Ursidae: The Undergraduate Research Journal at the University of Northern Colorado

Volume 2 | Number 3 Article 3

January 2013

Tonal Atonality: An Analysis of Samuel Barber's "Nocturne Op. 33"

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Abstract
After the end of the Romantic era of music, one of the most famous new compositional styles was Arnold Schoenberg's 12-tone technique which uses all 12 tones of the chromatic scale to form a set that is then manipulated in various ways to produce an entire piece of music. Quite frankly, the end result is difficult to listen to. Needless to say, 12-tone technique has since fallen out of popularity. However, some composers have modified the 12-tone technique to create music that is strikingly beautiful. Samuel Barber is one such composer. His piano piece *Nocturne Op. 33* contains 12-tone compositional techniques, but they are masterfully disguised so as to make the piece easier to listen to and understand. My analysis delves into the piece and uncovers the 12-tone techniques employed with the intent of introducing the music of Samuel Barber to others and fostering an appreciation for the piece itself.

Key Terms
12-tone
Atonality
Key center
Matrix
Rounded binary form
Serialism
Tonality
Tone row

With an *oeuvre* consisting of orchestral works, piano pieces, songs, and operas, Samuel Barber made his distinct style well-known through many genres. His pieces reveal a very unique compositional language. Even in his most conventional works, he displays daring and fresh ideas that grab the attention of performer and listener alike. His *Nocturne Op. 33* is one such piece—conventional in its form, yet daring in its melodic language.

Barber was born in Westchester, Pennsylvania in 1910. In her book detailing Barber's life and compositions, author Barbara Heyman describes the Pennsylvania of this time period to be very conservative. Musicians and, in general, art enthusiasts were met with suspicion and criticism. Nonetheless, a young Barber began to show talent at the age of 6 as he improvised simple melodies at the piano. While his father was concerned that he needed to focus on activities other children were interested in, like sports, Barber's mother helped him write down his earliest compositions when he was 7. At a mere 9 years old, Barber had already decided on his lifelong career. He wrote a letter to his mother wherein he states "To begin with I was not meant to be an athlet [*sic*]. I was meant to be a composer, and will be I'm sure" (Heyman 7). The rest is history.

The late 19th and early 20th centuries were times of musical exploration. Functional harmony had been utilized for so long; composers began to experiment with music outside the realm of traditional harmony. Some of the earliest composers to write and publish pieces exploiting the atonal canvas were the likes of Franz Liszt, Claude Debussy, and Arnold Schoenberg. In fact, it was Schoenberg who famously developed and entire system for composing and analyzing one type of atonal music.

Schoenberg was an Austro-Hungarian composer who developed 12-tone serialism in the early 1920s (Griffiths). Twelve-tone serialism comes from the division of an octave. An octave is

the distance from one note to its subsequent appearance either above or below the starting note. It is called an octave because in any given major or minor scale, there are 8 notes (including the starting note). The C major scale, for instance, follows thusly: C-D-E-F-G-A-B-C. The octave can be further divided into smaller intervals (semitones or halfsteps), resulting in 12 notes (C-C sharp-D-D sharp-E-F-F sharp-G-G sharp-A-A sharp-B). Schoenberg developed the 12-tone serial technique by taking each of the 12 notes in an octave and arranging them into a set called a "tone row" in which each note appears only once (Griffiths). To make arranging the notes easier, he used a number system instead of note names. The English equivalent of this numbering system (wherein 0 is C, 1 is C sharp, and so on) is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, t, e. "t" and "e" are shortened versions of "10" and "11" respectively so that each note can be represented by a single character. An example tone row would be {0, 2, 4, e, t, 1, 3, 5, 9, 7, 8, 6}.

Schoenberg then manipulated the single tone row in order to produce more tone rows. The example tone row could start on any pitch (0 to e) as long as the intervals between each note are preserved. {0, 2, 4, e, t, 1, 3, 5, 9, 7, 8, 6} results in an interval pattern of +2, +2, +7, -1, +3, +2, +2, +4, -2, +1, -2. If Schoenberg wanted the tone row to start on 1, the tone row would then look like {1, 3, 5, 0, e, 2, 4, 6, t, 8, 9, 7}. Since the tone row can start on any pitch, there are 12 different tone rows. Schoenberg took each of the 12 tone rows and reversed them resulting in 12 more tone rows ({6, 8, 7, 9, 5, 3, 1, t, e, 4, 2, 0} would be the reverse form of the example tone row). Furthermore, the interval pattern could be inverted (-2, -2, -7, +1, -3, -2, -2, -4, +2, -1, +2) resulting in another 12 tone rows. The inverted form of the example tone row is {0, t, 8, 1, 2, e, 9, 7, 3, 5, 4, 6}. Finally, each inverted tone row could then be arranged in reverse order. The reverse order of the inverted tone row above is {6, 4, 5, 3, 7, 9, e, 2, 1, 8, t, 0}. Overall, a single

tone row can be manipulated to produce 48 tone rows including the original tone row (Griffiths). In order to organize all 48 tone rows, Schoenberg developed matrices.[1]

In composing a single piece with tone rows, Schoenberg began by creating a single tone row and finding all 48 forms of that tone row within a matrix. He would then use only the information present in the matrix to compose a piece of music. Just because a tone row looks like a progression of single notes doesn't mean that they could not also appear simultaneously. For example, any number of pitches may be stacked on top of each other to create chords so long as they maintain the order of pitches within the tone row. Within the example tone row stated earlier, pitches 0, 2, and 4 could be presented simultaneously; however, pitches 4, 1, and 9 could not. Schoenberg could switch to using a different tone row only after the currently used tone row is expressed in entirety. Schoenberg's 12-tone serial technique was used by many composers during the 20th and 21st centuries, Barber included.

