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I hereby recommend that the thesis prepared under my supervision by Steven T. Birchall

entitled From Landscapes from the Ultimate "Bodhimandala"

be accepted as fulfilling this part of the requirements for the degree of Doctor of Musical Arts in Composition

Approved by:

Form 668—Grad. School—1M—8-67

From:

LANDSCAPES from the ULTIMATE

"Bodhimandala"

for three orchestras and

four soloists

Submitted in partial fulfillment of the requirements for the degree, Doctor of Musical Arts in composition at the College-Conservatory of Music of the University of Cincinnati

Dissertation Advisor: Prof. T. Scott Huston

Steven T. Birchall

May 18, 1969

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GENERAL INSTRUCTIONS

1. There are to be two groups of soloists consisting of two players each. Conductors, if used, are necessary only to signal the beginning and end of each movement.
2. In addition, there are to be three orchestras of six players each, plus a conductor for each orchestra.
3. The instrumentation is as follows:

   Solo groups: These must consist of players skilled in the performance of graphic notation, regardless of the instruments they play. Contrasts of personalities should be sought.

   Orchestra I: All strings, any combination.

   Orchestra II: Three brass, two woodwinds, one percussion, in any combination of specific instruments.

   Orchestra III: Three woodwinds, two brass, one percussion, in any combination of specific instruments.

   Total number of performers required: 25 including orchestra conductors.
4. All five groups should be arranged spatially so that the sound from one group does not intrude unduly on another

group. This allows each group to function together as a unit without too much interference from any of the others. The aural impression on the listeners should be that there are several distinct groups rather than the unified sound of one large orchestra.

5. Each group plays approximately twelve of the total twenty minutes' duration of the work. Moments of complete silence, tutti passages and various mixtures will result. The emergent sound is a rich polyphonic web containing points of motivic interest, arranged in space and time. No group should begin at the same time as any other group.
6. The three conductors decide among themselves which orchestra will begin the performance. The others may then enter at any time after that. Since the plan of the work is such that no definite beginning or end is intended (or contained in the music), the work is simply stopped at the end of twenty minutes. The effect is that of hearing a sample of a work of continuous duration.

ORCHESTRA GROUP INSTRUCTIONS

1. Each movement lasts approximately $2\frac{1}{2}$ to $3\frac{1}{2}$ minutes. All must be played once; any may be repeated. The conductor decides which movement to play at each point in the performance.
2. In each movement, each line lasts until the conductor gives a downbeat to proceed to the next line. The lines last approximately thirty seconds and are played in order from top to bottom. Each box in a line represents an activity which lasts until a player finishes it. When a player finishes a line, he must repeat it until the conductor signals the beginning of the next line. A player may begin a line with any box, but then must play the boxes in order from that point (e.g., 23451, 45123, or 34512).
3. It is important to consider that each box represents an activity, a musical gesture (such as five long notes, or two high notes), which must have character and identity as a musical gesture. After the musicians have learned to improvise within these limitations, they should then become aware of each other and attempt to respond to each other. For instance, if a player has three low notes to play and he has just heard someone else play five high notes in a march-like rhythm, he may use a similar gesture if he wishes. Cooperation and interaction within each

orchestral group are necessary and desirable.

4. In general, the orchestral groups should not overshadow the soloists either in loudness or interest of ideas, although this may occur occasionally for variety.

SOLO GROUP INSTRUCTIONS

Duration

Each solo group plays approximately twelve of the twenty minutes' duration of the work. Each movement lasts approximately $2\frac{1}{2}$ to $3\frac{1}{2}$ minutes. All must be played once; any may be repeated. After the first orchestra has made its entrance, the soloists are free to begin playing at any appropriate moment.

Nature of the Work

This music is for pairs of performers; the instruments they play are irrelevant. What is relevant is that they have strong personalities and sufficient mastery of their instruments to express themselves easily in musical terms. Performances have been given using two tuba players, and a clarinet (alternating with stadium horn) with piano. In lieu of the usual musical notation, a page of abstract symbols is provided, the function of which is to remind the players of pre-selected musical gestures and to stimulate their imagination in the use of them.

Procedure

The principle is that the two players be sensitive and responsive to each other. That is to say, that at any particular point in the performance, each performer must decide whether to co-operate with the other or thwart him. "Should the situation remain stable or should I change it by doing something very different?" is the type of question both

players must ask themselves constantly. This interplay is made possible by the use of pre-selected musical gestures employed in a non-linear order.

Materials

It is necessary to confer with the composer on this point. In cases where the composer is not physically present, a sample tape may be sent to him for comments and approval in order to ensure complete authenticity. Prior to performance, various musical gestures, styles, effects and sonorities should be discovered by the players and composer together, the composer selecting the ones to be used. There should be included several items outside of the normal technique of the instruments, and all items must be of a nature that they are easily remembered by the players. This collection of musical gestures, which the composer selects, constitutes the materials to be used. It is in no sense a list, which implies that they should be played in a particular order, nor are any serial techniques inferred. Rather, any item may be played at any time, any or all may be repeated any number of times throughout the performance, and any may be omitted. The performer must decide what is appropriate to any particular moment.

Certain things must be included in the performance:

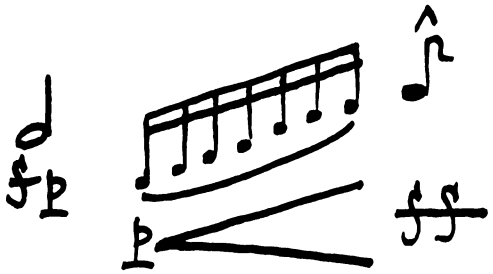
1. a recurrent, highly convoluted mysterious legato line,

2. several bursts of excitement, frenzied and joyous.

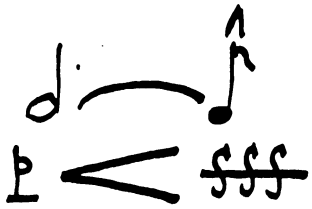
Also, to be agreed upon in advance, are signals which each player gives to the other, forcing his partner to change what he is doing. In one specific instance of a performance, by two tuba players, the signals were:

Player I: the sounds of a terrified wild bull elephant

Player II:



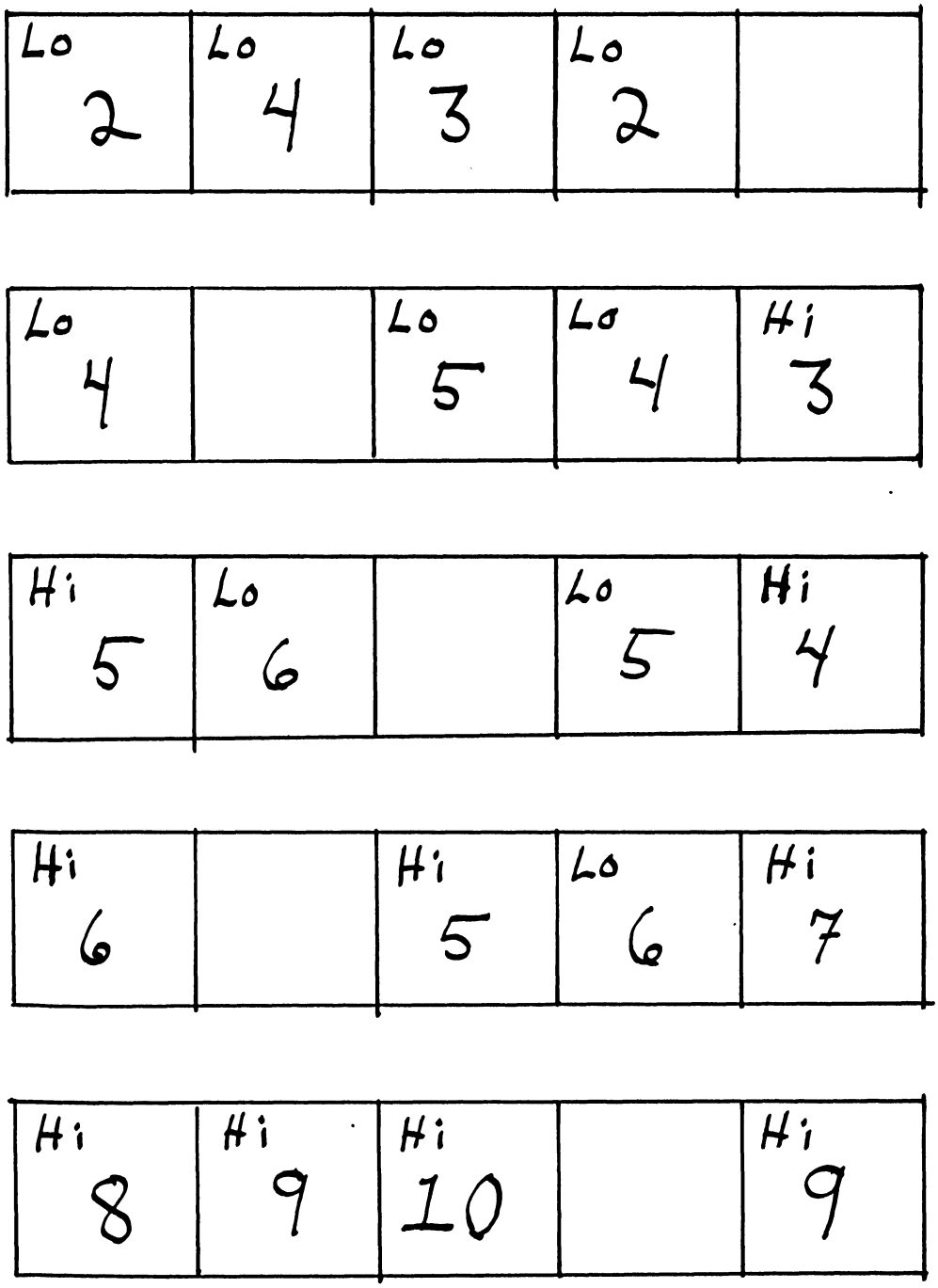
The following are several other items used in that performance, which will serve as a guide to future performances.

1. glissando using half-valve
2. pedal tones sustained
3. fingernails tapping on the metal
4. 
5. explosions of air as tuning slides are pulled and valves released
6. blowing air through the instrument
7. scraping the serrated metal edges of the rings
8. rhythmic rattling of the valve linkage
9. valve trills in extremely high register
10. moist fingers squeaking on the surface of the bell.

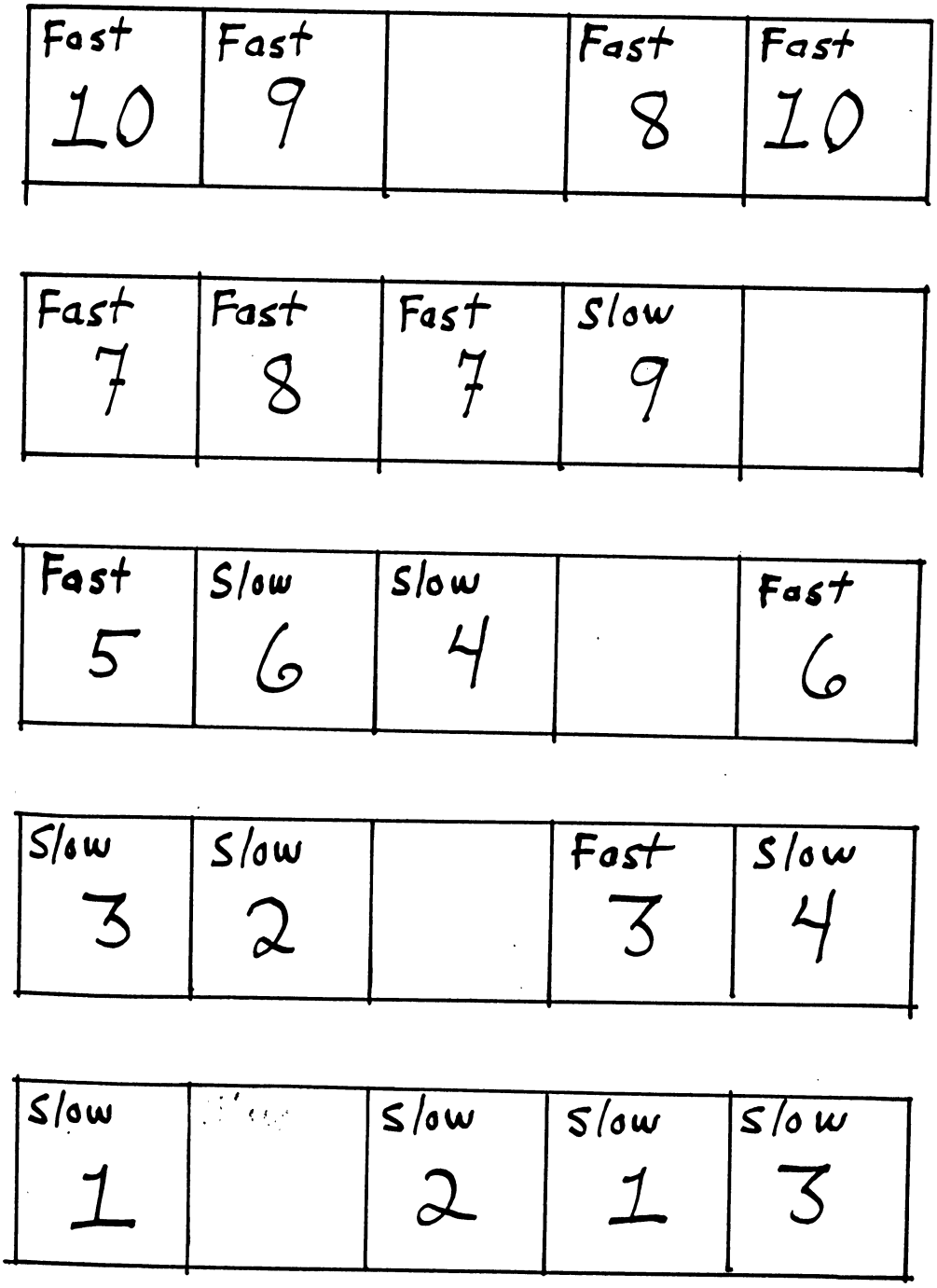
Orchestra Parts

Each member of each orchestra, and the conductors, are to be supplied with a copy of each of the following pages.

