NIGHT OF GLASS

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF MUSICAL ARTS

Ву

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<u>Night of Glass</u> is for chamber orchestra with an estimated performance time of 14 minutes. The instrumentation for the work, using one player per part, is Flute (also small glass wind chimes), Oboe (also 1 tuned water crystal), Clarinet in A (also small glass wind chimes), Bassoon (also 1 tuned water crystal), Horn in F (also 1 tuned water crystal), Trumpet in C (also 2 tuned water crystals), Percussion (Vibraphone, Glockenspiel, Chimes, Bell Tree, Hammered Dulcimer, 3 Suspended Cymbals, 1 Large Tam-tam, 4 Roto Toms, 3 Tympani), Piano, 1st Violin, 2nd Violin, Viola, Cello, and Double Bass,

While not programmatic, the work is divided into six sections each expressing a predetermined emotional content: fragility, anxiety, solitude, fear, catharsis, and reconciliation. All are emotional contents which are found in the dream-state that is reflected in the work's title. All aspects of <u>Night of Glass</u> (i.e., pitch material, form structure, and structural density) are centered around the unifying factor of emotional projection within each section. The work seeks emotional content through the expansion of composition procedures while being accessible to listeners. Copyright by

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1988

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DISCUSSION AND ANALYSIS

<u>Introduction</u>

Night of Glass is a work for chamber orchestra in six continuous sections with an approximate performance time of fifteen minutes. The work, scored for single winds and strings, reflects the composer's interest in expressing emotional content to the audience by means of a complex harmonic and melodic vocabulary. Despite a wide variety of compositional approaches the work is unified by means of recurring motivic and coloristic material, making the music cyclic in nature. This union of diverse material is a major component of Night of Glass, a work which was influenced by a diversity of other compositions: Joseph Schwantner's Aftertones of Infinity, for orchestra, Philip Glass' Koyaanisgatsi, for chorus and orchestra and, Larry Austin's Sinfonia Concertante, for chamber orchestra. Each of these works presents to their audiences an intensified emotional statement: Schwantner and Austin, introspection; Glass, catharsis. Each of these works achieved their emotional projections through differing surface details and varying harmonic constraints but with a similar, overall thrust: the projection of an extra-musical emotional content to the audience.

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A wide variance of emotional projections and their corresponding musical statement in <u>Night of Glass</u> is an integral part of the work. The interrelationship of these emotions, their recurrence and examination is reflected in the work's title, <u>Night of Glass</u>, a musical examination of a dream state, conceived as a piece which explores the mystery of the darkness, the fragility of glass.

Instrumentation

The instrumentation of the work is as shown in Figure 1.

1 Flute (also small glass wind chimes) 1 Oboe (also 1 tuned water crystal) 1 Clarinet in A (also small glass wind chimes) 1 Bassoon (also 1 tuned water crystal) 1 Horn in F (also 1 tuned water crystal) 1 Trumpet in C (also 2 tuned water crystals) Percussion (1 player) Vibraphone 3 Suspended Cymbals (18", 10", 7") l Large Tam-tam Glockenspiel Chimes 4 Roto Toms Bell Tree 3 Tympani Piano lst Violin 2nd Violin Viola Cello Double Bass

Figure 1. Instrumentation Chart

This instrumentation, along with the auxiliary instruments performed by the wind players, provides a wide range of sound colors. These are fully utilized as individual performers are called upon to produce diverse musical characterizations. For example, the opening section is meant to draw the listeners into the dream world of the piece. Along with extensive use of harmonics and senza vibrato in the strings, the bowed vibraphone and auxiliary tuned water crystals develop a dreamlike atmospheric texture. The effect is continued and further developed by the use of interior piano glissandi and struck crotales, which reverberate on a tympani head used to "bend" the pitch. The visual reinforcement of performers performing in these nontraditional ways gives the audience an added mystical effect, setting the stage for the sections that follow.

While calling for a full string section (6,6,4,4,2), the work can optionally be performed with one player per part. This can facilitate more frequent performances of the work. However, it should be noted that in the aleatoric passages that one player per string part will significantly reduce the density of the layers of sound, used structurally throughout the work at climactic points. Of importance is the exploitation of extreme high and low ranges of all the instruments, particularly the winds which are used to diversify the standard chamber orchestra texture.

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Form

<u>Night of Glass</u> subdivides into six continuous structural sections (see Figure 2).

Section	Page
Ι	1-16
II	16 -2 5
III	26-31
IV	32-44
v	45-55
IA	55 -6 0

Figure 2. Structural Sections

Structurally, while all six sections maintain unique forms, they all contribute to the overall climactic design of the work in terms of their support of the overall density structure of the piece (see Table 1). This variety of form sub-structures in the six sections gives the entire work a sense of directional flow avoiding closed formal designs (i.e., variation or sonata-allegro form) despite recurring motivic material. It is of importance that, while canonic forms are used in section II and III, they occur in a nontraditional way in that they have a constantly changing structure.

Temporally, the six sections produce a supportive shape to the overall climactic plan with the structural and

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temporal zeniths occurring in section V. Each section uses tempo and meter as a constantly changing parameter to assist the work's climactic design. For example, an accelerando throughout section V is in a direct supportive relationship to the work's climactic peak that also takes place in this section. When Table 1 is mapped onto Table 2, this dependency relationship becomes evident through the resultant composite form that shows correlations of the piece's temporal and density parameters (see Table 3).

<u>Section I</u>

Section I (page 1 to page 16), the longest of the six structural sections, serves a dual function. First, section I is an introduction, to the work, creating an dreamlike effect that anticipates the music of the following sections. Second, section I projects a musical image of a fragile, restless dream-state by using a diversity of devices, such as the use of instrument timbre discussed earlier. Section I is subdivided into three smaller sub structures, each with its own distinctive musical character, and supporting the section's structural significance in the piece.

Sub-structures	Page
I.1	(page 1 to page 7)
I.2	(page 7 to page 13, m.2)
I.3	(page 13, m.3 to page 16, m.4)

Figure 3. Form Sub-structures (Section I)

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Harmonic and melodic material throughout section I is freely based on the 12-tone row first stated by the vibraphone in sub-section I.1 (see Figure 4) on page 1 and 2 over a static seven tone sonority in the strings and auxiliary percussion. The piano continues to add a coloristic effect to the bowed vibraphone with gestures performed on the interior strings.

E G# A# G B D F C# D# F# C A Figure 4. Row I

At rehearsal circle "A" the ascending motivic statement in the solo violin takes place over the slow transference of the opening string/percussion sonority to the winds. At circle "B" a rhythmical, asymmetrical motivic statement occurs in the piano/strings. This arpeggiated figure is produced by the ascending sequential projection of a five note motivic pattern (see Figure 5).

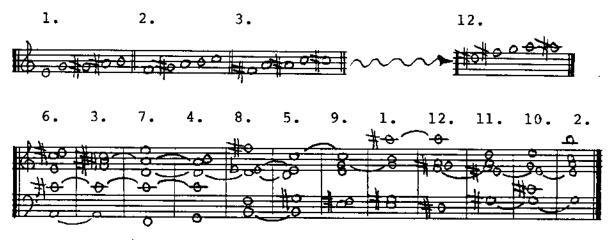
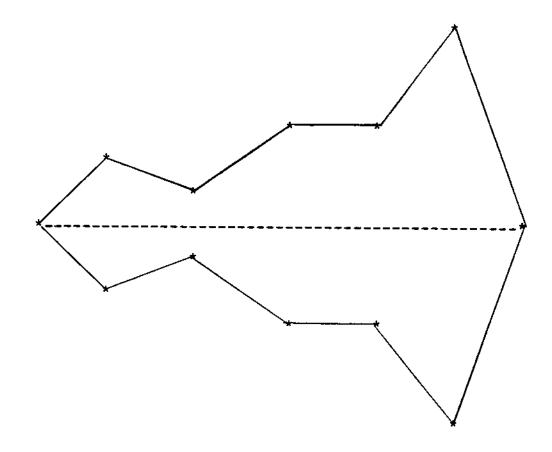


Figure 5. Ascending Motivic Projection



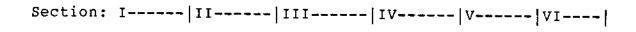
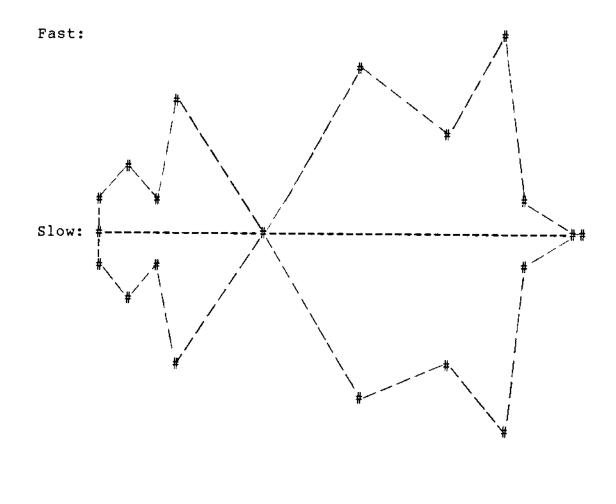


Table 1. Overall Density Structure



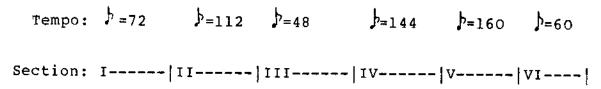
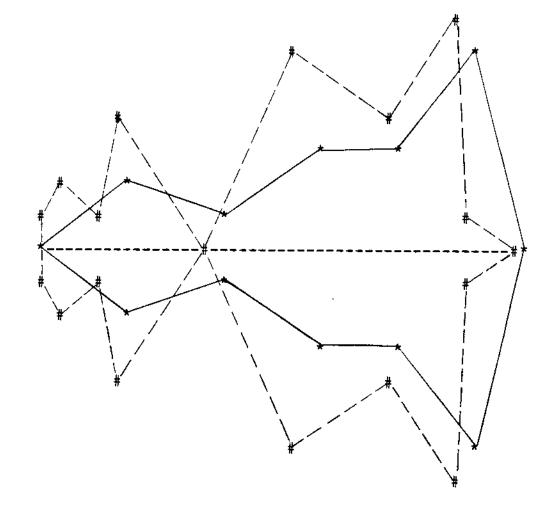


Table 2. Overall Temporal Structure

Density Shape: _____



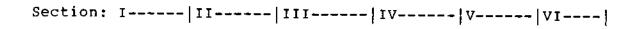


Table 3. Overall Composite Structure

The sustained wind sonority with forte-piano attack points that begins on page 3 becomes more active with decreasing rhythmic values. This composite increase in attack densities along with the pointillistic nature of the material builds to the climactic culmination of this first sub-section (I.1).

Sub-section I.2 contrasts with the previous sub-section in its use of stronger motivic gestures, primarily in the winds. This sub-section continues the climactic nature of sub-section I.1 with a sudden increase in tempo and melodic statements over a busy accompaniment in the strings. The melodic gestures in the winds use fragments of Row 1 in various row forms. However, this outburst of activity slowly disintegrates throughout this sub-section as the static nature of the first sub-section is reintroduced in the piano and then in the sustained string harmonics.

A sudden outburst of energy begins the last sub-section (I.3) with a unison motivic statement. This energetic beginning is sustained with trills in the winds and tremolos in the strings. Despite the slower tempo of sub-section I.3, the activity level is maintained through the use of multiple motivic layers, complex collage of sound. The underlying string sonority serves as the transition element for the entire sub-section. Beginning with rapidly changing glissandi, the rate of the glissandi are slowly lengthened with the tremolos changing to sustained tones reflective of

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the opening material. A parallel to sub-section I.1 is that the pitch material is produced with the downward projection of the same motivic pattern used at circle "B" (see Figure 6). A complete statement of Row 1 is used in the piano and vibraphone on page 15, measure 2. The ending texture with its sustained sonorities is reflective of the opening substructure.



Figure 6. Descending Motivic Projection

The high degree of contrast between various parameters of section I (i.e., dynamics, melodic gestures) is used to prepare the listener for more sustained and elaborated material in the following section. This flux of emotion, the juxtaposing of harmonically similar but motivically different material is used throughout the work with section I fulfilling its intended role as an introduction to the work.

Section II

Marked by both sudden tempo increase and pointillistic motivic statements in the winds, section II serves as the first large interruption of the tranquil image of section I. The opening gestures of the section are continued in the

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strings in a recurring rhythmic pattern with pitch material consisting of Row 1 statements.



Figure 7. Cello Page 17, measure 1

The strings continue this pattern, its pitch material being derived from a complex permutation pattern from each of the players' initial row statements (see Figure 8).

Row 1 (Prime 9)

C#	F	G	Е	G#	В	D	A#	С	D#	Α	F#
1	2	3	4	5	6	7	8	9	10	11	12

Interpolated Row



1 (12 11) 2 (10 9) 3 (8 7) 4 (6 5) 5 (4 3) 6 (2 1)



7 (2 1) 8 (3 4) 9 (5 6) 10 (7 8 9) 11 (10 11 12) 12

Figure 8. Row 1 (Prime 9), Permutation

This pattern is continued in the piano, percussion, and bass, rhythmic material serving as a background for the ensuing wind parts. The winds slowly lose the intensity of their opening force with the reintroduction of longer sustained tones. At rehearsal circle "G", the strings begin a short imitative melodic section that climaxes with sustained woodwind trills. At rehearsal circle "H", this climactic gesture is The permutation process is comprised of the cyclic interweaving of one note from the row being processed with two of the notes from that row's retrograde, with the composite row being used as the basis of the next cyclic permutation. This method of permutation produces a continuous flow of notes, an organic growth of pitch material that allows the various row statements in the winds to maintain a unique pitch structure and note "freshness". heightened with an orchestral tutti section in a declamatory style. Once again the emergence of sustained sonorities is used to delimit a structural unit as section II ends in a tranquil manner in contrast to its energetic beginning.

An attempt to project anxiety is an underlying structural feature of this section. While emotional projection is subjective, an objective analysis of the musical features reveals an asymmetrical rhythmic structure and melodic gestures that can be heard as musically "anxious" (see Figure 9).

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Figure 9. Trumpet Page 19

Whether these are subconscious or deliberate phenomena, their occurrences and their contribution to the section's overall effectiveness is a significant feature of section II.

Section III

Section III serves as a contrast to the energetic events of section II, expanding and referring back to the sustained sonorities of section I. Here, the sustained material is developed by use of a multi-layered texture made of long melodic lines throughout the ensemble. This section is the first of the two canonic structures used in <u>Night of Glass</u>. The canonic element of section III is rhythmic, not melodic. However, due to the enigmatic construction of the canonic form, this section will not be aurally perceptible as a traditional, pitch-oriented canonic structure.

