more than a single note, and that note should be the final note of a phrase. This rule has ample scientific basis, but the unsatisfactory effect produced upon a critical ear by so using the swell is so apparent that it is unnecessary to further dilate

upon it. Every sensitive hearer dislikes the "boxed-up," devitalized and strangulated effect of a completely closed swell box, and the resulting flatness is contrary to all logical rules of expression.

Consideration of this rule will explain the slightly *advanced* position of the *opening swell*—(a) in Figure 3, as well as the position of the closing swell—(b) exactly at the end of the phrase. This will be further elucidated by Figure 4, in which the necessary shadings of two lines of the choral, O *sacred head now wounded,* are pictured.

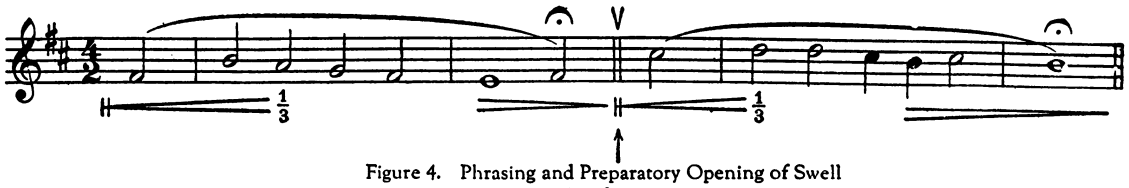


Figure 4. Phrasing and Preparatory Opening of Swell
(*Simultaneous*)

It will be seen that the motion of opening is begun slightly in advance of each phrase, and that the full closing is accomplished exactly at the end of the last note of the phrase. The mark || is used throughout this work to indicate the brief period of silence which is concomitant with the phrasing; it is during the silence indicated by this mark that the opening of the swell is begun.* Consequently the conjunction of the marks || and <, in this manner |< indicates the two vitally important steps in starting the new phrase; when so done the effect can not be otherwise than good.

INFLECTION

The above points are of positive value in considering virtually all phrases of average length; by attending carefully to them the student can remove from his use of the swell pedals the elements of uncertainty which mar the efforts of so many players. There are, however, many *inflections within the body of phrases* which are of much importance in lending an emotional warmth to their expression; these inflections—by their manifold variety—defy complete analysis, as it is largely in the variety of their interpretation that the various types of talent and genius in players is displayed. Mood, tempo, length of phrase, amount of motion in the accompaniment, etc., all combine to render complete tabulation undesirable if not impossible. The application of the results would be of doubtful feasibility.

It is possible to reiterate the old suggestion—one that is reasonably correct also—that when the trend of melody is upwards towards a higher "tessitura" the intensity of the tone is very susceptible to increase; and, contrariwise, when the trend is downwards the power frequently decreases. This rule is often rendered invalid if the progress of the melody suddenly exceeds intervals of more than three or four tones. But as a fairly accurate hint the idea of increased power with upward curves, and decreased power with downward ones, may be adopted as one that will not lead the follower far astray.

*This also overcomes the unpleasant change in tonal effect which occurs in the step between a completely closed swell, and the first possible degree of opening; the "break" in the first step is thus eliminated, as it takes place during the phrasing silence.

The vital point is to remember that all *inflections* should be made with *extreme moderation*; the only exceptions are when accents are definitely indicated by some directions in the printed music. Unless some special stress of this kind be plainly called for, rely in the main on the more subtle, moderate inflections. Careful analysis of *good* violin or 'cello playing will suggest many points of value; it is well to avoid taking as a pattern anything of an over-sentimentalized nature! Any attempt to make the organ "sob" and "wail" will end in a disastrous burlesque.

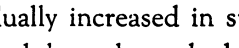
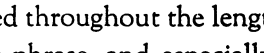
Throughout the studies will be found a system of fractional indications which has been adopted as the only feasible method of showing the approximate degree to which the swell box is to be opened. Thus, the sign followed by the fraction 1–4, indicates *roughly* the amount to which the box is to be opened, and the student should endeavor to open the box to approximately this degree. The smaller fractions, such as 1–16, indicate the smallest degree possible of opening.

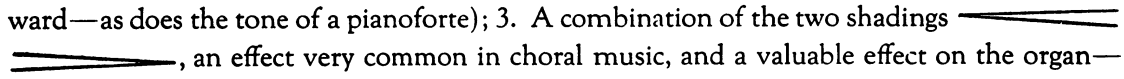
It should be thoroughly understood that these markings *are only intended as a guide*, an indication of the correct control. When the student has mastered the expression controls such matters as fractional degrees of openness will never enter his head! "The subtle niceties of expression are largely subconscious and obey the mental and musical freedom of the performer." The fractional indications will be found to be of great aid during the student period, however, and are denoted for that purpose.

RELIEF

There are certain thoughts on the treatment of what may for clearness be termed "long-held notes" which do not seem to belong under either of the two above headings; these are subtleties for the most earnest players only.

Nature may truly be said to abhor a flat surface; man lays his miles of flat street-paving—surveyed sometimes to a truly straight line—deriving from this ease of progress! Does he derive from it beauty? Never! In similar light the artistic player of any instrument instinctively avoids the production of tones of absolute uniformity throughout their entire length; indeed, laboratory investigations prove that it is physically impossible to produce tones of unvarying power—with any other instrument than the organ! The fact that the organ can —and if left to its own devices does —produce such tones, explains the oft-quoted, and quite incorrect statement, that the organ is incapable of expressive delivery of a melody. We freely grant that the organ can never rival the violin or 'cello in extreme *finesse* of nuance, but we do unhesitatingly say that—in the hands of a master player—the organ can, and does, rival in expressiveness any instrument other than the strings.

The player must seek to fathom the various kinds of shading possible for the different cases which may arise. *Three* styles of shading a lengthy note or notes are possible: 1. The note is gradually increased in strength throughout its length  ; 2. The power is diminished throughout the length of the note  ; (the first is most useful in the middle of a phrase, and especially with augmented chords, and harmony of a stressful, surging

nature; the second use being more frequently required—apparently for the reason that the ear seems instinctively to require a tone to lessen somewhat in strength from its inception onward—as does the tone of a pianoforte); 3. A combination of the two shadings  , an effect very common in choral music, and a valuable effect on the organ—particularly when the opening and closing swells are of different speed; be sparing with this effect, however, as it is more artificial than either of the other two. Over-use of this third effect will cause the organ to "sob" in a most nauseating manner.

Under this heading may be mentioned the complete possibility on modern organs of producing actual, true *accents* of pronounced worth; these are not the deceptions produced by shortening the notes preceding a note which it is desired to accent—for many years the sole method known of simulating an accent on the organ. The modern electro-pneumatic swell mechanism has made a true accent possible, the sole requirement of the player being accurate timing of cause and effect.

During the minute silence preceding any note which it is desired to accent (this silence being the phrasing silence which must precede an accent) the swell pedal is swiftly opened, and at the exact instant of playing the chord is returned to approximately its position before the accent. The whole secret lies in the cycle of pedal motions being advanced a fraction of a second before the "pre-phrasing" and the actual playing of the accented note. This is illustrated in Figure 5.

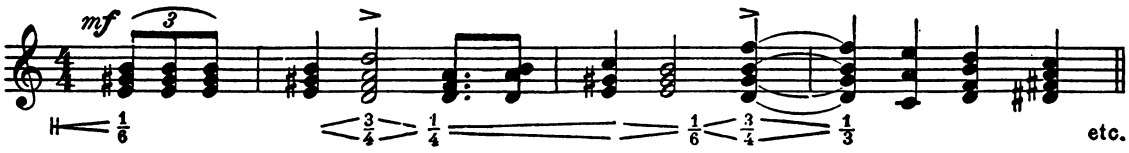
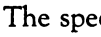


Figure 5

The speed with which the closing  motion is accomplished varies somewhat—being slower with slow tempos than with more rapid ones, but the opening motion is almost invariably made with the utmost speed possible—in fact, it is the element of speed that produces the genuine accent—and not a faulty "scooped" effect.

SUMMING-UP

Before concluding these remarks with a summing-up of the principal points involved there is one suggestion which the writer would offer to the student in the nature of a practice study for gaining *control* of the swell pedal; the writer has found that very few persons are physically and nervously skilled enough in operating the pedal with slow, unvarying smoothness. It is vastly harder to operate the pedal slowly than rapidly: many times the student believes he is slowly moving the pedal when as a matter-of-fact he is only resting his foot on the pedal!

To acquire this well-balanced muscular control nothing is better than practicing the forward and backward movement (with each foot, in turn) timing the interval consumed in

making the complete motion by means of the second hand of a watch, or by metronome ticks. At first it will be found difficult to consume more time in this motion than twelve or fifteen seconds; steady practice will develop the control to such an extent that from forty-five seconds to one minute may be used—the pedal never stopping in its snail-like motion. This simple exercise is of inestimable value in acquiring a smooth and artistic style of manipulating the pedal.

To sum up the points involved, we offer the following rules, fully cognizant of the fact that some exceptions to them may be met with, but equally aware that by assimilating their content the student will be well equipped to proceed rationally with the expressive control of his instrument, and to meet and solve the sporadic cases to which they do not not exactly apply:

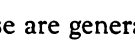
1. The most important function of the swell pedal is in shading phrases, slightly anticipating the beginning of the phrase, and shading off the end of it.

2. The swell box should *never* be employed *fully closed* for more than a single note at the end of a phrase.

3. That the opening of the swell slightly precede the phrase, as indicated in Rule 1, thus avoiding the "break" in crescendo which occurs between a fully closed swell and the first possible degree of opening.

4. This opening (preparatory opening) occurs always in the brief interval of silence between phrases.

5. Inflections in body of phrase depend on mood of piece, tempo, length of phrase, etc., but are often slightly crescendo with rising inflections, and diminuendo with falling ones; moderation always with inflections.

6. Sustained ("long-held") notes require control and shading; either or , or combination of both  . These are generally very slowly produced.

7. Accents are produced by exceedingly quick opening of swell in "phrasing silence" before note which it is desired to accent; usually followed by rather quick return to position of pedal preceding accent.

8. Muscular control of pedal motion speeds should be acquired with aid of watch or metronome for timing interval consumed in moving pedal from shut to open, and vice versa, before passing on to the studies which follow.

NOTE

THE *fractional markings* used in the expression marks of the twelve studies in this work indicate the *approximate degree of opening of the swell;* they are not, of course, mathematically accurate, as there is no method of recording the pedal motions as they are made. They are, however, as near to that ideal as long study and experiment can discover them, and they are the only feasible method of indicating hints on a subject which has been universally neglected.

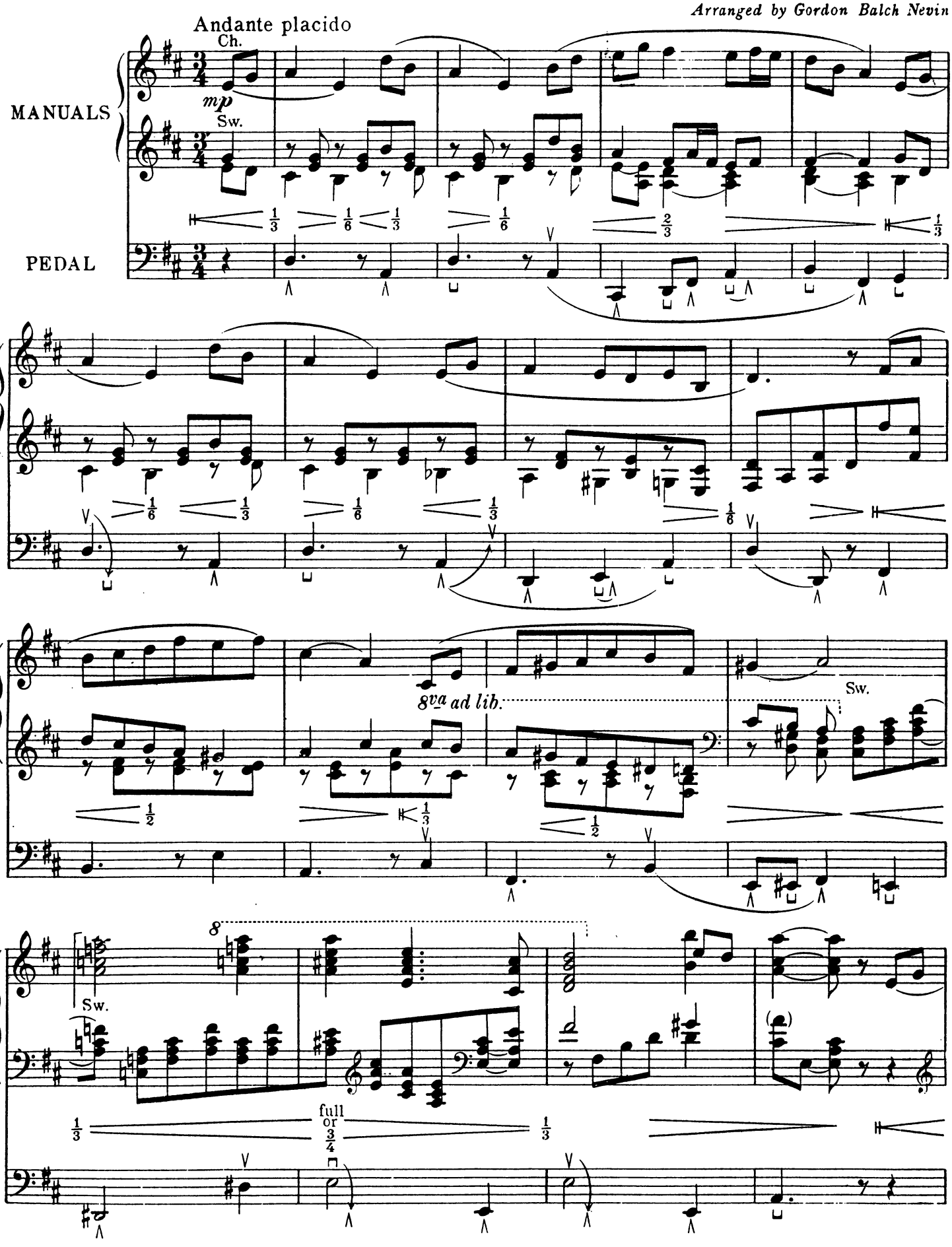
The student should, at first especially, endeavor to control his movements of the swell pedals to approximately the extent denoted by the fractional markings; *later, as skill develops, close attention to these markings will not be necessary.*

CHANT SANS PAROLES

MÉLODIE TARTARE

Prepare { Swell: Strings and Ged.
Choir: Clarinet, Flutes 8′ and 4′
Pedal: Gedeckt 16, Sw. to Ped.