Orchestra Part Movement I



Orchestra Part Movement II



Orchestra Part Movement III

Loud 2	Soft 3		Soft 2	Soft 1

Loud 6	Soft 8	Loud 6	Soft 5	

Loud 10		Loud 9	Loud 10	Soft 8

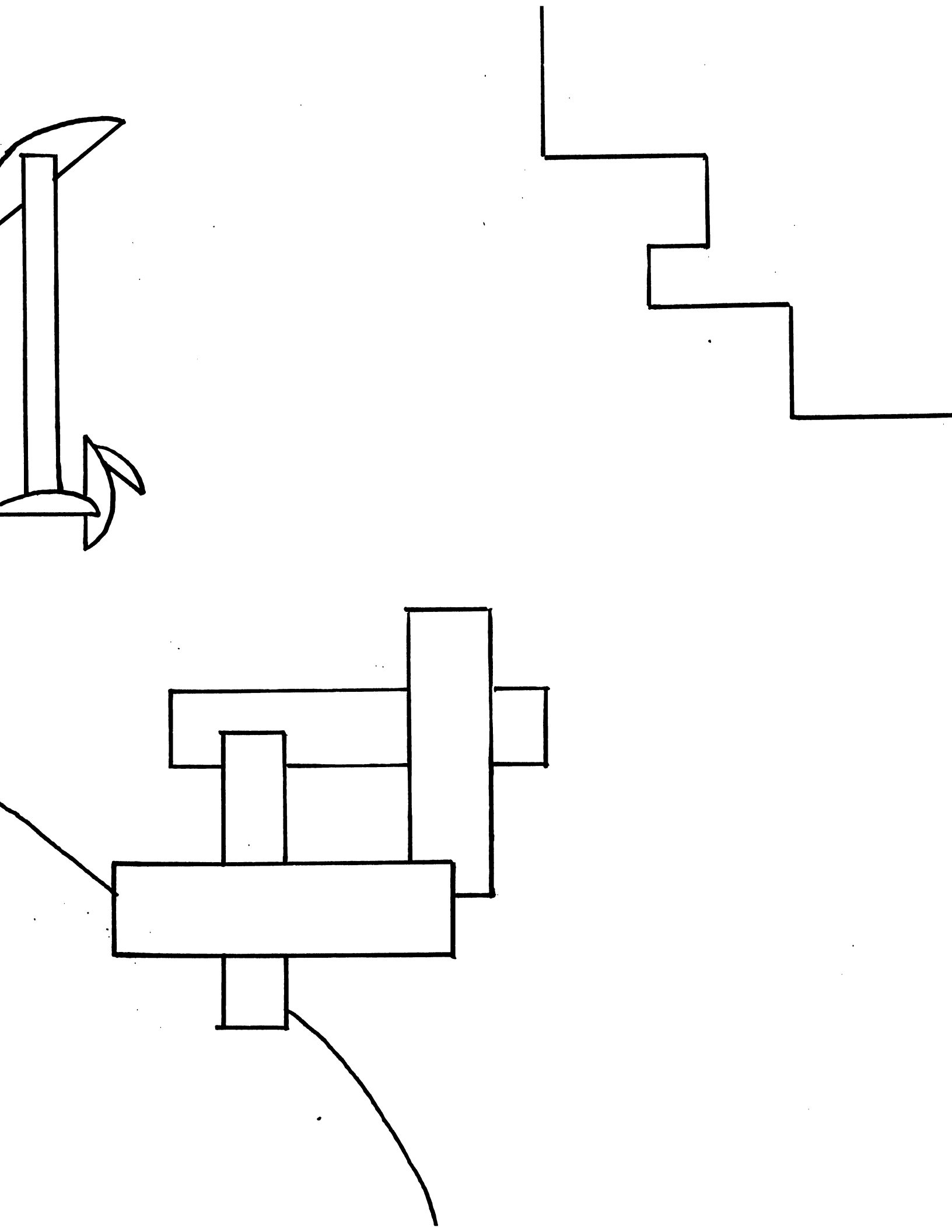
Soft 5	Soft 7		Soft 5	Loud 8

Soft 2	Soft 1	Loud 2		Soft 1

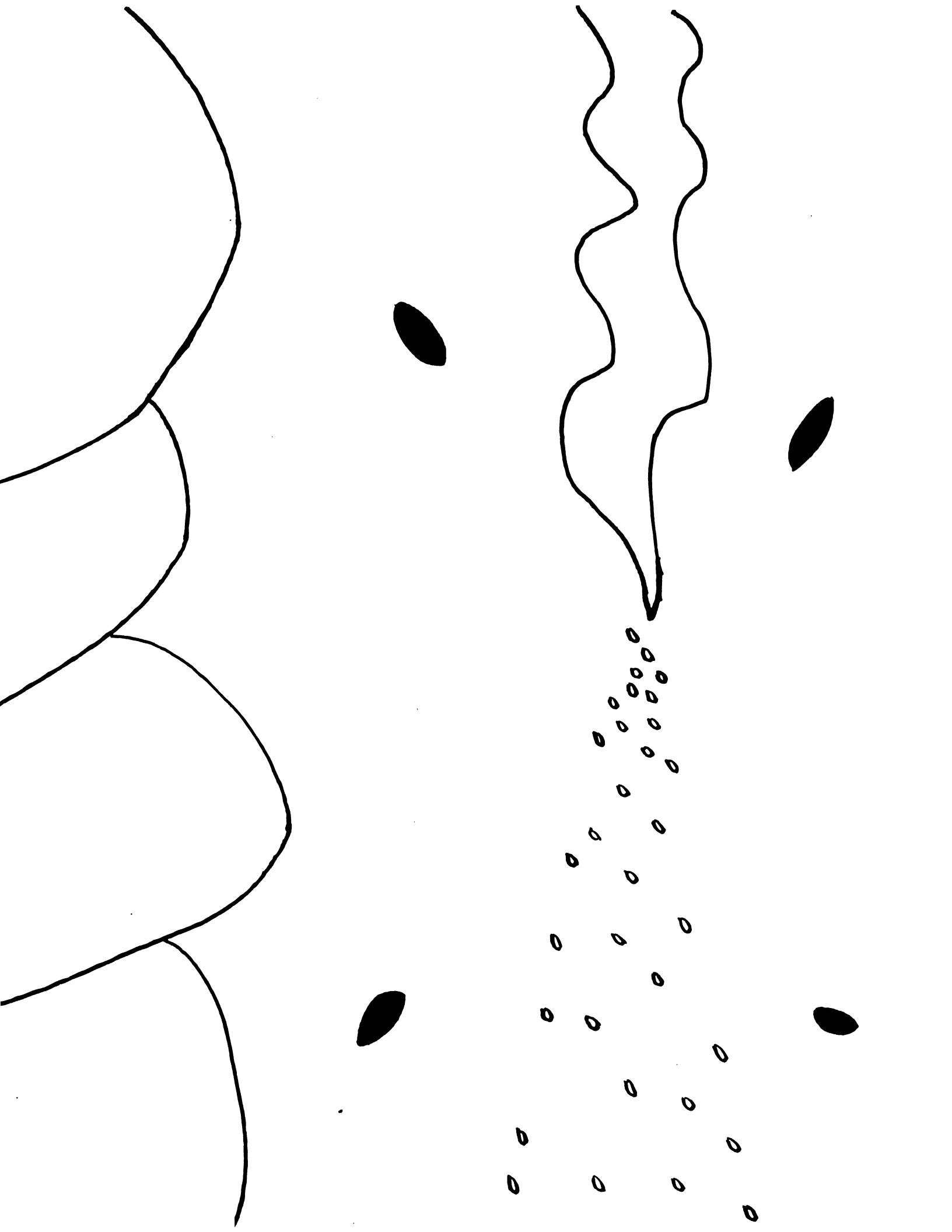
Solo Parts

Each of the four soloists is to be supplied with a copy of each of the following pages.

Movement I



Movement II



Movement III

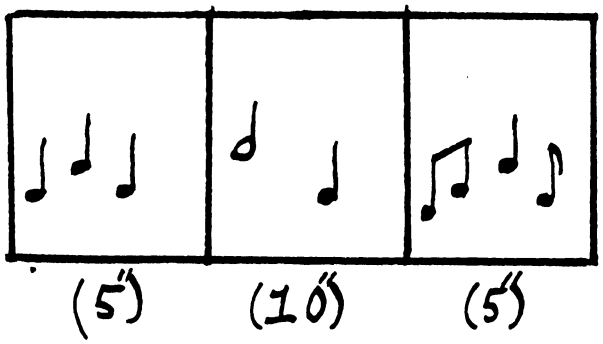
EXPERIMENTS IN NOTATION

PART I

In order to discover means of controlling notational procedures which I had been using for some time, this series of experiments was undertaken.

Oct. 19, 1967

Two types of notation were tested in this experiment. In "Afternoon Sun", successive blocks of sound are presented, each with a specified time length. In "Things Which Are", no time length is specified. The resultant notation appears thus:



Both types worked extremely well since the players found the notation very easy to read, and were able to keep their places with little difficulty. Also important to note was that acceptable performances were obtained with minimum rehearsal time.

In regard to the variable of specified or non-specified time lengths, we can conclude that:

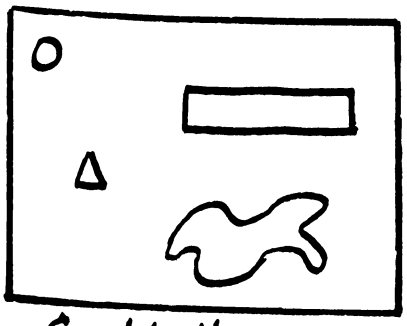
1) To specify time lengths causes the piece to be more rigid and more predictable than when they are not.

2) Longer time spans allow more interesting sound complexes to develop than do shorter ones.

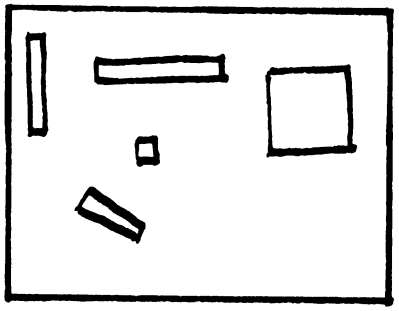
Therefore, the composer has at his disposal two similar types of notation, easy to use and easy to perform.

Oct. 26, 1967

On this occasion, Mr. Werner played on the piano two graphic pieces: "Things Which Could Never Be", and "Things Which Never Were". The notation appeared thus:



Could Never Be



Never Were

For a solo performer, we discovered that the resulting musical sounds are more interesting when there is a variety of symbols on a single page, than when there is but a single type of symbol on each of several successive pages. It seems to work better when a solo performer plays several ideas in free association than when he dwells on a single idea for the same time.

Furthermore, there is a real distinction to be made between free improvisation and playing from graphic notation. Apparently, there is a subjective reaction to the visual stimuli, which can be translated into musical ideas. However, when there are no visual stimuli, the task is very much more difficult.

When the same two works were played by an ensemble, rather different results were obtained. If everyone played a page containing many different types of symbols, the sound tended to be more chaotic than is normally desirable, but quite satisfactory results were obtained when each player had a page having only one type of symbol. Compared with "Things Which Are", both graph pieces are more unstable and unpredictable.

