CHAPTER 15

NINE PRELUDES FOR TWO PIANOS IN 19-TONE EQUAL TEMPERAMENT

The nine short pieces on the pages which follow are offered as tentative explorations of some of the possibilities of this temperament. I have chos. to probe many possible styles rather than focus on one. The nine preludes are recorded on the tape which accompanies this dissertation. Franklin Ulrich Fanning is my collaborator in the performance.

The notation herein employed is as shown in the Preface to the entire dissertation. The traditional staves are used, and the 19 pitch names, in ascending order from C, are: C, C♯, Db, D, D♯, Eb, E, Fb, F, F♯, Gb, G, G♯, Ab, A, A♯, Bb, B, Cb, C. The two pianos are tuned as follows:

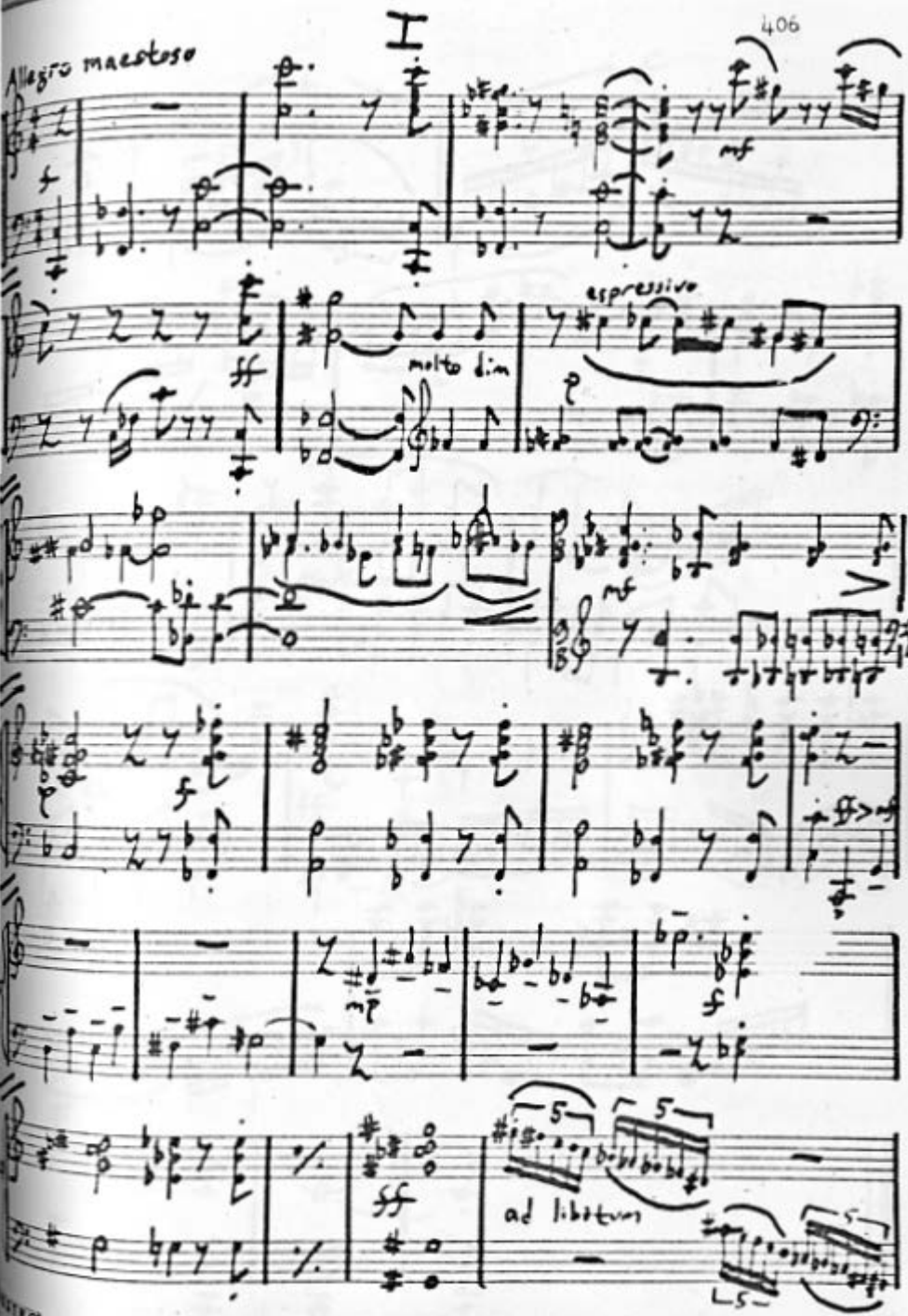
First Piano: C♯ D♯ F♯ G♯ A♯
C D E F G A B C

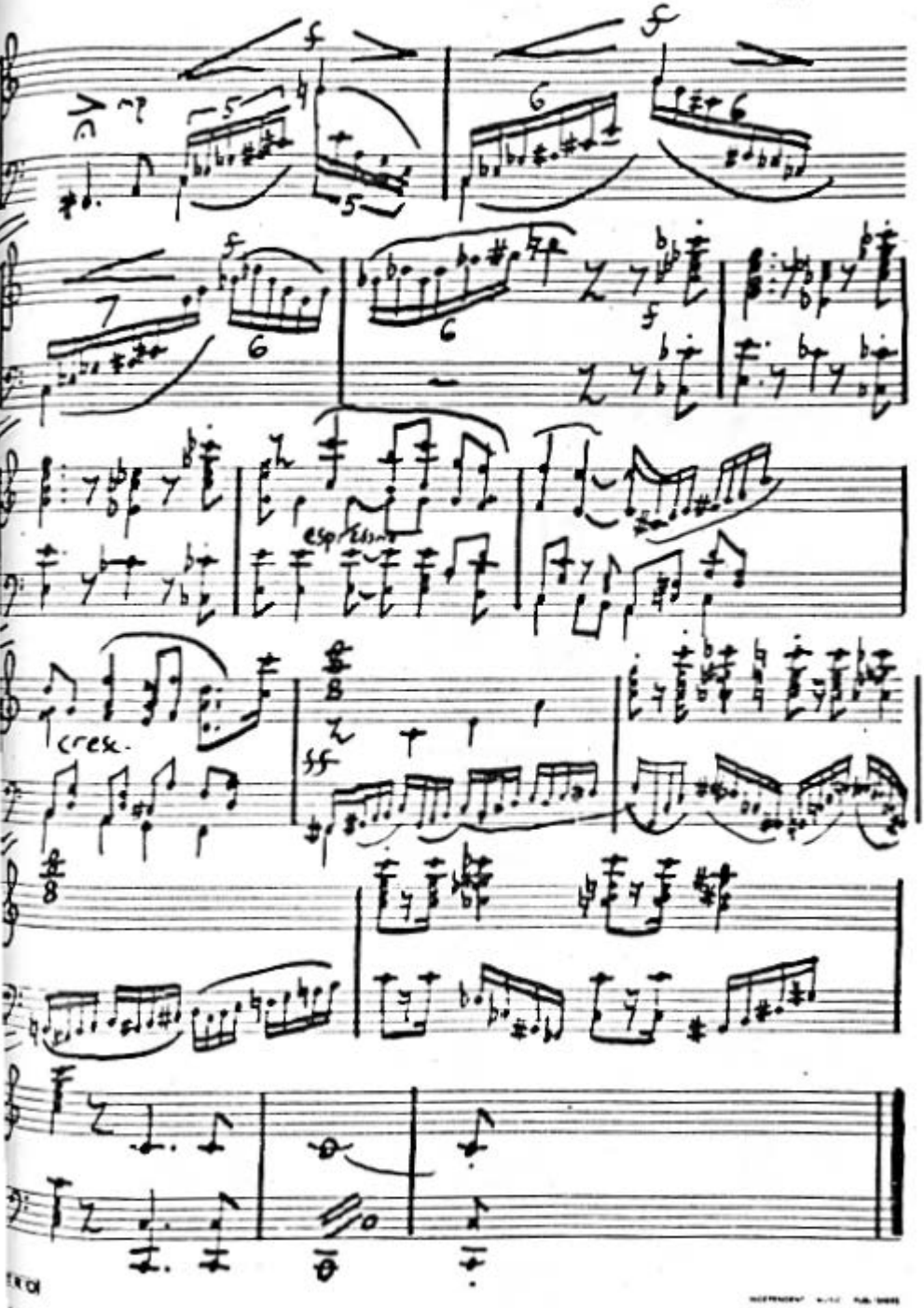
Second Piano: C♯ D♯ F♯ G♯ A♯
Cb Db Eb Fb Gb Ab Bb Cb

Brief notes on the use of the 19-tone system in each of the preludes appear on the pages following the music.