HILARION KOSLOFF
Arranged by Gordon Balch Nevin



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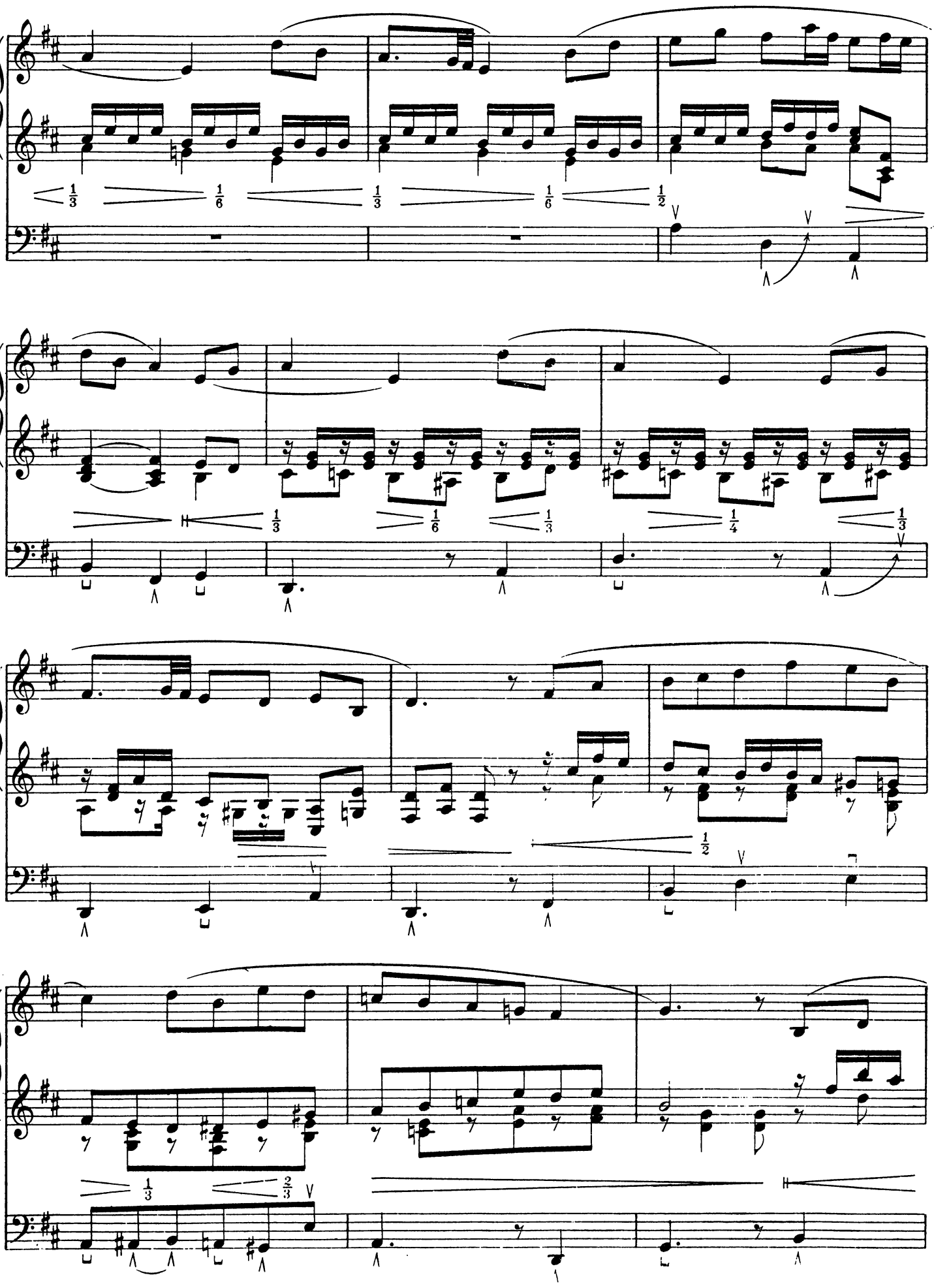
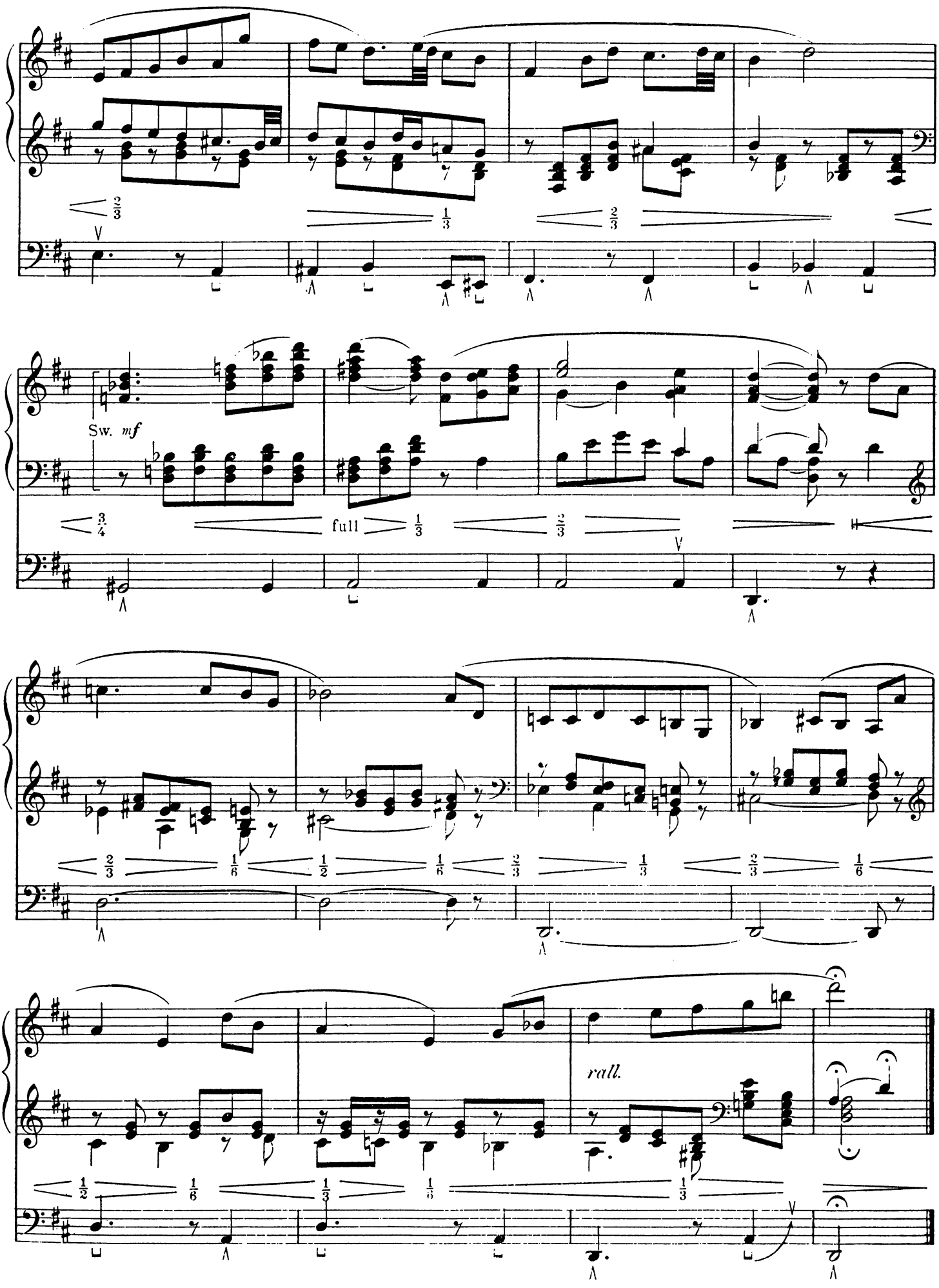
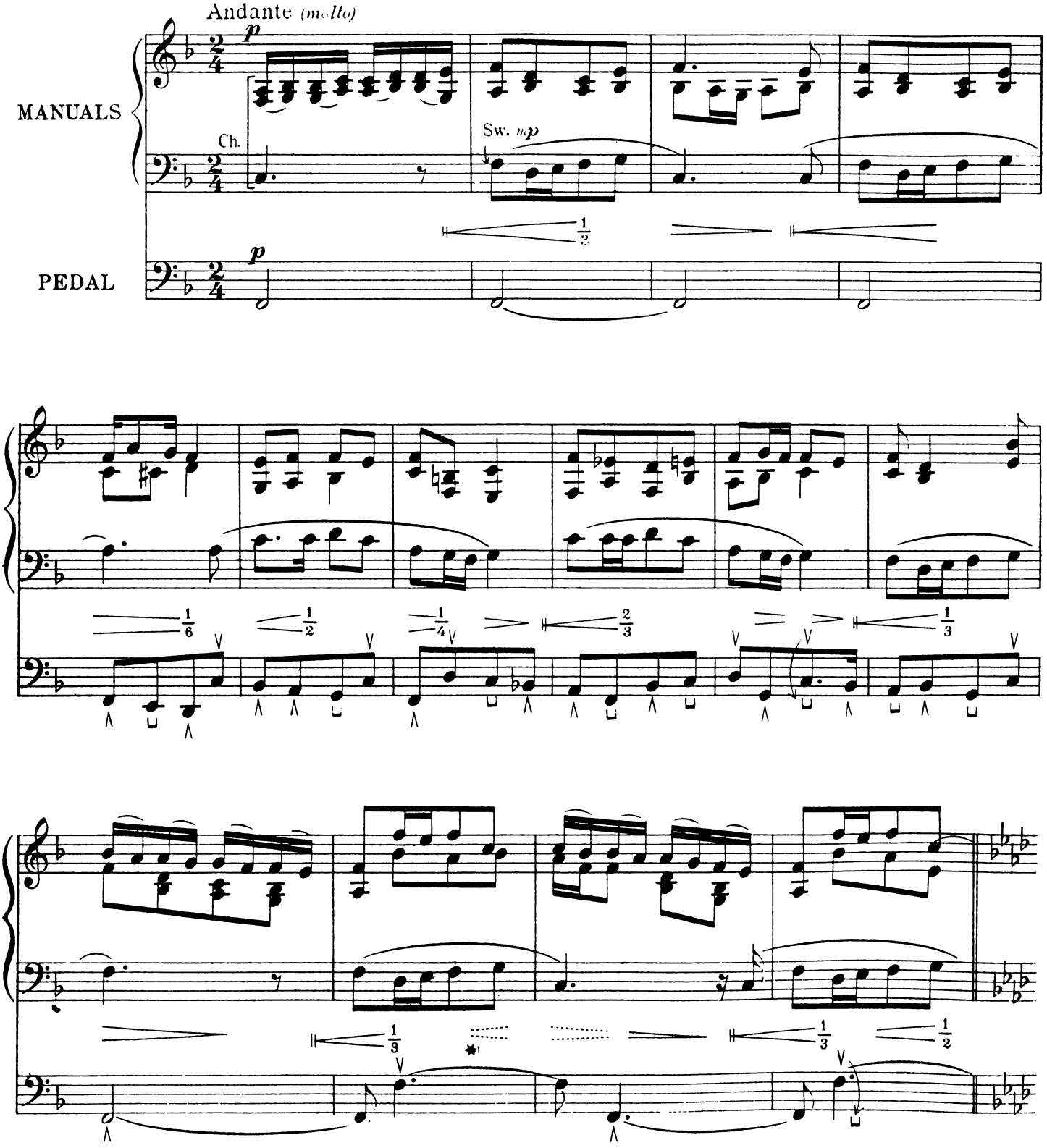



Sw. mf
full
rall.

SHEPHERD'S CRADLE SONG

Prepare { Swell: Cornopean (trem.)
Choir: Flutes 8′ and 4′
Pedal: Gedeckt 16′, Ch. to Ped.

ARTHUR SOMERVELL
Arranged by Gordon Balch Nevin



* Left foot - optional

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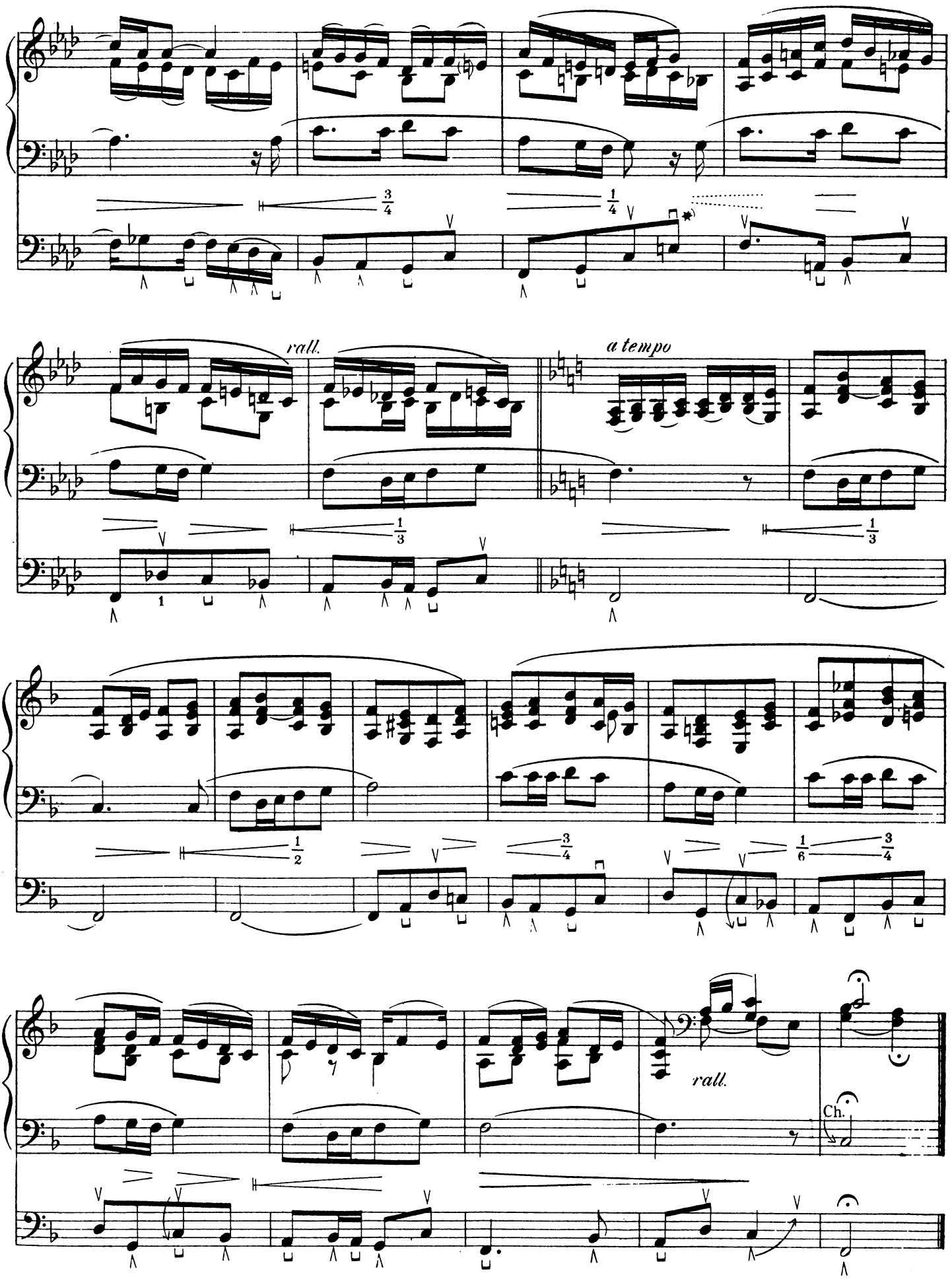
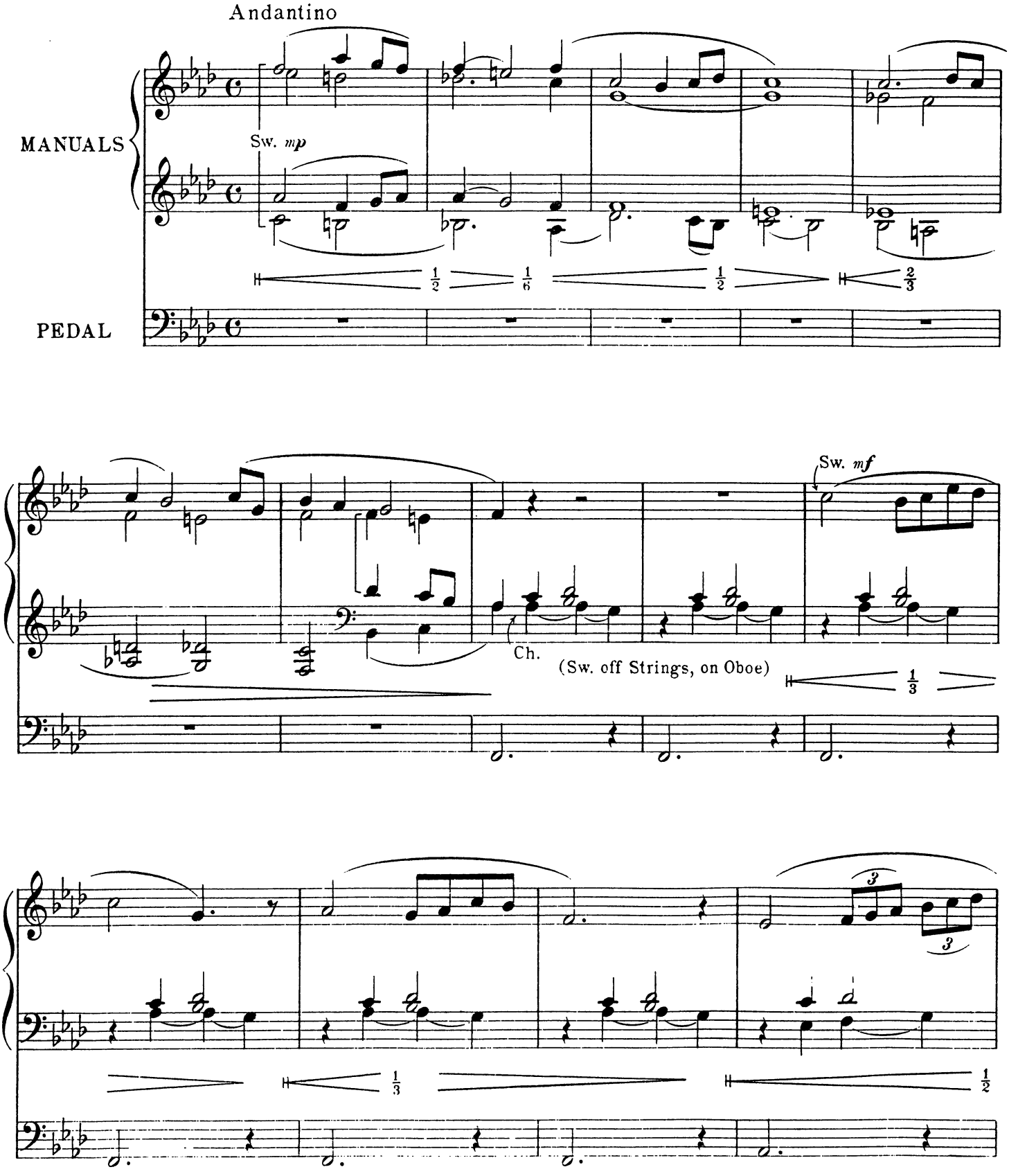

rall.
a tempo
rall.
Ch.

THE HOUR OF PRAYER

Prepare { Swell: Strings
Great: 8′ and 4′-*mf*
Choir: Concert Flute
Pedal: Soft 16′, Ch. to Ped.

GORDON BALCH NEVIN

Andantino



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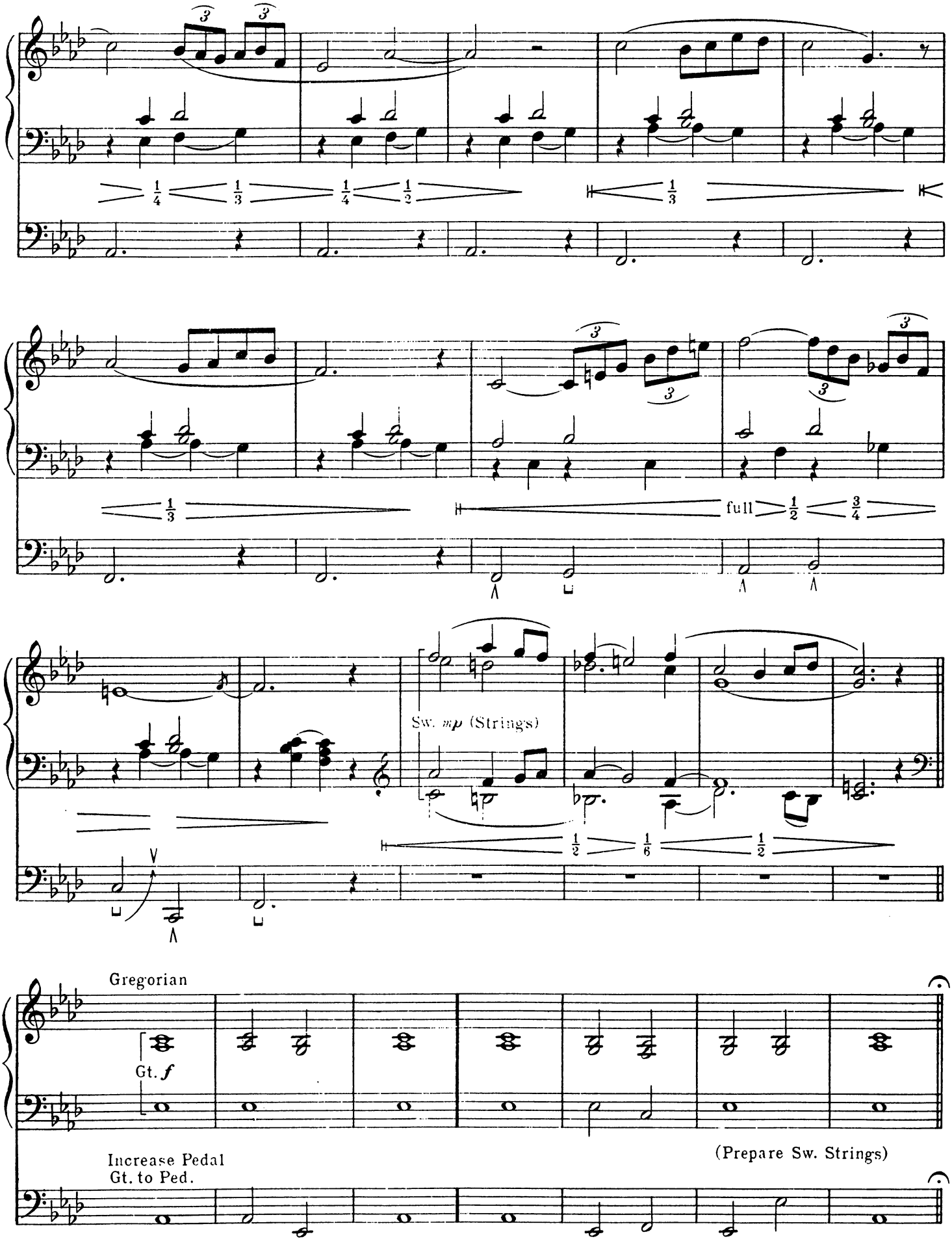
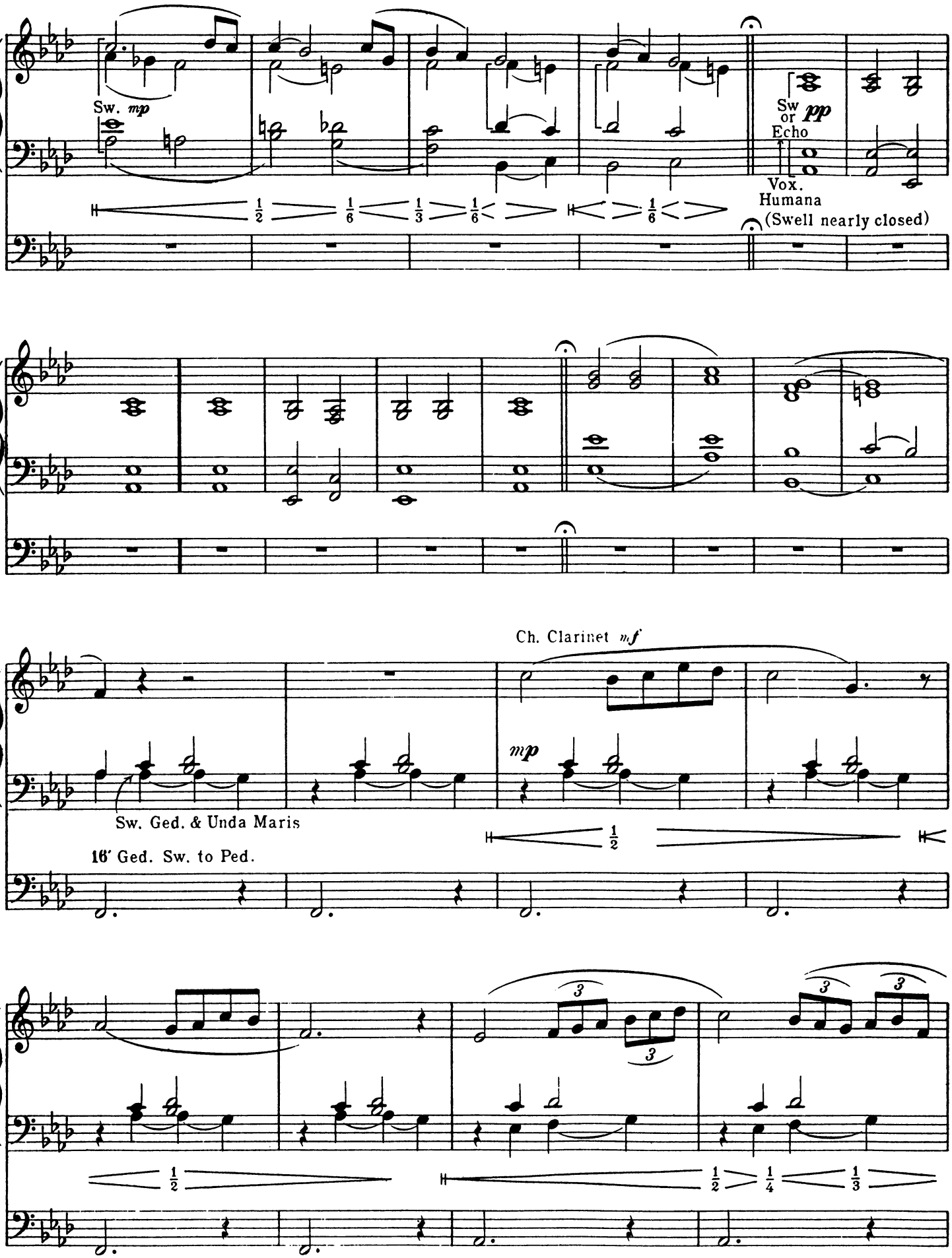
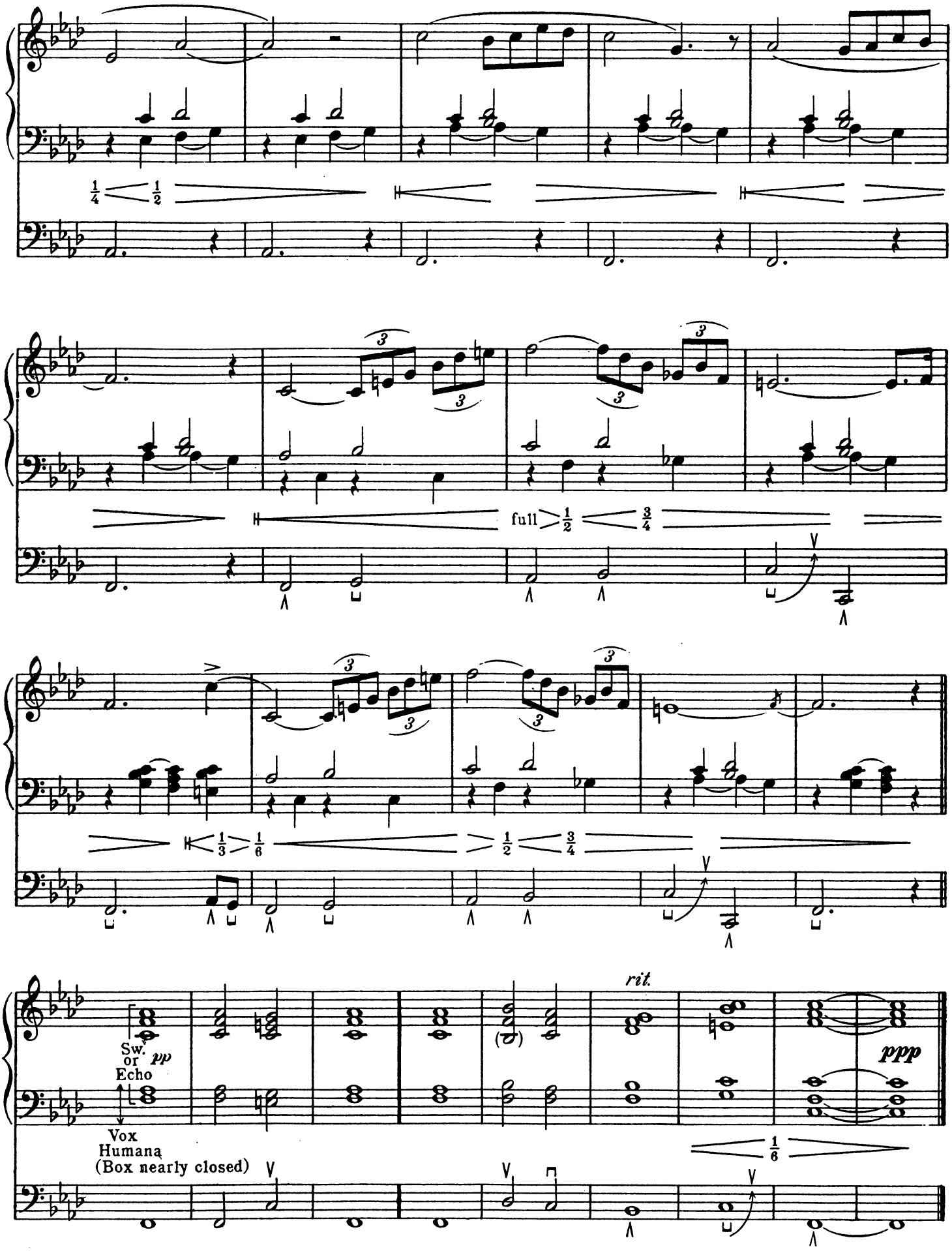