Nov. 4, 1967

On this occasion, I played two solo works in graphic notation. Only <u>For Me I</u> will be treated here since the other work is much too personal to be discussed. I found that certain of the symbols easily suggested musical ideas, while others did not at all, causing me to have to invent them for the remaining symbols. After this procedure, it was not difficult to play the entire work, but having to invent an idea at the moment of playing it is much too difficult. Therefore, in the future, the logical

method is to ask performers to think about each of the symbols before they begin playing the work. Also, it would be possible for the composer to suggest musical gestures for some of the symbols to further stabilize the work.

The question also arose as to whether to repeat symbols and in what order to play them. Previously, I had been satisfied to leave this matter unspecified, but now I saw that a further element of control could be introduced, if desired, by specifying this parameter.

Nov. 17, 1967

With an ensemble of flute, saxophone and vibraphone, I tested the concepts acquired in the previous experiment, but in a group situation. The two variables were:

1) Free order in performing the symbols versus various orders imposed arbitrarily.

2) My ideas versus those of the performers.

Seven short experimental performances, lasting about one to one and a half minutes, were made:

1) Completely free.

2) Performers' ideas, but playing the symbols in the order ABACADAE;

3) same, but everyone playing the same symbol at the same time;

4) same, but everyone playing different symbols at the same time.

5) Composer's ideas, free order;

6) same, but in ABACADAE order;

7) same, but everyone playing the same symbol at the same time.

It was found that the musical texture was more stable and cohesive when ideas were specified prior to playing the work, than when the performers had to invent them on the spot. In respect to the various orders in the playing of the symbols, not a great amount of difference can be heard unless the differences are pronounced. However, the subtle shades are important too, and can provide the composer with a great deal of flexibility when the need arises. A rule of thumb can be established so that stability - instability varies directly as similarity - disparity in instructions to the performers.

SUMMARY

In the course of these experiments, several varieties of graphic notation were tested and appropriate modifications applied. The composer's control is in the area of long-term planning, such as sectional, textural, and procedural fluctuations, while the performers work with the smaller details. Certain means of making the notation more flexible and subtle were tested and found to be effective.