I

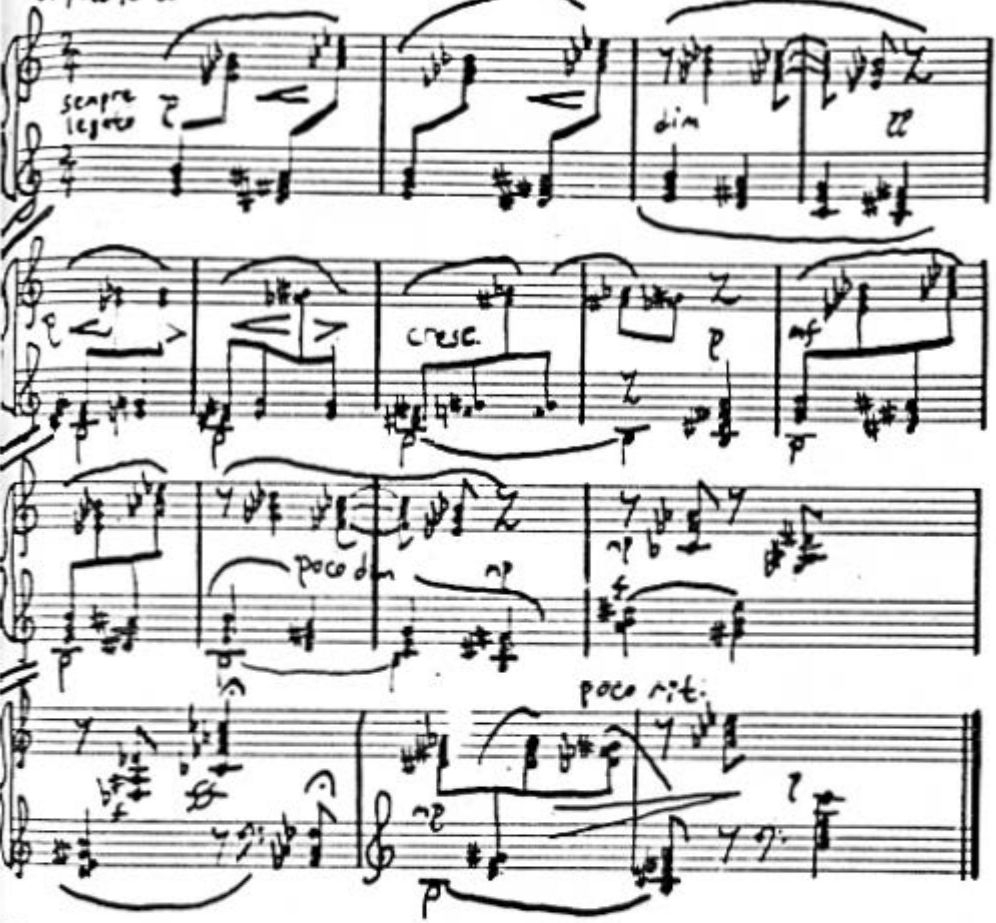
Allegro maestoso




f
f
esp
cresc.
ff

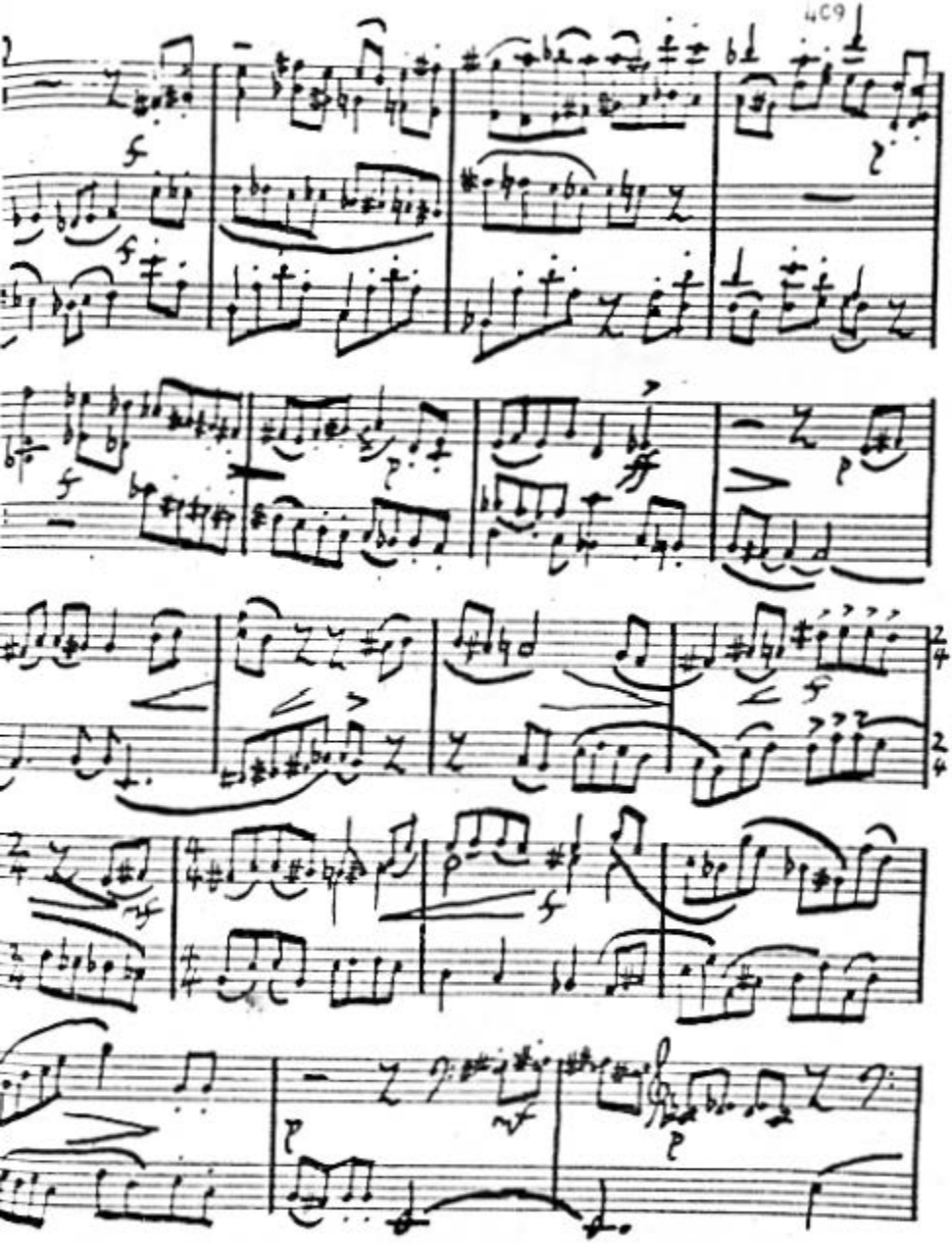
II.