full
Sw. mp (Strings)
Gregorian
Gt. f
Increase Pedal
Gt. to Ped.
(Prepare Sw. Strings)


Sw. mp
Sw or Echo pp
Vox. Humana
(Swell nearly closed)
Ch. Clarinet mf
mp
Sw. Ged. & Unda Maris
16′ Ged. Sw. to Ped.

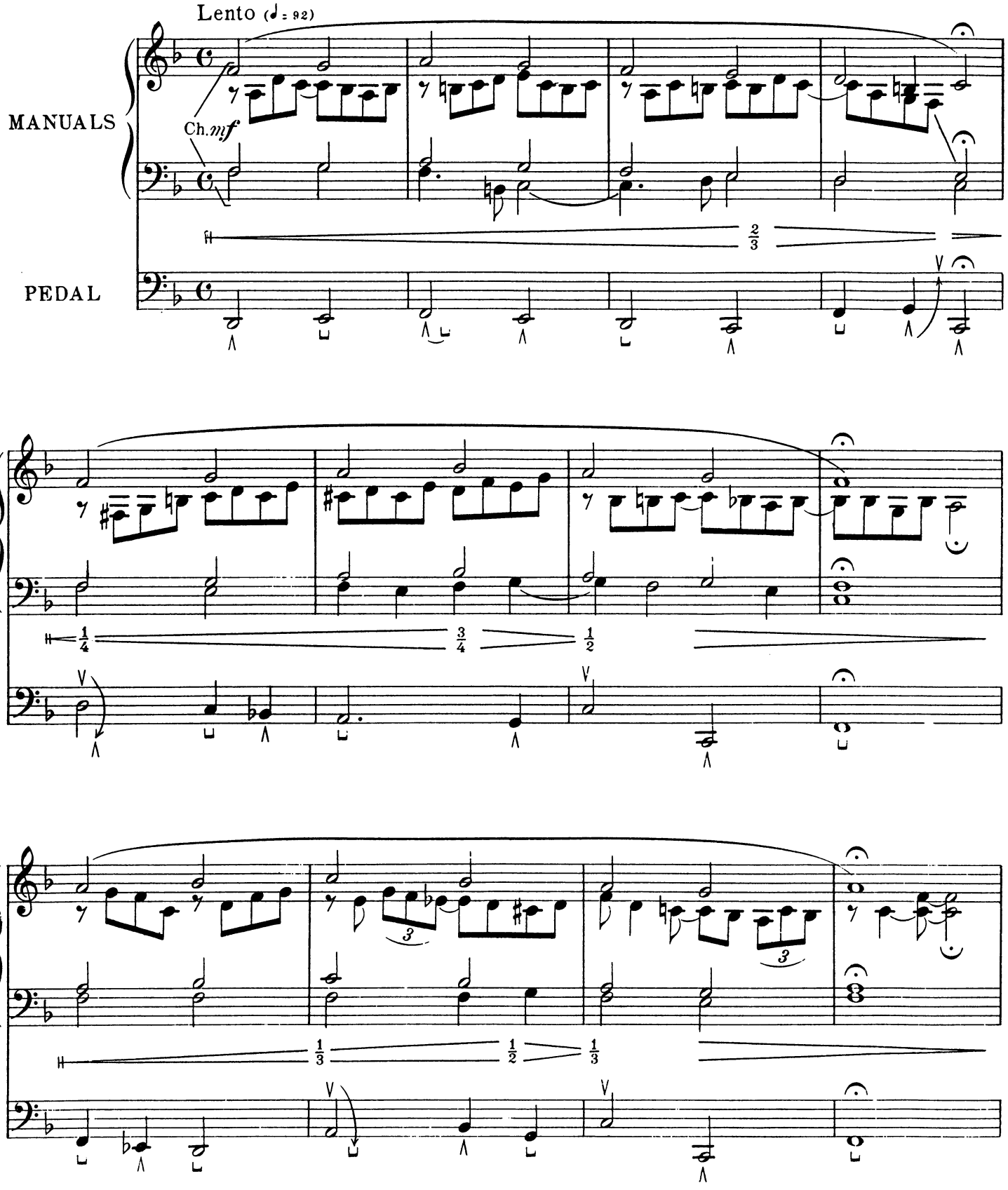

full
rit.
Sw.
or
Echo
pp
ppp
Vox
Humana
(Box nearly closed)

CHORALE - PRELUDE

REJOICE, O MY SOUL

Prepare { Swell: *mf*
Choir: Soft Diap.
Pedal: 16′, Sw. & Ch. to Ped.
Sw. to Ch.

ROBERT SCHUMANN
Arranged by Gordon Balch Nevin



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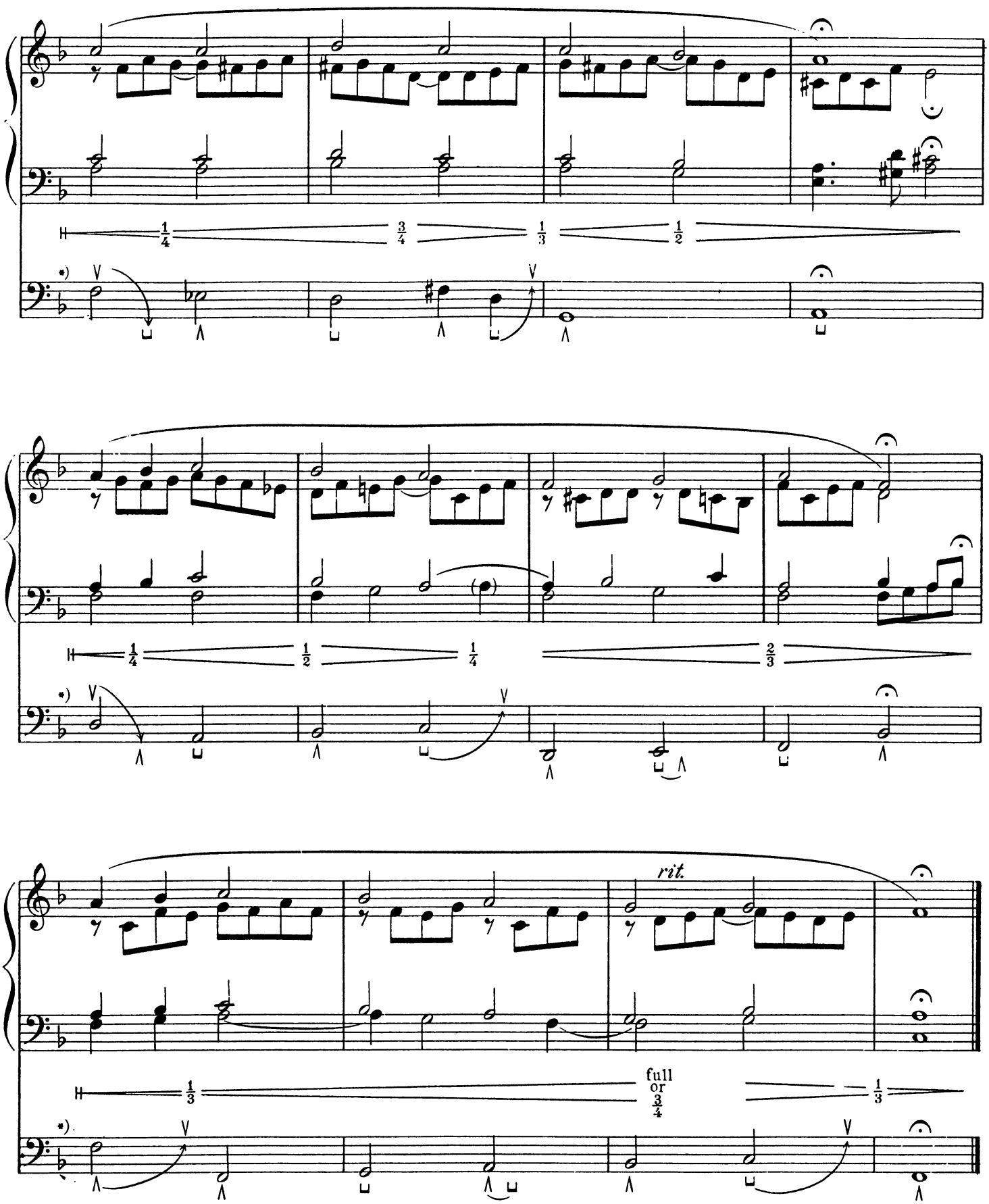


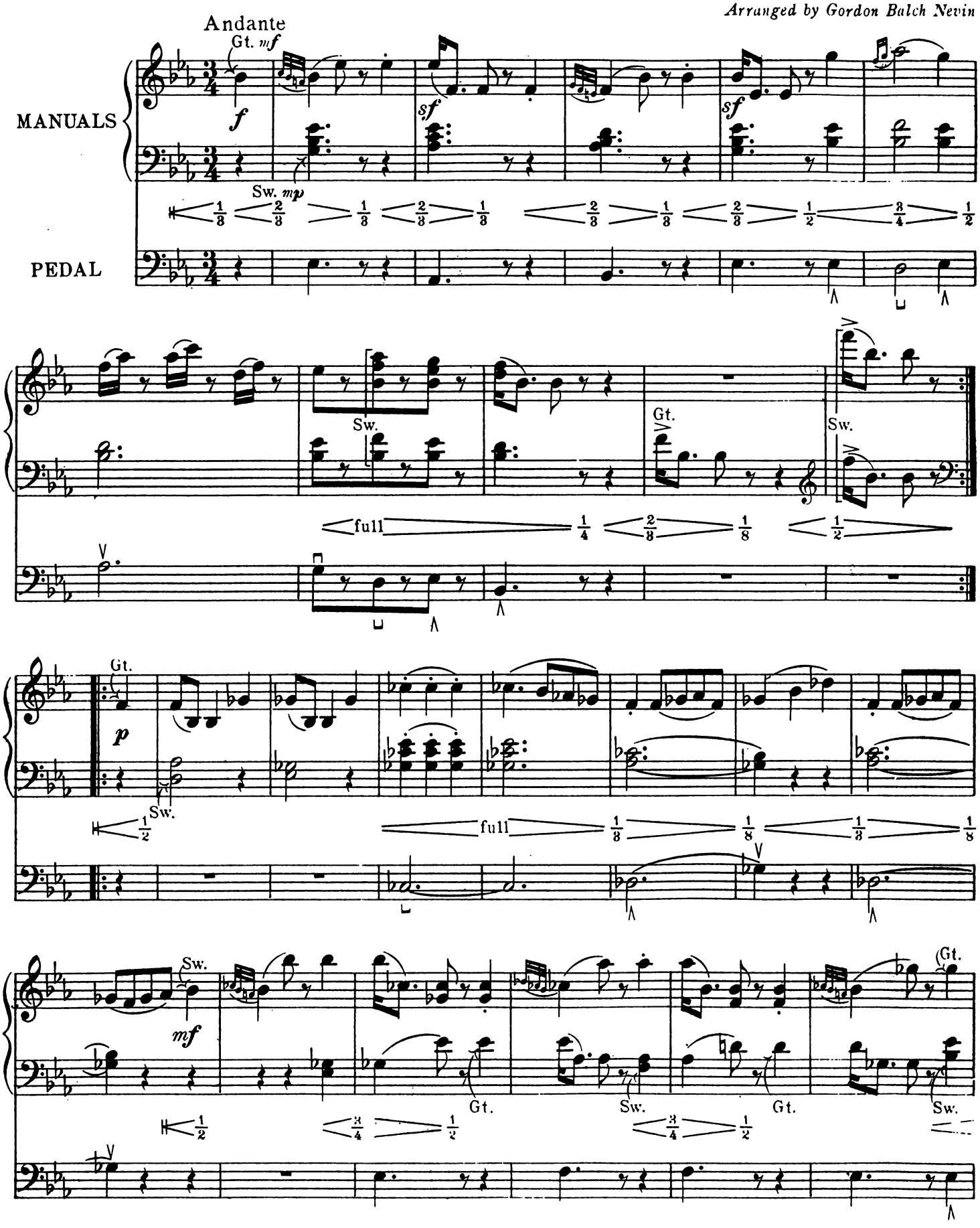
*) Operate Swell with *Left* Foot.

MENUETTO

From SYMPHONY № 1, in E♭

Prepare { Swell: Foundation stops 8′ & 4′
Great: Flutes 8′ & 4′, Sw. to Gt.
Pedal: 16′ *mf* Sw. to Ped.