Oct. 19, 1967

PERFORMERS: Robert Woodbury, Reese Dusenbury, Gerald Cole, Marsha Jaeger, and Timothy Holt.

WORKS PLAYED: From Summer Music: "Afternoon Sun" and From Reflections in the Old Mirror: "Things Which Are".

Oct. 25, 1967

PERFORMER: Ritter Werner

WORKS PLAYED: From Reflections in the Old Mirror: "Things Which Could Never Be" and "Things Which Never Were".

Oct. 26, 1967

PERFORMERS: Ronald Barron, Robert Woodbury, Reese Dusenbury, Gerald Cole, Marsha Jaeger, and Timothy Holt.

WORKS PLAYED: From Reflections in the Old Mirror: "Things Which Never Were", "Things Which Could Never Be," and "Things Which Are".

Nov. 4, 1967

PERFORMER: Steven Birchall

WORKS PLAYED: For Me I and For Me III.

Nov. 17, 1967

PERFORMERS: Charles Fletcher, Nancy Nicoll, and Randy Blue.

WORKS PLAYED: From Reflections in the Old Mirror: "Things Which Must Be".

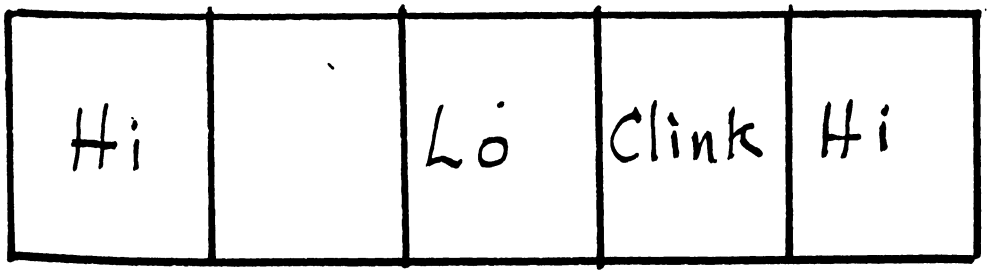
PART II

Further experiments were carried out in contemporary notation techniques, principally in regard to means of handling non-traditional musical instruments, and in dealing with persons unfamiliar with traditional notation.

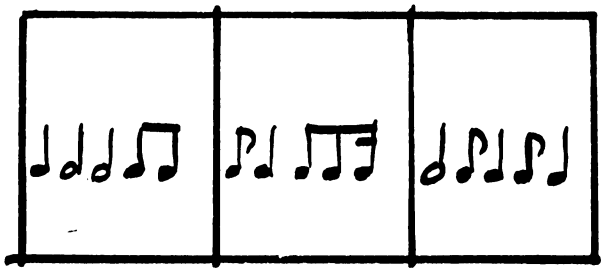
EXPERIMENT I: "Down the River to Xanadu".

In this experiment, a group of undergraduate students in fields outside of music were used; only one could read conventional notation. The sound materials consisted of soda bottles struck together, and blown. Each player was given two bottles, one tuned high, the other low, but with no restrictions as to specific pitches or pitch relationships other than that all notes be different. By striking the two bottles together, and by rotating the two bottles against each other, percussive effects resulted (in the latter case, very interesting aleatoric rhythms were obtained easily).

How could notational means be developed to use these sounds? Pitch and percussive effects could be dealt with quite easily, as follows:



Rhythm posed a far greater problem since I was unable to use conventional rhythmic notation as I have in the past, in works of an indeterminate nature. How could I avoid this:



Various types of analog notation (space equals time) suggested themselves but had to be rejected in favor of something more compact. Gradually, I came to realize that I was principally interested in whether there were many or few notes in a given time span, so that eventually, I instructed the players to invent their own rhythmic patterns (which they found immensely enjoyable), restricting them only in that they had to play slowly or quickly at various points. The resulting notation appears thus:

Fast	Slow	Slow	Fast	Fast
Hi	Lo	Hi	Hi	clink

There are seven lines such as this in the work; all must play the same line at the same time (but beginning at any point in the line and repeating as often as necessary), the

conductor signalling when the ensemble moves to the next line. Thus, by manipulating the proportions of high versus low, pitched versus percussive sound, and fast versus slow, the composer has a highly flexible, compact and easy to use notation. It should be noted that performers enjoy using it, and that the specific work which I wrote ("Down the River to Xanadu") has had a rather striking effect on most listeners.

EXPERIMENT II: "Down the River to Xanadu".

If non-musicians could do so superbly well, musicians would probably do even better. Therefore, I brought the necessary materials to a doctoral composition seminar. Contrary to expectations, the performance was a disaster, for three reasons:

1) several were unable to produce acceptable tones on the instruments;
2) the rhythmic patterns improvised were not imaginative for the most part, and
3) interaction among players was at a minimum.

The sociological and psychological factors militating against an effective performance in this particular situation are interesting, but far beyond the scope of this paper.

EXPERIMENT III: "Reciprocals".

Further refinements of graphic notation were tested, using two tuba players. In this case, it was desirable to give the performers general guidelines as to the interpretation of the symbols, as well as to cause them to interact in such a way as to affect the structure of the composition as they progressed. This latter question is one whose solution did not come easily, though the present solution is quite simple in design. For months this problem resided in the back of my mind, and occasionally various schemes for performer interaction came to consciousness, all of which had to be rejected because their complexity would prevent effective playing. The plans for interaction demanded so much attention that there would be no attention left for playing music.

Reducing the problem to its most elemental level and abandoning the elaborate sophistication of previous solutions, I finally came to the realization that, during the course of a relatively unstable type of composition, one player, by giving a dramatic and easily recognizable signal, could in effect request another player to proceed to a different section. Therefore, I wrote a graphic work (for two players) having six symbols, five of which had to be interpreted in specific ways, one of which was free. Further, each player was told that one symbol would be his signal to the

other player to change. Thus, both were able to control the other's performance at will.

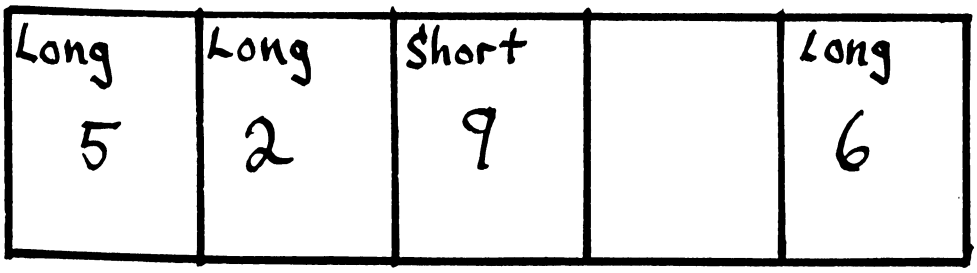
In our rehearsal, we found that this signalling concept was easy to keep in mind and to use. After a brief period of uneasiness (when should I signal and when is my signal coming?) during which the players gained a concept of how the piece worked, some very startling things began to happen. Instead of a process of polite turn-taking, there emerged a process of interaction. Sections tended to become less regular in length, and as the level of frustration rose, so also did the subjective depth of interpretation increase. Passages of quiet and delicate beauty were interrupted by vigorous change-signals, leading to sections of greater activity, climaxed by signals, leading to sections of even greater activity, or sometimes to lesser activity -- the result was never predictable and no one was ever sure how long anything would last -- sometimes short, sometimes long sections resulted. With the simplest means, the most complex results are often obtained.