Barber's compositional style is eclectic. He wrote pieces for various instrumentations. While his contemporaries chose to continue explorations of atonality within 12-tone serialism, Barber wished to stay in the realm of tonality as much as he could. Barber chose to write music that appealed to audiences who were familiar with classical- and romantic-era works. He was influenced by the structure of classical and romantic pieces as well as the tonal language of these ages (Heyman 3). Many of his compositions feature lyrical, singing melodies that are approachable by most any listener. In his own words, Barber states that "'I myself wrote always as I wished, and without a tremendous desire to find the latest thing possible…I wrote as I wanted to for myself,"' (Heyman 3). Instead of strictly following the path of other avant-garde

[1] See appendix A for two different examples of matrices.

composers of the day, Barber stuck with what he found pleasing, borrowing from compositional styles both old and new.

The piano music of Barber mainly "reflects…a synthesis of tonality with atonality, diatonicism with chromaticism, and antiquity with modernism" (Farleigh 13). Since so many of his fellow composers utilized atonal and 12-tone composition techniques, it is not a surprise that Barber implemented certain aspects of atonality into some of his piano compositions. Two piano pieces that famously include examples of 12-tone serialism are Barber's *Piano Sonata Op. 26* and *Nocturne Op. 33*. While tone rows are evident in both pieces, neither composition is strictly serial as in the method of Schoenberg. Barber's tone rows are used, instead, to provide various colors and mood changes.

Nocturne Op. 33 combines 20th-century 12-tone serialism with 18th and 19th century-inspired form. Throughout the entirety of the piece, the melody in the right hand is comprised entirely of tone rows and tone row fragments. The melody can therefore be classified as atonal per se. Playing the right hand alone results in stark dissonances throughout the duration of the piece. However, Barber breaks the rules of Schoenberg's strict 12-tone compositional approach, masterfully disguising the harsh atonality of the melody. He does so with the left hand which plays arpeggios of tonal chords that highlight specific tones in the melody. Because of this strange combination of tonality and atonality, *Nocturne Op. 33* actually has some semblance of a key center. The piece opens with a single measure introduction of the left hand playing an A-flat major arpeggio. The piece ends 44 bars later on a consonant A-flat major chord. To further break from the 12-tone style of Schoenberg's method, the melody is made up of two separate tone rows as opposed to just one.

The piece as a whole follows a loose-knit rounded binary form. This means that there are three major sections within the piece, labeled as A, B, and A respectively. The first A section comprises measures 1-19. Measure 1 acts as an introduction that establishes the key of A flat major (I). The first phrase, x, is made up of a basic idea in measure 2 and a contrasting idea in measure 3 that ends in what sounds like F minor (vi). The second phrase, y, is comprised of a basic idea in measure 4 and a contrasting idea in measure 5 that ends in what could be labeled C major (III). Phrases x and y form a period, of sorts. While it is hard to say whether the quasi cadence in C major in phrase y is stronger than the F minor quasi cadence in phrase x, Barber hints that C major is stronger because of the next phrase: phrase z is made up of two basic ideas (mm. 6-7 and mm. 8-10) that are similar in melody and sustain the feeling of C major. Phrase x returns in measures 11 and 12, but cadences in C minor (iii). Phrase y follows in measures 13 and 14, but cadences on E flat major (V). According to common-practice harmony, V is hierarchically stronger than iii, so the second statement of phrases x and y form another period. Phrase z returns as well in measures 15 through 19; this time confirming the key of E flat major. Following the structure of binary form, the A section ends with a cadence in the dominant key.

The B section begins in measure 20. From measure 20 to measure 24, fragments of previously used sets are used in imitation. What at first sounds like a sort of informal sequence in measures 20-24 is actually an example of invertible counterpoint. In measure 20, the fragment is in the left hand while the arpeggio figure that had been repeating in the left hand from the beginning of the piece moves to the right hand. Halfway through measure 20, the arpeggio moves back to the left hand while the fragment is played in the right hand. These two ideas switch back and forth between the right and left hands until measure 25. Measures 25 and 26 are both basic ideas based on a rhythmic fragment used in an earlier set. Barber employs the use of

invertible counterpoint in the proceeding measures. In measure 27, the same basic idea is heard in the left hand while a contrasting idea is heard in the right hand. In measure 28, the basic idea moves to the right hand and the contrasting idea moves to the left hand. Measure 29 is a long, non-metered cadenza that begins in E-flat major (V), but cadences on a G dominant 7th (V^7/III) chord. Holding true to binary form, the B section is clearly a digression in its turbulent mood shift. It also expounds A section material.