By using the same rhythmic array for all the canonic voices, but skewing the twelve-tone pitch material between two voices, a complex but thematically expanding melodic line is produced. The rhythmic array used begins by representing the number of eighth notes between attack points. After its

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initial statement, however, the array is then freely applied to the sixteenth-note value (see Figure 10).



2 3 4 3 1 2 3 4 2 3 7 Figure 10. Canonic Rhythmic Array

This intricate construction is further complicated by the free use of secondary arrays. These arrays are used to control a diversity of elements such as placement of the melodic rests and most importantly the positioning of the voices in the canonic relationship. For example, the initial entry of the voices is controlled by a number series (6,3,3,6,3,3). Each number in the series is used to indicate the number of eighth notes before the next voice enters.

Each canonic voice is assigned two instruments for that voice's realization (see Figure 11).

Voice	Instrumentation
1	Violin 1, Percussion
2	Bassoon, Piano
3	Viola, Clarinet
4	Oboe, Violin 2
5	Horn, Flute
6	Bass, Trumpet

Figure 11. Canonic Voice Assignments

The two instruments that comprise each voice make use of the rhythmic array. Another external series is then used to determine which instruments are active (playing) and which one is at rest, thereby producing a multi-layer hocket melody.

Section III introduces a new row for pitch material (see Figure 12). The pitch material is projected not between the two instruments that comprise a composite canonic voice, but between voice groups that are adjacent. For example, the original form of the row is stated as a composite entity in violin 1 and the bassoon on page 26 and the complementary instruments in each of the voice groups (i.e., percussion, piano), (see Figure 11).

F G B C# D D# A# E F# G# C A Figure 12. Row II

As the section progresses, the canonic construction is relaxed and pitches are derived by segmentations of row 2. It should be noted that the logic behind the usage of such a complex application of numerical arrays is not meant to be an esoteric experiment. It is, however, used to provide the composer with a self-generating structure that produces material, while independent of the composer's immediate control, maintaining a direct relationship to the hierarchical design established by the composer.

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Section IV and V

While sections IV and V were logically conceived as separate entities, their union forms the climactic structural peak of the work (see Table 1). The interdependence of melodic and rhythmic material as well as their complementary relationship suggests that the best analytical approach would be to view these sections together as one structural unit.

At rehearsal circle "K", section IV begins with a sudden increase in tempo change (, = 144) and consists of three distinctive motivic elements. An active background figure of rapid notes performed in a jagged manner comprises the first element. Next, a <u>forte-piano</u> simultaneity of dissonant quality is used as a continuation of material from section II. The last element is a tremolo figure, first introduced by the piano, later juxtaposed with the sustained material.

The interplay of these elements produces a composite musical texture that is in constant flux. This dichotomy of sound is supportive not only of the structural density of this section, but also of the emotional content as well.

A new 12-tone row is used for section IV (see Figure 13) which serves as an intervalic transition between Row II and symmetrical Row IV through its use of the minor third interval.

B C D D# F G E F# G# A A# C# Figure 13. Row III

At rehearsal circle "L" we see the extension of the tremolo material with the introduction of trills in the winds. Over this new material, short melodic fragments are used as dramatic gestures throughout the ensemble. As the arpeggiated <u>glissando</u> in the cello leads to rehearsal circle "M", the rapid note motive from the first of this section appears again, this time in the strings as the sustained pattern in the winds. The wind <u>ostinato</u> pattern is prolonged as a coherent device over which the remaining motivic material is developed.

As section IV progresses, the trill material becomes less pronounced, except for the tremolo <u>glissandi</u> in the bass. The section is brought to a dramatic close in a nonmetered section at rehearsal circle "0". Here the motivic materials are short repetitive figures, a synthesis of two of the opening elements of section IV, the repeated melodic figuration, and the sustained elements. The repeated notes of rehearsal circle "0" serve as the structural basis for section V.

A canonic structure by design, section V makes use of a symmetrical row for pitch material (see Figure 14).

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The symmetric nature of the row is used as a motivic element by means of a permutation process. The process, when used melodically, involves the partitioning of the melodic array into subsets. These subsets are then stated recursively, producing an expanding sequence of notes constructed from the previously stated material. For example, an array divided into five subsets using the recursive pattern given in figure 15 produces the melodic composite shown below. When used with subsets of varying size and changing parameters, a complex melodic array is produced. An infinite number of subsets are possible.

Sub-structures:

Composite Form:

AABABCABCDABCDE

Figure 15. Spiral Process

The repetitive quality of the motivic spirals coupled with the symmetrical structure of the row in this section is fully exploited to make this the climactic peak of the work.

For the canonic form, the ensemble is divided into three groups for use as canonic voices (see Figure 16).

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VOICE I:	Bassoon, Piano, Cello, Bass
VOICE II:	Clarinet, Horn, Trumpet, Violin II
VOICE III:	Flute, Oboe, Violin I, Viola
Figure 16.	Instrumentation Canonic Voices

Each group entrance is a stretto at six measure intervals from the beginning of the canonic structure. As mentioned above the motivic material is a continuation of the earlier section IV texture, as is demonstrated by the elision of the two sections at rehearsal circle "P".

The spiral's melodic subsections are constructed to produce a composite melody, supportive of the structural significance that this section plays in the overall density of the work. For example, the composite melody has an ascending shape and minimalistic nature that sustains the climactic quality needed at this crucial point in the piece (see Table 4). The culminating texture of this section is further heightened by the use of an extended accelerando throughout the entire section V. The canonic voices contribute to the textural climax, subdividing into three additional voices through rhythmic displacement within each voice group. By the end of section V there are six separate voice groups with the percussion serving as the unifying element throughout the canon. The disjunct character of the last motivic subsection plus the use of a transposition before subsection seven brings section V to a cathartic close.

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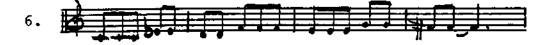














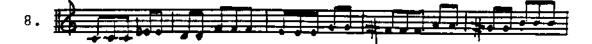






Table 4- Melodic Spiral Subsections

Section VI

Section VI begins with the <u>pianissimo</u> string sonority based on set type (5-11), the same string sonority used to end the first structural section of <u>Night of Glass</u> (section I). Section VI acts in a reciprocal manner to subsection I. This relationship to the beginning of the work is reflected in section VI being constructed as a structural retrograde to the first section in miniature. The section reintroduces the coloristic percussion and interior piano timbres used in section I. The retrograde construction continues with the use of the string <u>glissandi</u> gesture that ended section I, this time at a perfect fifth pitch level higher, slowly ascending to a string harmonic sonority ending <u>Night of</u> <u>Glass</u>.

At rehearsal circle "U" the hammered dulcimer is used to introduce a 24-tone row. This row is built from the interpolation of the retrograde of row 1, at a major second level higher (R2), with the original form of row 1 at a major third level higher (O4), (see Figure 17).

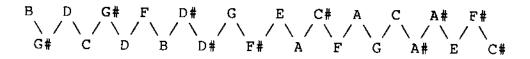


Figure 17. Row V

The piano makes use of row 1 in retrograde at a minor third higher pitch level. These rows are freely repeated to form a

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diffused background into which the other parts are slowly absorbed. The winds perform an augmented form of the row used by the piano, distributed throughout the parts as a descending gesture in a direct contrasting motion to the strings. The winds gradually disappear and a motivic elision occurs as the auxiliary percussion instruments (water crystals) return with the addition of glass wind chimes in the clarinet and flute parts.

The section ends in a free-metered section at rehearsal circle "V". This blurred sonic image brings <u>Night of Glass</u> to a close with the musical image of the dream-state, ending as it had begun.

CONCLUSION

As the analysis above shows, <u>Night of Glass</u> is a multifaceted approach to compositional procedures. But despite the varied nature of its construction, the overall effect of the work is one of unification. While it does not make use of exact melodic repetition, the work is bonded by the projection of metaphorical imagery as implied by the work's title.

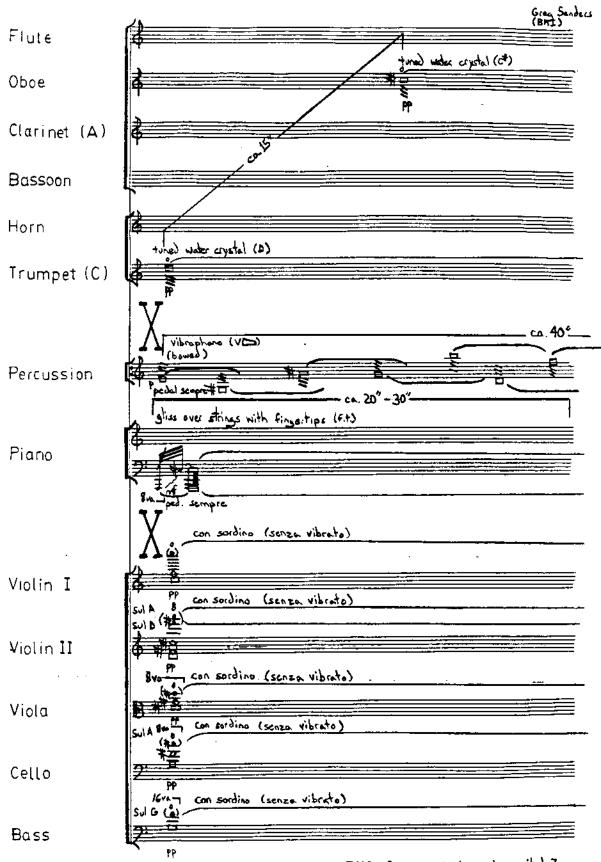
The use of music to project extra-musical material is not new. Whether the imagery involved has been historical (Beethoven's <u>Wellington's Victory</u>), exotic (Rimsky-Korsakov's <u>Sheherazade</u>), psychological (Schoenberg's <u>Pierrot Lunaire</u>),

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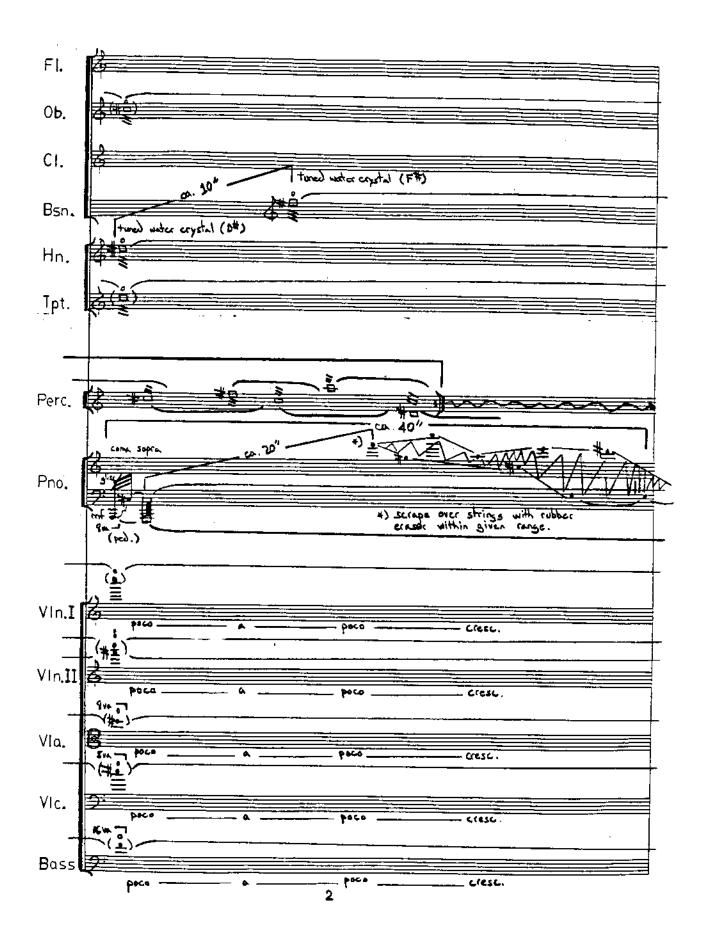
the use of emotional projection is a compelling, but often misunderstood compositional process. Although it may be considered merely a side-effect of the structural feature of musical parameters, its usage as a unifying component in <u>Night of Glass</u> is all important.