EXPERIMENT IV: "The Phantom Tea Gatherers".

In this experiment I again called on my undergraduate friends to test another possible notation for those who cannot read conventional notation. Two additional sounds were used, and one eliminated. I had discovered that the

short, squat, throwaway type of beer bottle would permit lip glissandi, whereas soda bottles did not. Also, I decided to abandon the clinking of bottles together in favor of the percussive sound of plucked guitar strings.

Attacking further the problem of rhythmic notation, I abdicated all notational control of pitch. After listening to the recording of "Down the River to Xanadu" several times, I wondered what would be the result if I were to control the number of notes and their relative duration. Thus, I developed this notation:



In this case, everyone had to play in the same box at the same time, the conductor indicating by a downbeat when the next one started, and indicating the approximate duration (which he could vary at will) by the speed with which his hand moved back to the top. Thus, the conductor interacted with the performers, causing different densities of activity depending on the relationship of note-quantity to box-duration. In order to test how statistically "stacking of the deck" worked, two different versions were presented; Version I

used numbers (0 to 10) chosen intuitively for their effect; Version II was transformed so that all numbers over 5 became 9, all under 5 became 1. It turned out that there was a difference in performance, but not a large one, although the intuitive selection seemed to yield better results.

In our rehearsal, the general results were of bad quality. Although the notation and the interaction were obviously working, the sounds did not gel into an acceptable musical expression. The machine worked well, gears meshing, valves functioning, but it accomplished no work -- the intangibles of musical expression were missing.

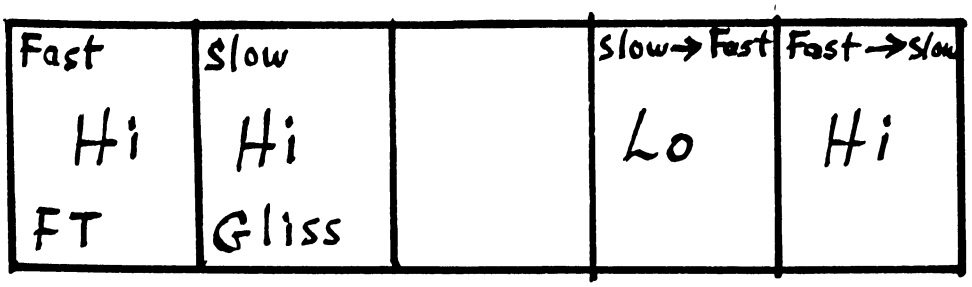
EXPERIMENT V: "The Phantom Tea Gatherers" and "The Grassy Fields of Katmandu".

Resolving to see what might happen if trained musicians played "The Phantom Tea Gatherers", and hoping for better results, I arranged Experiment V. In this case, normal musical instruments were used.

The musical results were much better, but still not quite satisfactory. After long reflection and repeated listening to the recording, it appears that the rhythmic control factor is so thorough and inflexible (even though it is indeterminate) and the pitch limitation of two bottles per player is so severe that none of the other parameters have an opportunity to surface in a meaningful

way. When played on normal instruments, the greater variety of pitches, though not considered in the notation, makes for far more interesting and exciting sounds.

Another, related, work played was "The Grassy Fields of Katmandu". In this case, the performers were presented with cycles of activities involving various parameters, but with lesser restrictions as to pitch and rhythm:



Again, as in "Down the River to Xanadu", each line is independent, the conductor signalling when the ensemble moves to the next line. The boxes last as long as the players choose, and lines are repeated as often as is necessary.

Though it differs only slightly in format from "The Phantom Tea Gatherers", apparently the conceptual task is easier for the player ("Play some high notes fast" is a less difficult concept than "Play 5 high notes fast before the next downbeat".). The performance gelled due to the ability of the players to interact in the parameters ordinarily subsumed as "expression". In fact, the notation may be said to have precipitated circumstances for this to occur.

EXPERIMENT VI: "Reciprocals".

Thinking it would prove valuable to test "Reciprocals" with two other personalities and instruments, Experiment VI was conducted. Little more about this work need be said except that the results were even more successful than before; an exceptionally exciting performance emerged, proving that the concepts were quite sound.

EXPERIMENT VII: "The Phantom Tea Gatherers".

In a last attempt to rescue "The Phantom Tea Gatherers" from itself, we again performed it with bottles and guitars. Perhaps the mood and setting were more conducive, but better results were obtained on this occasion. A lecture on the value of listening to each other and reacting accordingly, along with some preliminary rehearsals, helped significantly. However, the notation still suffers from rhythmic and pitch inflexibility, despite the fact that we obtained some very beautiful sounds. Interaction comes only with hard work, not as a necessary result of simply playing. It can probably be concluded that, except in special situations, rhythm is a parameter best left uncontrolled, or at least minimally so. In indeterminate compositions, performers need to have nearly complete freedom rhythmically in order to play effectively. But by controlling other parameters, their attention can be concentrated on rhythm.

The performance yielded a highly intriguing work of rather pallid, ethereal qualities. Formally, a string of cameos results since the sections are so short. The long-range form of the work is a steady state with minor fluctuations.

SUMMARY

Several important factors emerged:

1) notation able to deal with non-traditional musical instruments was developed;
2) notation appropriate to persons unacquainted with traditional notation was found;
3) means of achieving significant interaction among players was discovered;
4) the necessity of leaving rhythm largely uncontrolled was clearly shown;
5) the importance of making the performers' conceptual task simple when translating stimulus into response was shown; and
6) the possibility of making indeterminate music too inflexibly controlled was discovered.

Experiment I

Music: "Down the River to Xanadu".

Personnel: Larry Merkel, Edward Asmuth, David Barrett, William Miller, Blair Lister, Max Lebovitz, and Steven Birchall.

Experiment II

Music: "Down the River to Xanadu".

Personnel: a doctoral composition seminar.

Experiment III

Music: "Reciprocals".

Personnel: Robert Woodbury and Jerry Trice.

Experiment IV

Music: "The Phantom Tea Gatherers".

Personnel: same as Experiment I.

Experiment V

Music: "The Phantom Tea Gatherers" and "The Grassy Fields of Katmandu".

Personnel: Ritter Werner, Nancy Nicoll, Walter Mays, and Steven Birchall.

Experiment VI

Music: "Reciprocals".

Personnel: Ritter Werner and Walter Mays.

Experiment VII

Music: "The Phantom Tea Gatherers".

Personnel: same as Experiment I.