The return of the A section sees a few alterations, but is very similar to the first A section. Phrase x is heard in measures 30 and 31 with rhythmic variation, but it cadences on F minor (vi) again in measure 31. The following y phrase is the same as it was in the first A section, but contains an extra measure due to a meter change in measure 34. Phrase x comes back in measures 35 and 36 with the same set it had used previously, but the arpeggios in the left hand suggest F minor (vi) instead of A flat major as in the first two occurrences of phrase x. It again cadences in F minor (vi). Phrase y returns in measures 37 and 38, but it does not reach a conclusive cadence this time because Barber includes a link in measures 38-39 that finally cadences on A flat major (I). In this second A section, this is the first cadence that has been in the tonic key. Phrase z finally returns to reinforce the tonic key from measures 40 through 43. The piece closes with a descending doubled octatonic scale[2] in measure 44 that ends on a dyad that seems to belong to A-flat major in measure 45.

To assist in blurring the line between tonality and atonality, Barber arranges all of the complete iterations of rows by framing them. In his analysis of the piece in the journal *Piano Quarterly,* James Farleigh describes Barber's framing as such:

[2] An octatonic scale is any scale that is comprised of 8 different pitches (a regular major or minor scale is only made up of 7 different pitches). For example, the octatonic scale described here is E flat-F-G flat-A flat-A-C flat-C-D. "Doubled" just means that there are two simultaneous scales, both starting on different pitches (F and C in this case).

> The use of serialism…implies an equality of the twelve tones, but…Barber does not permit such equality even within the rows themselves. Each complete presentation of either row is followed by a repetition of the first tone, which thus serves as a frame...By means of this procedure, the first note of each row becomes a tonal anchor, outweighing in importance the other eleven tones. (Farleigh 16-17)

It is vital at this point to note again that Barber uses two distinct matrices in the construction of this piece[3]. In the first A section (measures 1-19), the primary form of the first row ($_AP_0$: {0,5,e,t,8,1,7,6,4,9,3,2})[4] is introduced in measure 1. At the conclusion of the row in the middle of measure 3, Barber repeats the first tone of the row before continuing on to the next row, thus creating a row that begins and ends with C. The next row ($_AR_0$) begins at the end of measure 3 immediately after the reiteration of C, and it ends on C at the beginning of measure 5. $_AR_0$ is repeated in measure 5 and ends on C yet again in measure 6. Measure six also sees the introduction of the second row used ($_BP_0$: {0,6,9,e,8,2,5,7,4,t,1,3}). With no surprise, $_BP_0$ ends in measure 8 with a restatement of C. Barber repeats the C once more before repeating $_BP_0$ which ends on C in measure 10. Measure 11 sees the return of the first row ($_AP_7$), but since it is transposed, it starts and ends with G in measure 12. The next full row ($_AR_3$) is framed by E flat and begins in measure 14. Measure 15 contains $_BP_3$ as a succession of dyads, but it still begins and ends with E flat. $_BP_3$ is repeated and again framed by E flat.

The second A section begins very similarly to the first A section. $_AP_0$ returns in measure 30 framed by C. $_AR_0$ follows at the end of measure 30 and is framed by C as well. $_AP_0$ is repeated again and framed with C in measure 34. Measure 38 contains $_AP_8$ which is now framed by A flat, the tonal center of the piece. The remaining sets ($_AR_8$ in measure 39 and $_BP_8$ in measures 40-41 and again in 42-43) are framed by A flat.

[3] Refer to Appendix A for the matrices used in the piece

[4] The subscript letters A or B preceding the name of the tone row (i.e., $_AP_0$) refers to either matrix A or matrix B respectively.

Coupled with each tone row is a set of 3 rhythmic variants[5] (Farleigh 17). The first variant is presented in the first statement of ${}_{A}P_{0}$ in measures 1 through 3. ${}_{A}R_{0}$ in measures 3 through 4 is highlighted by the second variant. When ${}_{A}P_{0}$ comes back in measure 5, it is presented in a very different rhythmic structure than in measures 1 through 3—hence the third variant. The 3 rhythmic variants of the second row appear in measures 6 and 7 with ${}_{B}P_{0}$. The second variant is towards the end of the A section in measures 15 and 16 with ${}_{B}P_{3}$. Finally, the third variant of the second row is in measures 17 and 18 with ${}_{B}P_{3}$ again.

These rhythmic variants are important, because they explain the fragments that occur in the B section. These fragments sound very similar to previously used rows, but they are augmented so slightly that they don't fit into their supposed rows at all. Because they no longer fit into their supposed rows, the fragments are then organized by which rhythmic variant they belong to. In measures 19 through 21, the first 5 notes of the first rhythmic variant of row 1 are repeated imitatively between the right and left hands. In reality, the fragments present between measures 19 and 21 actually do complete each other and form whole sets, but their deviation from expectations concerning the rhythmic variants identifies them as fragmentations isolated in the right and left hands. Measures 25 and 26 each contain the first 8 notes of the second rhythmic variant of row 1. In measure 27, the second rhythmic variant of row 1 is heard in the left hand, but it is offset by an eighth-rest. The second rhythmic variant of row 1 continues in the right hand in measure 28.