FRANZ JOSEPH HAYDN
Arranged by Gordon Balch Nevin



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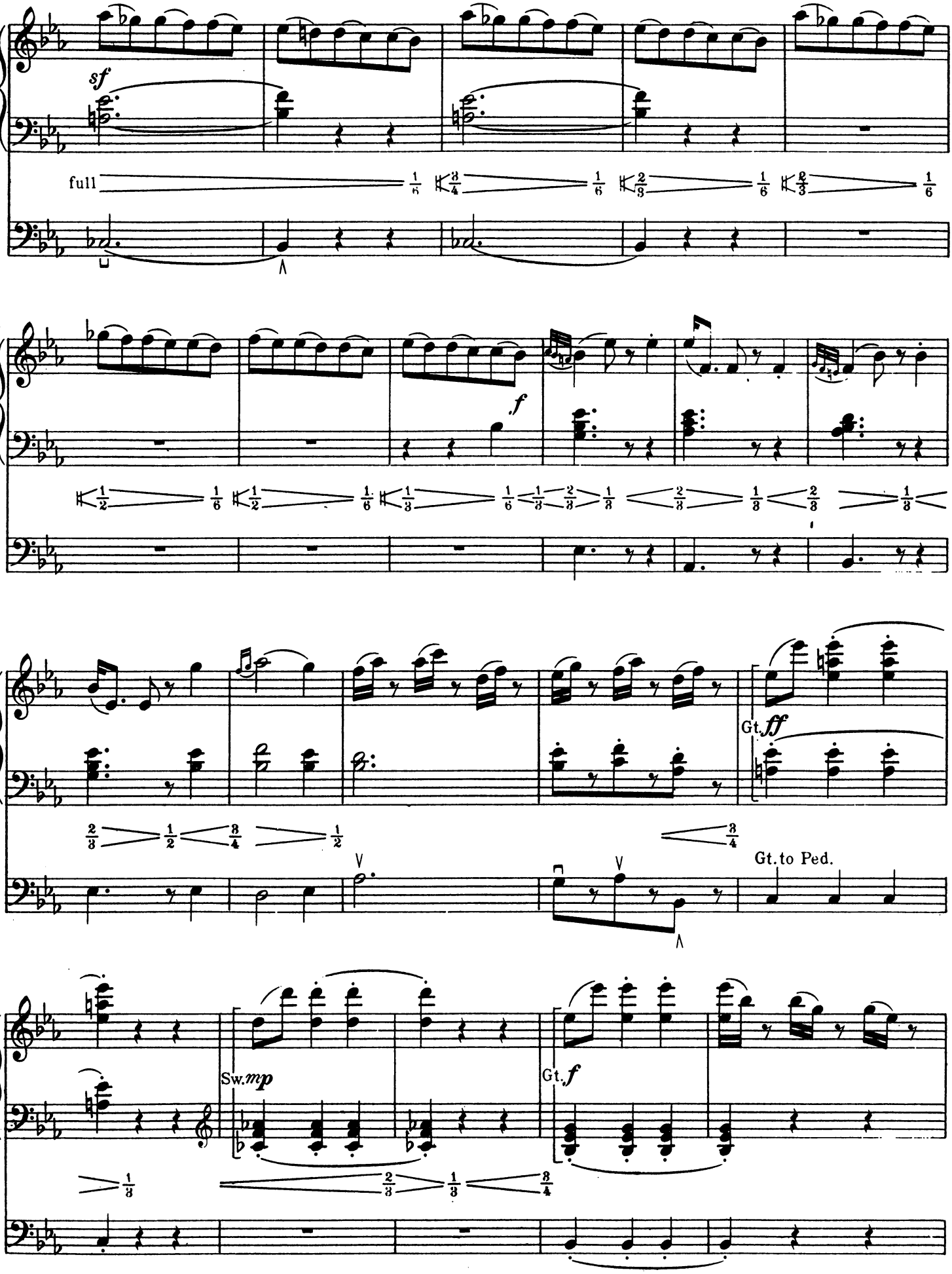
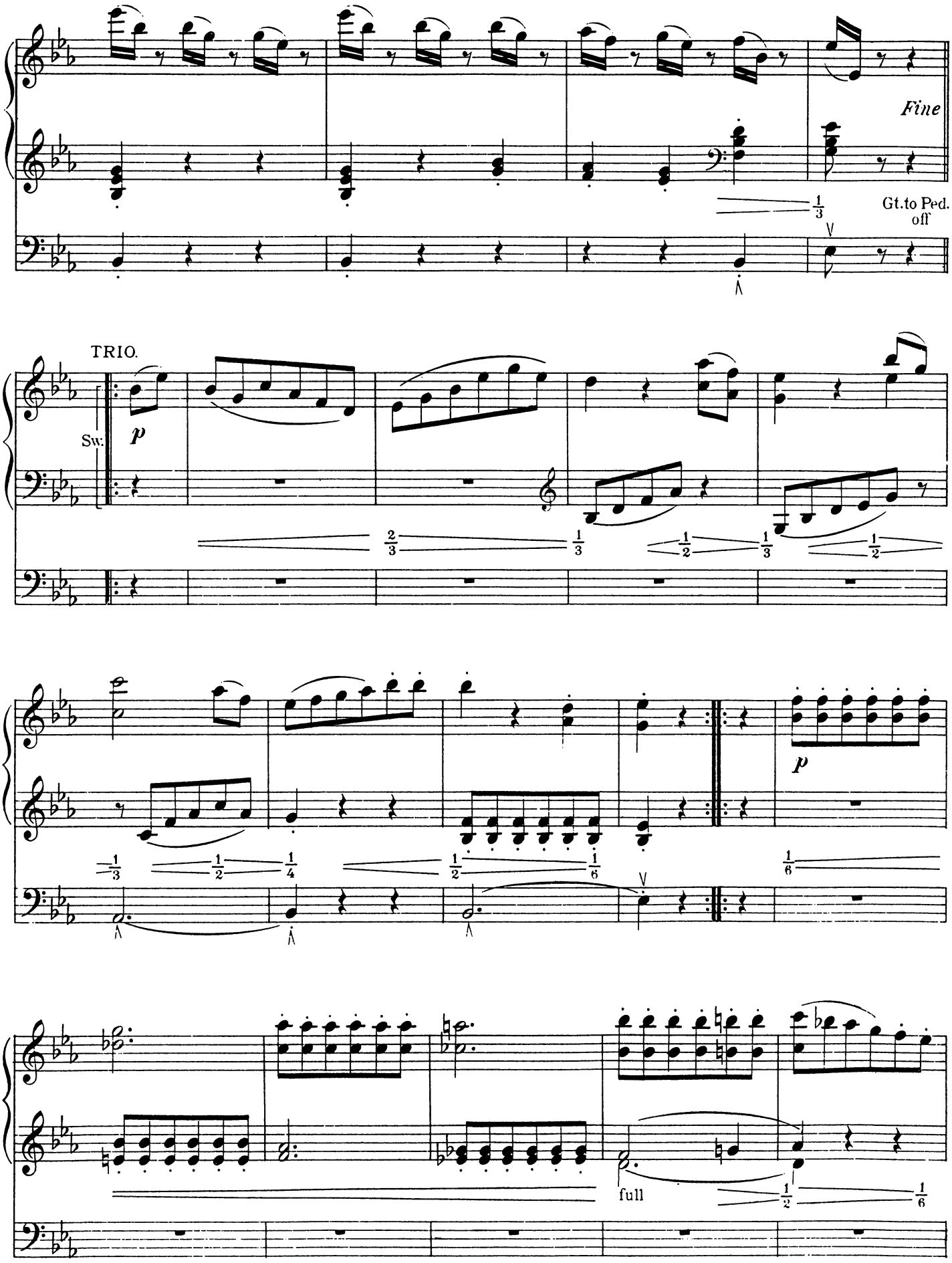
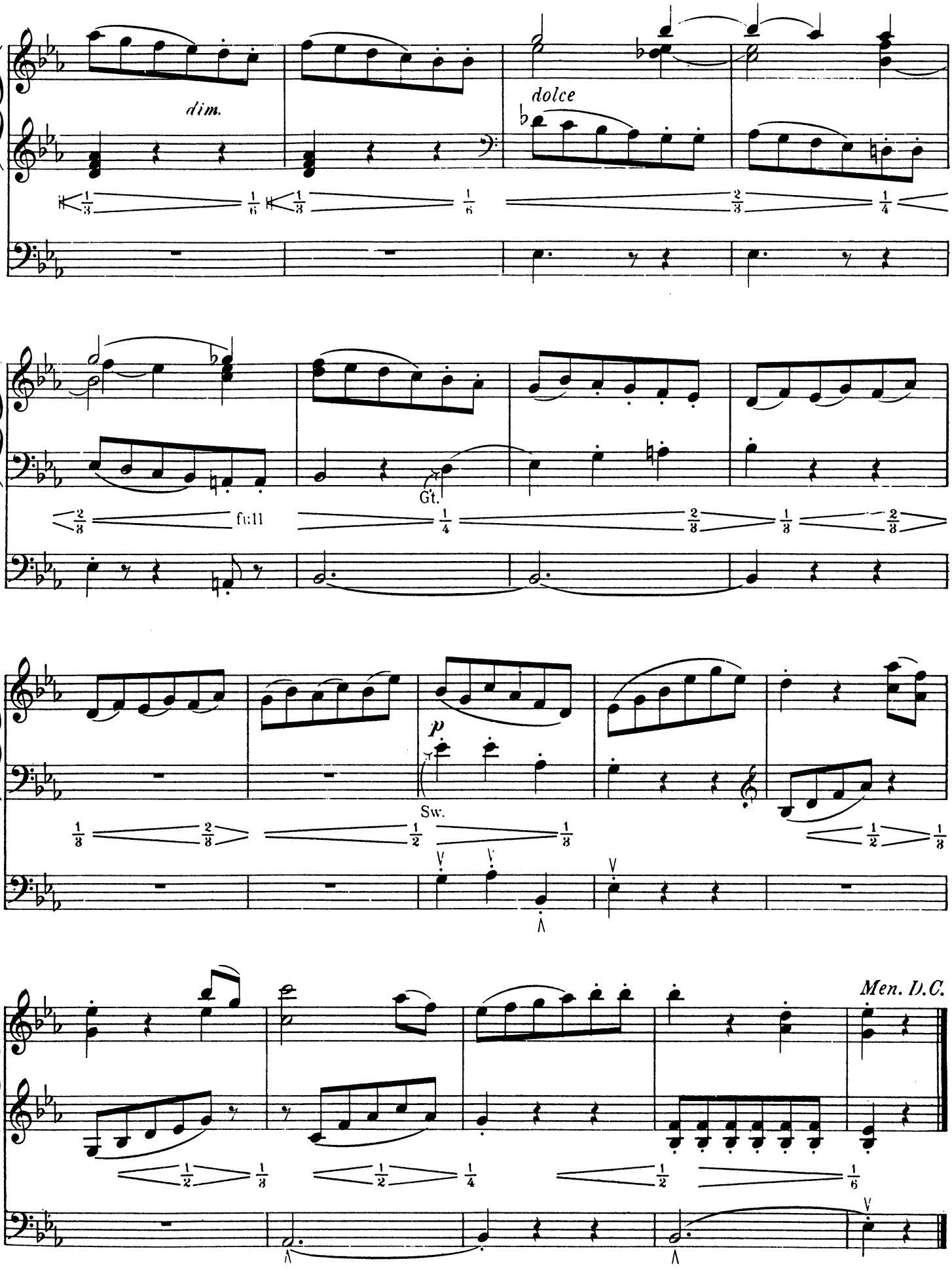

sf
full
f
Gt. ff
Gt. to Ped.
Sw. mp
Gt. f

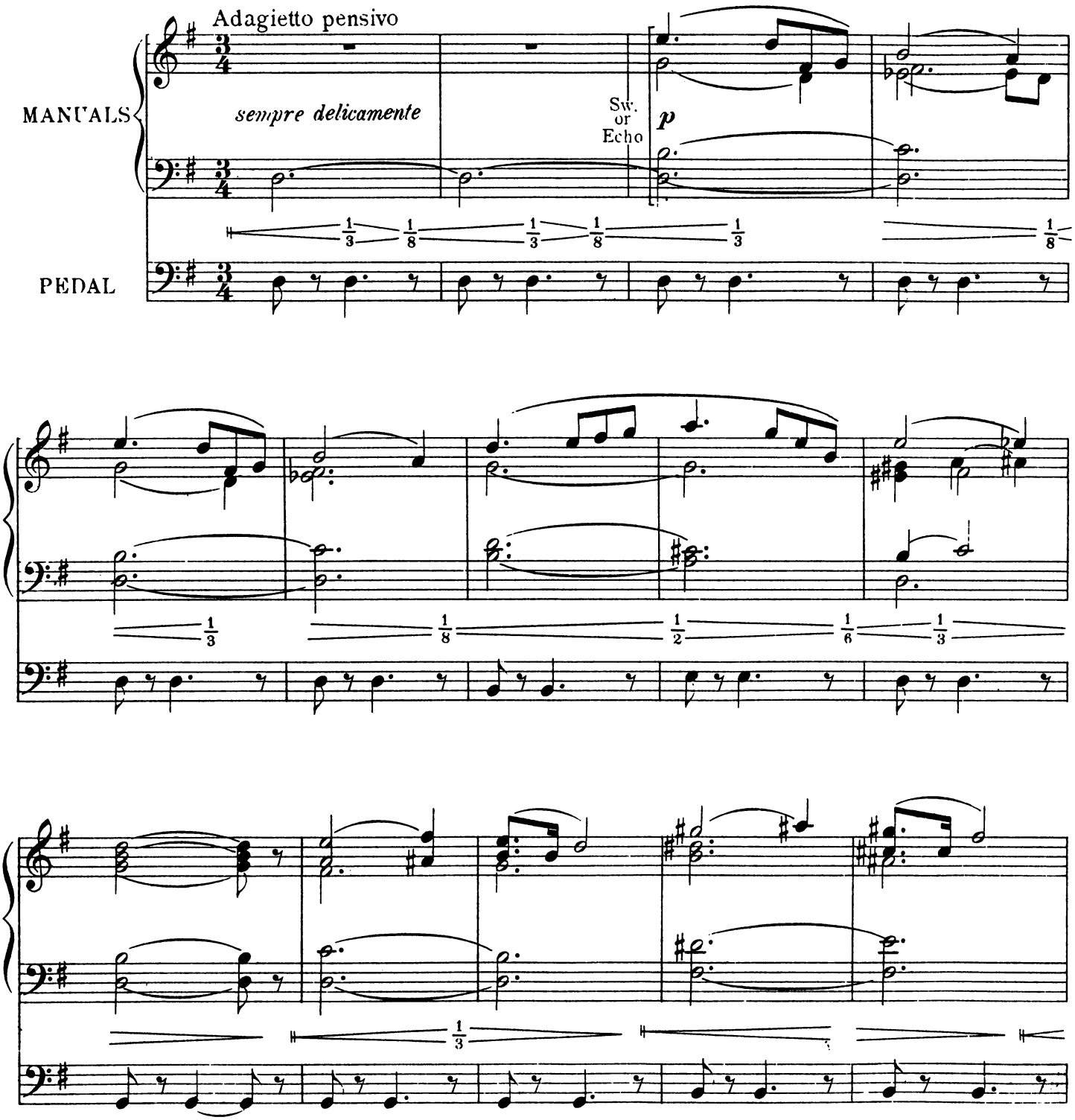

Fine
Gt.to Ped.
off
TRIO.
Sw.
p
p
full


dim.
dolce
full
Gt.
p
Sw.
Men. D.C.

MOMENT MUSICAL

Prepare { Swell or Echo: Vox Humana, Flute Celeste, Trem. / Pedal: Soft 16′, Man. coupled

GORDON BALCH NEVIN



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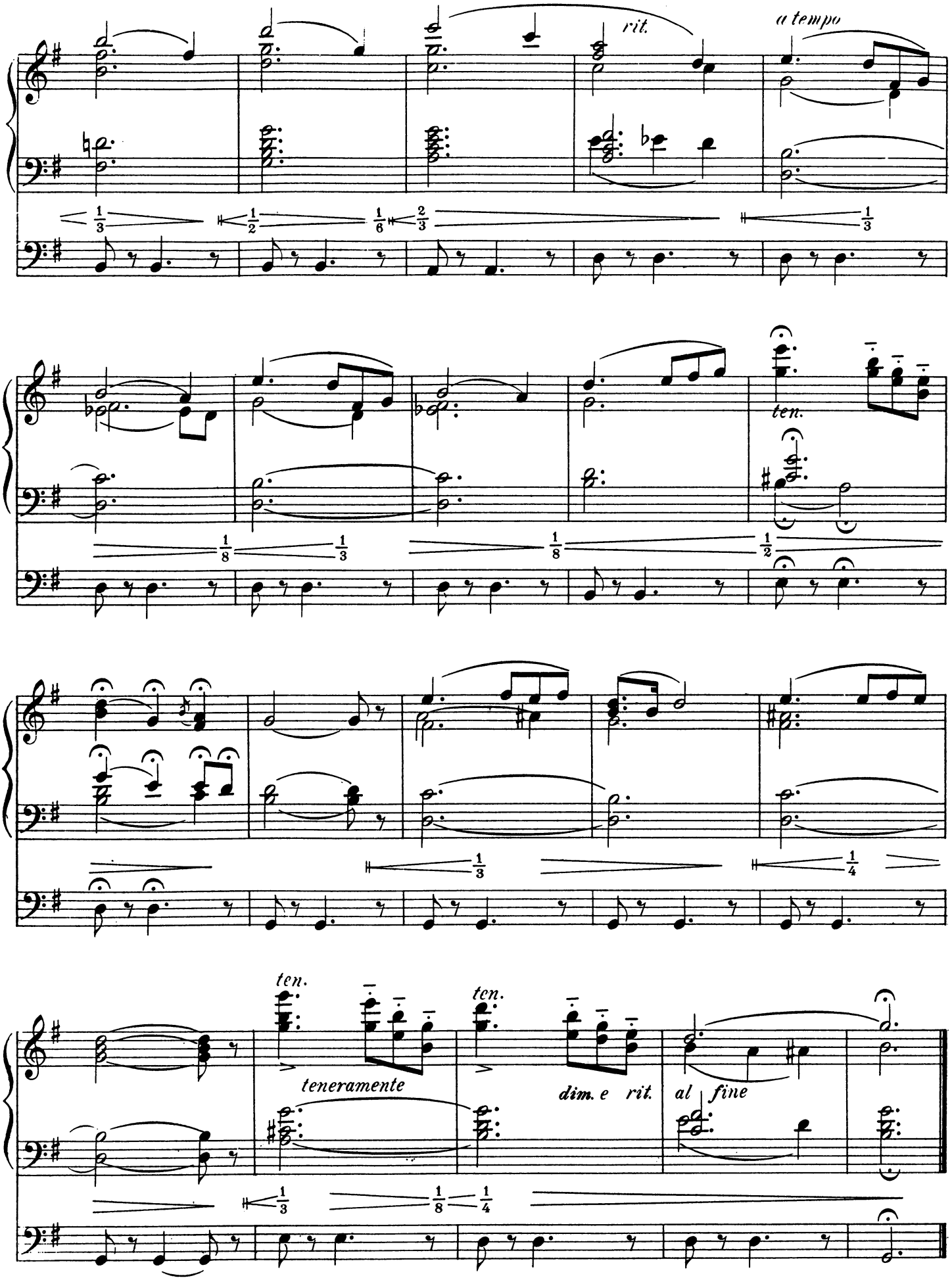

rit.
a tempo
ten.
ten.
teneramente
ten.
dim. e rit.
al fine

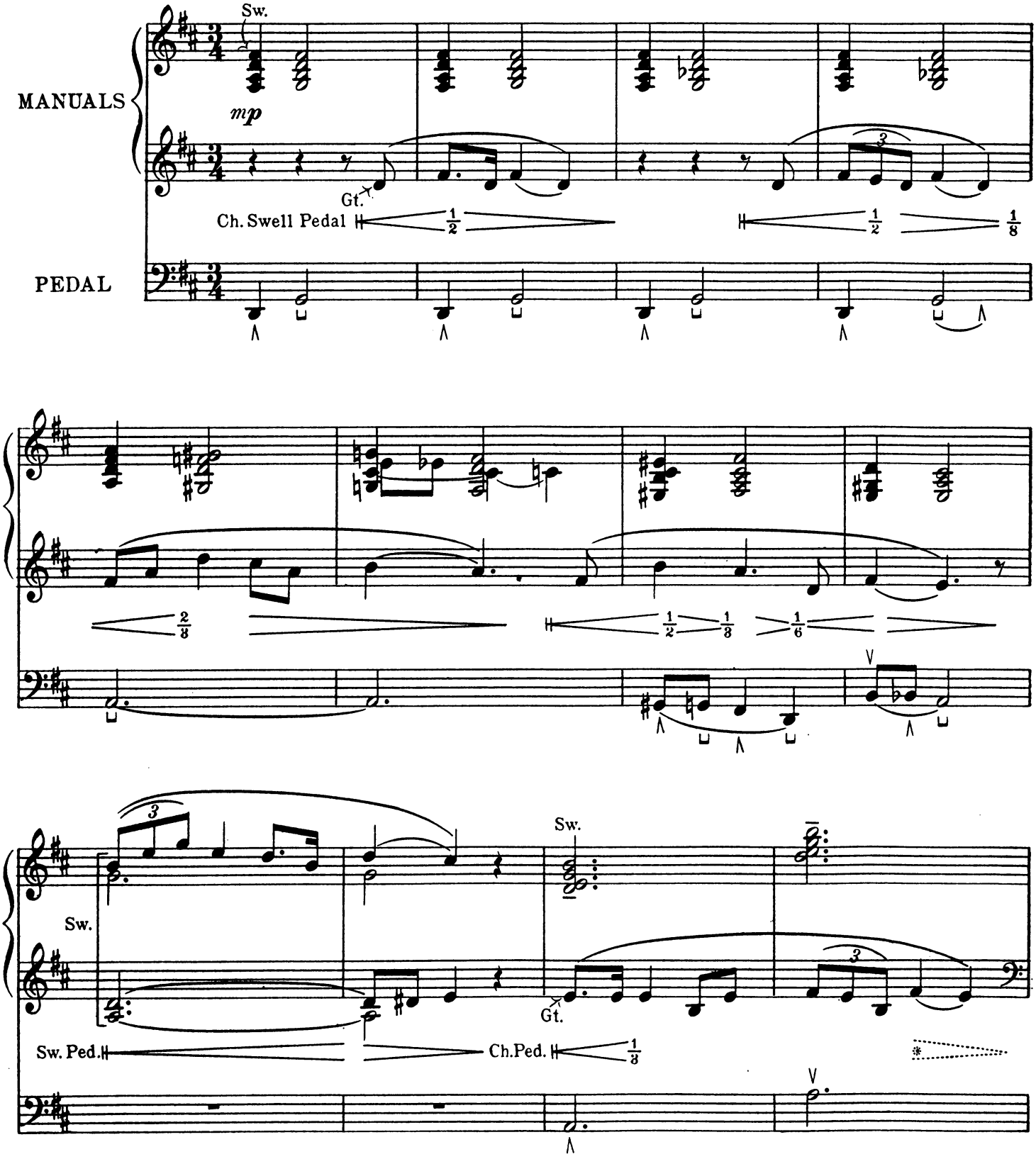
A SWAN

Prepare
- Swell: Strings and Ged.
- Great: Erzahler, Ch. to Gt.
- Choir: Clarinet, Flutes 8′&4′, trem.
- Pedal: Bourdon, Ged. 16′, Sw. to Ped.