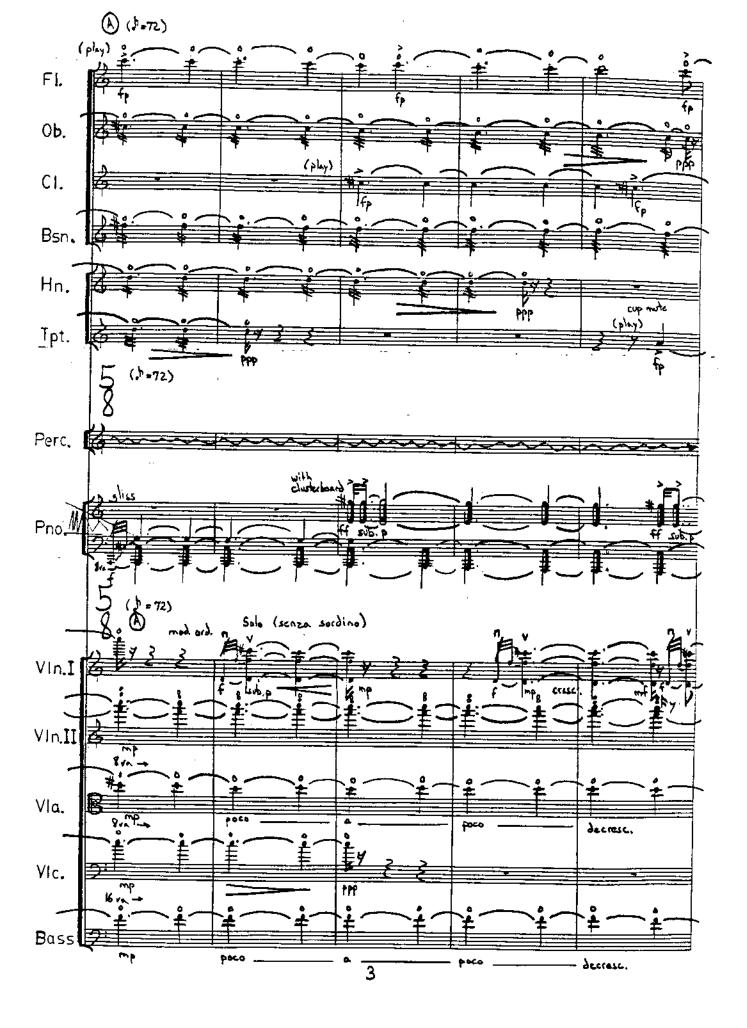
BIBLIOGRAPHY

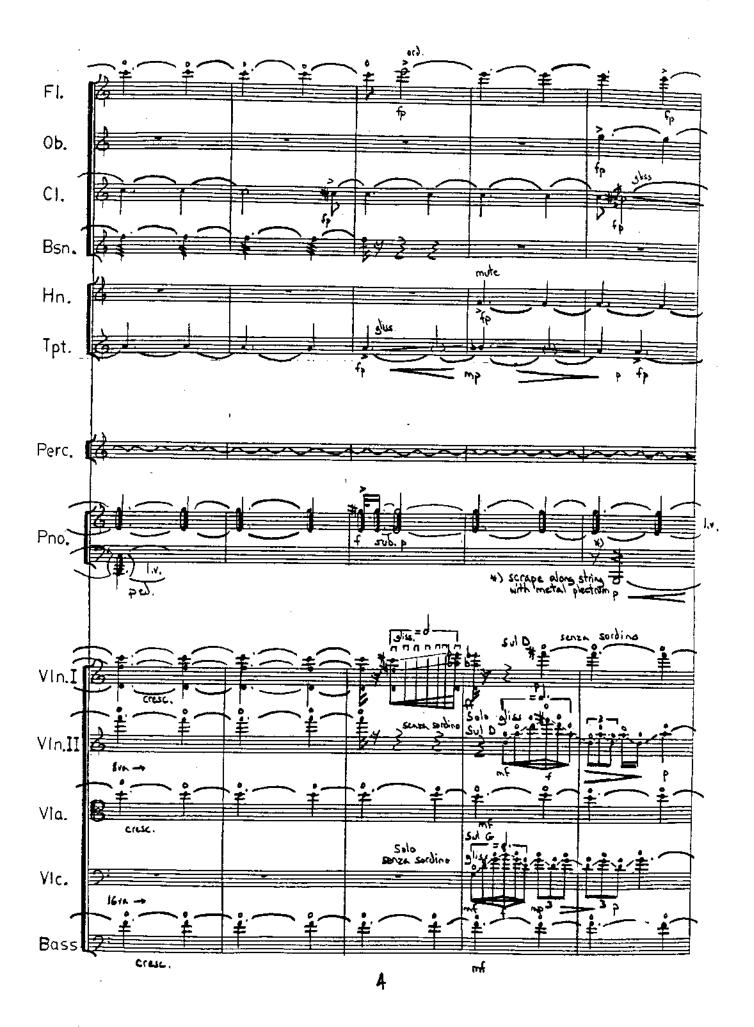
- Forte, Allen. The <u>Structure of Atonal Music</u>. New Haven: Yale University Press, 1973.
- Tremblay, George. The Definitive Cycle of the Twelve Tone Row. New York: E. D. J. Music, Inc., 1974.
- Wuorinen, Charles. <u>Simple</u> <u>Composition</u>. New York: Longman Press, 1981.

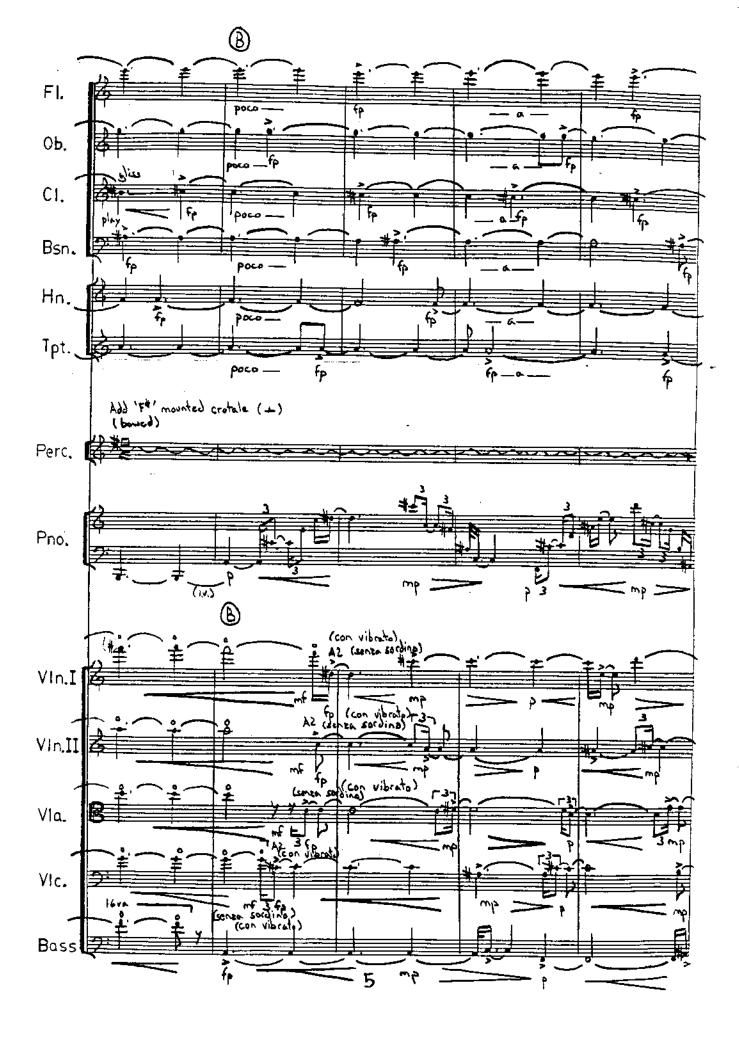


EN.B. Score in C at sounding pitch]