PART III

The concluding series of experiments in new notation was undertaken. In addition, four works were given public performances as evidence of the success and viability of the various notational procedures, as well as to demonstrate the musical worth of these works.

EXPERIMENT I: Walter Mays, Ritter Werner, Robert Woodbury, and Jerry Trice; "Reciprocals".

Although this composition is described in a previous report, certain aspects of its public performance are worth considering. A reasonable question to ask with music of this nature is whether several performances of a specific work will be similar or completely different. Can works written in indeterminate notation retain their identify from performance to performance or will they change so much as to be unrecognizable?

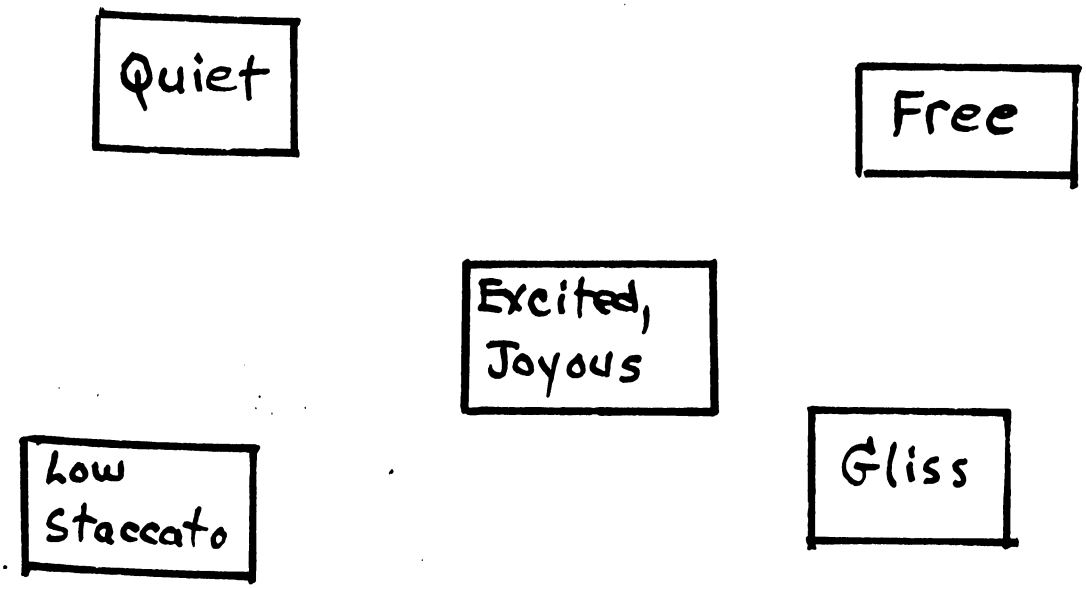
In the version played by Mr. Werner and Mr. Mays, the previous results did not differ significantly from the public performance, except that the latter was more exciting. The sounds and their manner of organization were similar enough that the two playings could be recognized as the same work. The same could be said of the version played by Mr. Woodbury and Mr. Trice. However, in comparing these two versions (Werner-Mays and Woodbury-Trice), it seems that they are distinct and separate because of

the difference in personalities, which yielded differences in pacing, dynamics, range, and rhythmic complexity. After extended listening, it is possible to see similarities in the two versions, especially in the parameters of form and the way the sounds are organized. Clearly, "Reciprocals" is more a function of personalities rather than instruments, as was intended.

EXPERIMENT II: "The Marshes of Lamakali"; Walter Mays, Ritter Werner, Sydney Stegall, and Steven Birchall.

The success of the concept of interaction between players as a controlling factor in the form of a work led to further experiments in this area. Using four players rather than two vastly complicates the problem. How was I to achieve meaningful interaction without creating such difficult playing-listening problems that performance would become impossible? It became apparent that each player would have to be responsive to only one signal, rather than three. After much deliberation, I decided that there would be five styles of playing, each player associating himself with one of the styles (except the free style). The resulting notation was designed to present these styles clearly and quickly but in non-linear relationships so that the notation did not suggest "progress" from one style to

another. It appeared thus:



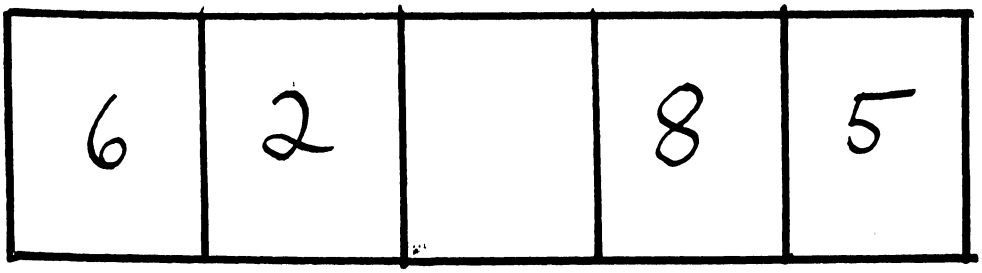
After each player had selected a style to be associated with, the further instruction was added that when, in the opinion of any player, the prevalent texture was in his chosen style, he must change what he is doing and attempt to lead the others away with him.

We found this to be very difficult to play, although the technique could be learned with a moderate amount of practice. The major problem came in listening to all that was going on and still playing one's own part satisfactorily. After this skill was learned, the problem became one of playing the game -- collaborating with some players, thwarting others. At this point, playing this work becomes quite fascinating and rewarding. The only unsatisfactory

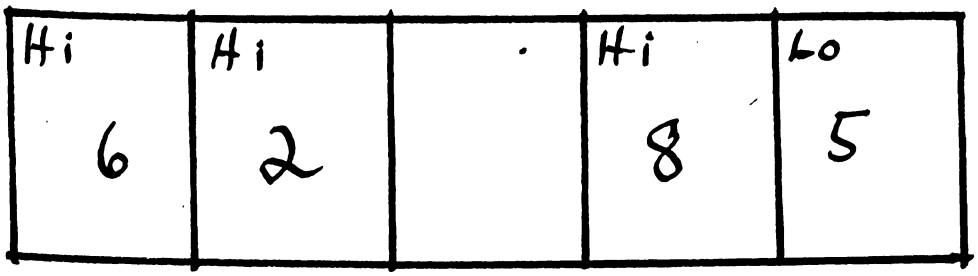
aspect of the work was that the low staccato style was difficult to hear since it was overshadowed by the louder styles.

EXPERIMENT III: Thesis Prototypes. Dennis Malloy, Scott Rogo, and William Yoo.

In one of the experiments of the preceeding series, I discovered how to write very stupid music. However, I later discovered a use for an improved version of this technique. When players are asked to play from this kind of notation, the results are usually dull:



However, with proper instructions, the results can be made more interesting. Each group of notes must have an identity and character so that it is a distinct musical gesture. Each player must listen to the others and react to what they do. Furthermore, a great deal of organization can be added by inserting a second set of instructions in the boxes:



By manipulating the proportions of these parameters in each successive line, a general trend can be given to the work, serving as a powerful organizing factor.