The end result of Barber's unique compositional style in *Nocturne Op. 33* is a hauntingly beautiful and very distinct work. He melds old with new. By using tonal arpeggio figures in the left hand, Barber softens the harsh 12-tone melody. The familiarity of rounded binary form helps

[5] Refer to Appendix C to see the rhythmic variants in the original score.

connoisseurs of both classical and romantic music to understand the direction of the piece. What Barber achieves in *Nocturne Op. 33* is a bridge from antiquity to modernity—he attempts to ease listeners of earlier musical eras into a modern paradigm of composition by disguising 12-tone music with familiar classical composition techniques.

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Appendix A

Matrices

Matrix A[6]

	$_AI_0$	$_AI_5$	$_AI_e$	$_AI_t$	$_AI_8$	$_AI_1$	$_AI_7$	$_AI_6$	$_AI_4$	$_AI_9$	$_AI_3$	$_AI_2$	
$_AP_0$	0	5	e	t	8	1	7	6	4	9	3	2	$_AR_0$
$_AP_7$	7	0	6	5	3	8	2	1	e	4	t	9	$_AR_7$
$_AP_1$	1	6	0	e	9	2	8	7	5	t	4	3	$_AR_1$
$_AP_2$	2	7	1	0	t	3	9	8	6	e	5	4	$_AR_2$
$_AP_4$	4	9	3	2	0	5	e	t	8	1	7	6	$_AR_4$
$_AP_e$	e	4	t	9	7	0	6	5	3	8	2	1	$_AR_e$
$_AP_5$	5	t	4	3	1	6	0	e	9	2	8	7	$_AR_5$
$_AP_6$	6	e	5	4	2	7	1	0	t	3	9	8	$_AR_6$
$_AP_8$	8	1	7	6	4	9	3	2	0	5	e	t	$_AR_8$
$_AP_3$	3	8	2	1	e	4	t	9	7	0	6	5	$_AR_3$
$_AP_9$	9	2	8	7	5	t	4	3	1	6	0	e	$_AR_9$
$_AP_t$	t	3	9	8	6	e	5	4	2	7	1	0	$_AR_t$
	$_ARI_0$	$_ARI_5$	$_ARI_e$	$_ARI_t$	$_ARI_8$	$_ARI_1$	$_ARI_7$	$_ARI_6$	$_ARI_4$	$_ARI_9$	$_ARI_3$	$_ARI_2$	

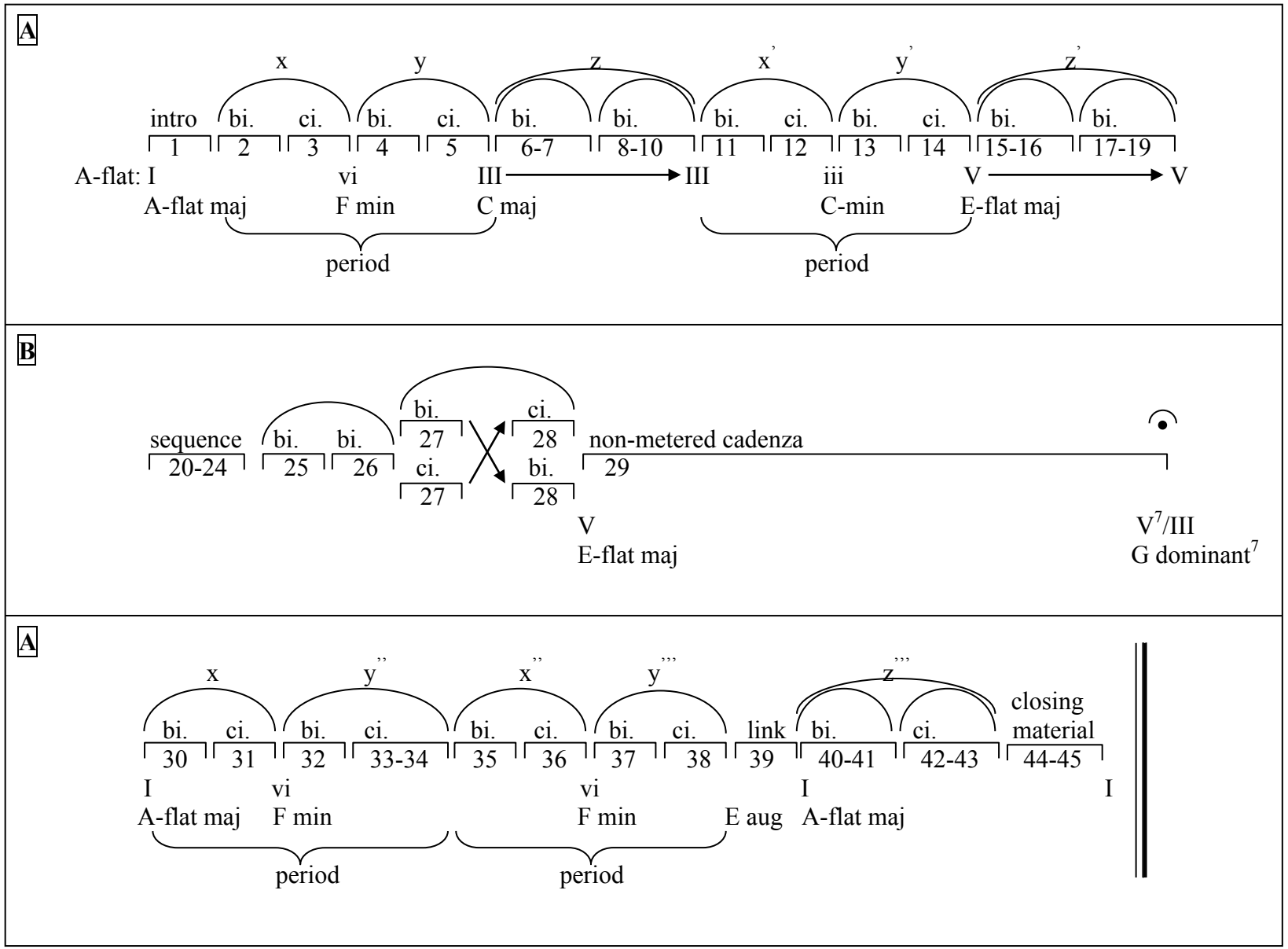
[6] In this table, tone rows are labeled by their orientation and their starting pitch. The 12 pitches of an octave are represented with numbers instead of standard lettering ("C, C sharp, D" becomes "0, 1, 2"). "t" is the abbreviation of "10" and "e" is the short form of "11". The subscript "A" serves to distinguish the rows of matrix A from those of matrix B. The subscript numbers give the starting pitch of the row. "P" means "primary" which means the pitches in the row occur from left to right in the table. "R" means "retrograde" in which the pitches occur in reverse order (right to left). "I" means "inverse" which means that the intervals between the pitches of any primary row are inverted. They run from top to bottom on the table. "RI" means "retrograde inverse" which means that any inverted row is in reverse order. They run bottom to top.
$_AP_0$ then refers to a tone row from matrix A that starts on pitch 0 and runs left to right: {0,5, e, t, 8,1,7,6, 4, 9, 3, 2}
$_AR_0$ would be the reverse order: {2, 3, 9, 4, 6, 7, 1, 8, t, e, 5, 0}
$_AI_0$ is the inverted form of $_AP_0$: {0, 7, 1, 2, 4, e, 5, 6, 8, 3, 9, t}
$_AIR_0$ is the inverted form of $_AP_0$ in reverse order: {t, 9, 3, 8, 6, 5, e, 4, 2, 1, 7, 0}