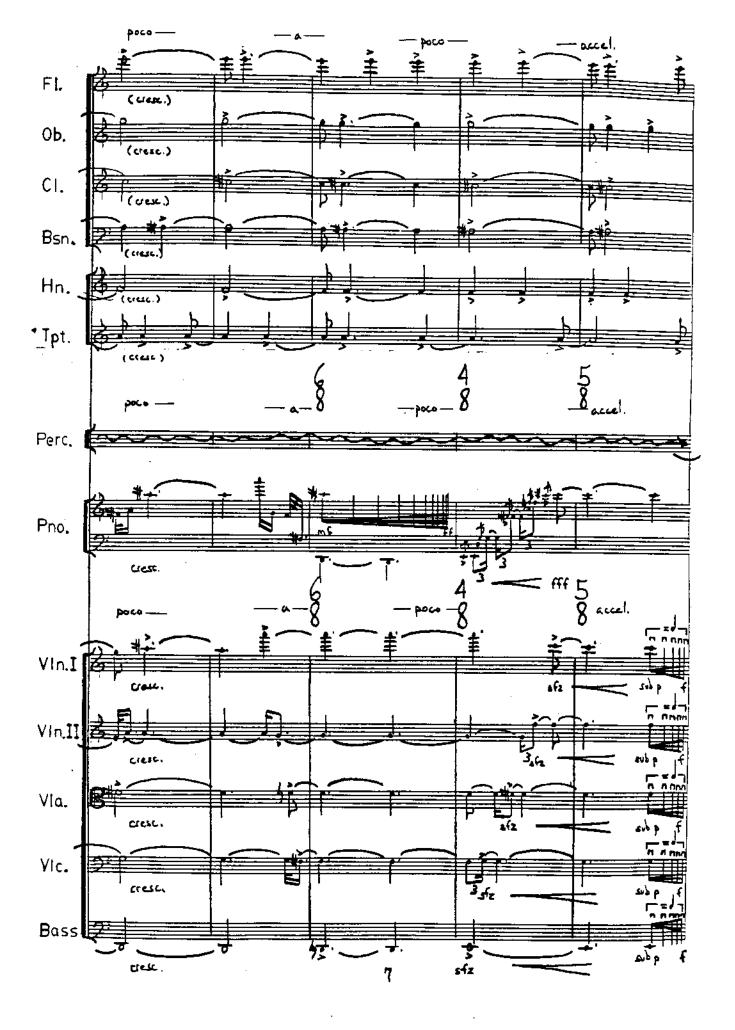




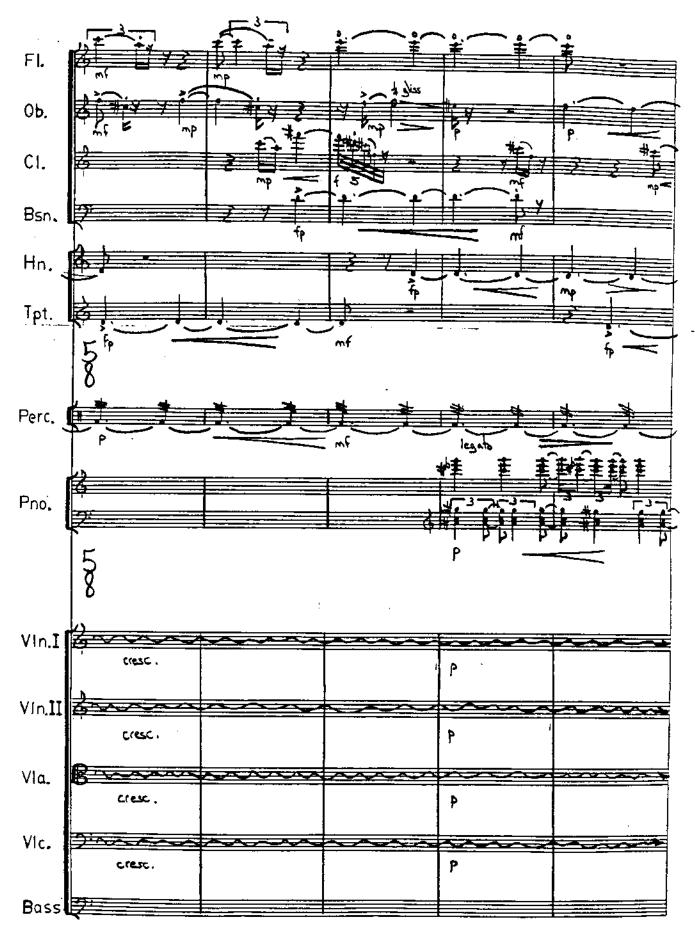




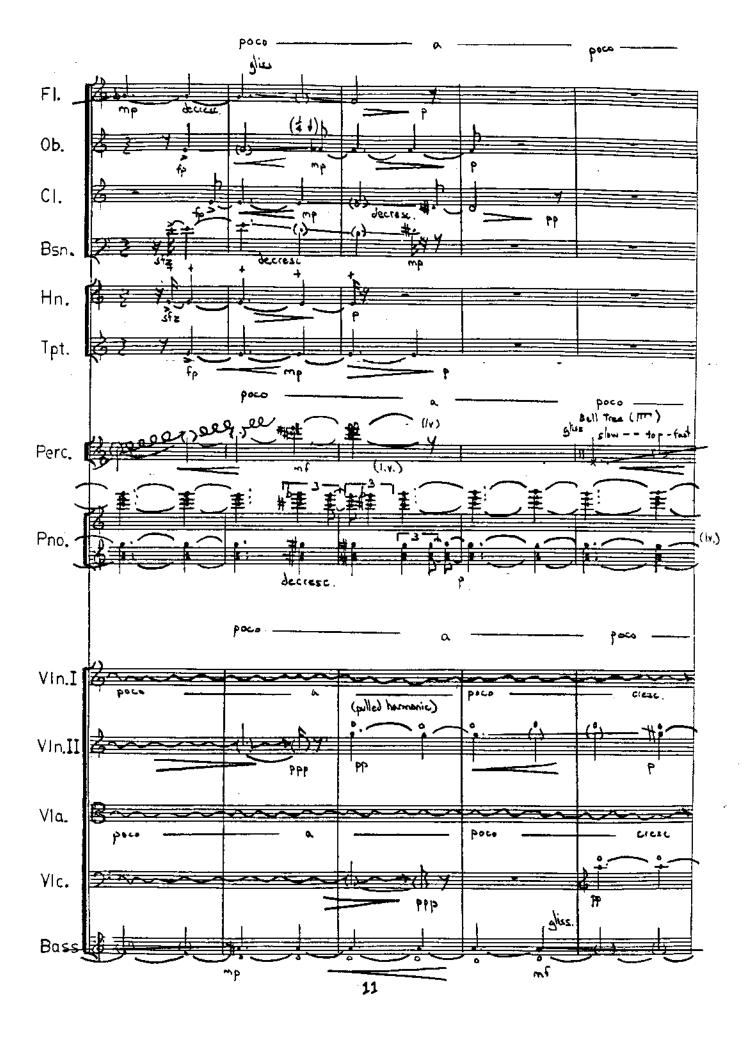




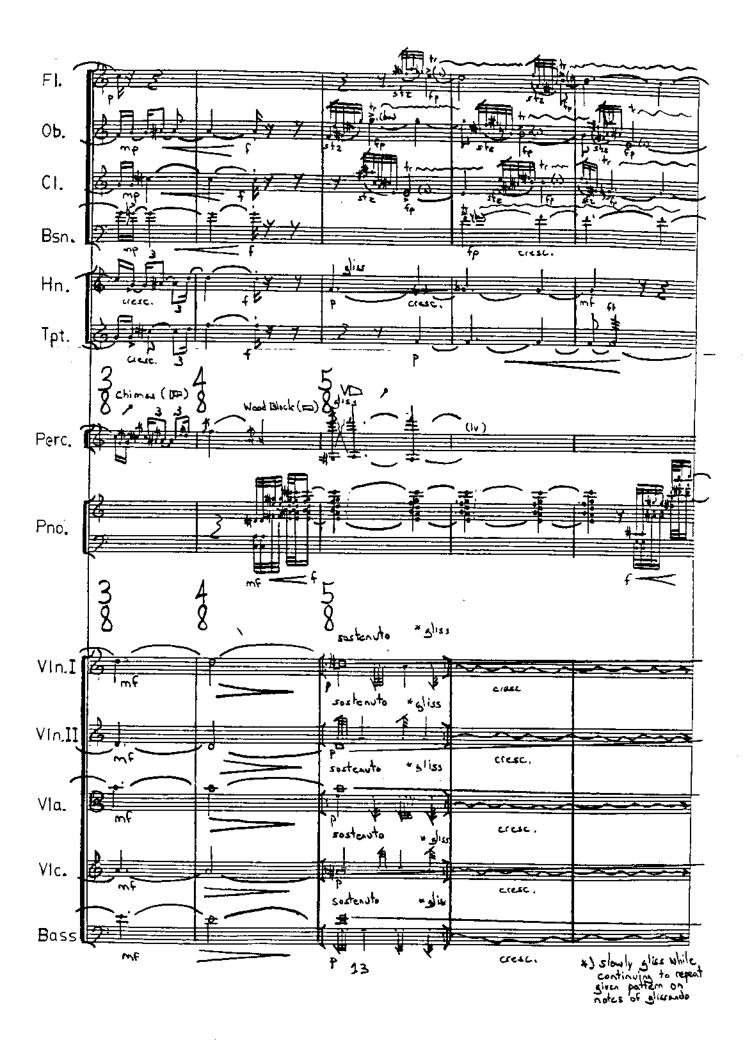


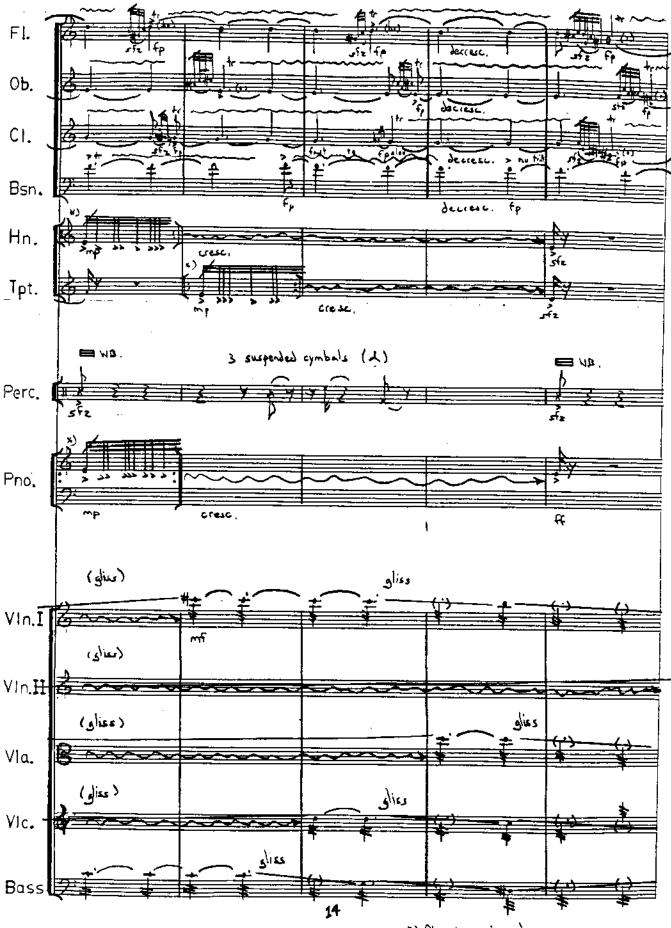








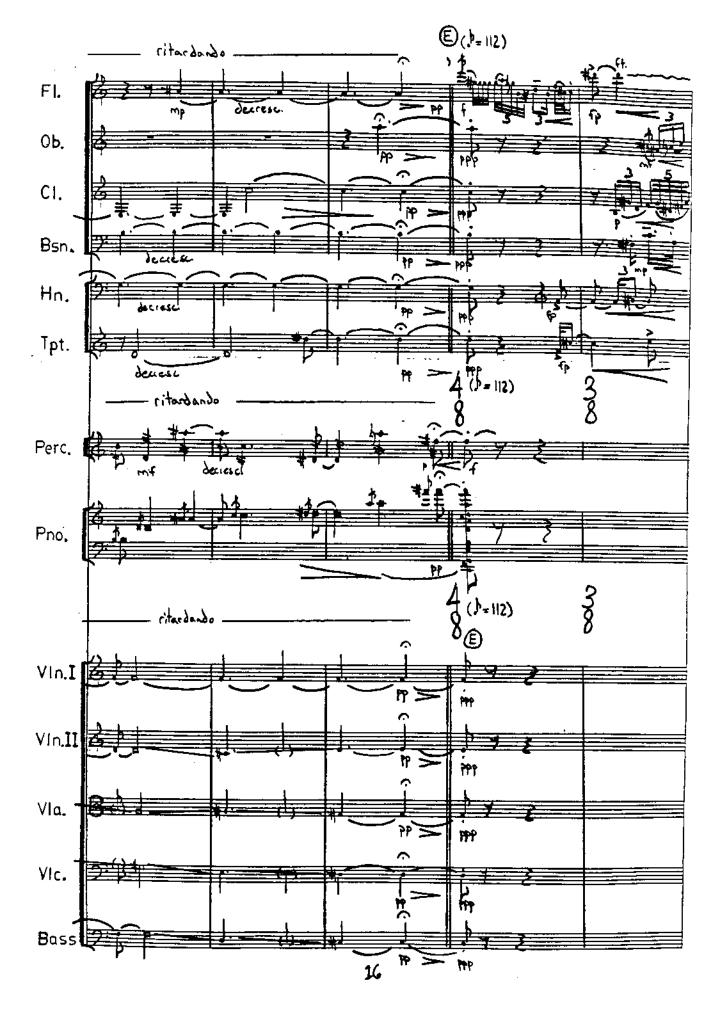




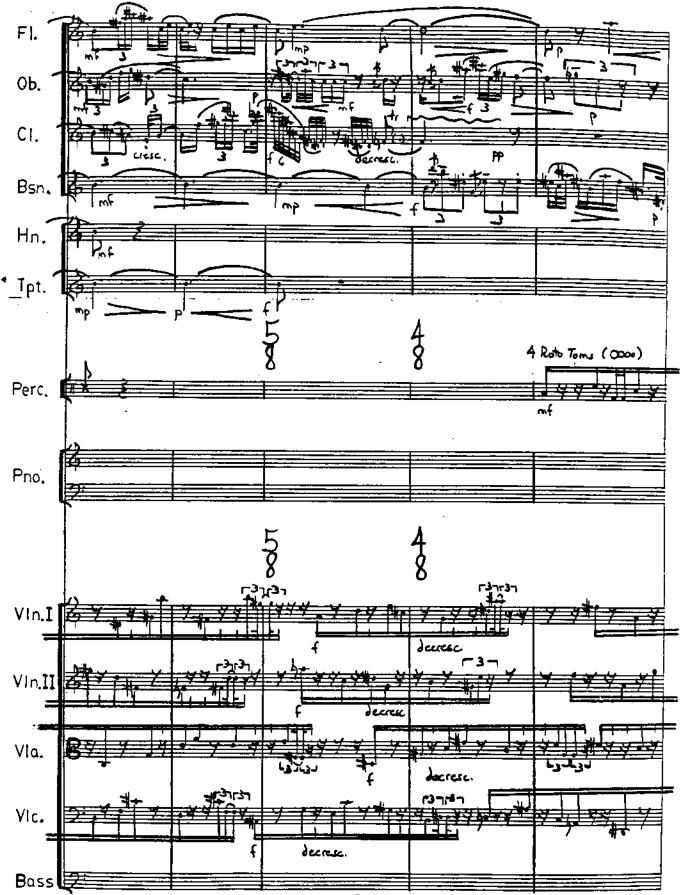
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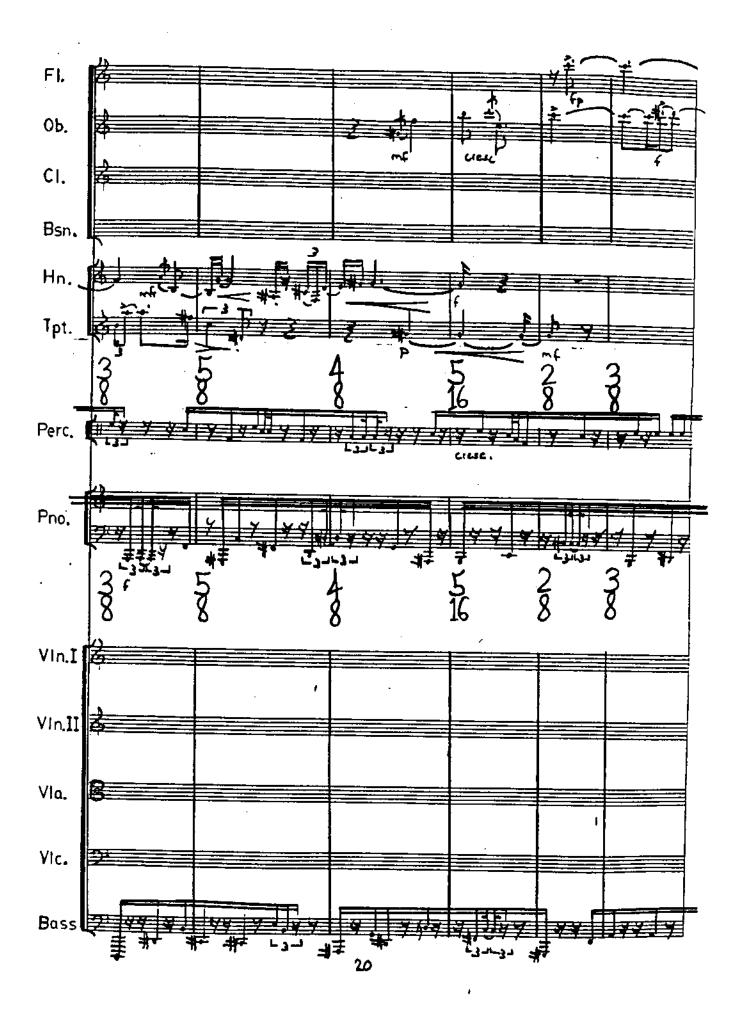
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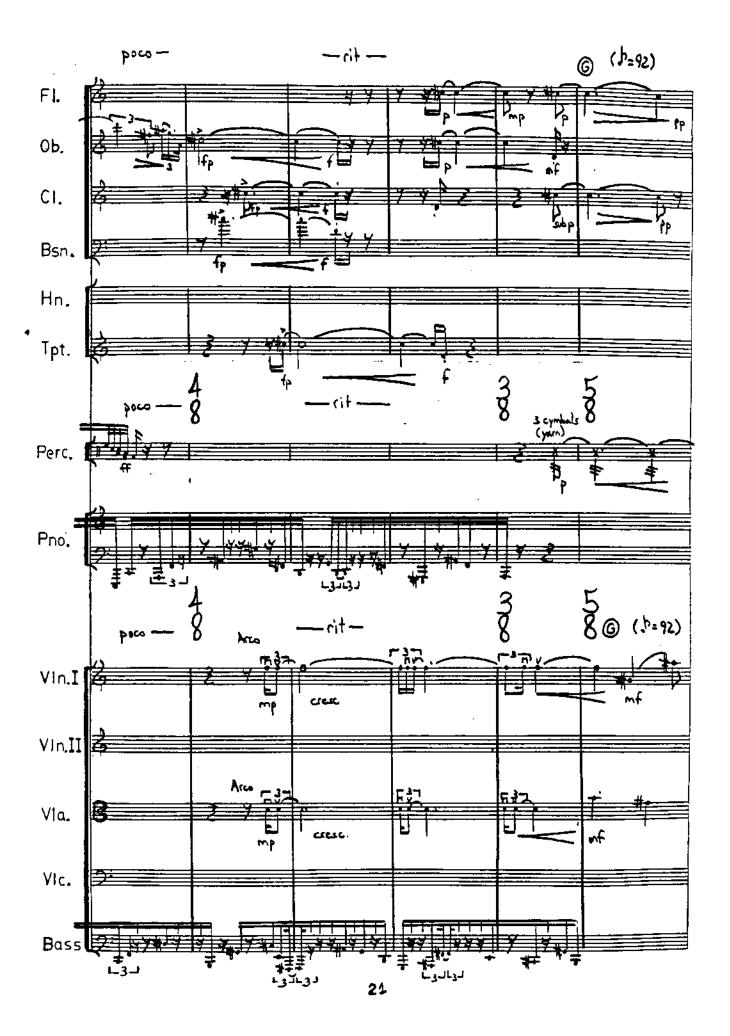