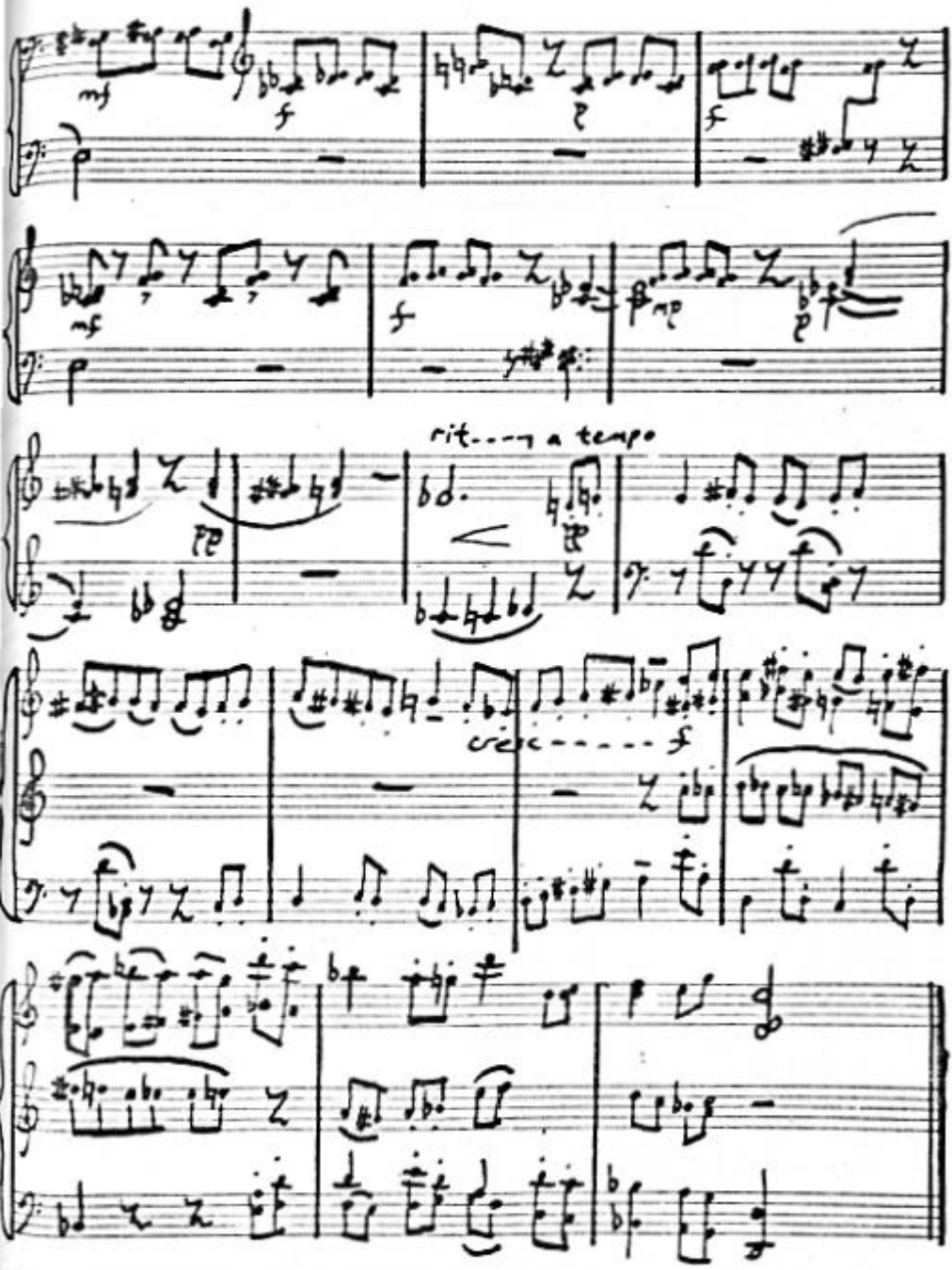
Un poco lento



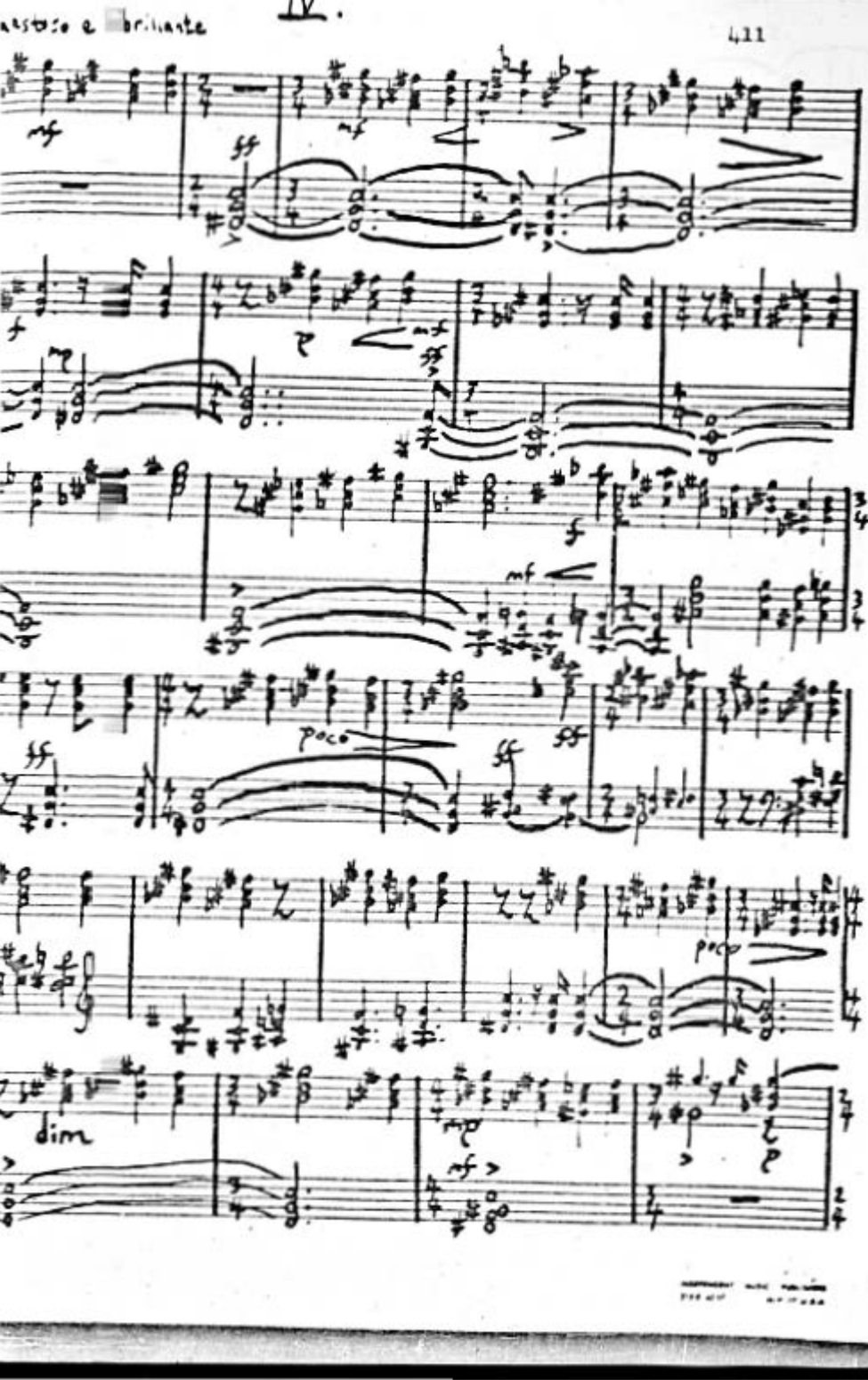
III.

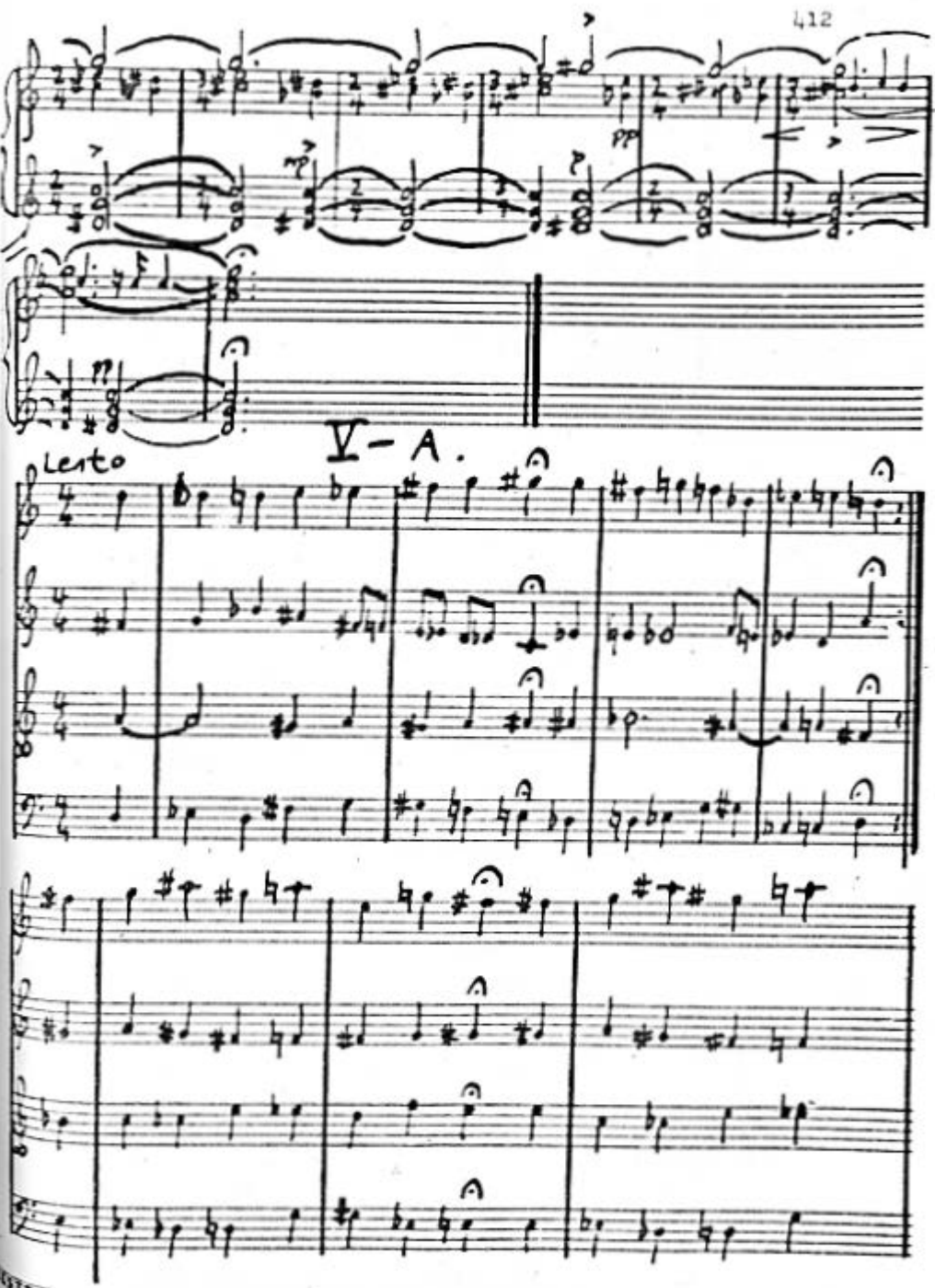
Allegretto

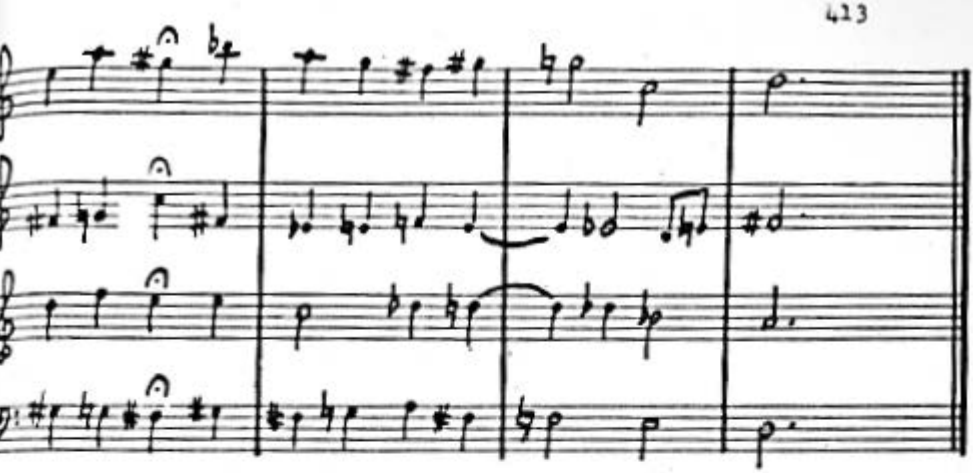



rit---- a tempo
cresc-----

IV.