EDVARD GRIEG

Arranged by Gordon Balch Nevin

Andante ben tenuto



*) Left foot — optional

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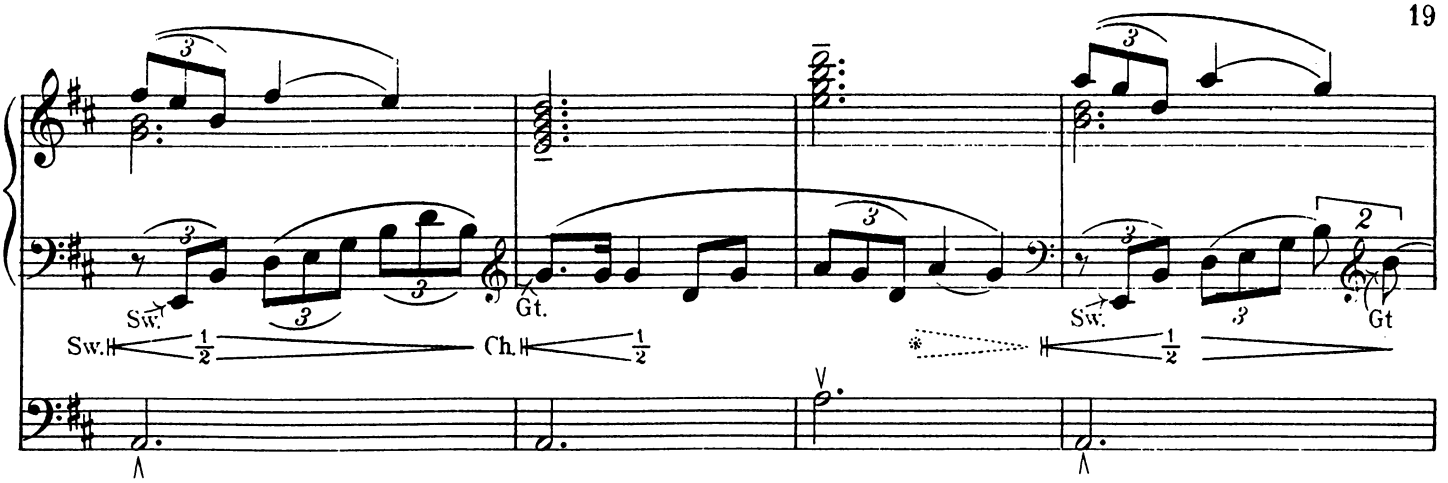
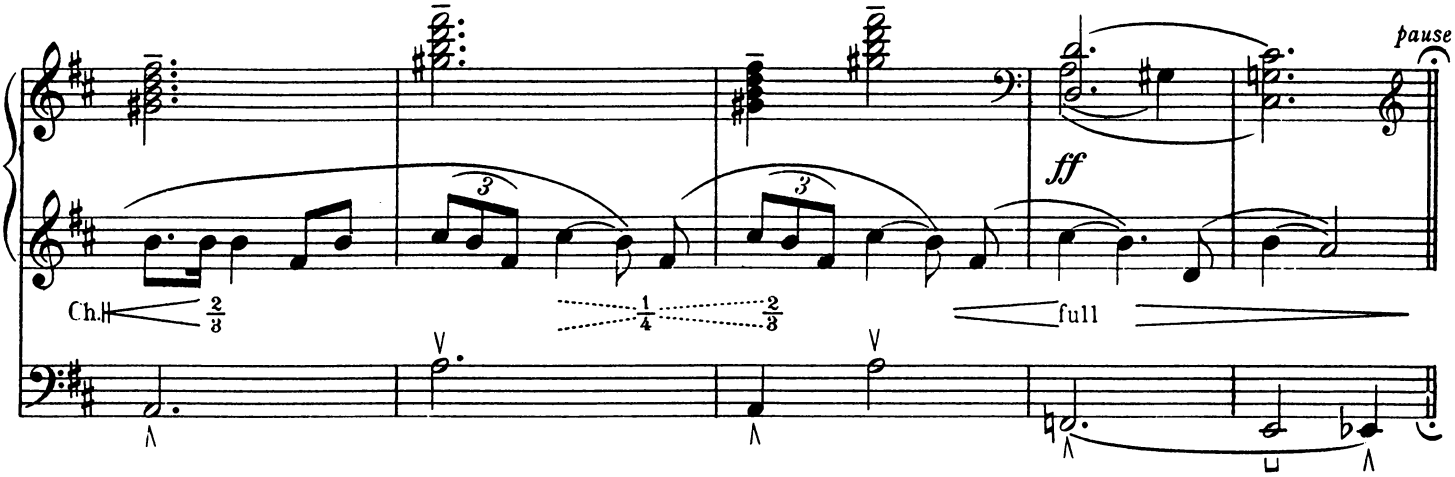
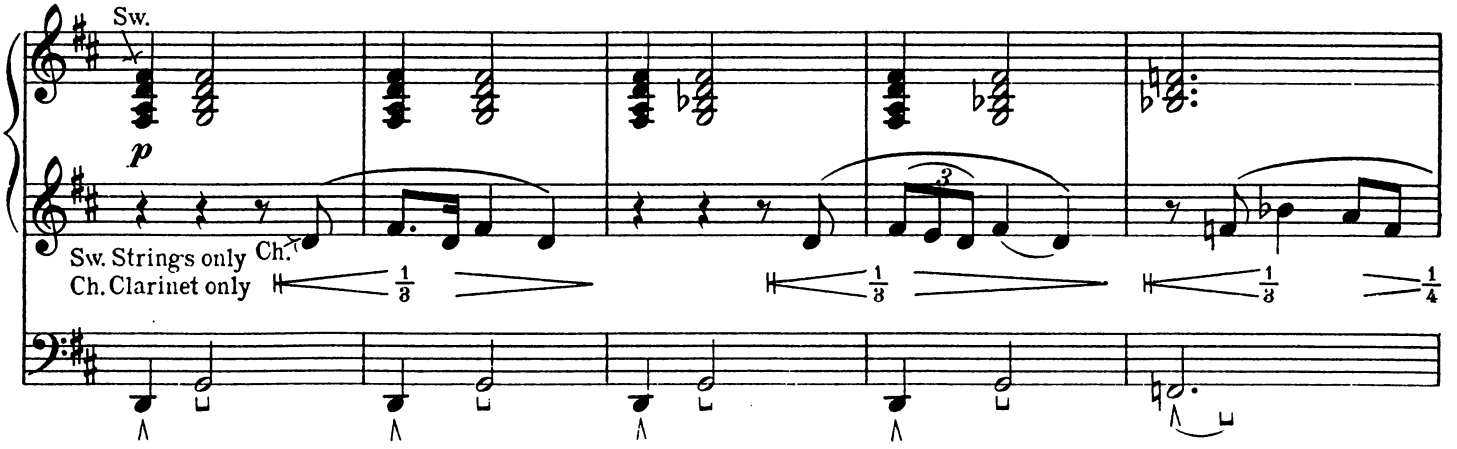
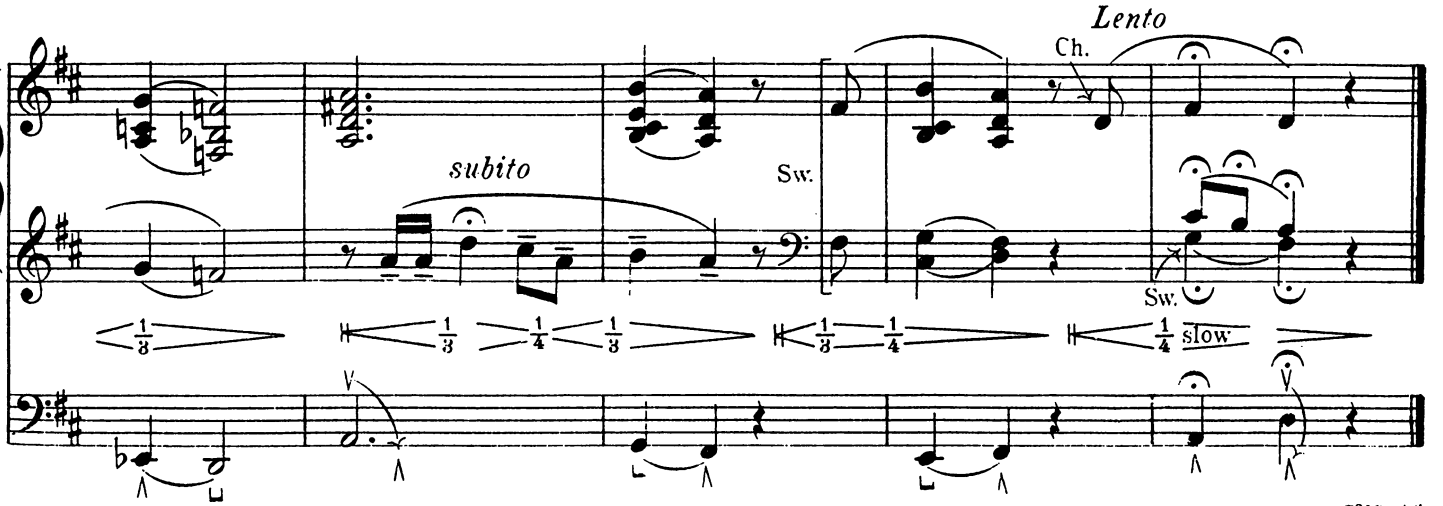

Sw.
Gt.
Sw.
Gt
Sw.
Ch.


pause
ff
Ch.
full

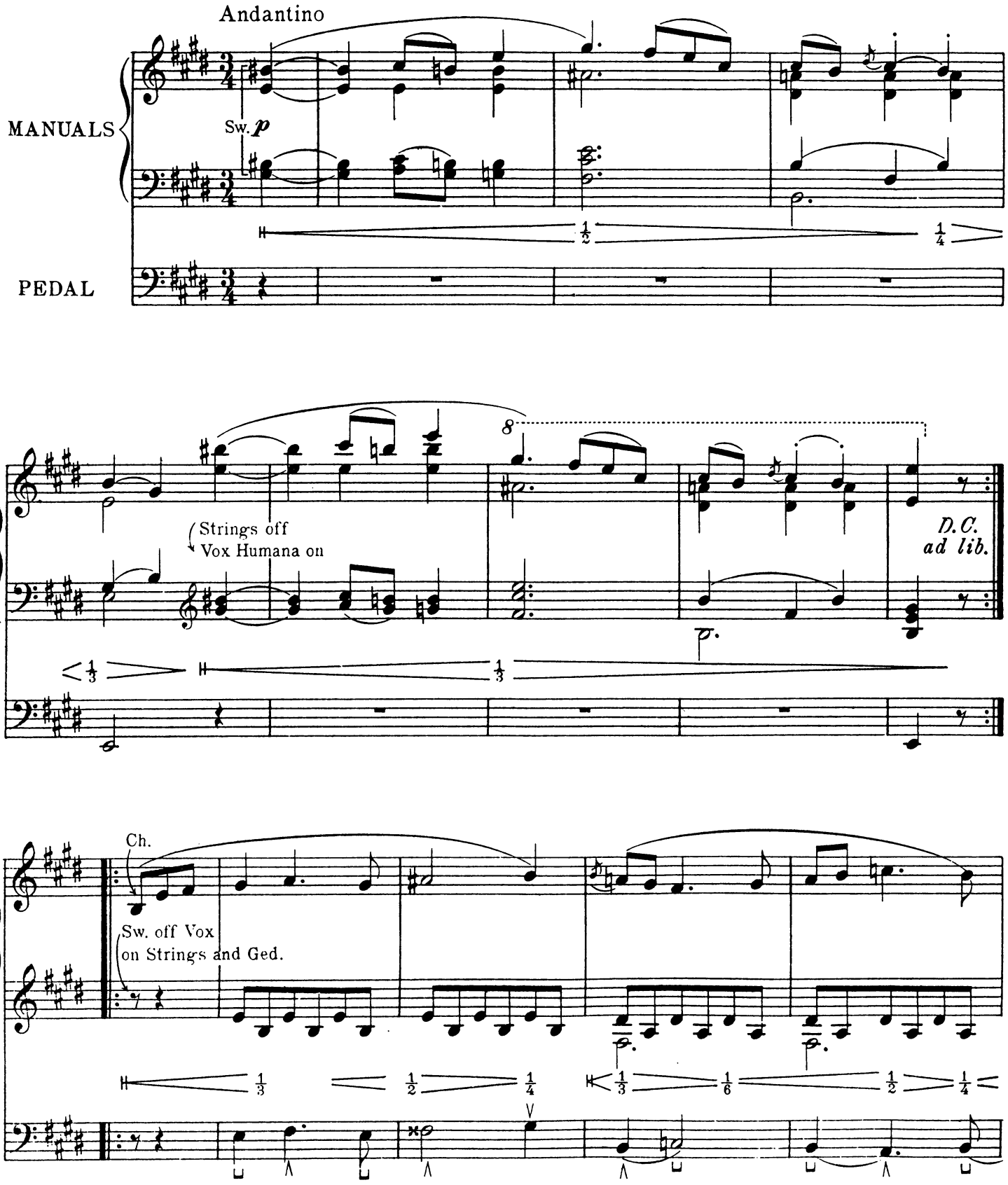

Sw.
p
Sw. Strings only
Ch. Clarinet only
Ch.


Lento
Ch.
subito
Sw.
Sw.
slow

ALBUM LEAF

Prepare { Swell: Strings
Choir: French Horn, or Diapason
Pedal: Soft 16′, Sw. to Ped.

FRANZ LISZT
Arranged by Gordon Balch Nevin



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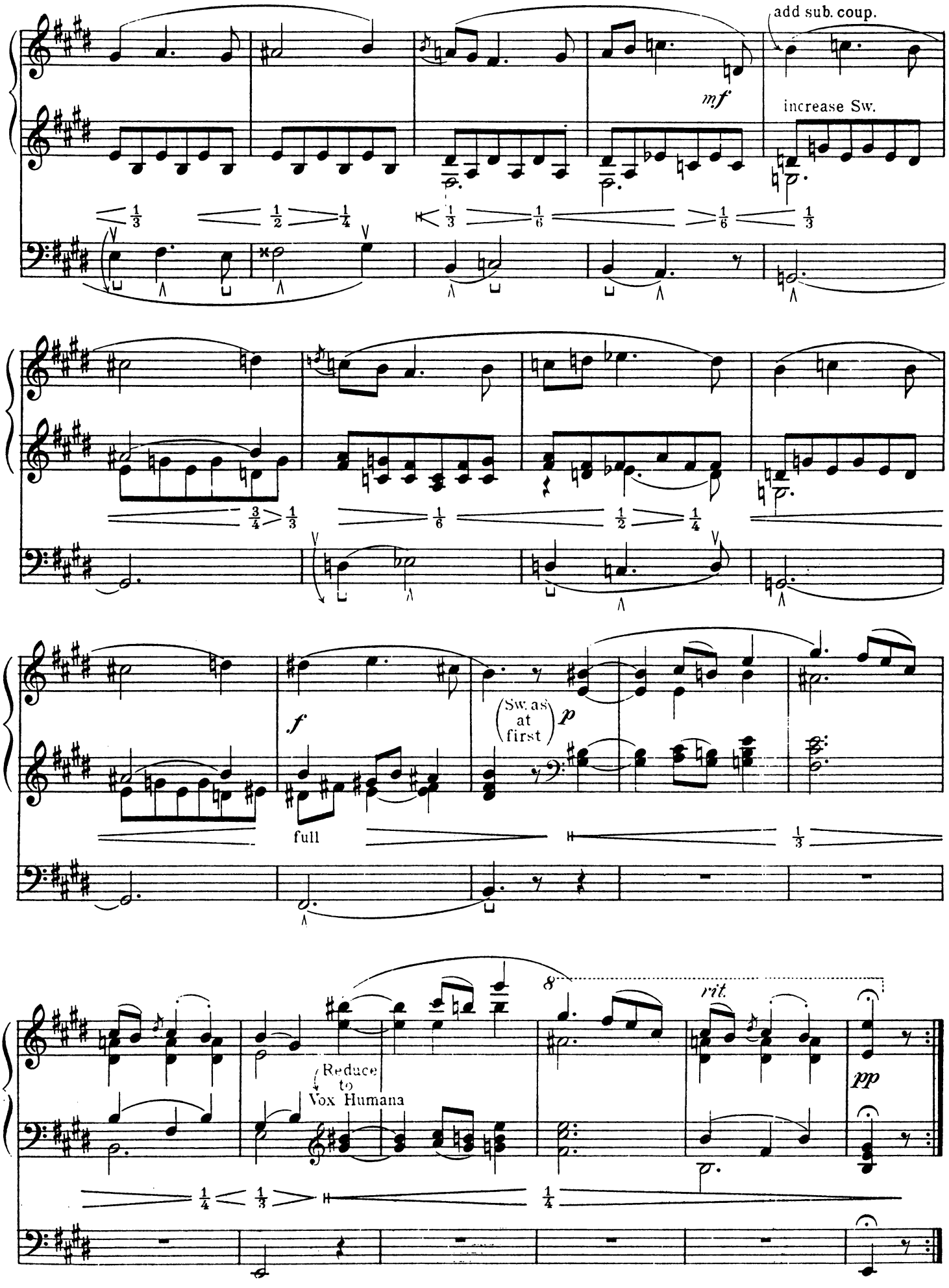
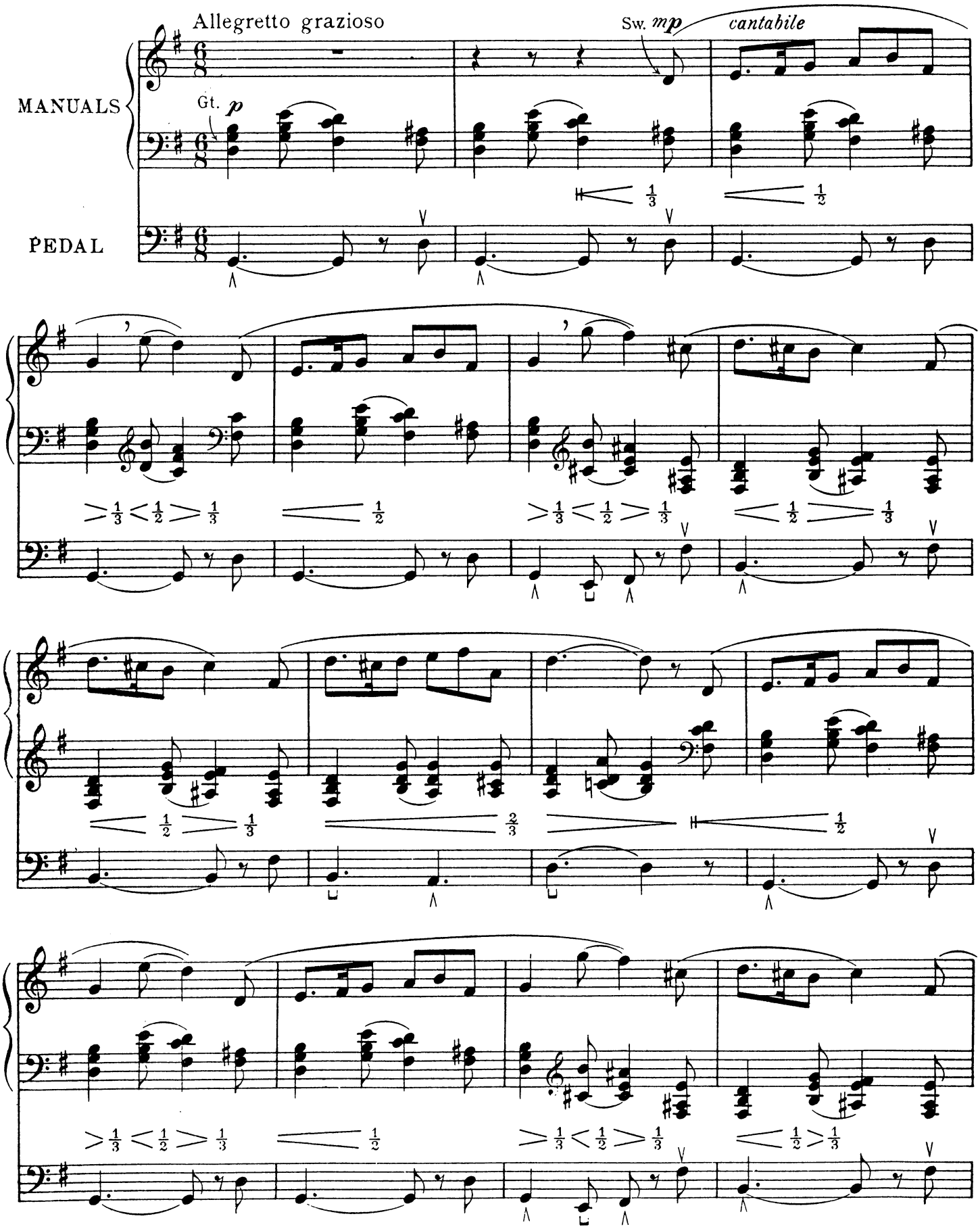

add sub. coup.
mf
increase Sw.
f
full
(Sw. as at first) p
8
rit.
pp
Reduce to Vox Humana

CANZONETTA, in G

Prepare { Swell: Oboe, trem.
Great: Soft 8′
Pedal: Soft 16′, Gt. to Ped.