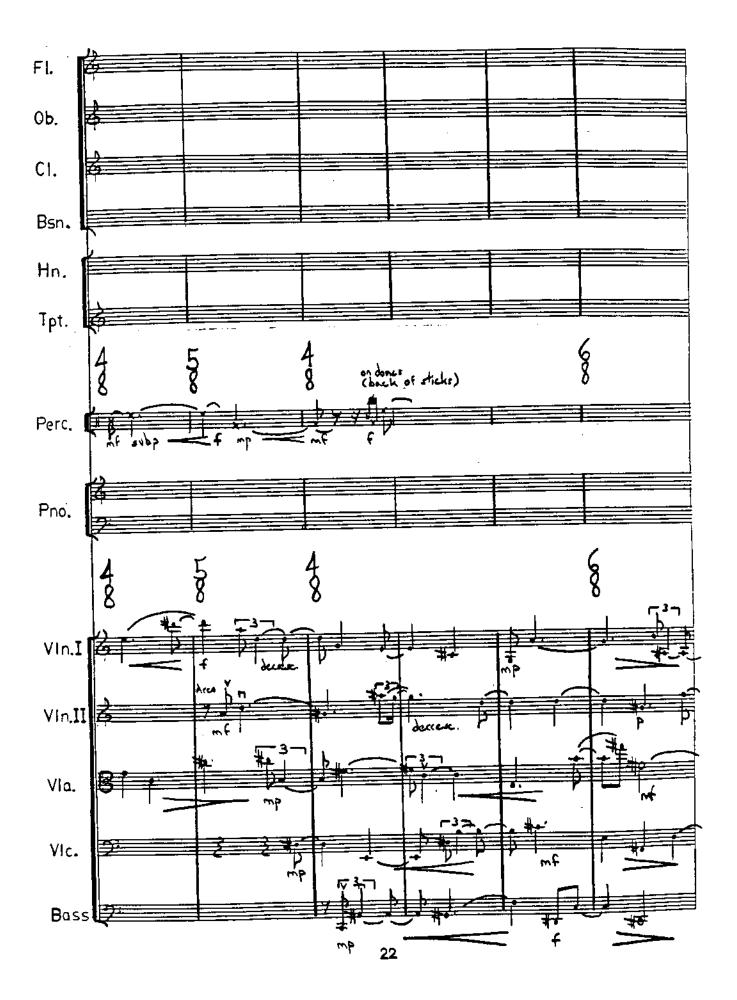






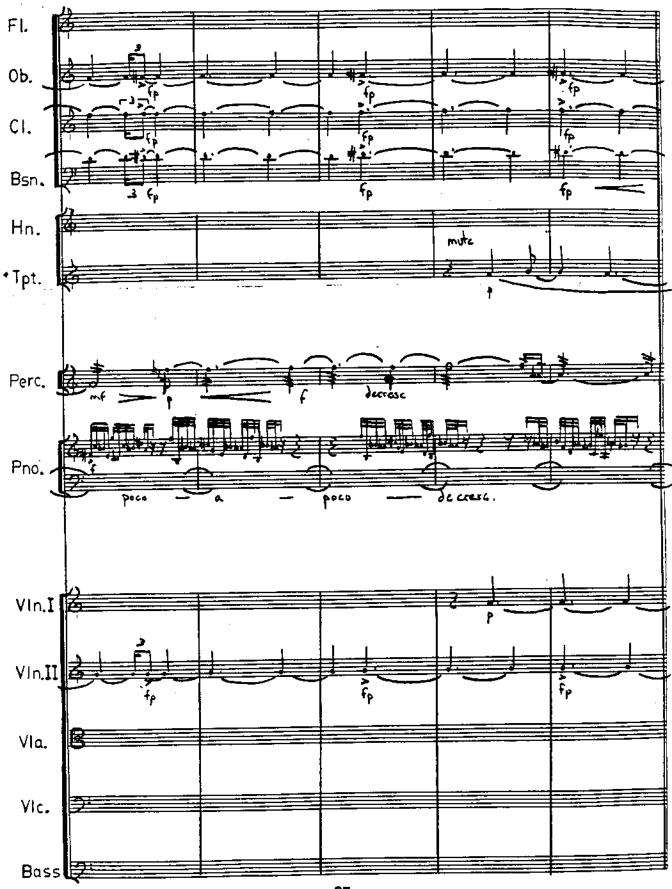


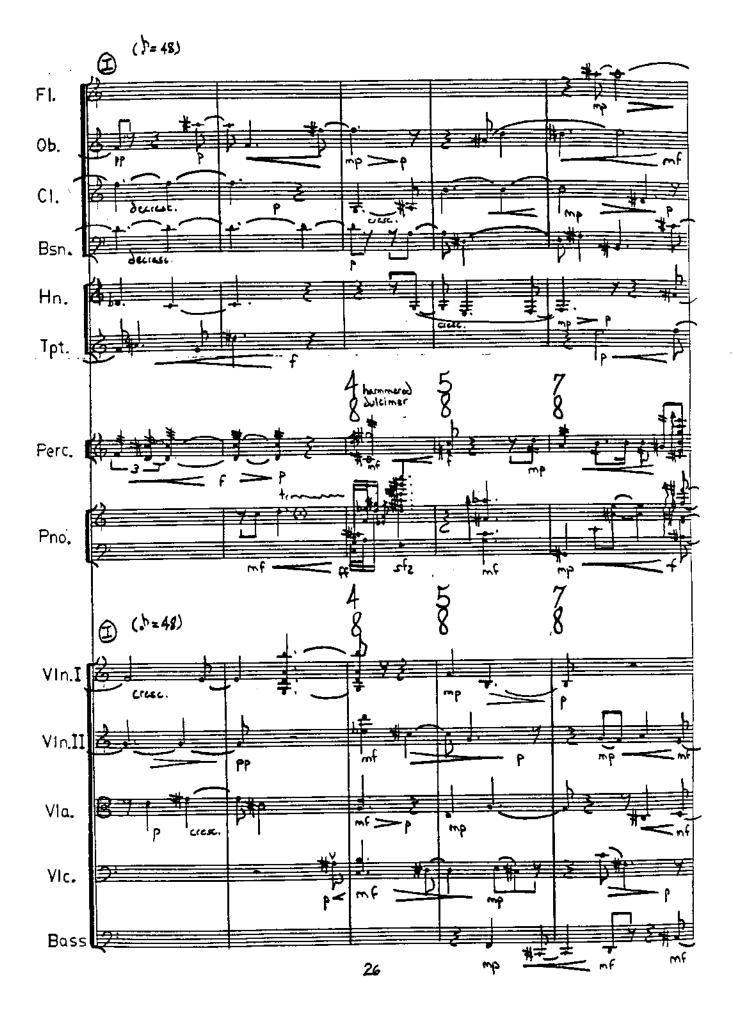


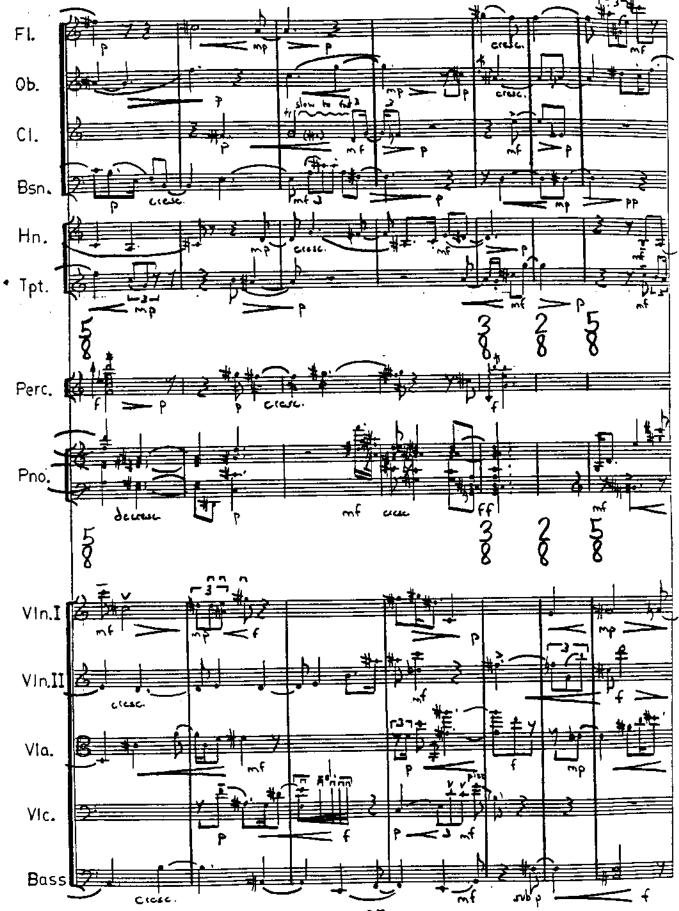




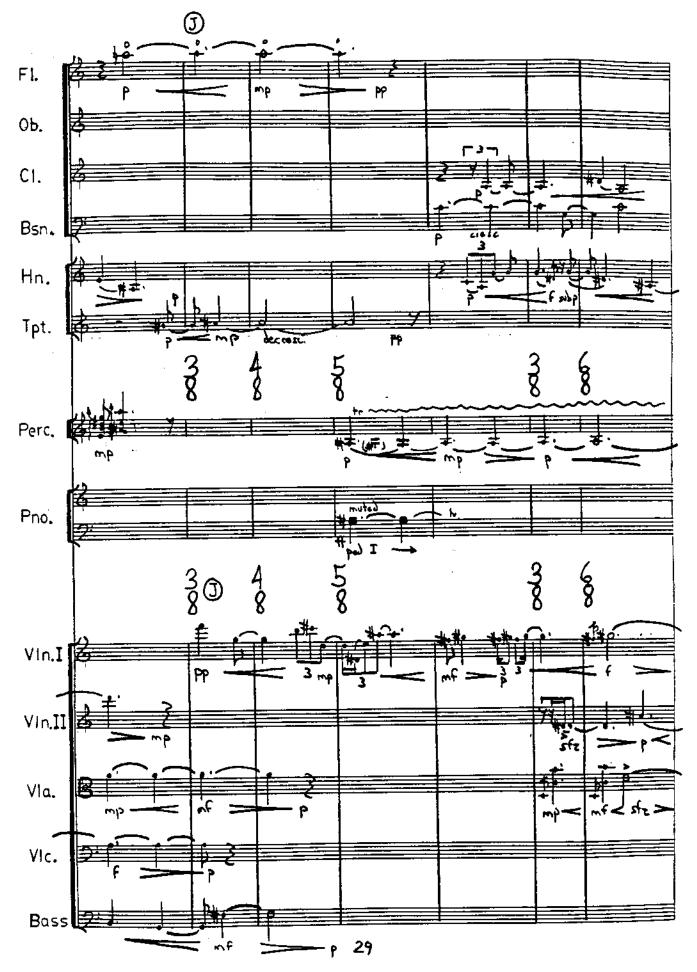




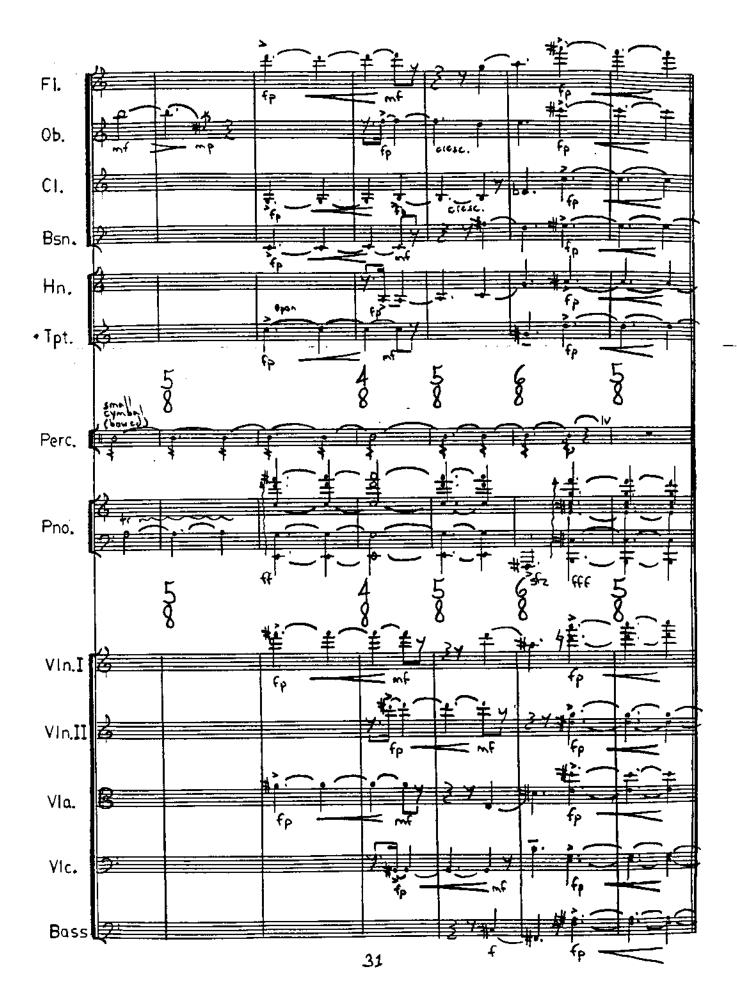