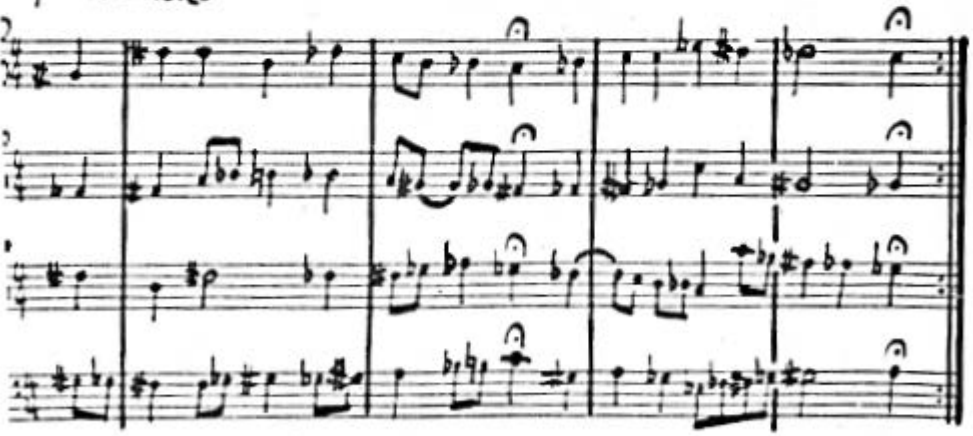


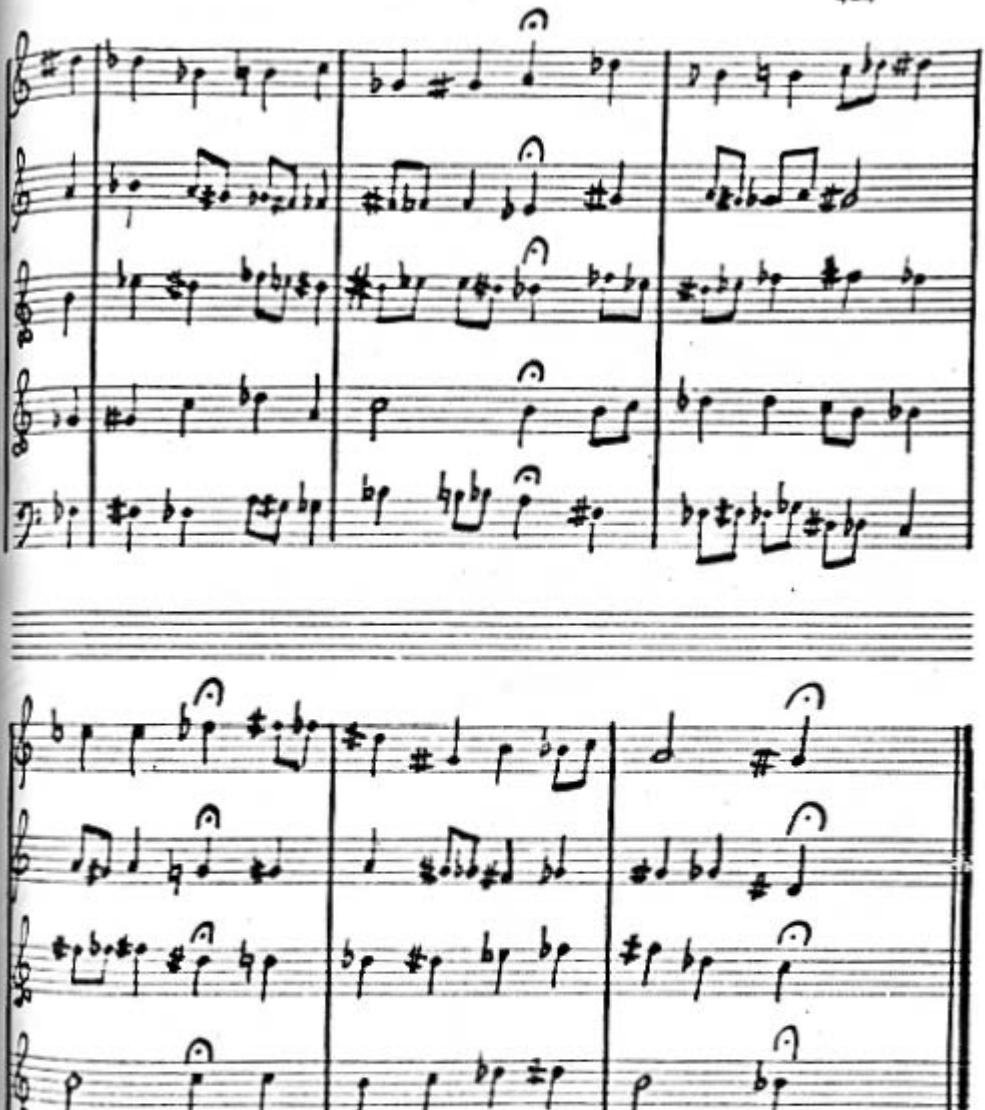

pp
mp
mf
V - A.
Lento



V - B.

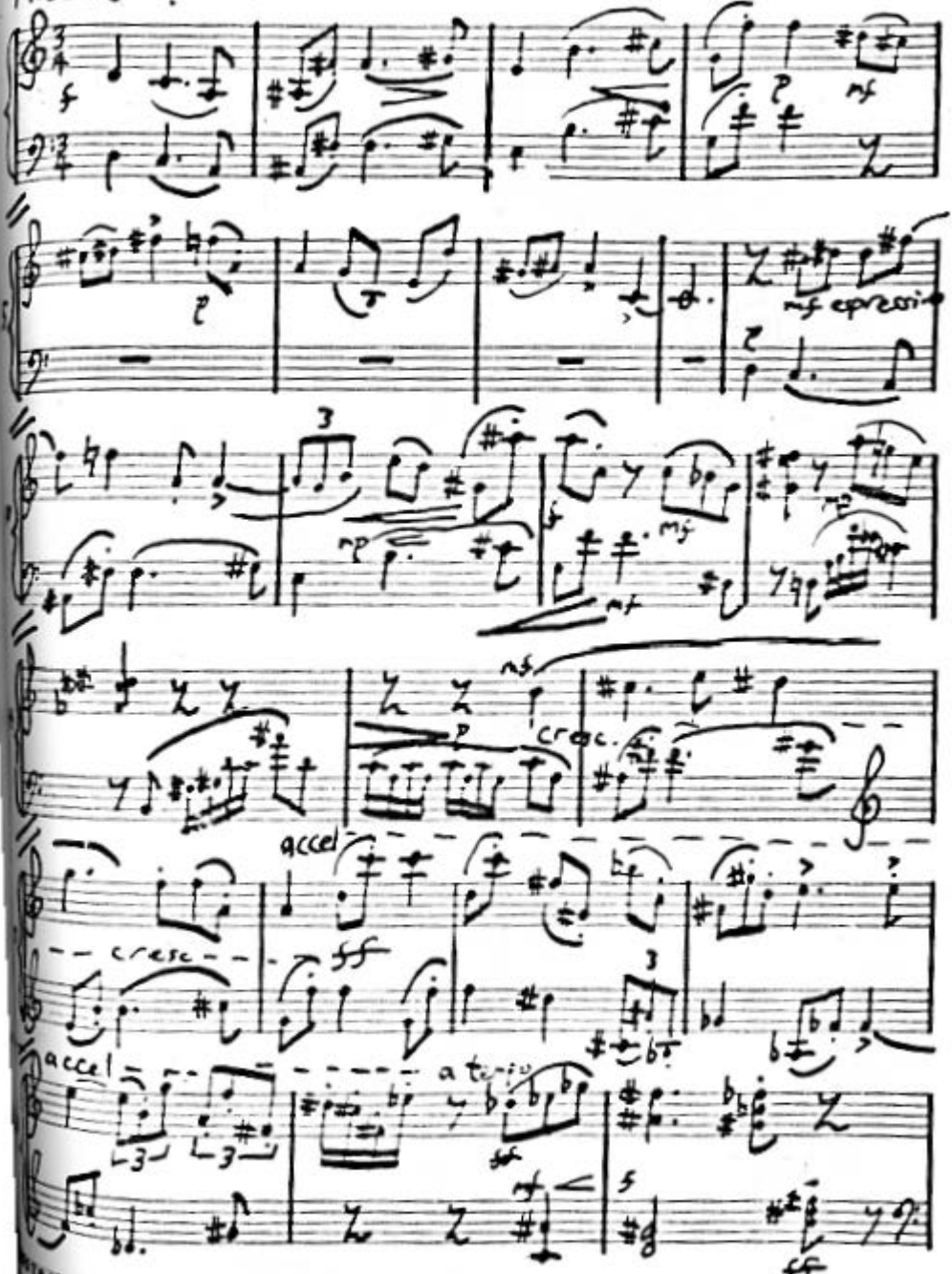
Un poco meno lento

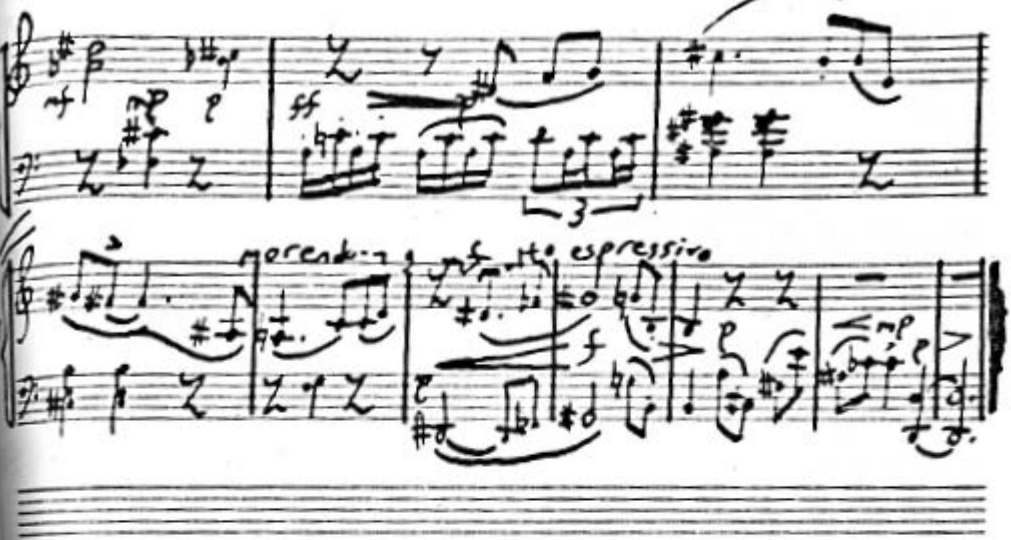




VII.