VICTOR HOLLAENDER
Arranged by Gordon Balch Nevin



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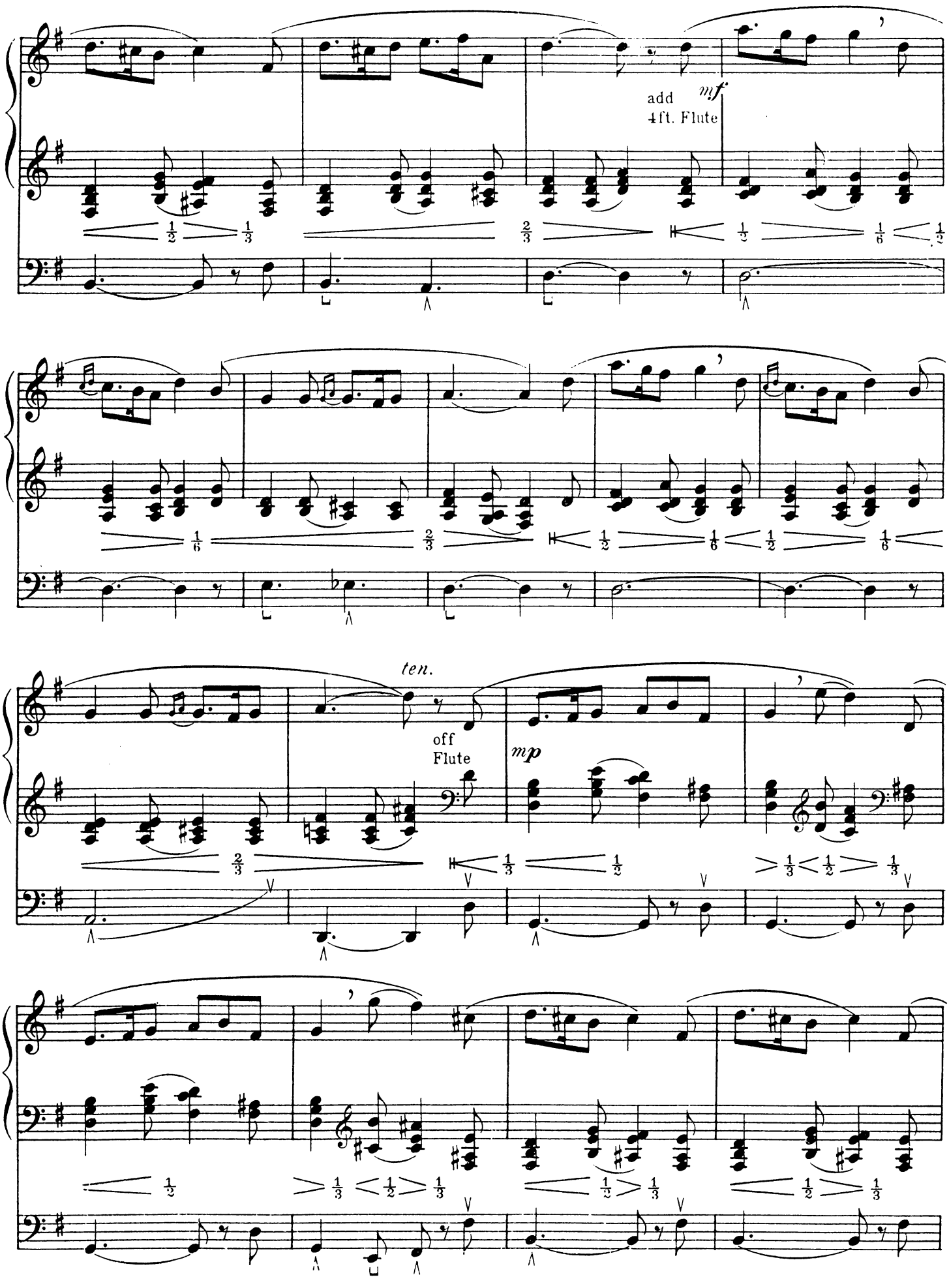
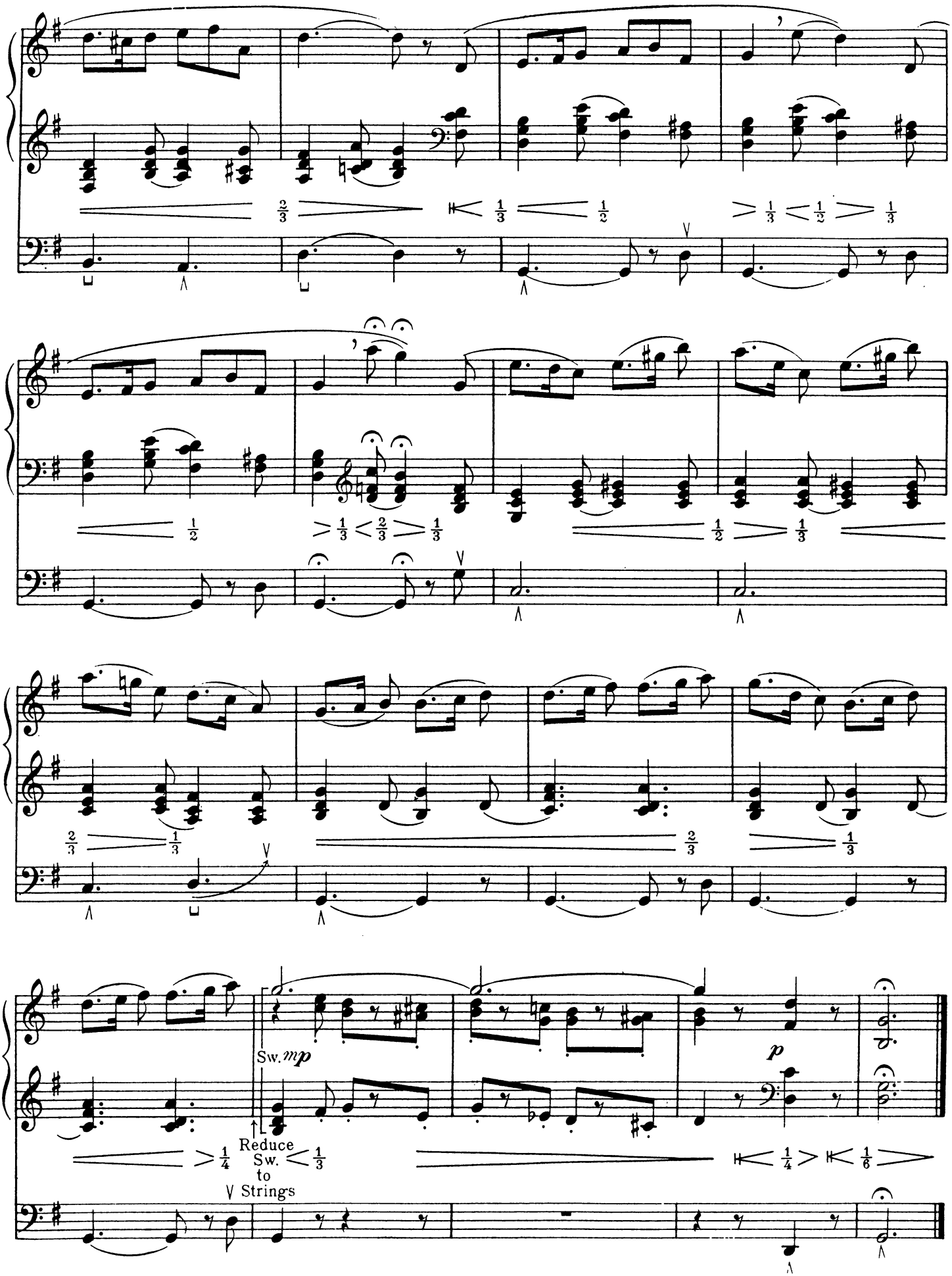

add
4ft. Flute
mf
ten.
off
Flute
mp

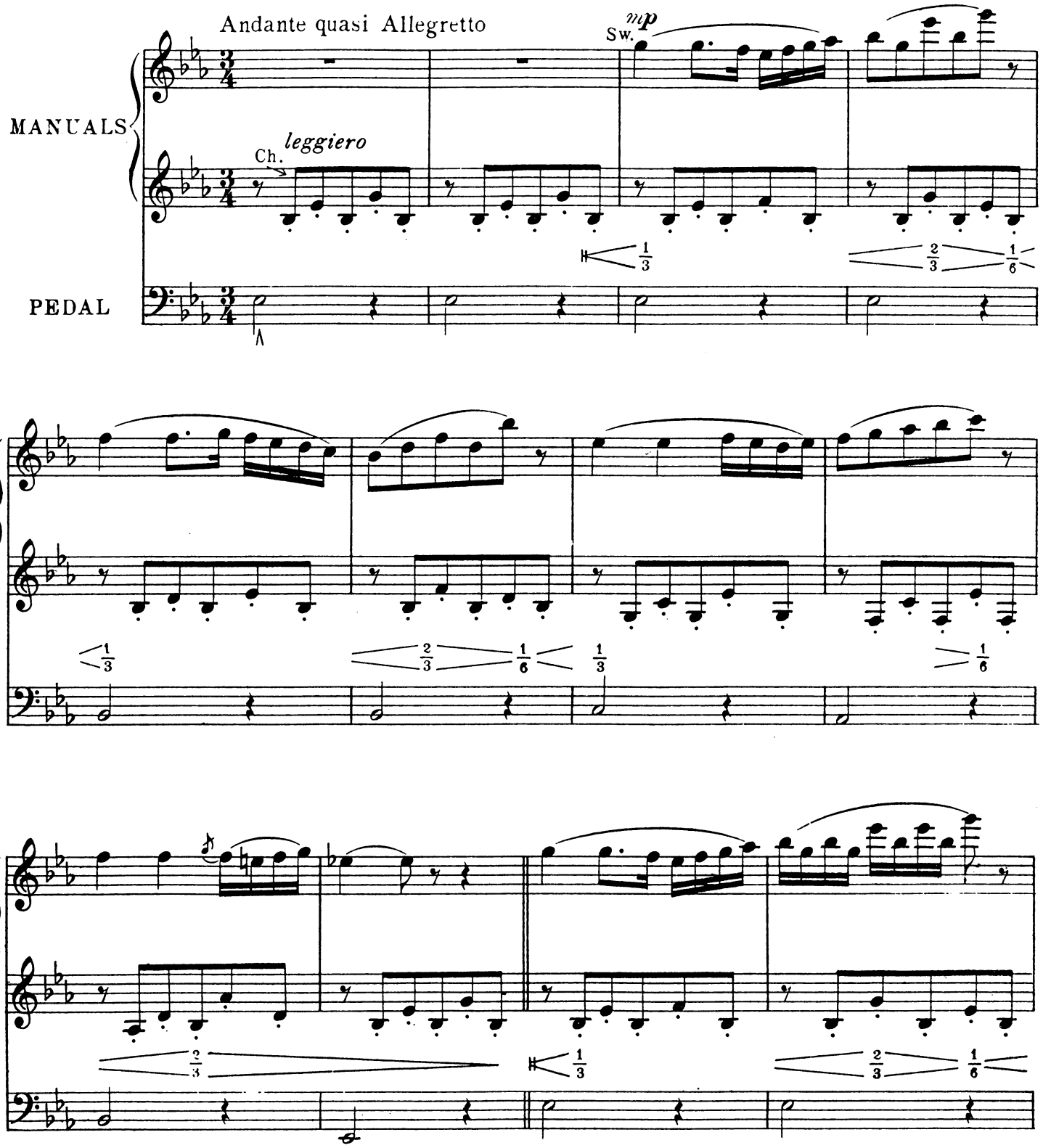

Sw. mp
Reduce Sw. to Strings
p

MENUETTO

From "L'ARLÉSIENNE," SUITE №2

Prepare { Swell: Flutes 8′ & 4′, trem.
Choir: Soft 8′ (Harp ad lib)
Pedal: Gedeckt 16′, Ch to Ped.

GEORGES BIZET
Arranged by Gordon Balch Nevin



(This selection has been slightly abridged)