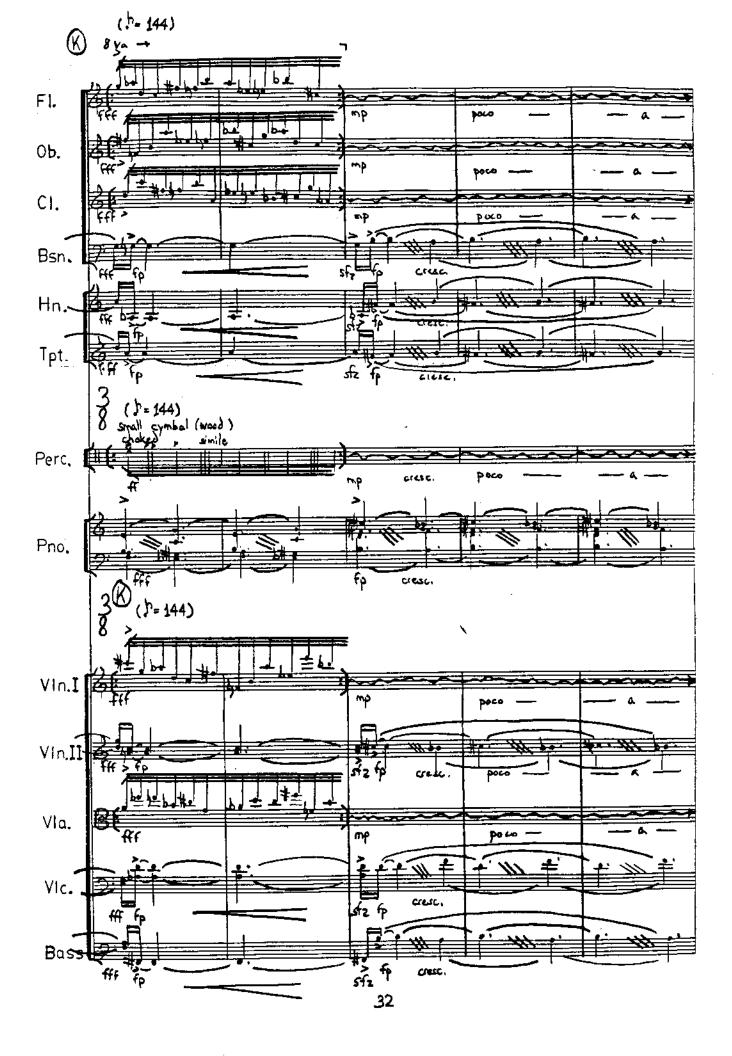


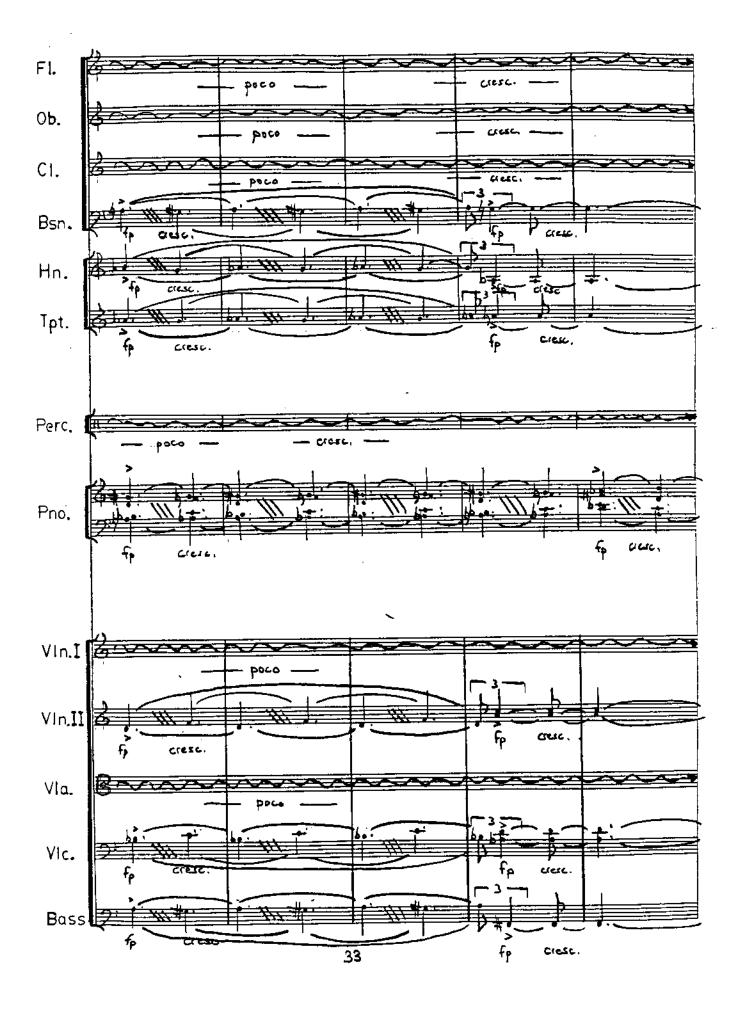


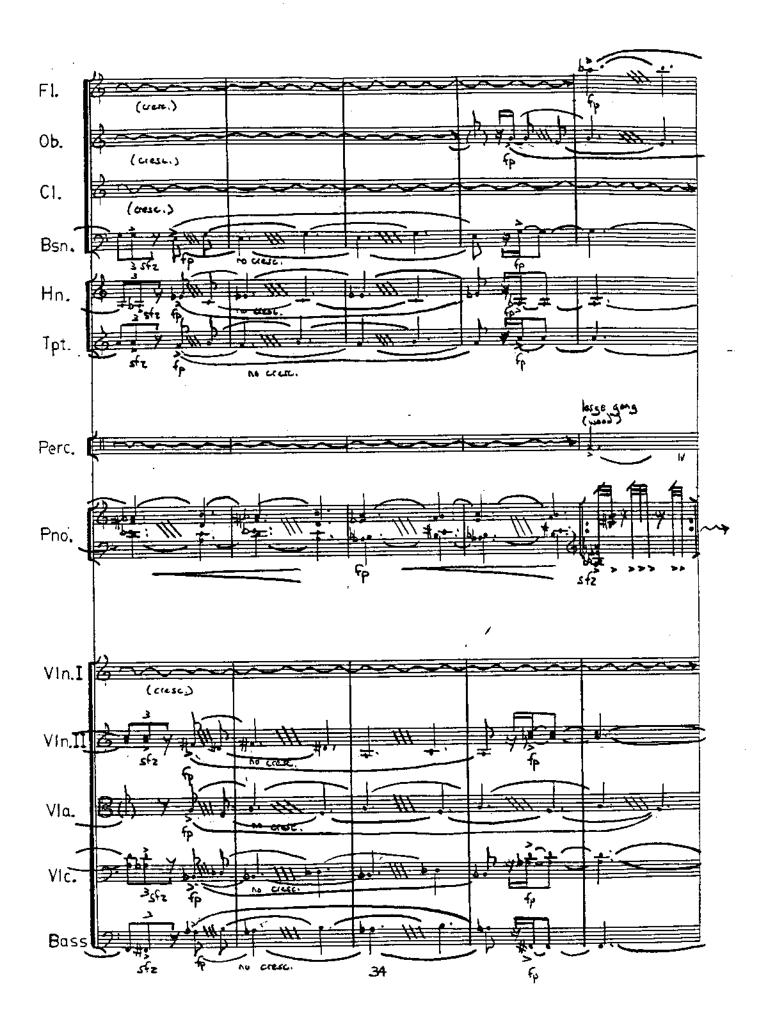


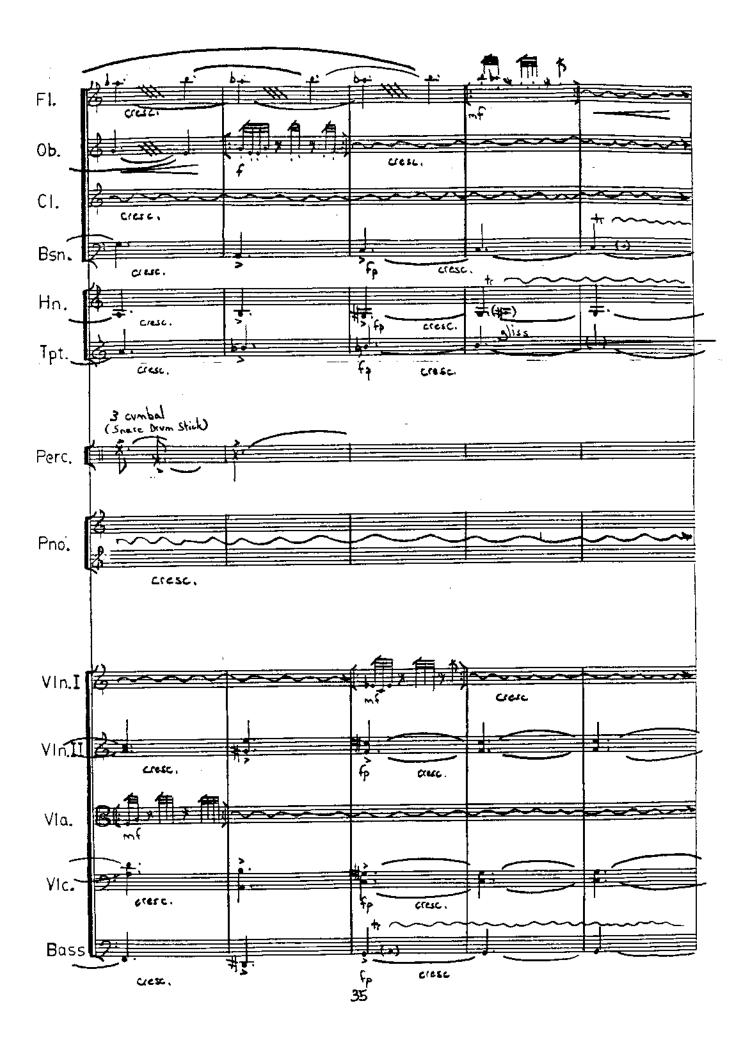






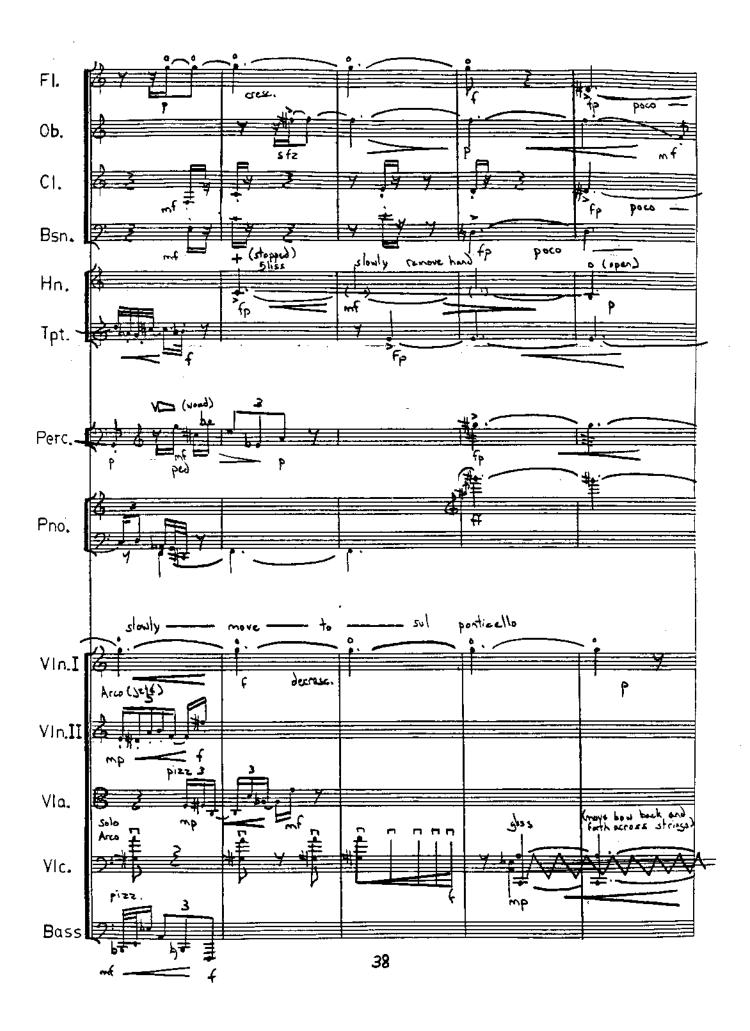




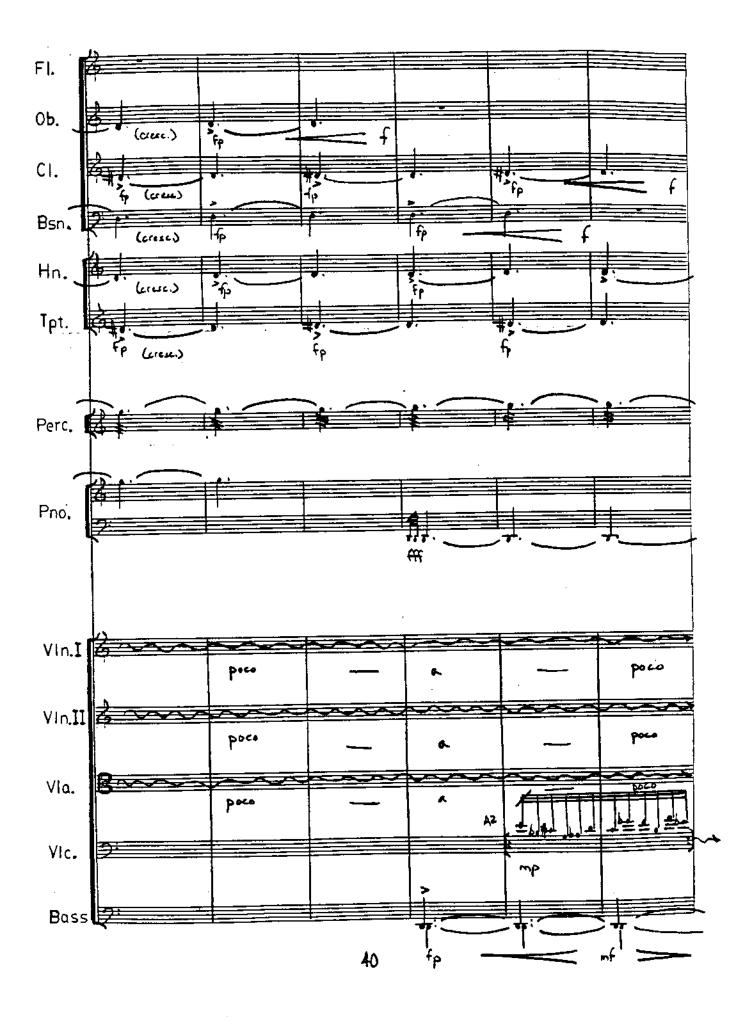