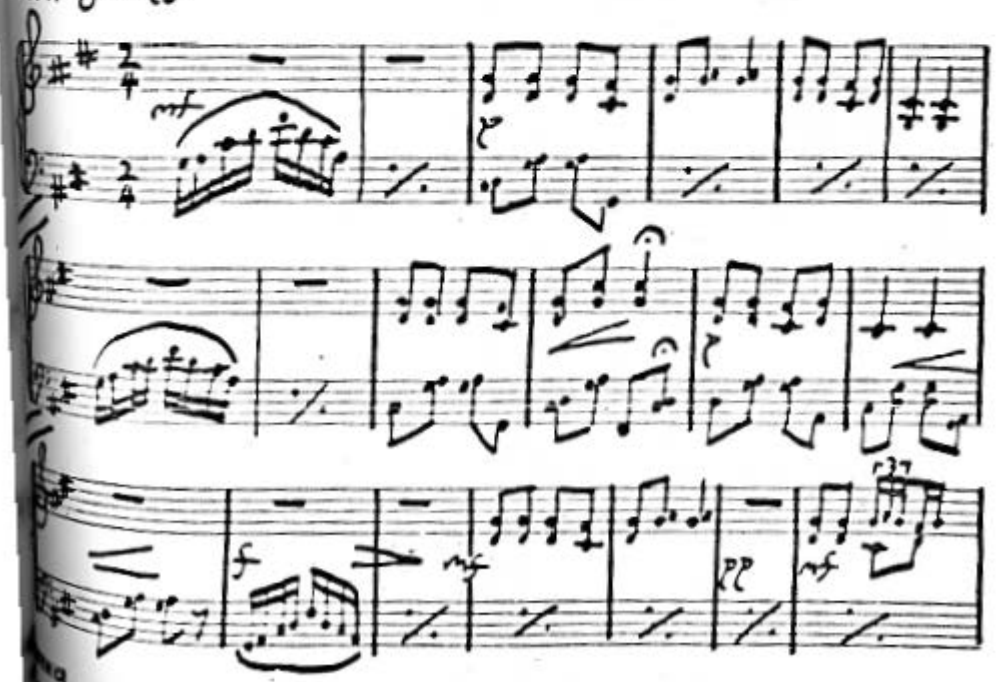
Moderato espresivo

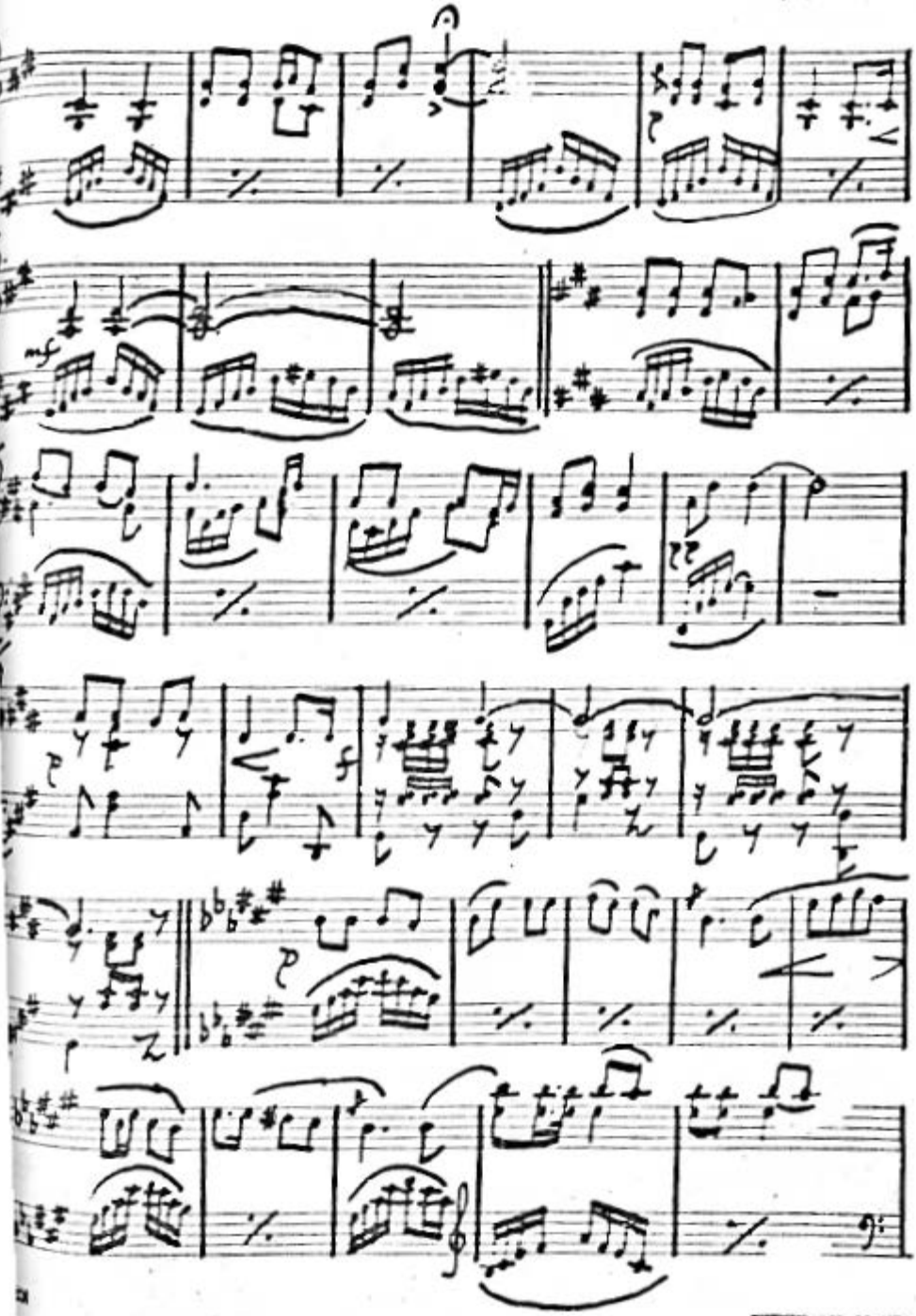


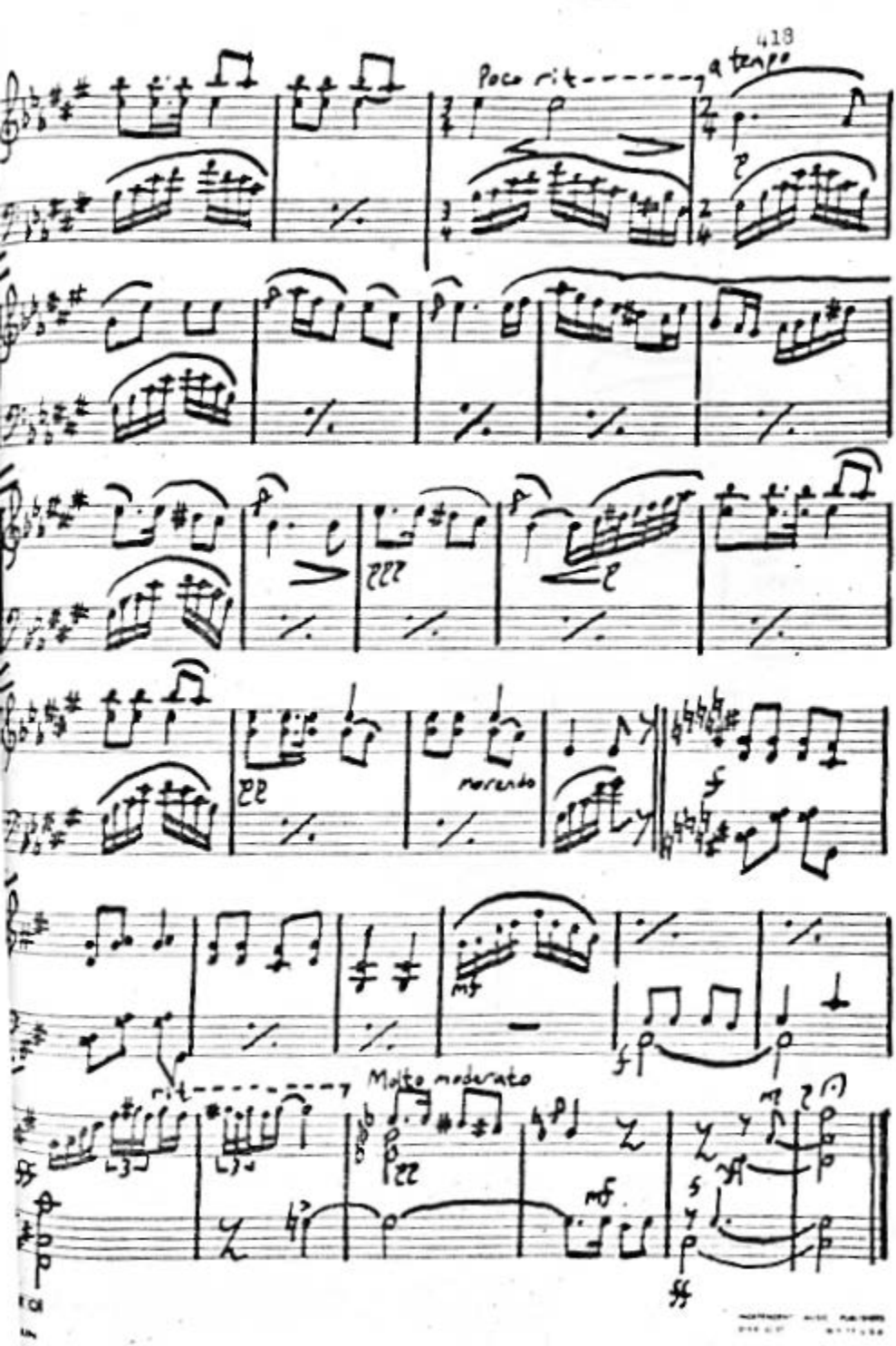


VII.