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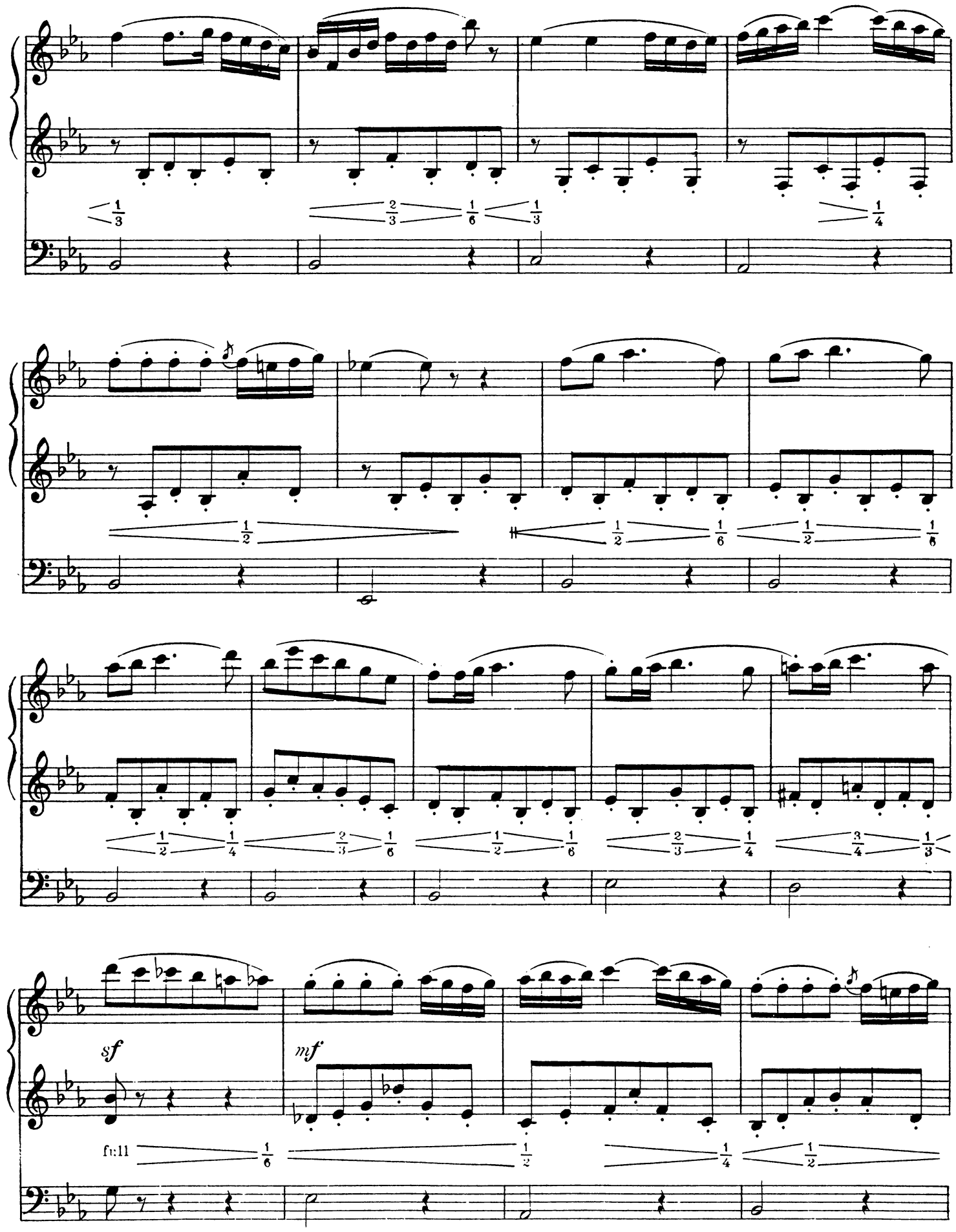
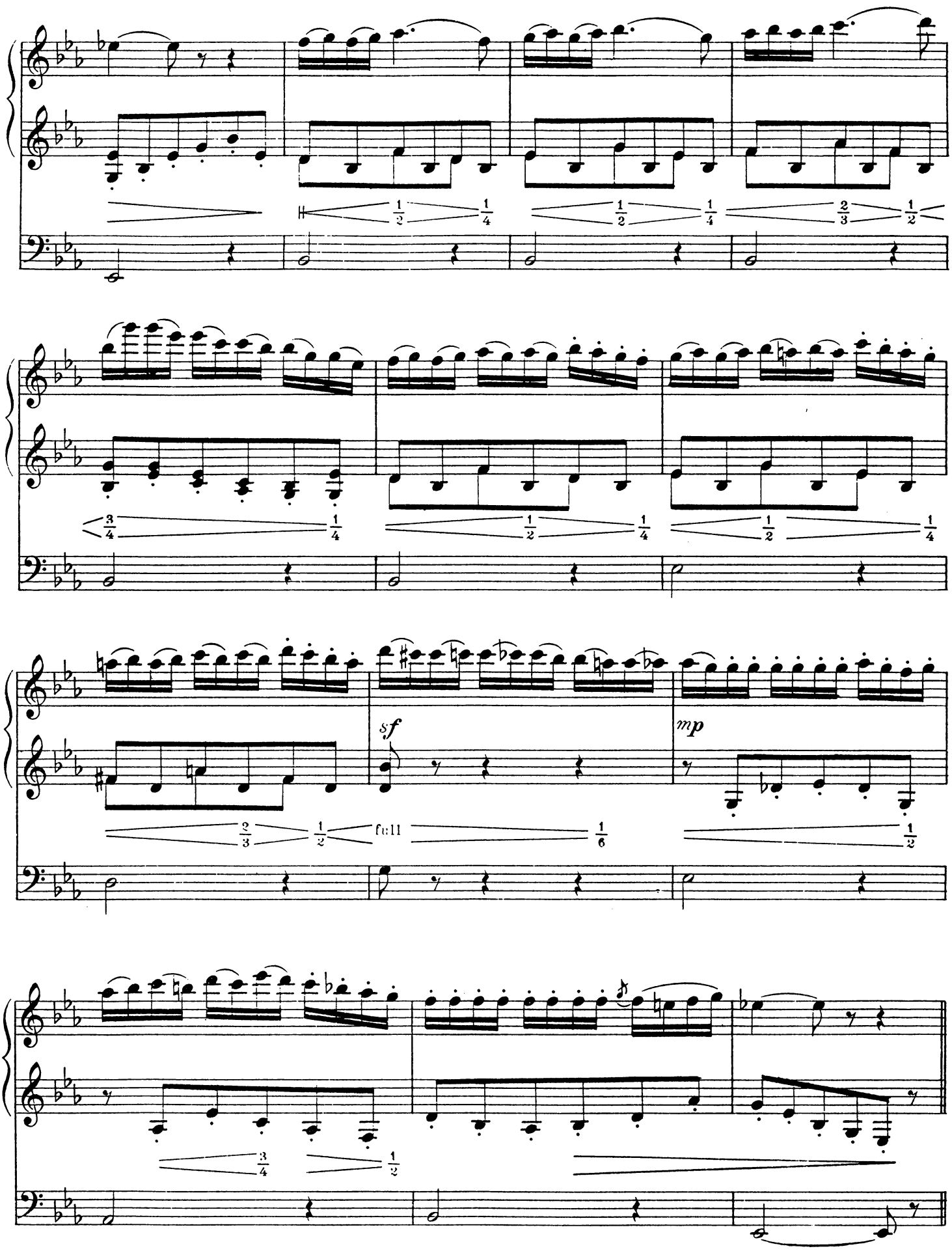
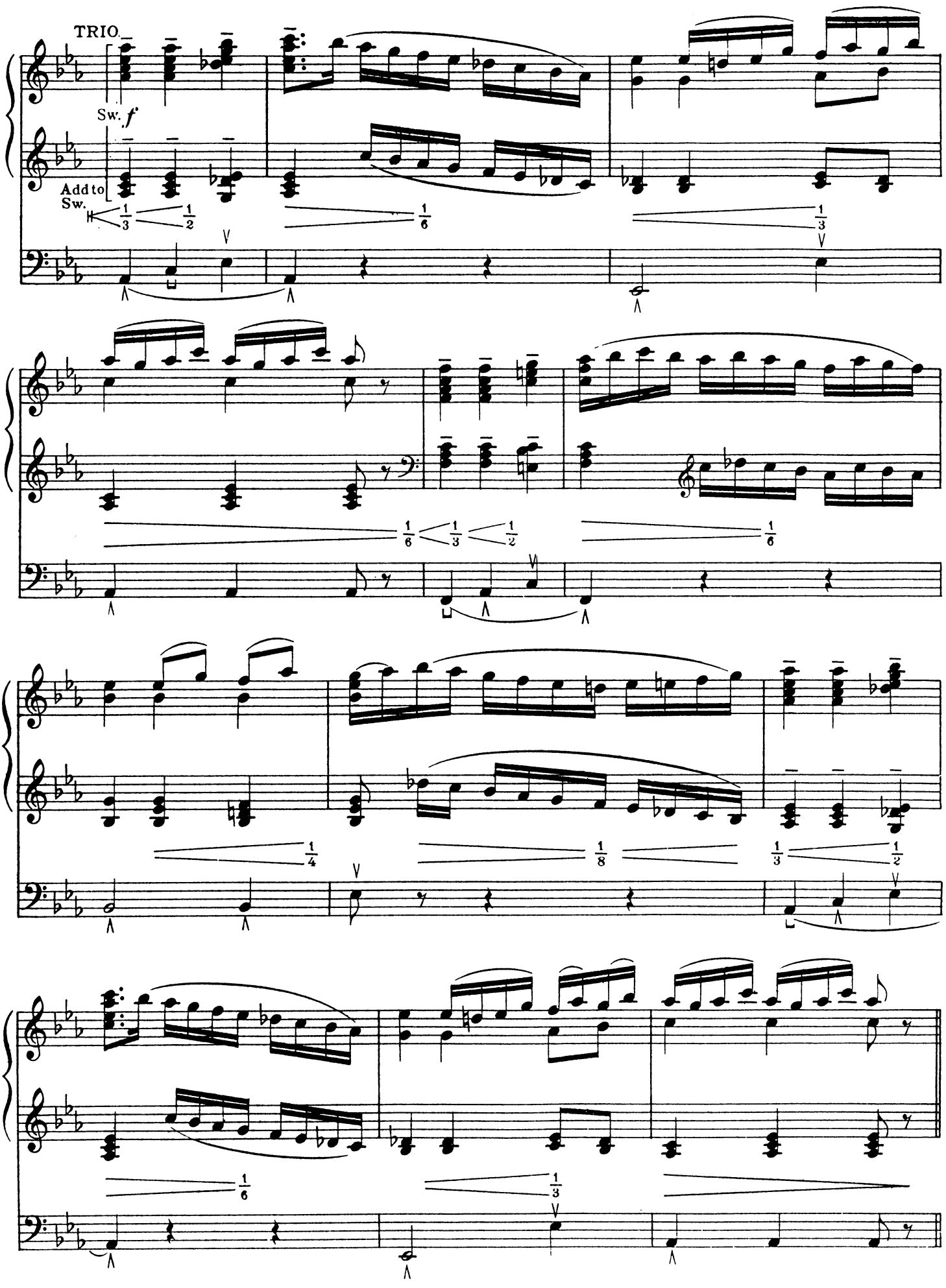
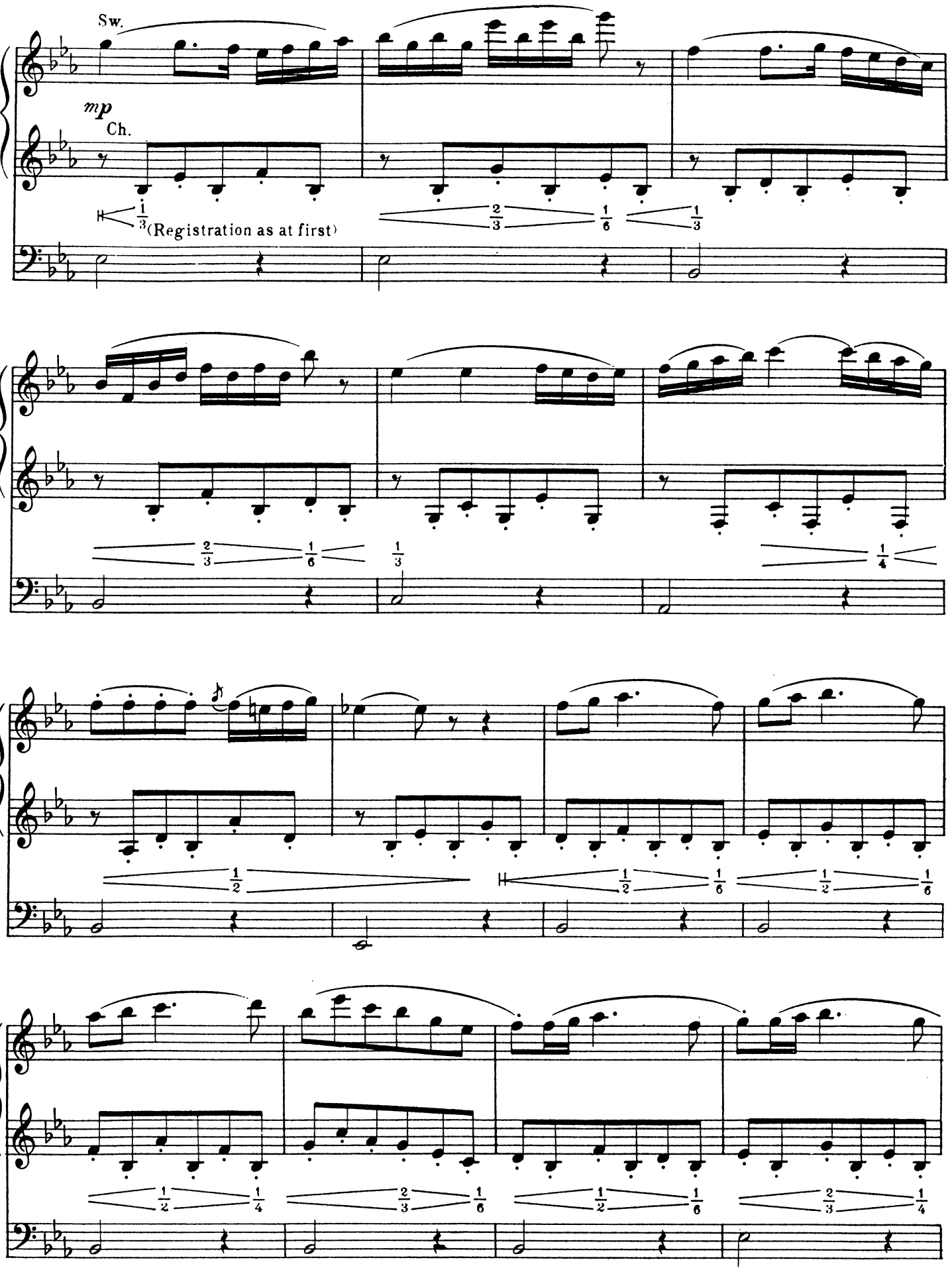
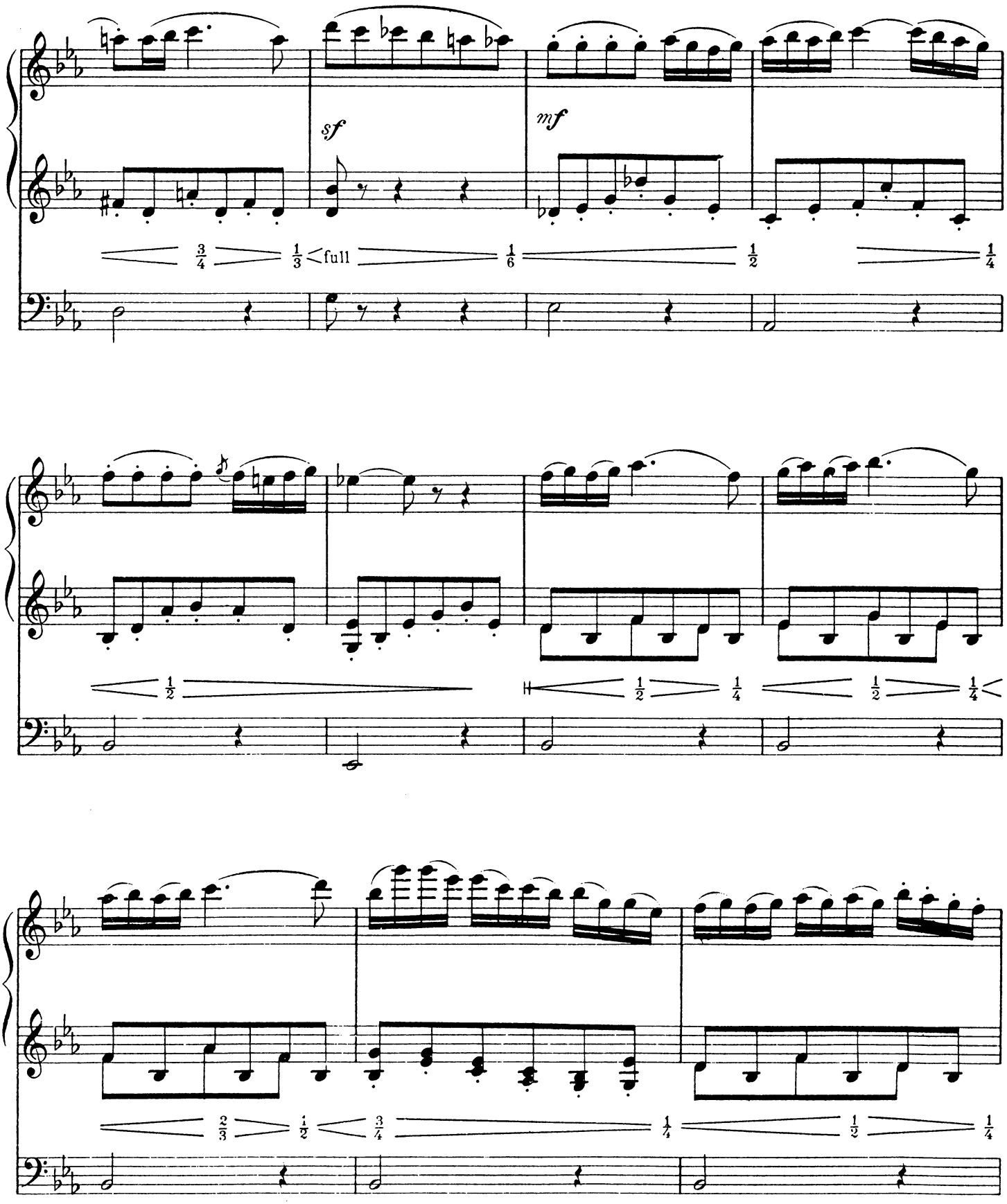
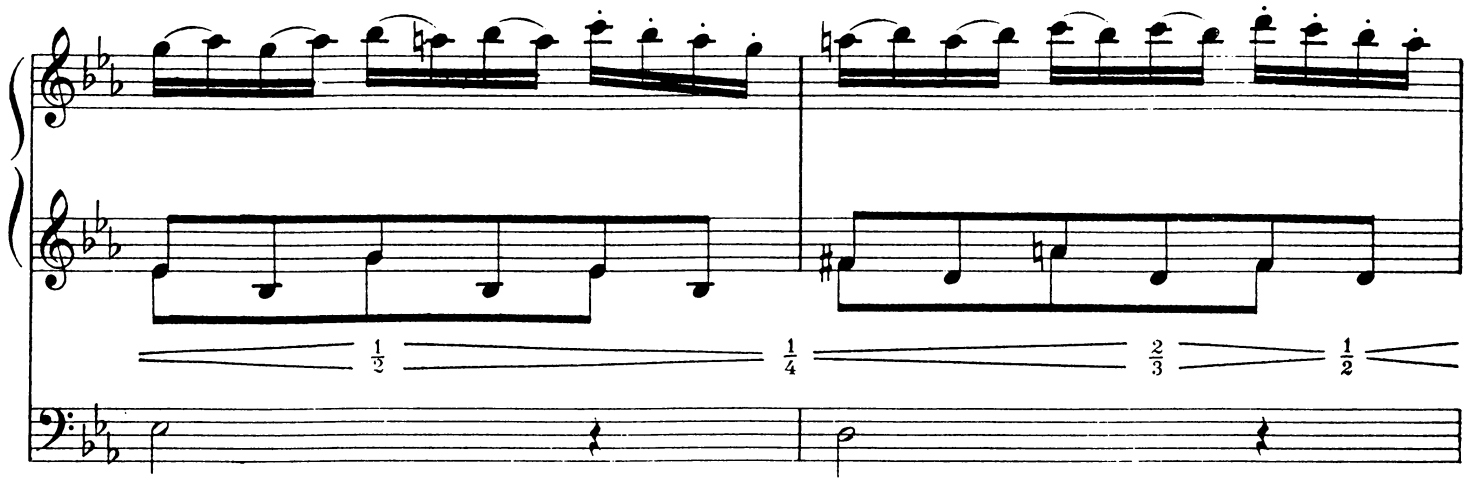

sf
mf
full

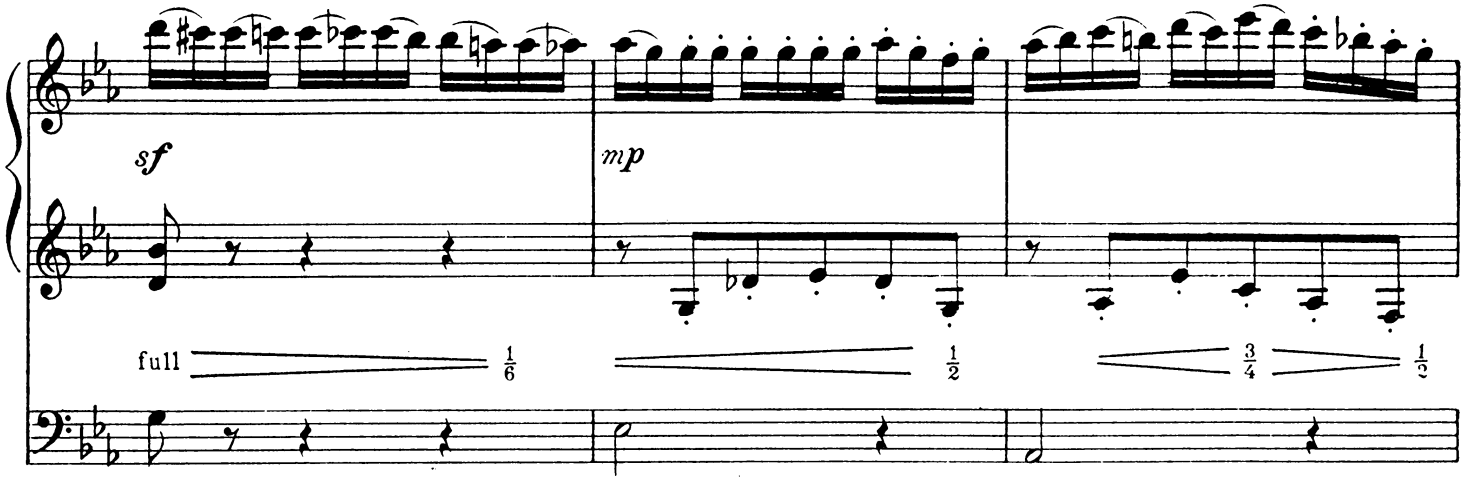

sf
mp
full

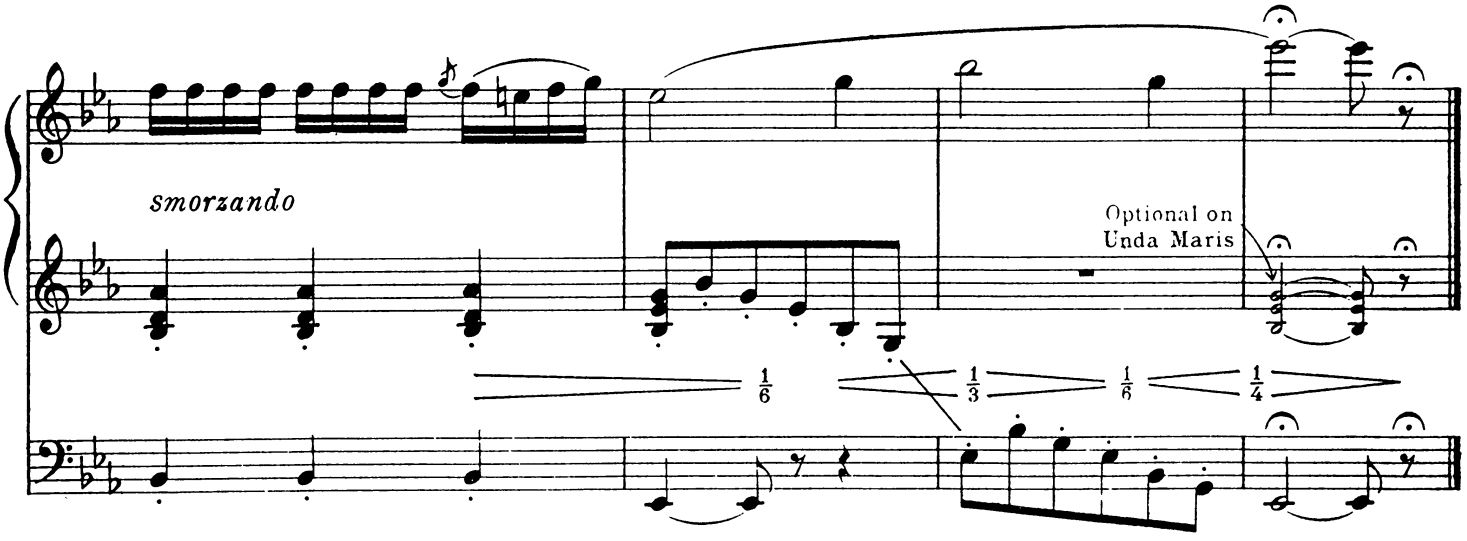

TRIO.
Sw. f
Add to Sw.