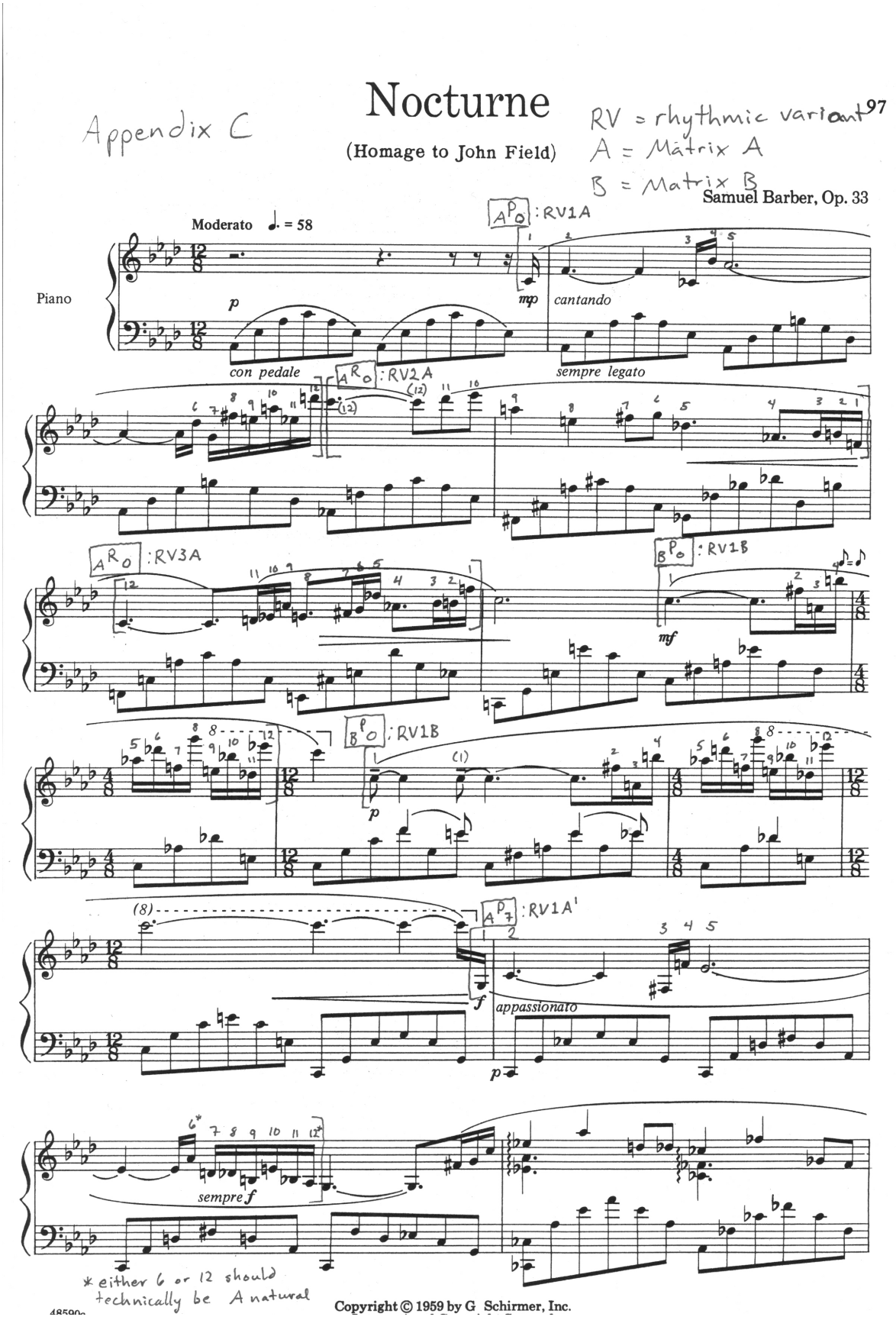
Matrix B[7]