Allegretto

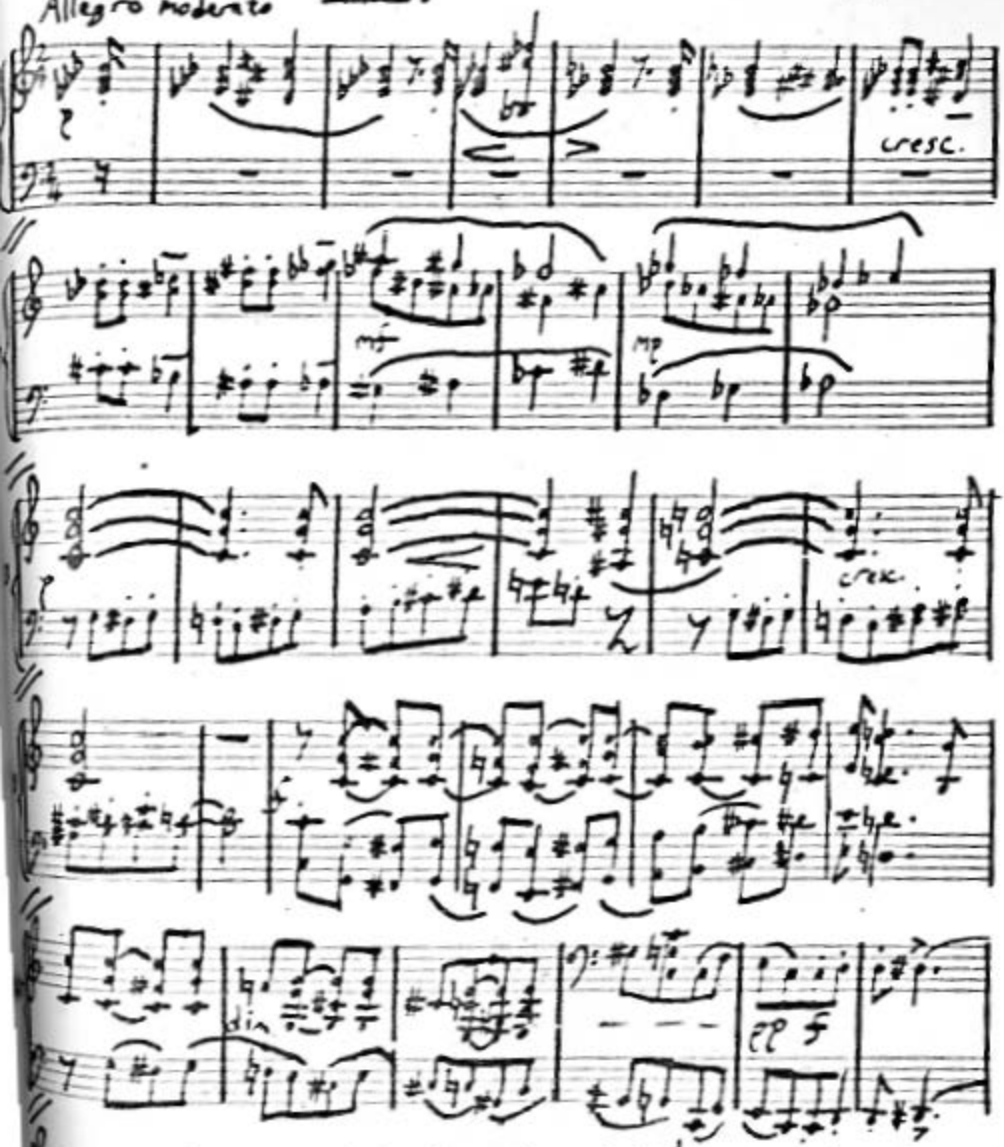


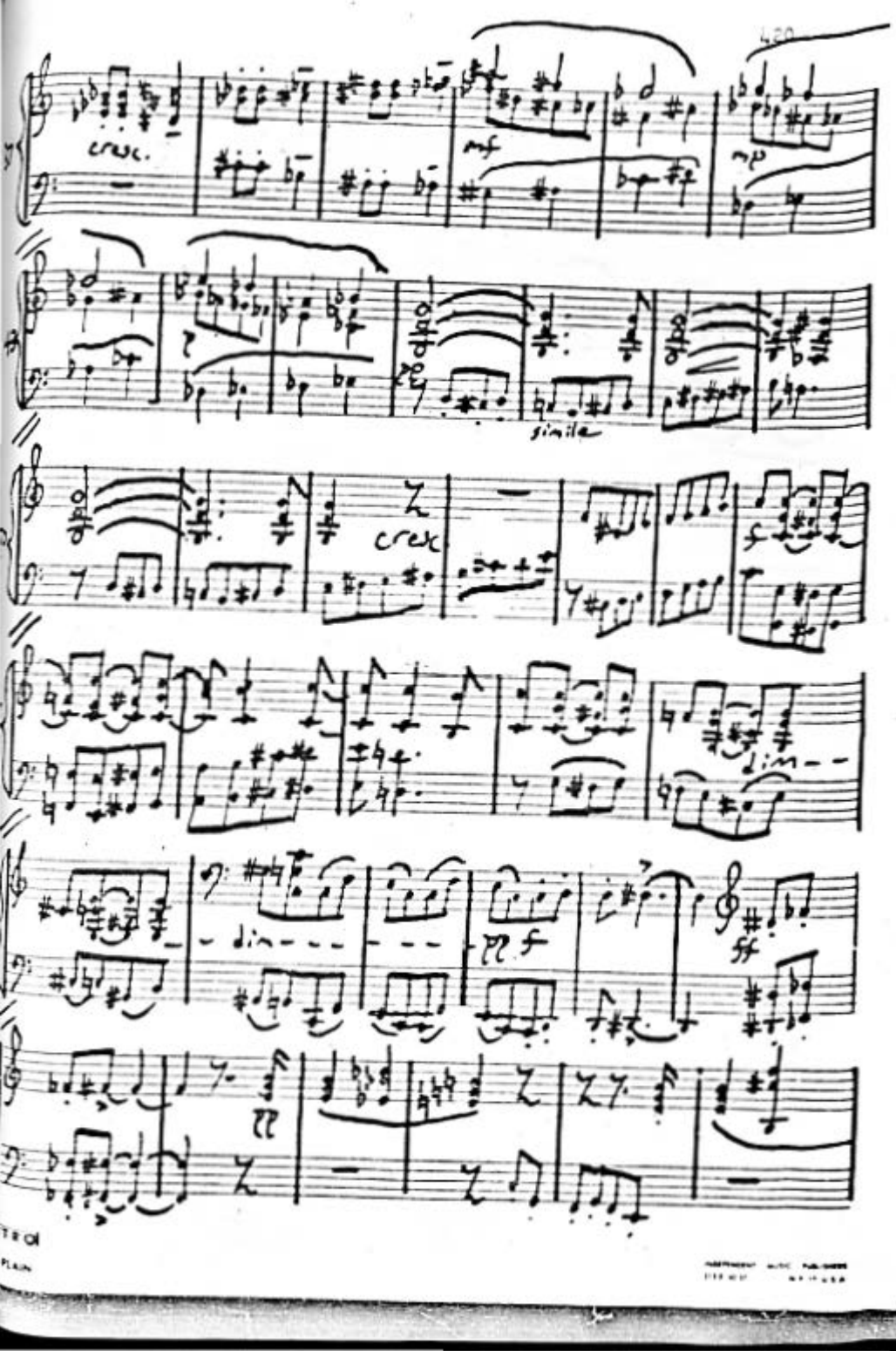


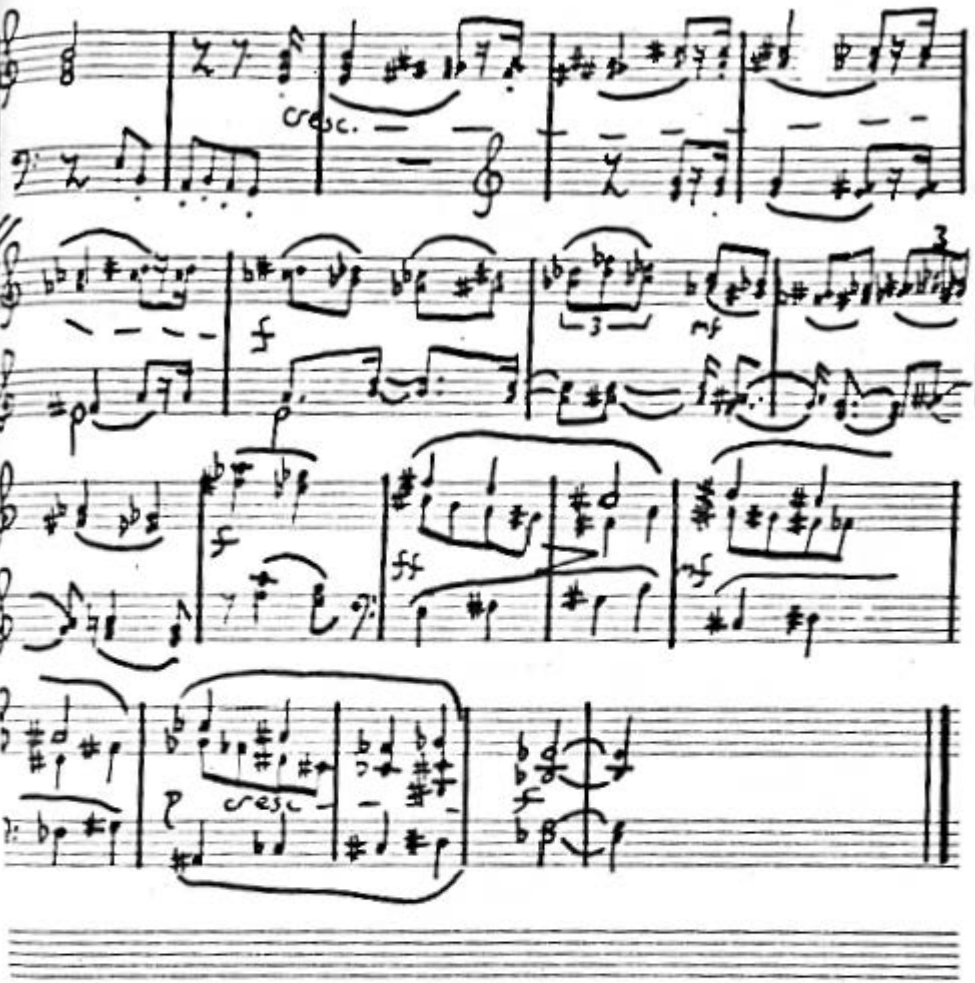

Poco rit.
a tempo
ritenuto
Molto moderato

Allegro moderato

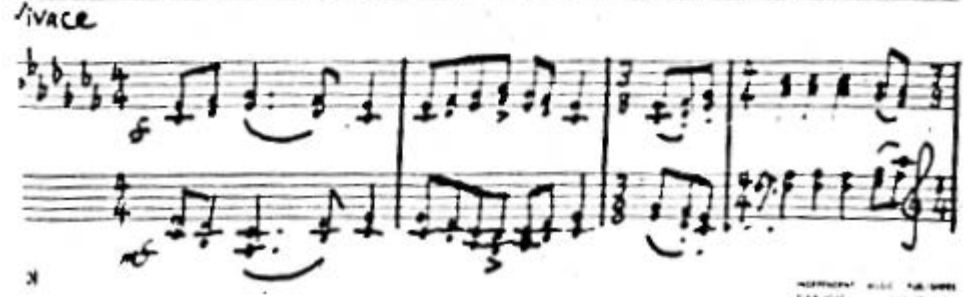
VIII.