Sw.
mp
Ch.
(Registration as at first)


sf
mf
full




sf
mp
full


smorzando
Optional on
Unda Maris

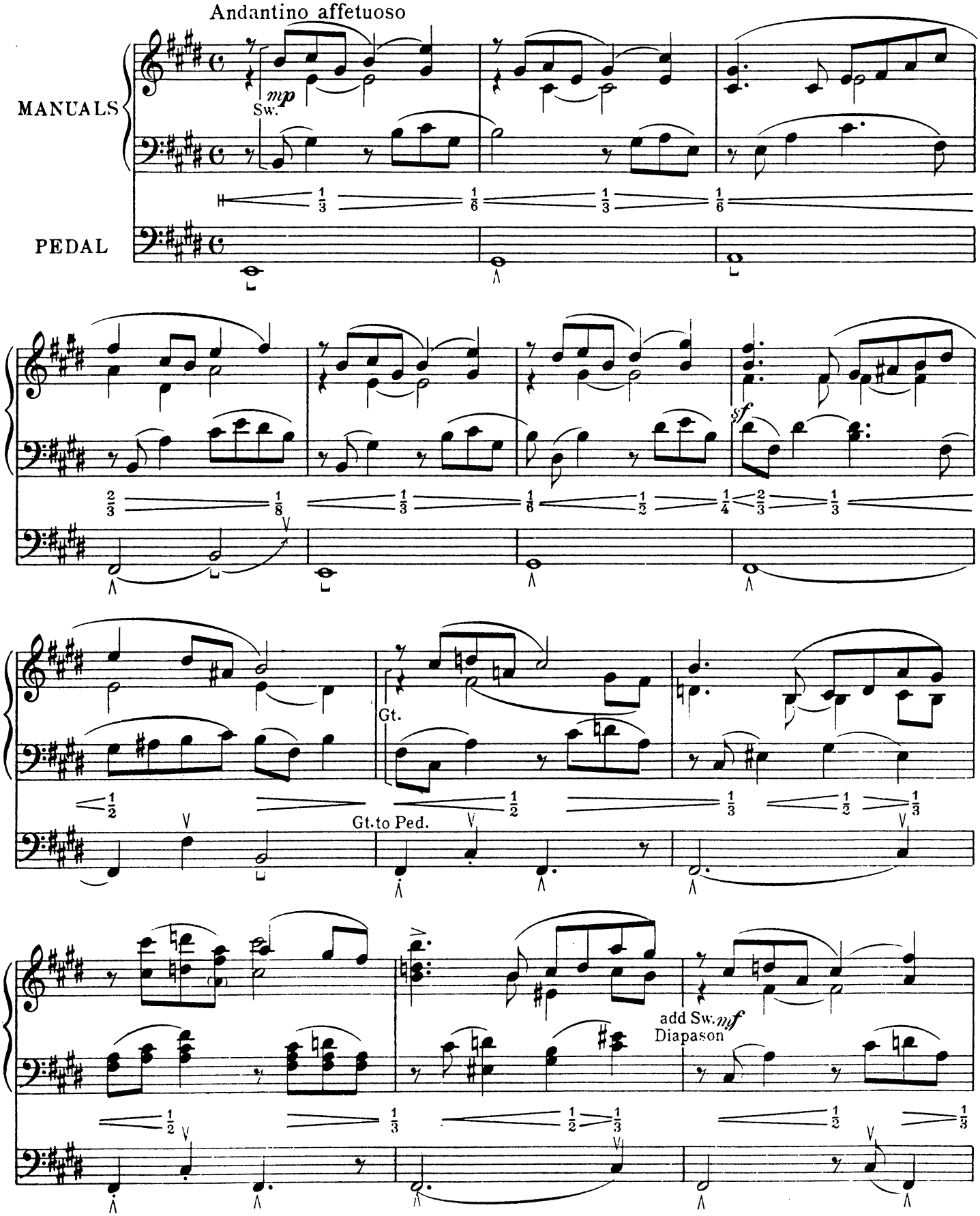
ANDANTINO, in E Major

FANTASTIC FAIRY TALE

Prepare { Swell: Strings, Flutes, Vox Humana
Great: Flutes 8′ & 4′, Sw. to Gt.
Pedal: 16′ Bourdon, Sw to Ped.

HEINRICH PACHULSKI, Op. 12, № 5
Arranged by Gordon Balch Nevin

Andantino affetuoso



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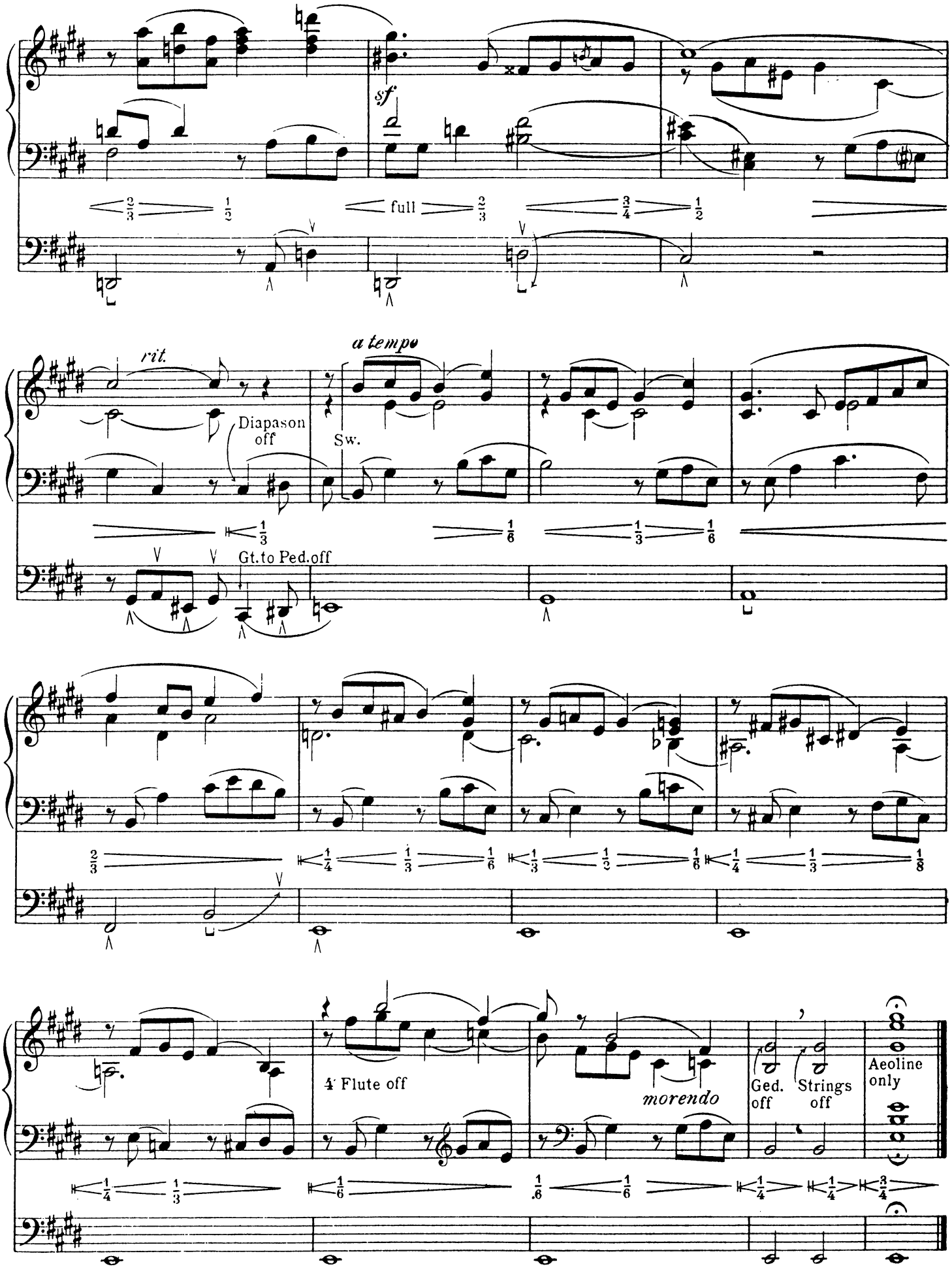
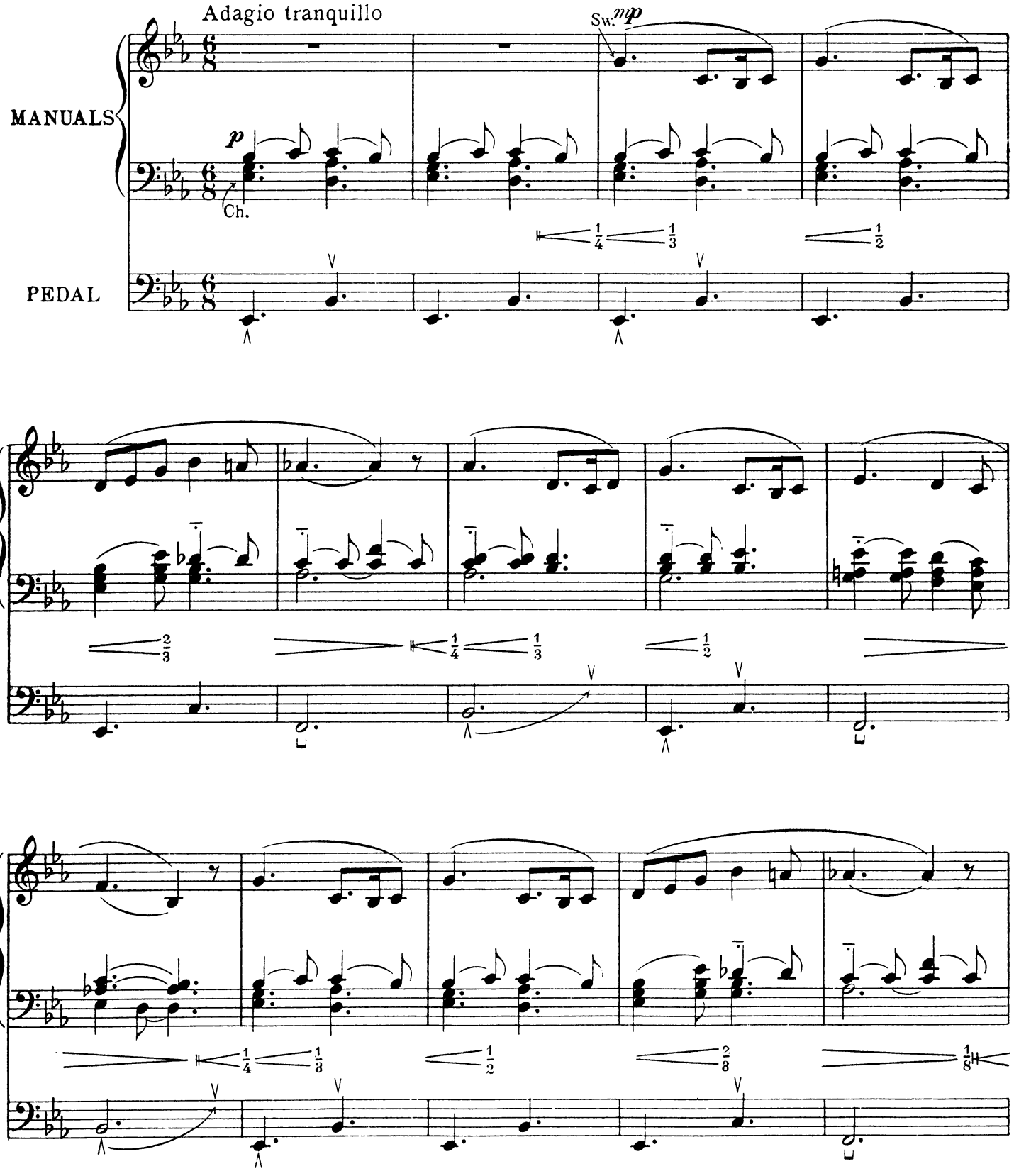

sf
full
rit.
a tempo
Diapason off
Sw.
Gt.to Ped.off
4' Flute off
morendo
Ged. off
Strings off
Aeoline only

SUMMER SONG

Prepare { Swell: English Horn, or Oboe
Choir: Soft 8′
Pedal: Soft 16′, Ch.to Ped.

GORDON BALCH NEVIN



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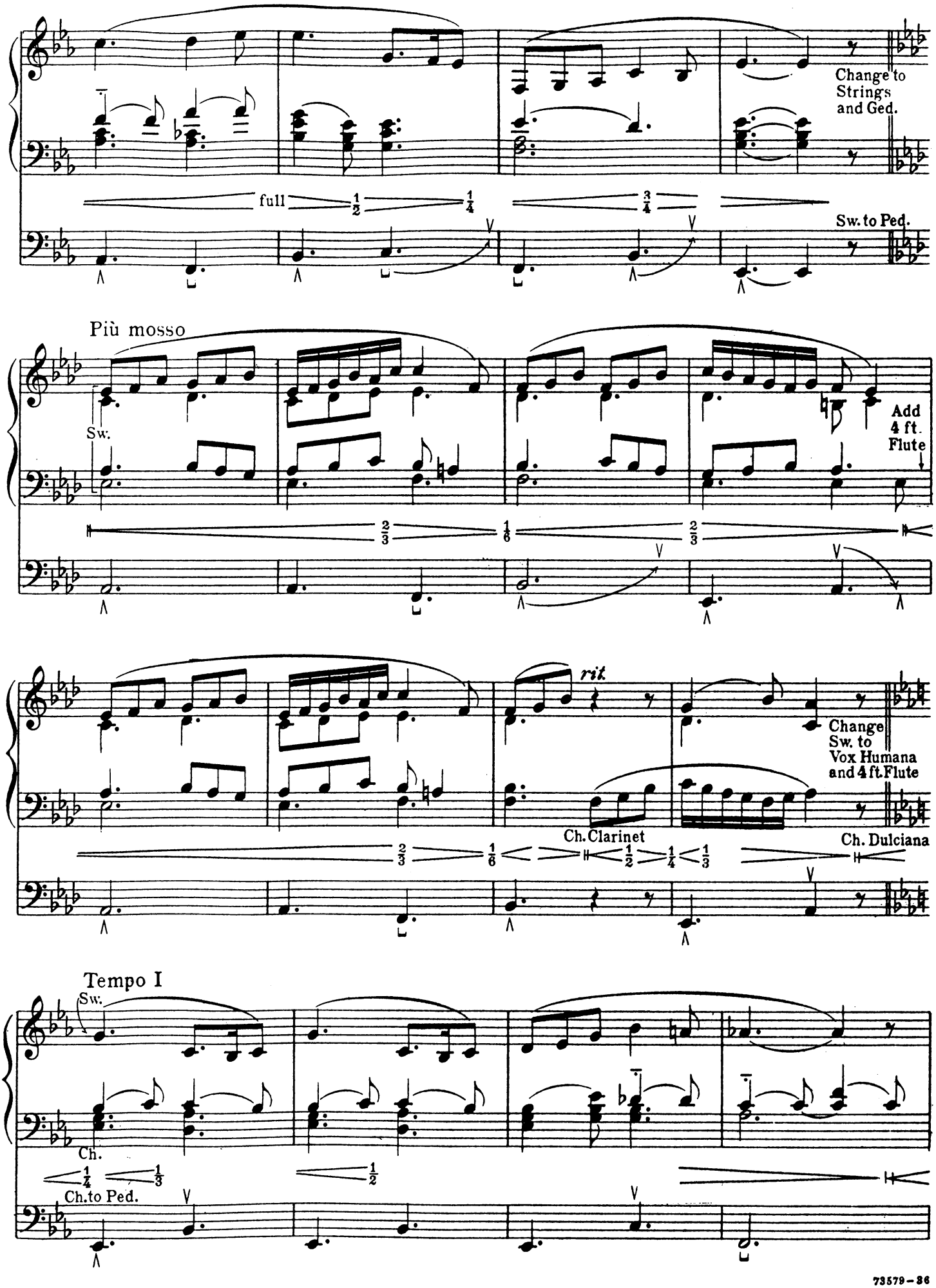
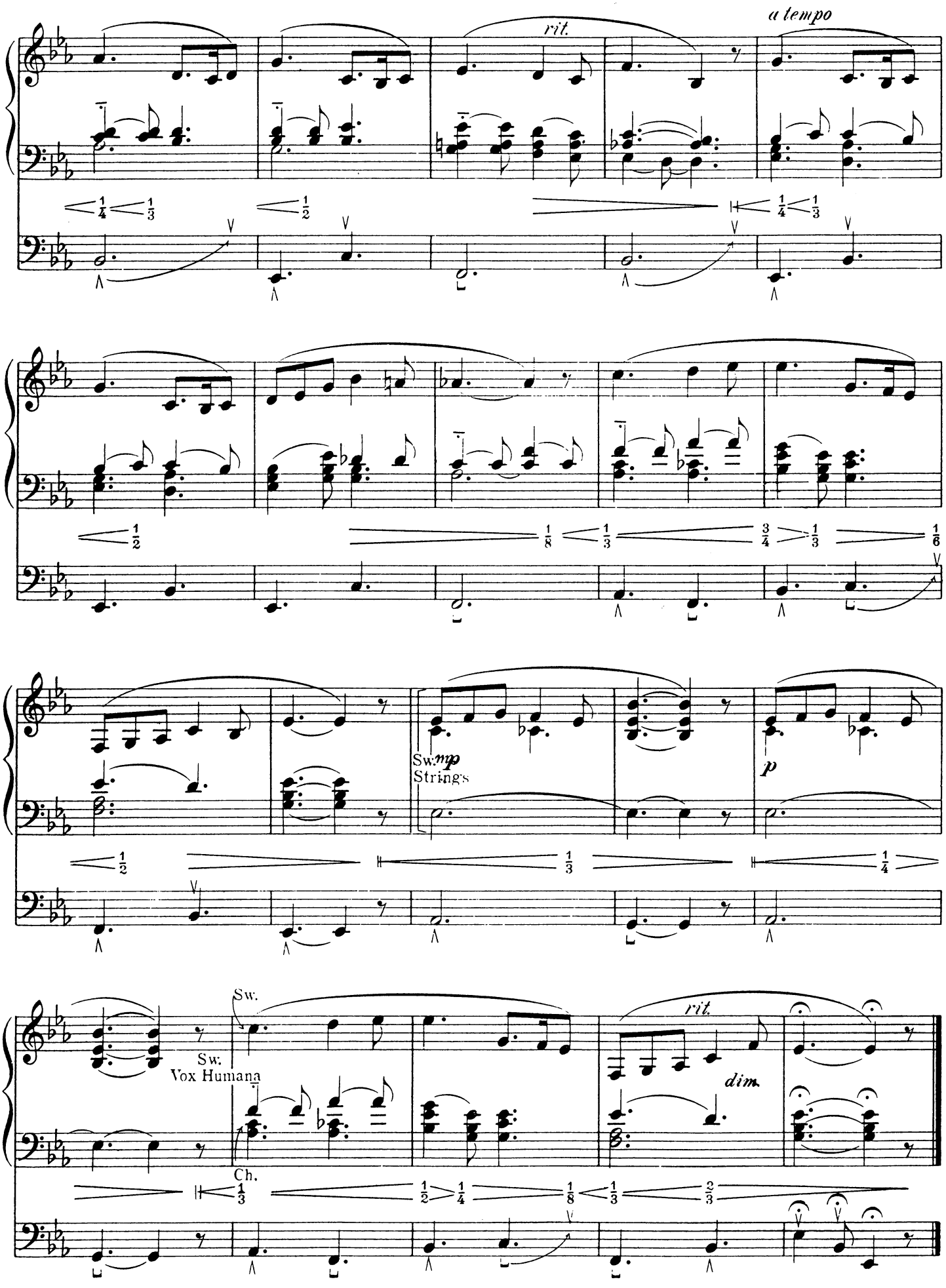

Change to Strings and Ged.
full
Sw. to Ped.
Più mosso
Sw.
Add 4 ft. Flute
rit.
Change Sw. to Vox Humana and 4 ft. Flute
Ch. Clarinet
Ch. Dulciana
Tempo I
Sw.
Ch.
Ch. to Ped.


a tempo
rit.
Sw.
mp
Strings
p
Sw.
Vox Humana
Sw.
rit.
dim.
Ch.