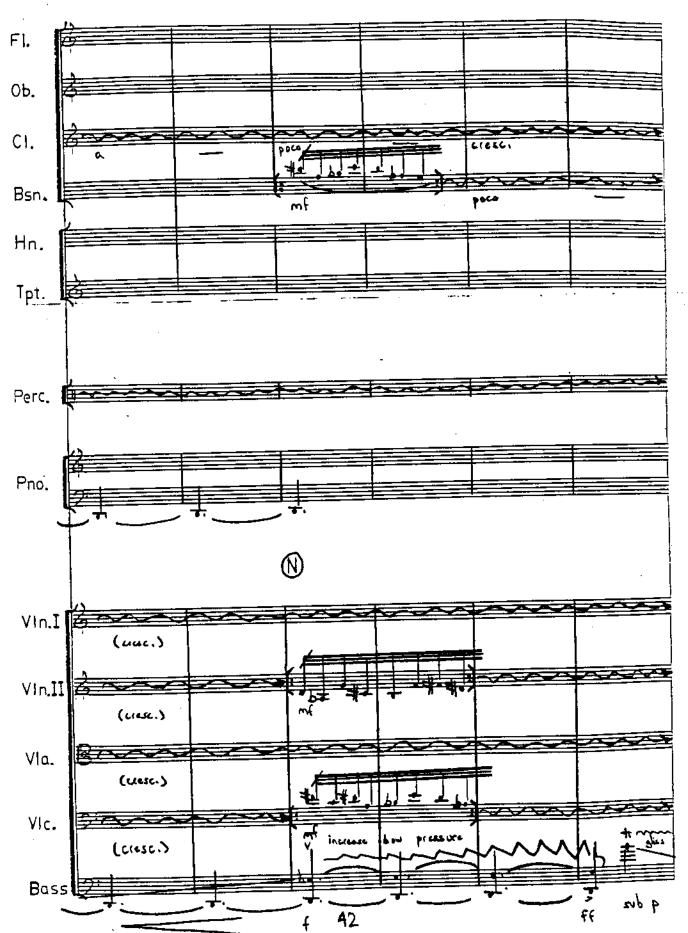




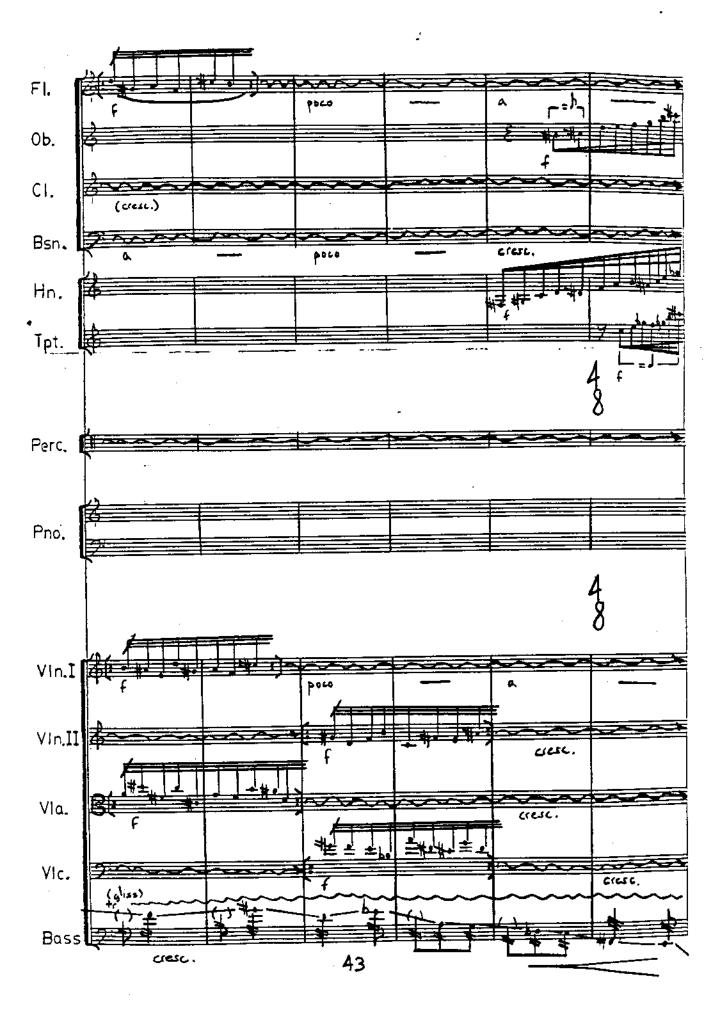


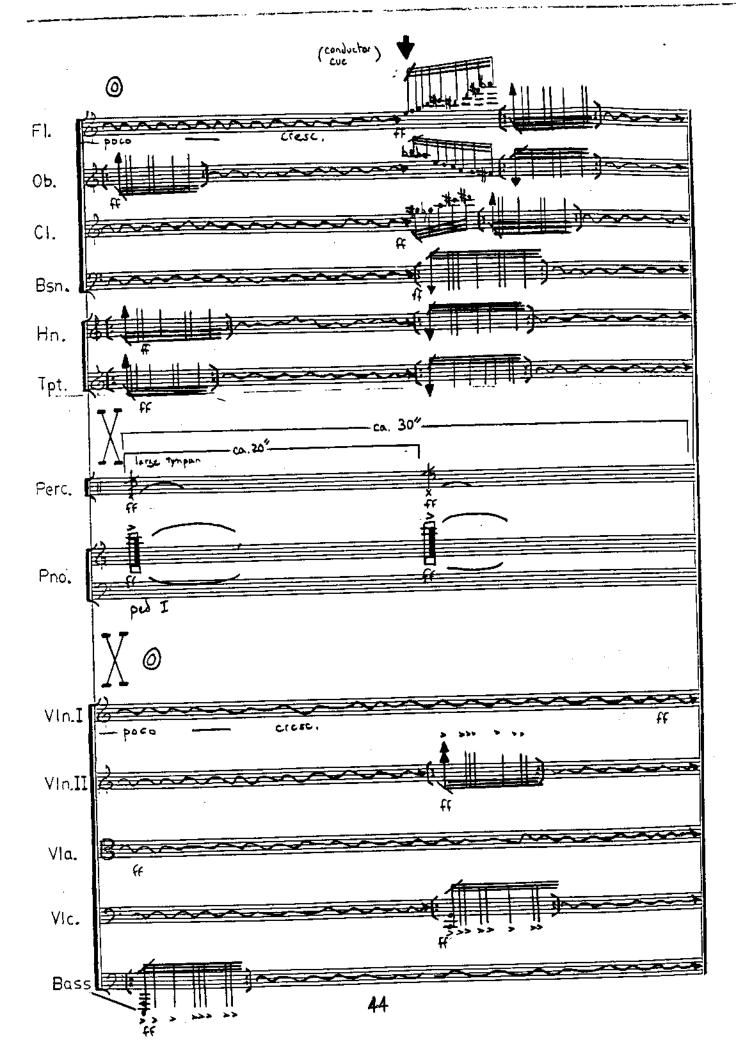






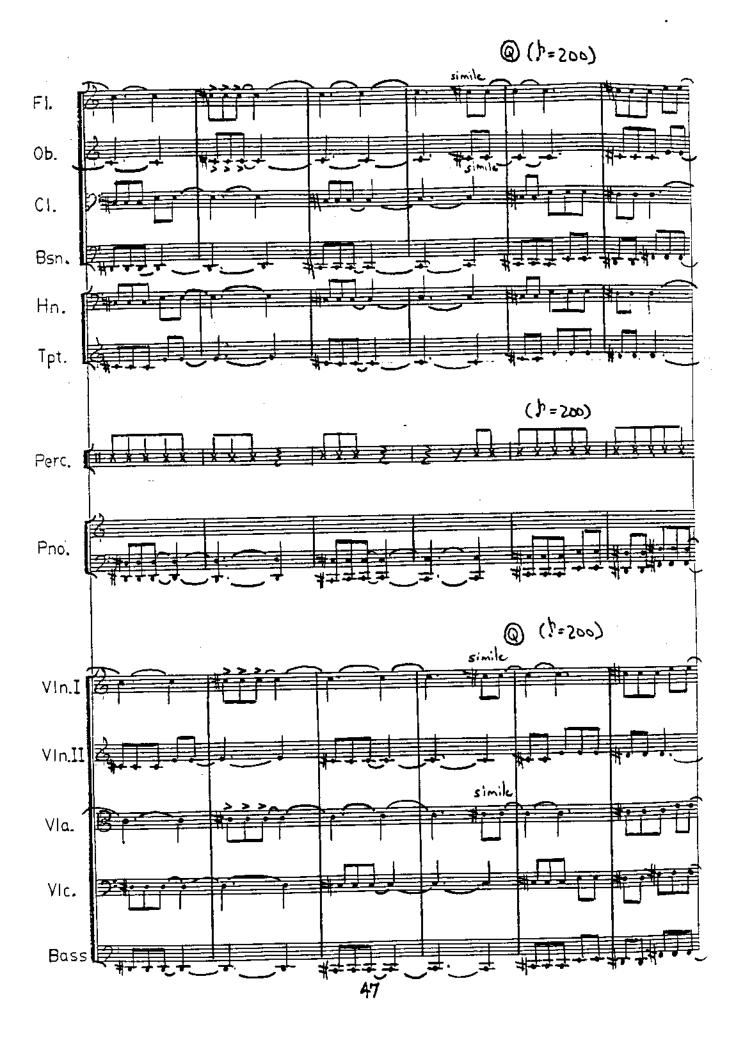
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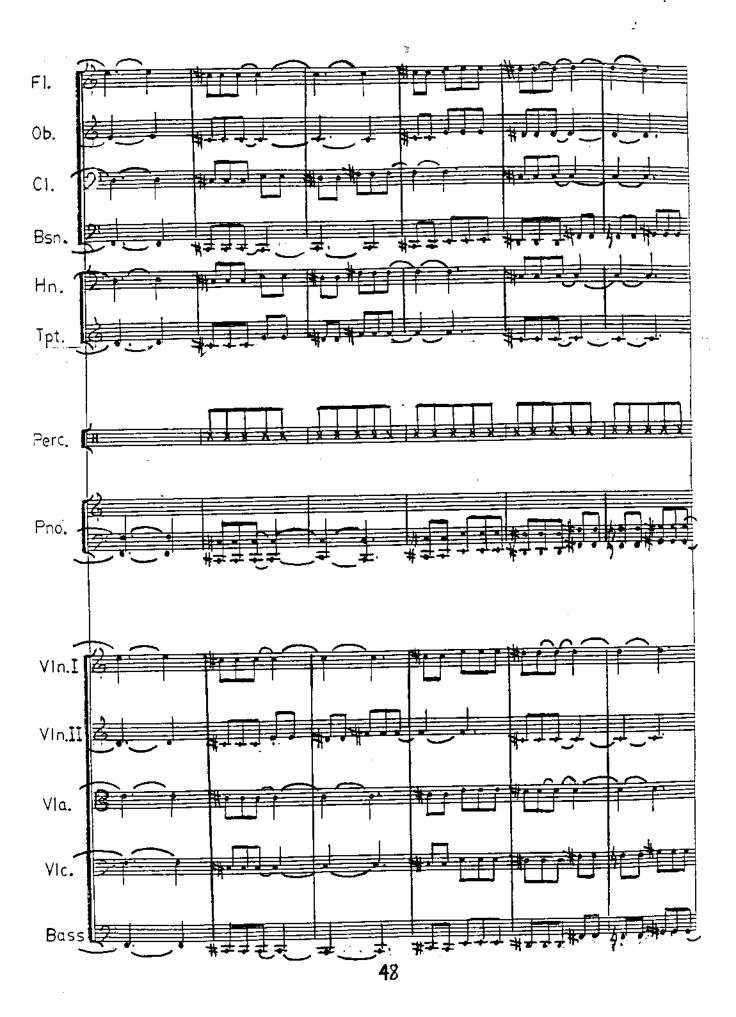