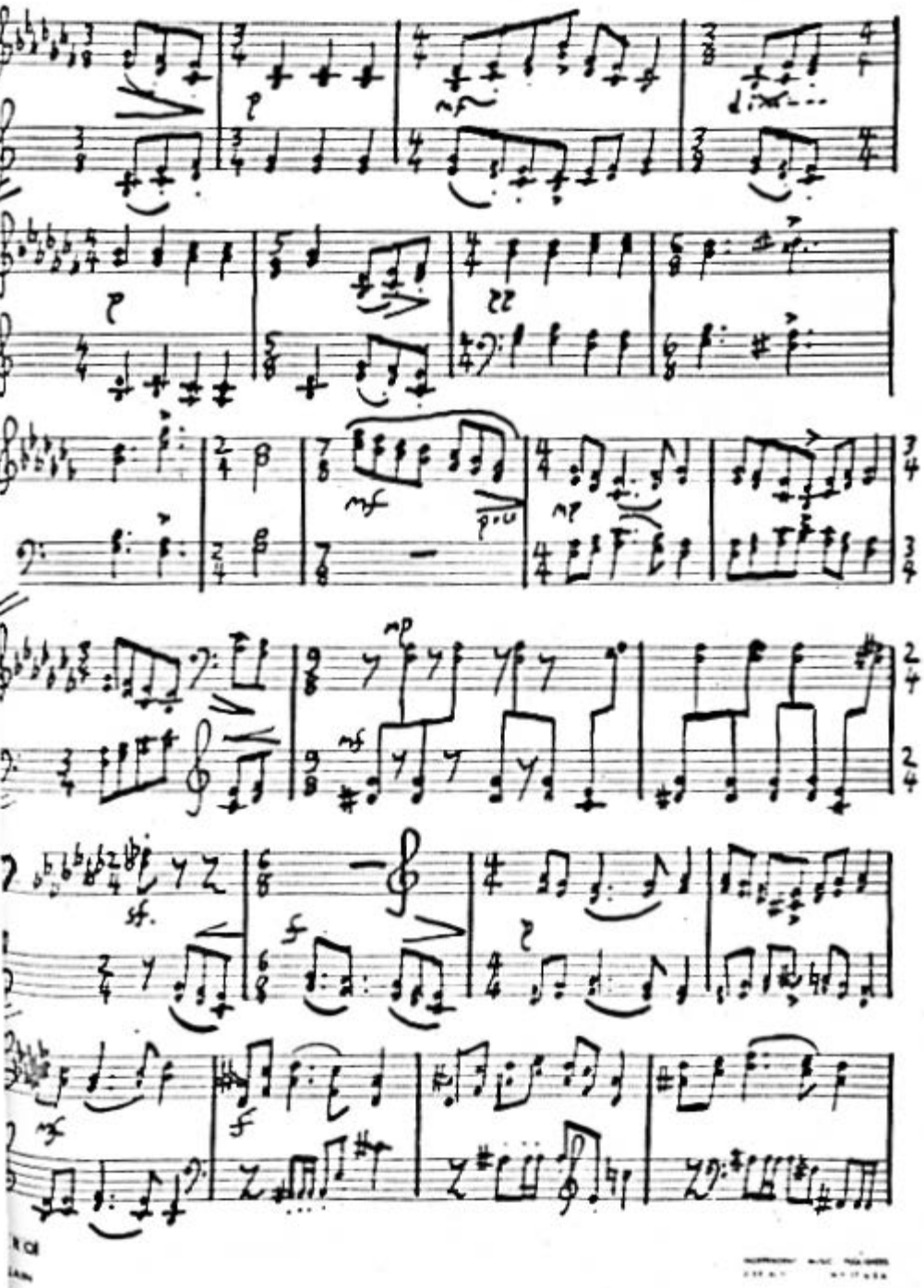


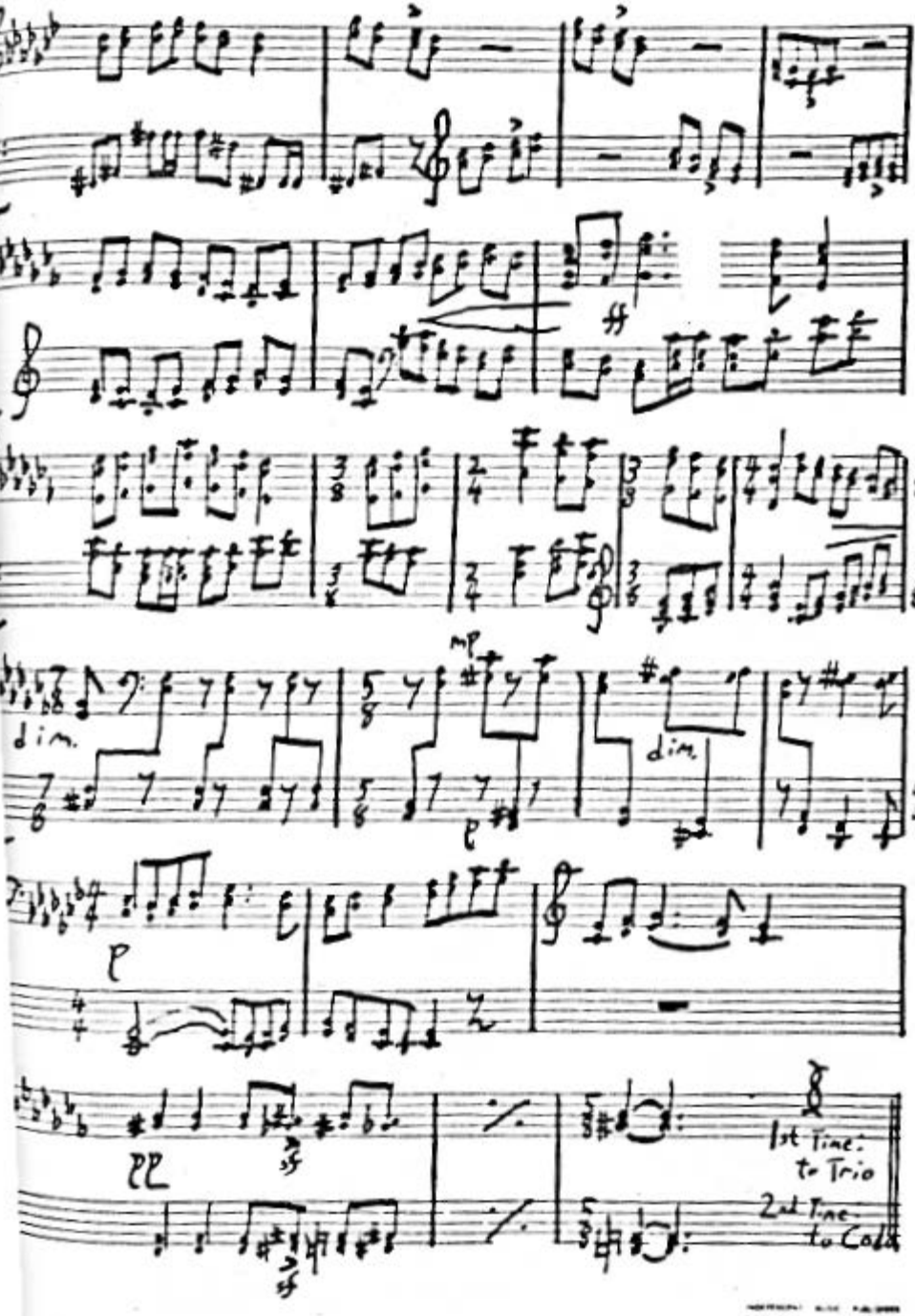

cresc.
mf
mp
simile
cresc
f
ff

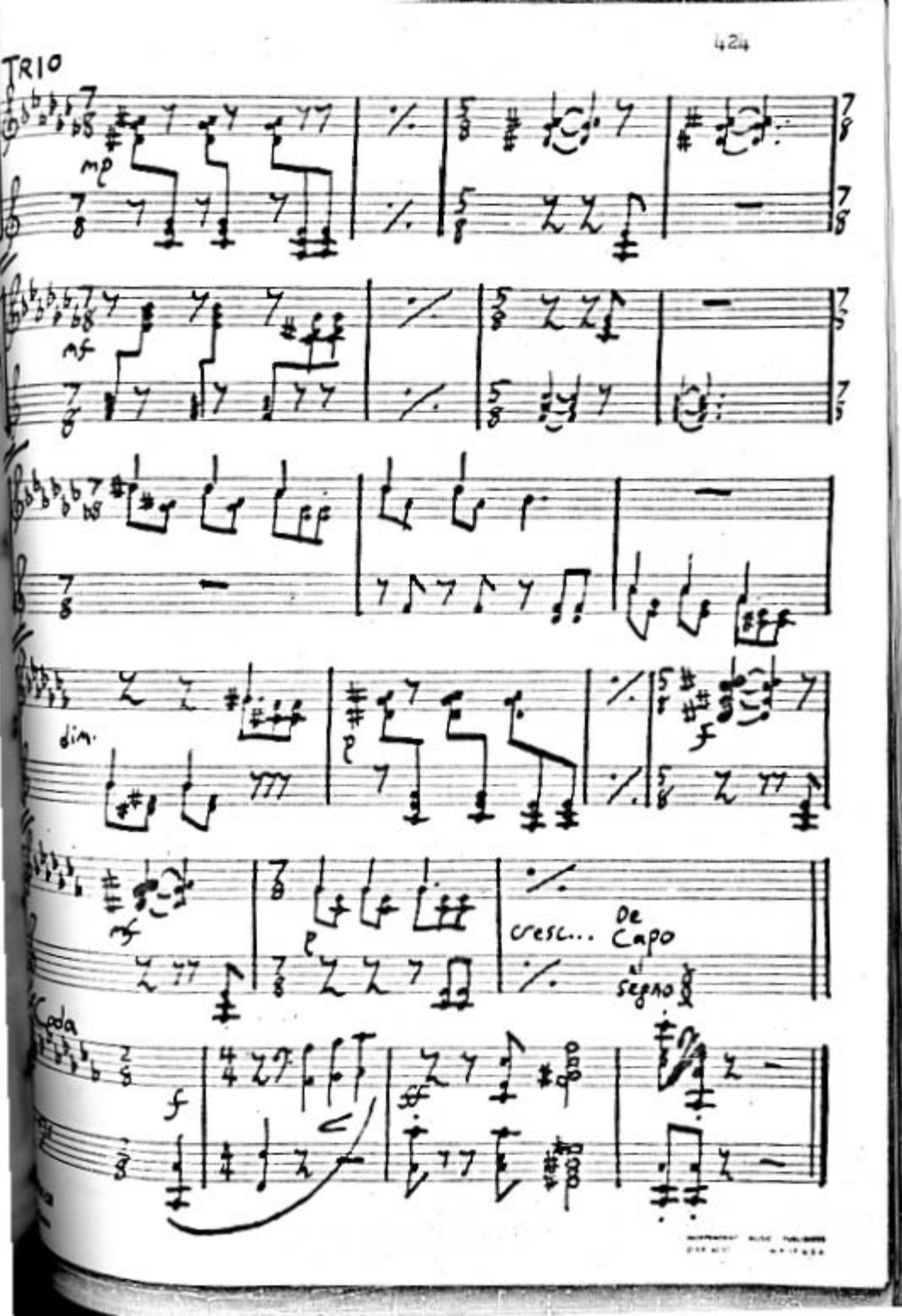


IX.