	$_BI_0$	$_BI_6$	$_BI_9$	$_BI_e$	$_BI_8$	$_BI_2$	$_BI_5$	$_BI_7$	$_BI_4$	$_BI_t$	$_BI_1$	$_BI_3$	
$_BP_0$	0	6	9	e	8	2	5	7	4	t	1	3	$_BR_0$
$_BP_6$	6	0	3	5	2	8	e	1	t	4	7	9	$_BR_6$
$_BP_3$	3	9	0	2	e	5	8	t	7	1	4	6	$_BR_3$
$_BP_1$	1	7	t	0	9	3	6	8	5	e	2	4	$_BR_1$
$_BP_4$	4	t	1	3	0	6	9	e	8	2	5	7	$_BR_4$
$_BP_t$	t	4	7	9	6	0	3	5	2	8	e	1	$_BR_t$
$_BP_7$	7	1	4	6	3	9	0	2	e	5	8	t	$_BR_7$
$_BP_5$	5	e	2	4	1	7	T	0	9	3	6	8	$_BR_5$
$_BP_8$	8	2	5	7	4	t	1	3	0	6	9	e	$_BR_8$
$_BP_2$	2	8	e	1	t	4	7	9	6	0	3	5	$_BR_2$
$_BP_e$	e	5	8	t	7	1	4	6	3	9	0	2	$_BR_e$
$_BP_9$	9	3	6	8	5	e	2	4	1	7	t	0	$_BR_9$
	$_BRI_0$	$_BRI_6$	$_BRI_9$	$_BRI_e$	$_BRI_8$	$_BRI_2$	$_BRI_5$	$_BRI_7$	$_BRI_4$	$_BRI_t$	$_BRI_1$	$_BRI_3$	