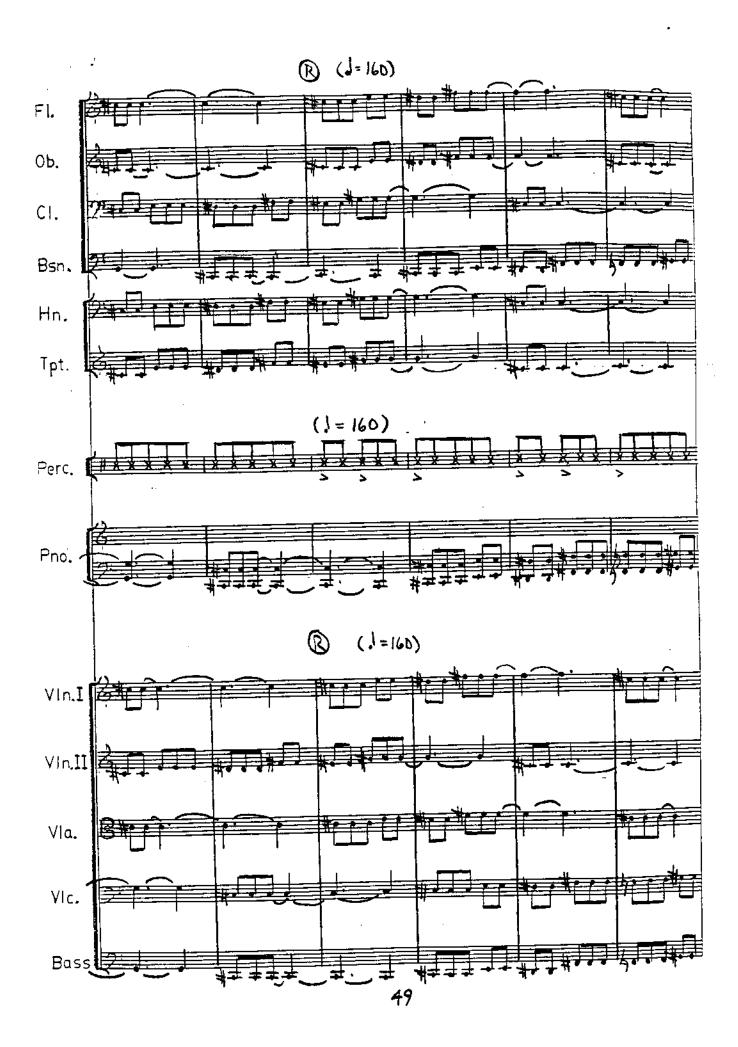




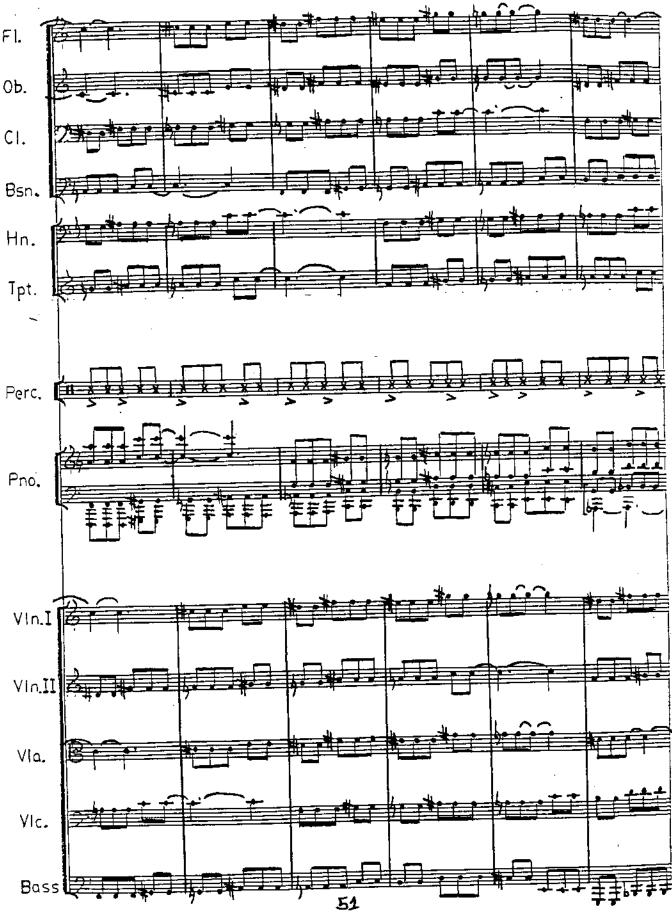


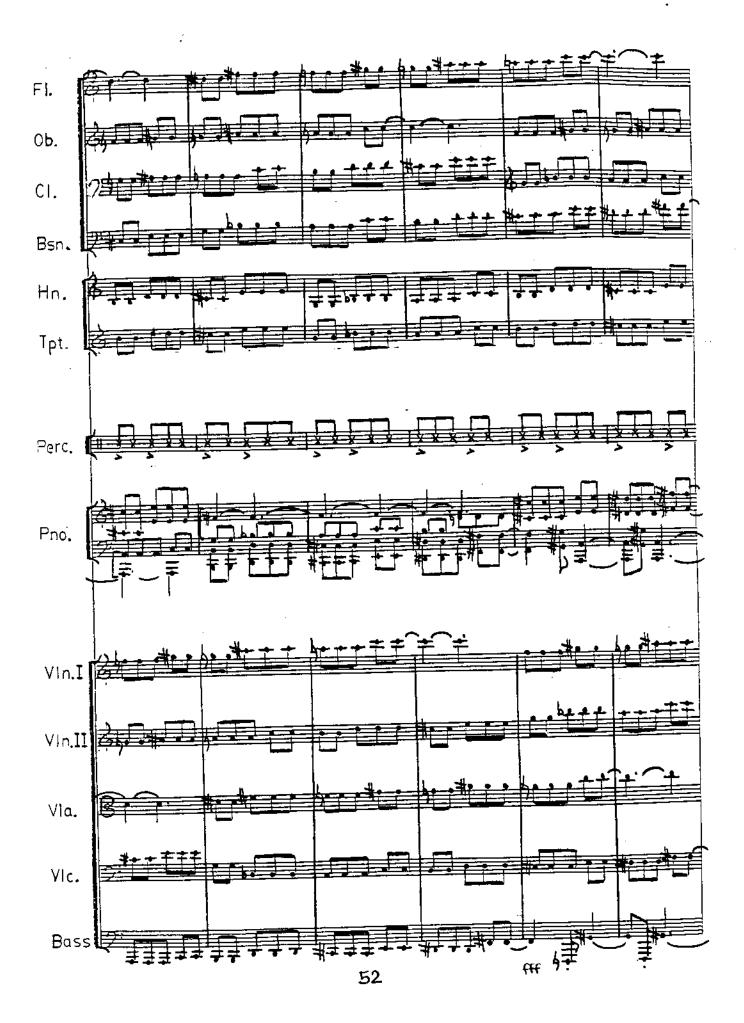


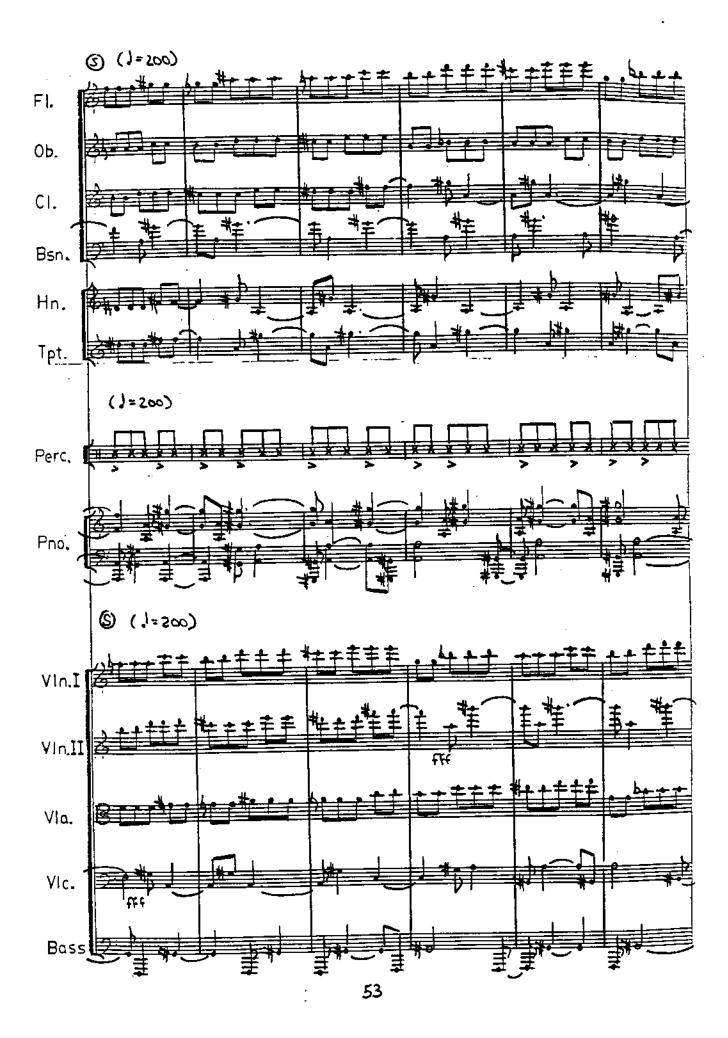


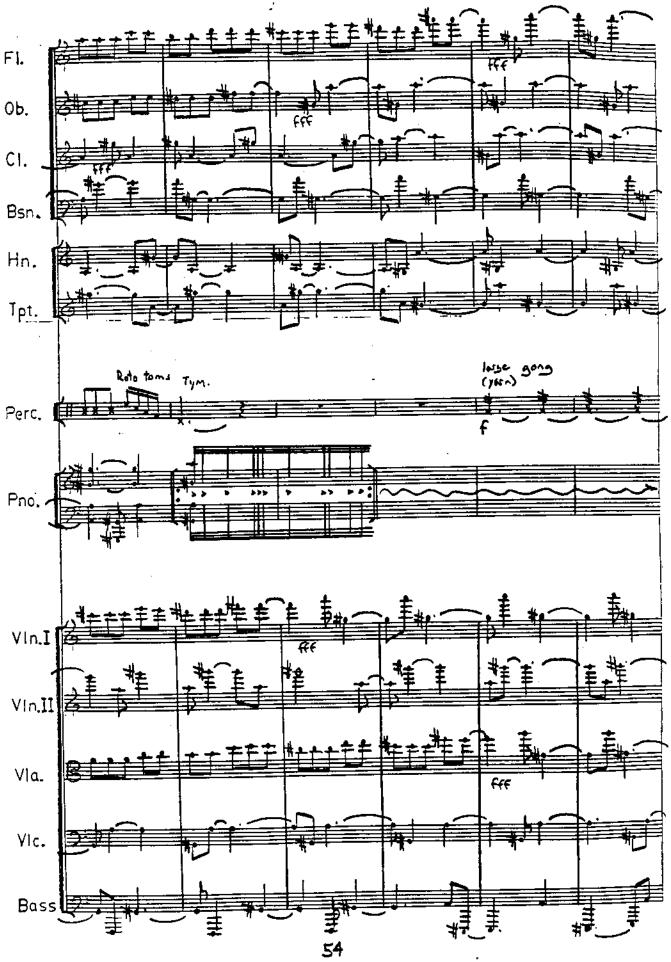


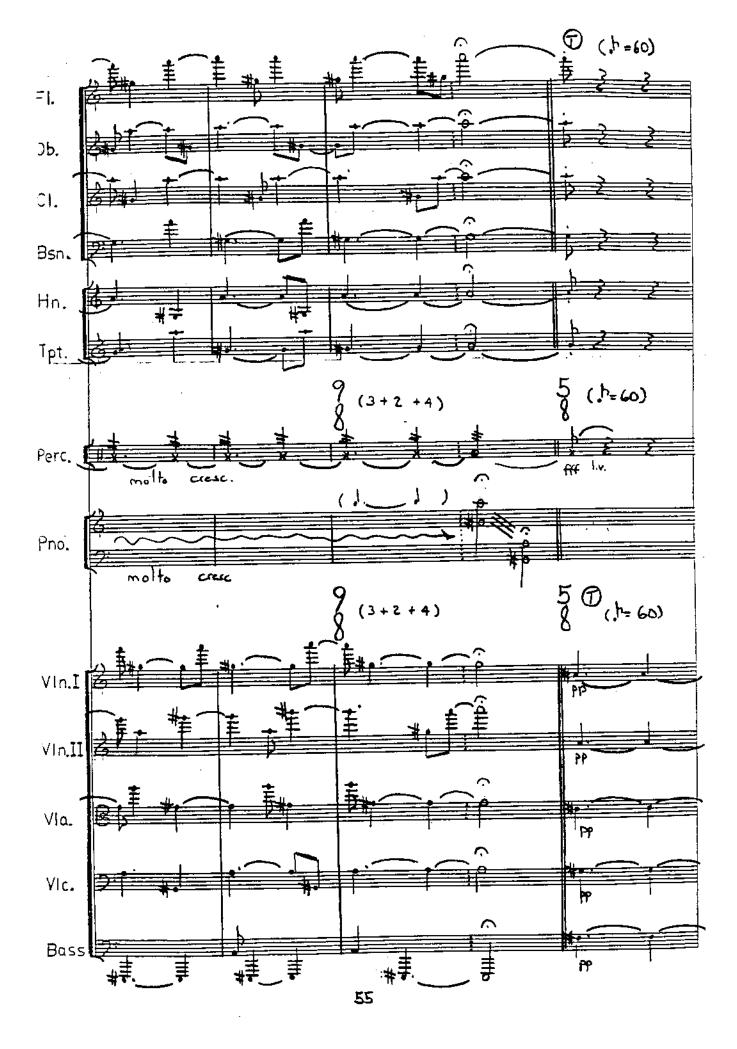


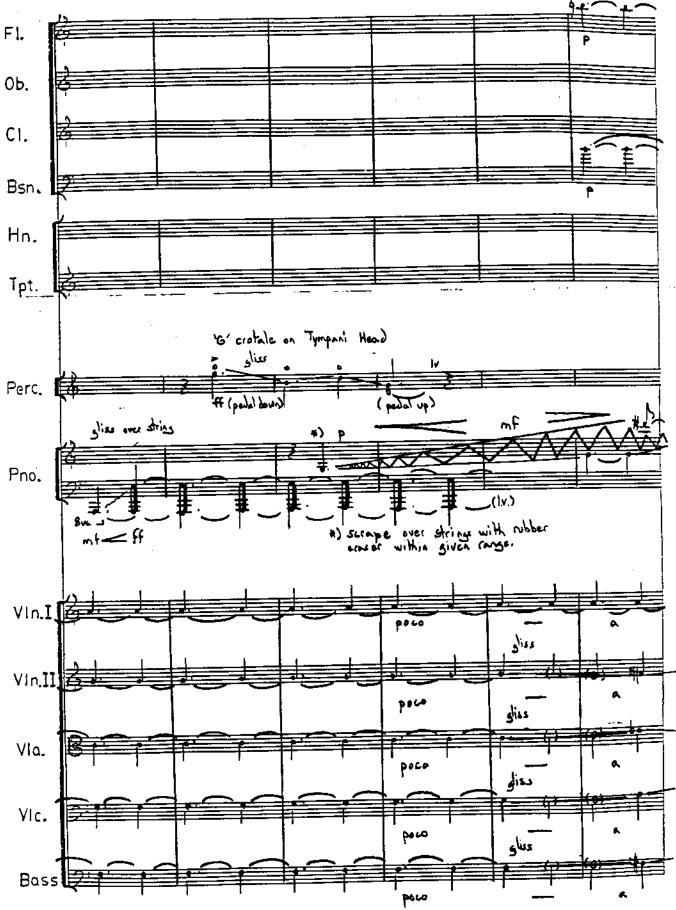






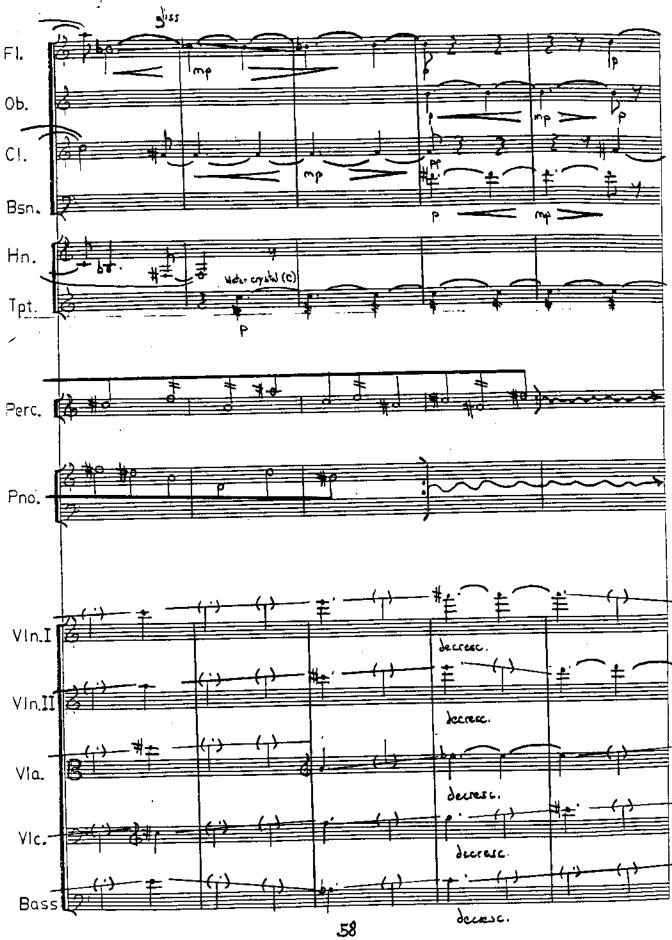


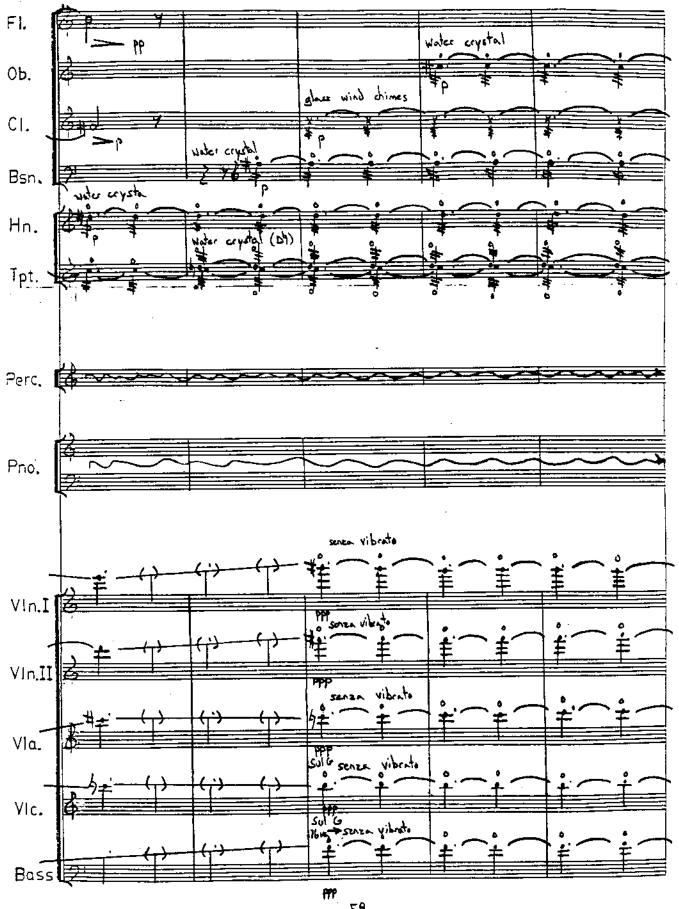




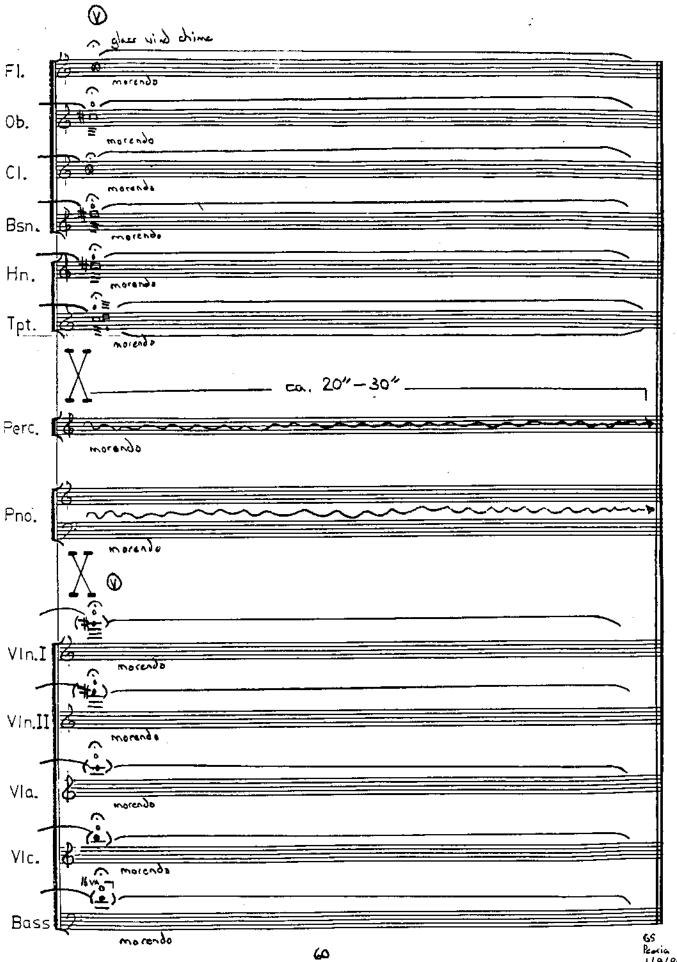
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