ff
dim.
mp
p
dim.
p
pp
1st Time: to Trio
2nd Time: to Coda


TRIO
mp
sf
dim.
f
cresc...
De Capo
al segno
Coda
f

BRIEF ANALYTICAL NOTES

Number I: This Prelude makes full use of the interval embodying the "golden ratio."[1] The motivic interval C-Fb is based on Kornerup's assertion that 7/19 is almost exactly .382 of an octave. The interval Fb-C is larger than its inversion by almost precisely the same ratio by which the octave is larger than Fb-C. In the ensuing measures C is made the root of a major triad, and Fb of a minor triad, in which also is present G♯ which forms, with C, another "golden" interval. In measure 6, the two "golden" tones are permitted to associate freely, and a simple tonal theme in C♯ major evolves. Of interest are the notational difficulties in measures 7 and 8. If for "Fb" and "Cb" are read "E♯" and "B♯" respectively, the musical sense is much clearer. The performing pianos, however, are so arranged that all "flats" are sounded by white keys of the same letter name, and all "sharps" by the black keys. There is therefore no "E♯" key, and the "Fb" which is its enharmonic equivalent is sounded by the "F" key on one of the two pianos.

In measure 9, a modulation is made to Db minor, using the common third Fb as a pivot. It is Ariel who suggests the validity of the "Terzendifferenz" as the basis for a single unit of the temperament. Measure 10 demonstrates one of the curiosities of 19-tone temperament. By alternating

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[1] For a discussion of the "golden ratio" see Chapter 9. It has been suggested that this prelude be titled "The Golden Mean Justifies the Ends."

Bb with B while Db, Fb, and G♯ are repeated, two different diminished sevenths are sounded. When they are given the following spellings they become identical pyramids of minor thirds: Bb-Db-Fb-G♯; and Db-Fb-G♯-B. There is absolutely no comparable phenomenon in 12-tone temperament.

In measure 11, Fb becomes a temporary tonic; A and C are the two new "golden" tones.

In measure 14 a free middle section is begun, with quasi-cadenza passages based on cyclic pyramids of some of the intervals. There is a circle of 16 fifths to Eb in measure 19. The "golden" progression is then sounded between Eb and G♯. Measure 23 is a run of 20 consecutive descending major seconds. Instead of a repeating 6-tone scale, 19-tone temperament produces a 19-tone cycle of major seconds. A re-transition is provided by the next four measures, built entirely on superimposed minor thirds; a total of 13 from the low F♯ to the high B. In the process, no tone is used twice.

The recapitulation is begun 1/19 lower, so that the emerging "theme" will be in the "tonic," C. In the final four lines, traditional romantic harmony is interspersed with instances of the "golden" progression.

Number II: In this miniature, simple traditional triads, most of them minor, appear in unexpected relationships to one another. The "golden" progression is present in the often repeated juxtaposition of Ab minor and E minor.

Note that the "Neapolitan sixth" in measure 14 is on the raised tonic rather than the lowered supertonic. Note also the illusory effect produced by two consecutive downward progressions by 1/19 as at the very beginning. The interval between E and the D# of the third chord seems much greater than it really is.

Number III: This is a rather free composition based on the "13 plus 6" scale group outlined in Chapter 14, above. The major second is the generating interval of much of both the melody and harmony. Where further subdivisions of this interval play a large melodic role, it is the intervals produced by two or more major seconds which assist in the harmonic structure. Much of the prelude is in two-part style, but a contrasting full section beginning in measure 5 presents, among other things, a 13-tone "chromatic" scale in an inner voice.

A middle section begins in measure 12 in E. As in the first prelude, the generating interval is also employed as the chief interval of modulation. In measure 21, a touch of C, the "sub-supertonic" or "sub-generator" is employed. From measure 22 to measure 29 a single chain of superimposed seconds is exploited. The harmony, especially where it thickens, is suggestive of Yasser's hexads. The piece ends with an abbreviated statement of the main subject.

Number IV: This is a neo-Impressionistic tone-painting, suggestive of morning bells and perhaps sunshine.

A single melodic line, with an occasional second contrapuntal part, is reinforced in parallel harmony by a series of sonorities unique to 19-tone temperament as they make use of the interval 4/19. A very "dark" minor and a very "bright" major result. The clashes between harmonies oriented to C and C# seem to be highly suggestive of bells. Otherwise the greatest influence on the structure of this piece is probably the Bartok of the Mikrokosmos.

Number V: The two "Chorales," A and B, are purely intellectual exercises, rigidly following the "laws" of chord construction of the 13- and 11-tone scales in pieces A and B respectively. Unlike the four preceding preludes, the two "Chorales" offer a complete break from the harmonic practices of the present and past. They present, in simplest form, some of the progressional possibilities inherent in 19-tone temperament.

In piece A, the vertical sonorities are generally produced by superimposed major seconds. A fifth and/or sixth part might well improve the sound, as Yasser suggests. In piece B, the generating interval is 7/19, "golden," but dissonant. Where convenient the perfect fifth has been added, especially at the end of phrases. The final sonority is typical: over the root, G#, are a perfect fifth, a "high" third (7/19 above the root), and a "low" third (4/19 above the root). This "low" third is 7/19 below the fifth, creating a symmetry of sorts.

Number VI: This represents a first probing of what appears to be a particularly promising line of inquiry. It is entirely serial, and built on the 12-tone row represented by the first twelve melodic pitches. The seven "flat" tones are withheld and serve as a field for modulation. The 19-tone resources thereby permit serial dodecaphony with modulation.

With the last tone in measure 4 begins an inversion of the row. C# is the only tone with which the inversion could begin without calling into use pitches outside of the original row. Thus a feature (and it seems to me to be an advantageous one) of serial dodecaphony within a 19-tone field is that the "home" or "tonic" position of the inversion is inherent in the row rather than a matter open to arbitrary choice.

In measure 9 a variation begins; the original row is in the bass, the inversion in the treble. Modulation begins in measure twelve, with the original row transposed downward by 3/19. The new tones are Bb and Eb, the latter appearing in the lower voice as it completes the row, starting with the 7th tone (D). A modulating sequence presents the original row beginning on A (measure 13), and involving one "foreign" tone, Fb.

A second variation offers the untransposed original (beginning with the last tone in measure 14) in the lower voice, against which the inversion, transposed down a major

second, is presented. The D# in measure 16 represents a possible alteration of the row. The actual pitch called for by the row is Eb. The upper voice here replaces the called for pitch with a "tonal answer," the nearest available (unused elsewhere in the row) pitch in the "key" of the moment. This alteration leads to a rather strong tonal feeling (B major) at the moment in which it occurs.

The D# in measure 19 is both the final tone of a row and the first tone of a new row, a direct transposition of the original. The C in the upper voice at the end of the same measure begins a retrograde inversion of the row. The reader interested in completing a row analysis can, I am sure, do so without further aid. Note that in order to finish on the starting tone, D, a transposed version of the inverted row is used at the end with two "foreign" tones. The melodic and rhythmic contours are the same as in measures 5-8 wherein the inversion was first sounded. Prelude number VI suggests a possible path toward the achievement of what Yasser calls the synthesis of tonality and atonality through "supra-tonality."

Number VII: Several writers on multiple division have spoken of the quasi-equal-tempered pentatonic scale as a possibly desirable goal. Prelude number VII is an Orientale employing such a scale.

The greatest structural problem in this piece is sustaining interest with such a narrow range of materials. I

have attempted to do this through the modulations. As the interval 4/19 is the generator of this scale, the modulation at measure 29 is from C to D♯. At measure 43 a new and distant key, containing only the common tone G♯ with the preceding key, is introduced for contrast.

Number VIII: This prelude is written with the instrumental media particularly strongly in mind. Its basic structure is provided by a dialogue between the two pianos, one of which plays only "flats" and "sharps," and the other only "naturals" and "sharps." The prelude might be said to be in a kind of sonatina form with coda. In the recapitulation, the second theme first appears in a new key, G (measure 46), then reverts back to its own original key, C. In the quasi-developmental coda, the two modes as represented by the two pianos are brought into closer apposition, with the progression that twice had been used to reach distant keys (C and G) finally returning to the original tonic, Eb. The second piano is, however, symbolically present in the final sonority with the G natural.

Number IX: Yasser is of the view that there is essentially no such phenomenon as bi-tonality; that what is supposed to be bi-tonality is more accurately a kind of presage of a more complicated kind of single tonality. In this piece the white keys of the two pianos supply the materials for a rather dissonant counterpoint which is not altogether

unpleasant. Neither C nor Cb is ever able to establish itself as sole tonic; the contest must end as a draw.

Note the rather odd spelling for the D𝄪 major triad in the Trio. Perhaps it would be simpler to call Gb "F double sharp."

In the coda, the "golden" formula of Kornerup is again alluded to. The octave is broken down into its "golden" components, a perfect fourth, a minor third, a tone, a diatonic semi-tone, and a chromatic semitone. This represents the descending form of a Fibonacci series (8:5:3:2:1). The last sonority of measure 71 is comprised of the two "golden" chords of the first prelude. Here the upper component has a dual function, for Fb is also the plain subdominant of Cb.