[7] See previous footnote for an explanation of the matrix

Appendix B
Form Chart




Appendix C
Nocturne
(Homage to John Field)
RV = rhythmic variant
A = Matrix A
B = Matrix B
97
Samuel Barber, Op. 33
Moderato ♩. = 58
Piano
p
mp
cantando
con pedale
sempre legato
mf
appassionato
sempre f
* either 6 or 12 should technically be A natural
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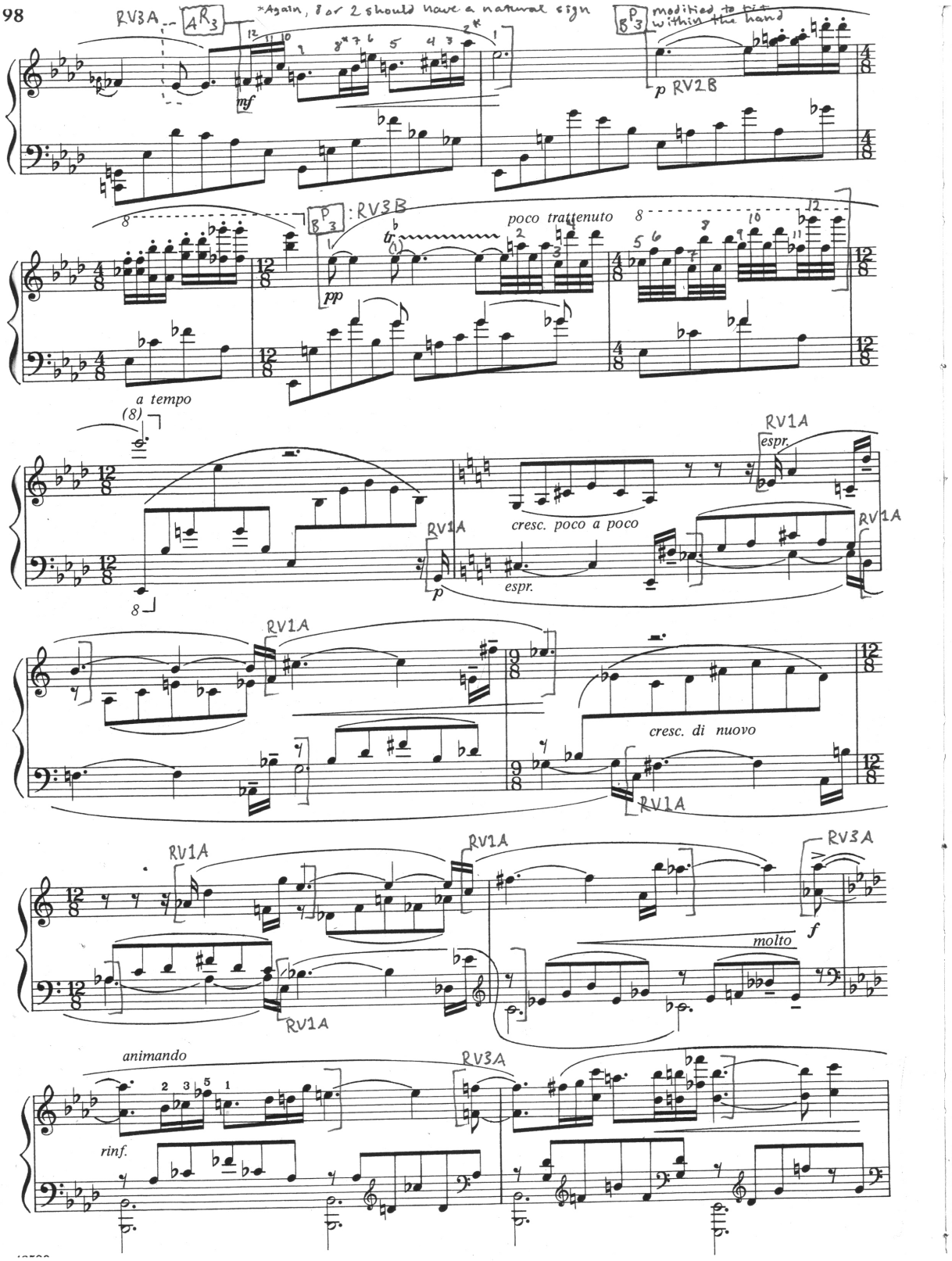
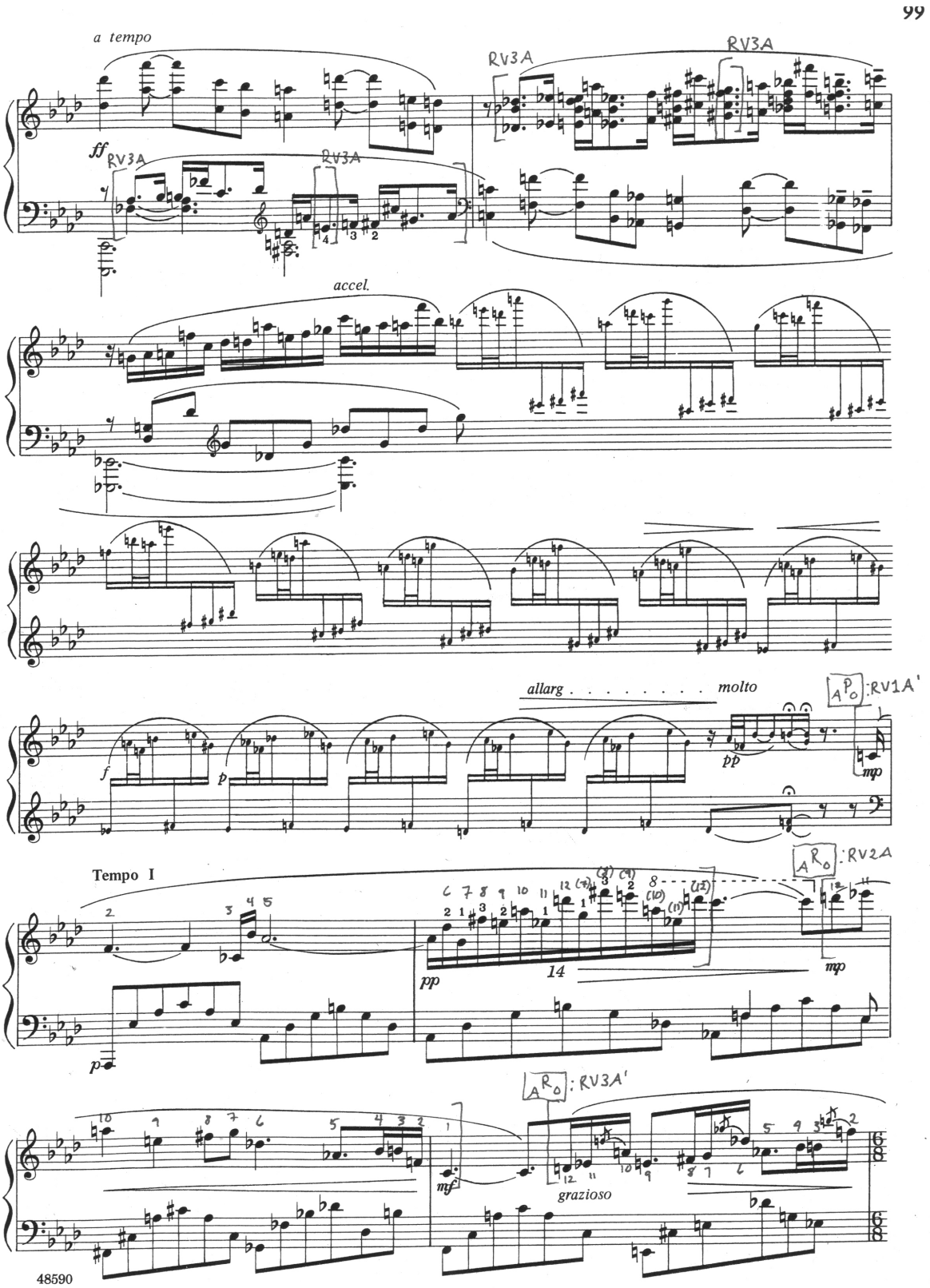
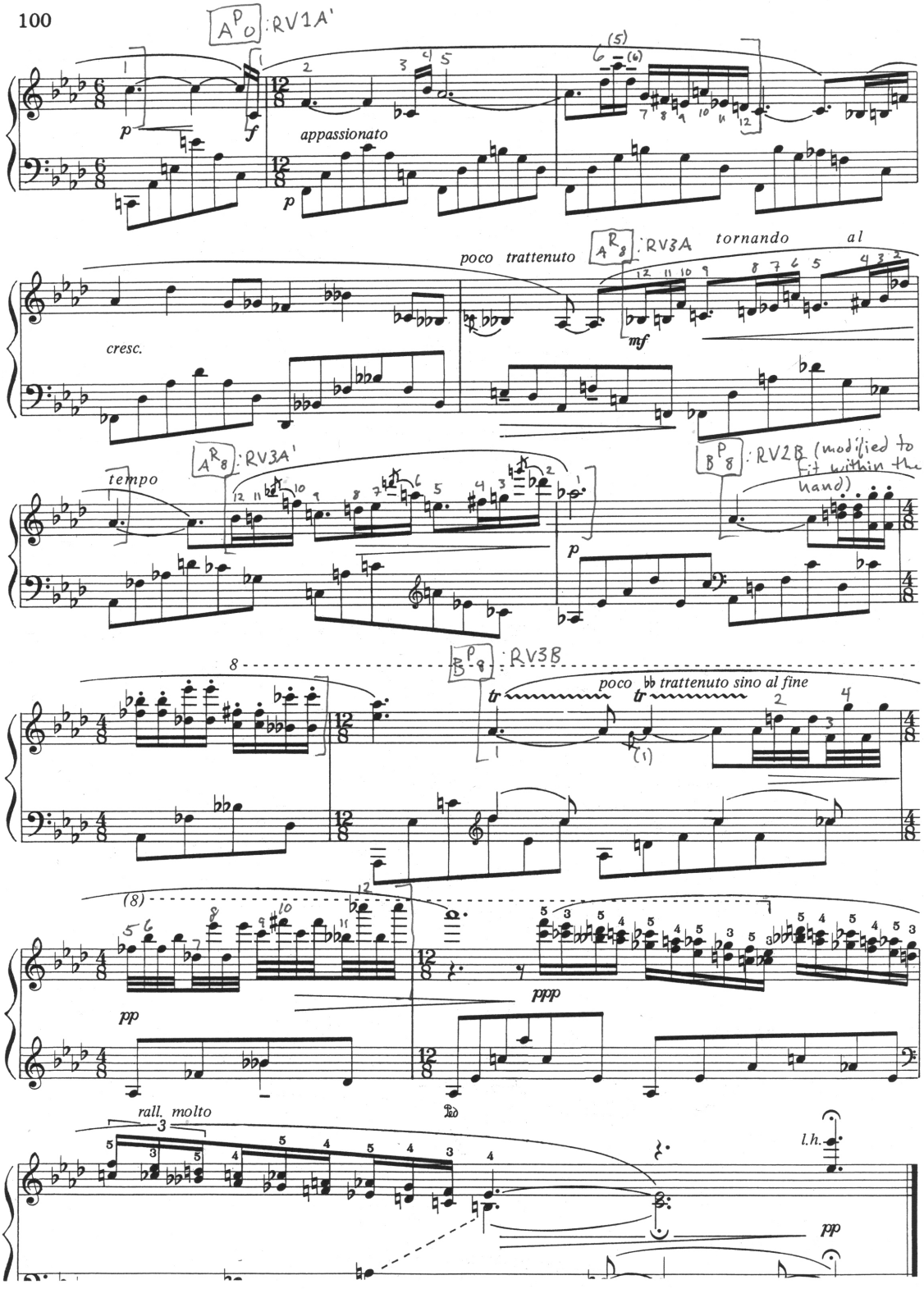

98
RV3A
AR3
*Again, 8 or 2 should have a natural sign
BP3
modified to fit within the hand
mf
p RV2B
BP3 : RV3B
poco trattenuto
pp
a tempo
(8)
RV1A
espr.
cresc. poco a poco
p
cresc. di nuovo
molto
f
RV3A
animando
rinf.


99
a tempo
RV3A
RV3A
ff
RV3A
RV3A
accel.
allarg . . . . . molto
AP0 : RV1A'
f
p
pp
mp
Tempo I
AR0 : RV2A
pp
14
mp
p
AR0 : RV3A'
mf
grazioso
48590


100
A P 0 : RV1A'
appassionato
poco trattenuto
A R 8 : RV3A
tornando al
cresc.
tempo
A R 8 : RV3A'
B P 8 : RV2B (modified to fit within the hand)
B P 8 : RV3B
poco trattenuto sino al fine
rall. molto
l.h.