This improved technique was tested in rehearsal and found to be valid. Three different pieces each exploring different parameters (range, dynamics, tempo) and each having a different overall curve () were played. Everything worked satisfactorily although the results were not interesting enough to justify these as independent pieces. However, they could serve admirably as accompaniment to something else, which was done in the last experiment.

EXPERIMENT IV: "Down the River to Xanadu". Jack Blesi, Larry Merkel, Edward Asmuth, Max Lebovitz, Blair Lister, David Barrett, and Steven Birchall.

A highly successful work tested previously was "Down the River to Xanadu". Consequently, it was prepared for public performance as a report on successful techniques developed, and to determine how consistent successive performances would be. Little need be said beyond what was described in Experiment I. As a more tightly controlled work, the results were even more highly consistent than with "Reciprocals". Minimal rehearsal was necessary.

EXPERIMENT V: "The Streets of Yalapo". William Yoo, Scott Rogo, and Dennis Malloy.

Since in "The Marshes of Lamakali", soft (and, therefore, indistinct) styles of playing did not work well, it was necessary to devise and test other means of signalling. Further, only one signal was used, rather than one signal for each player. The instructions were that when the person to the player's right was silent, then that person would have to change to a new activity. It was found that, even with inexperienced performers, this signalling scheme worked well, with no significant problems. Learning to play the game was the major obstacle, and this improved as the rehearsal progressed. How to control the other players, and how to shape the content of the piece, how to work with and against the others -- these are what make the work enjoyable to play. Consequently, there is a means of personal communication which is one of the desirable features of chamber music.

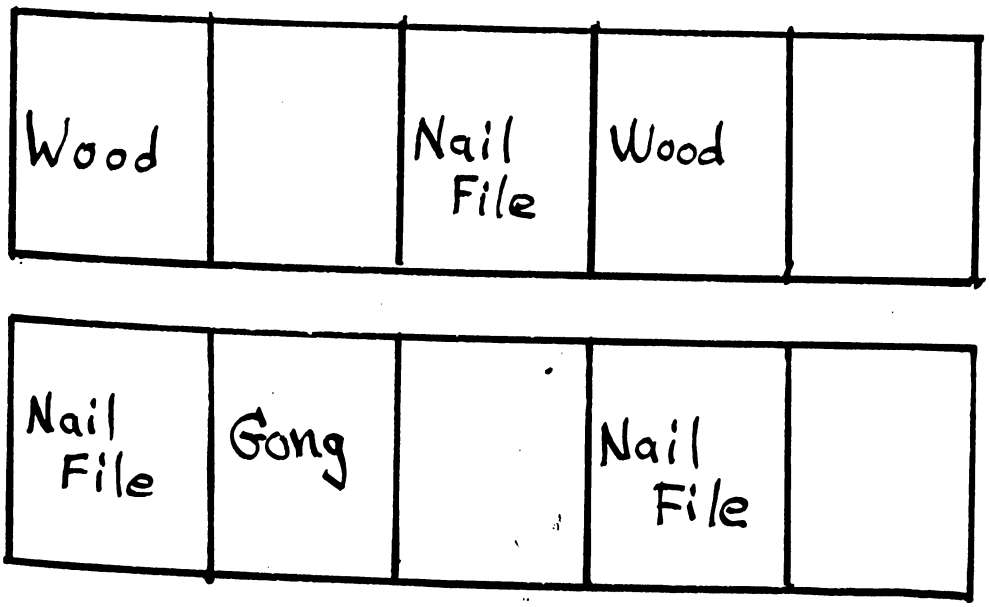
EXPERIMENT VI: "The Citadel in the Fog". Walter Mays and Steven Birchall.

In order to write music which is to be played inside the piano, it is necessary to do two things:

1) select a limited number of sounds and restrict the sound-world to these;

2) allow for limited experimentation so that a few new sounds can be invented and discovered during the performance.

To make a coherent composition with the wealth of resources available in this medium is difficult. After considerable reflection, I decided that a practical solution would be to develop a notation in which certain sounds were associated with others of either a contrasting or complementary nature, the larger aspects of the form depending on the interplay of these elements. However, it is important to allow for limited experimentation during the performance, since this is frequently an attractive alternative to following the written score. Psychologically, it is sounder to limit and control this aspect rather than ignore it. After selecting a group of sounds appropriate to the kind of music I wished to write, I developed the following type of notation:



These terse instructions are really abbreviations which serve to stimulate players to respond quickly in a given way. "Wood" signifies the production of sounds by striking a wooden beater on the various wooden parts of the piano (especially the sound board) in irregular rhythms. "Gong" signifies striking the lowest strings softly with a bass drum beater so that a gong-like sound results. There were several lines, each emphasizing particular sounds, so that by selecting the appropriate line, the players could in some measure control the course of the work, though in the overall view, it was already controlled by the composer. Further, by permitting in one line, discovery of sounds (a box marked "Free"), players were able to proceed to this line whenever they felt the need or had an idea. We found that it was an easy notation to read and work with. The resulting sounds seemed to possess the desired qualities of coherence and variety.

COMMENTARY ON THE EXAMPLES

FROM

FROM LANDSCAPES FROM THE ULTIMATE

"Bodhimandala"

In transcribing a portion of the music into three other styles of notation, a process of three steps was employed:

1) transcription from the original into strict conventional notation;
2) modification of the conventional notation into notation of the Lutoslawski type; and
3) modification of the conventional notation into a notation which indicates approximate pitches and durations.

Additionally, certain hypothetical conditions had to be accepted before a realization could be made.

1) An imagined tutti passage was selected for transcription;
2) a specific instrumentation following the guidelines of the original score had to be selected, an instrumentation which must not be regarded as authoritative, nor as the only permissible one, but only as an example of one possible arrangement, selected according to the composer's subjective evaluation of what would sound well. Non-specificity in the parameter of orchestration is an ancient process of composers, one which persisted into the Baroque era, and which has been revitalized in the scores of contemporary composers such as Cage, Wolff, Cardew, Logothetis and Evangelisti;

3) decisions as to tempo, meter, rhythm, and general style had to be made; and

4) arbitrarily, it was decided to differentiate the total sound complex of Orchestra I from that of Orchestras II and III in such a way as to achieve a decorative filigree-like texture from Orchestra I, while Orchestras II and III were given accompanimental sustaining material.

Following this, a slow and careful process of accretion was used to build a full orchestral tutti. It was necessary to compose, following the original score exactly, a line of music for each player, within the limitations of the notation. That is to say, Version I in the Examples does not consist simply of a random series of notes without rational basis, but rather it is rigidly conditioned by the limitation of choices demanded by the original notation. Each gesture specified in the original was translated into the appropriate symbols of conventional notation. Where a group of three low notes was called for, a group of three low notes was written. The solo parts are the composer's subjective reaction to the notation within the limitations imposed by the score.

EXAMPLES

Showing, in three different styles of notation, how a portion of the work might sound when a tutti occurs,

And,

showing, in one style of notation, how a thin textured passage might sound.

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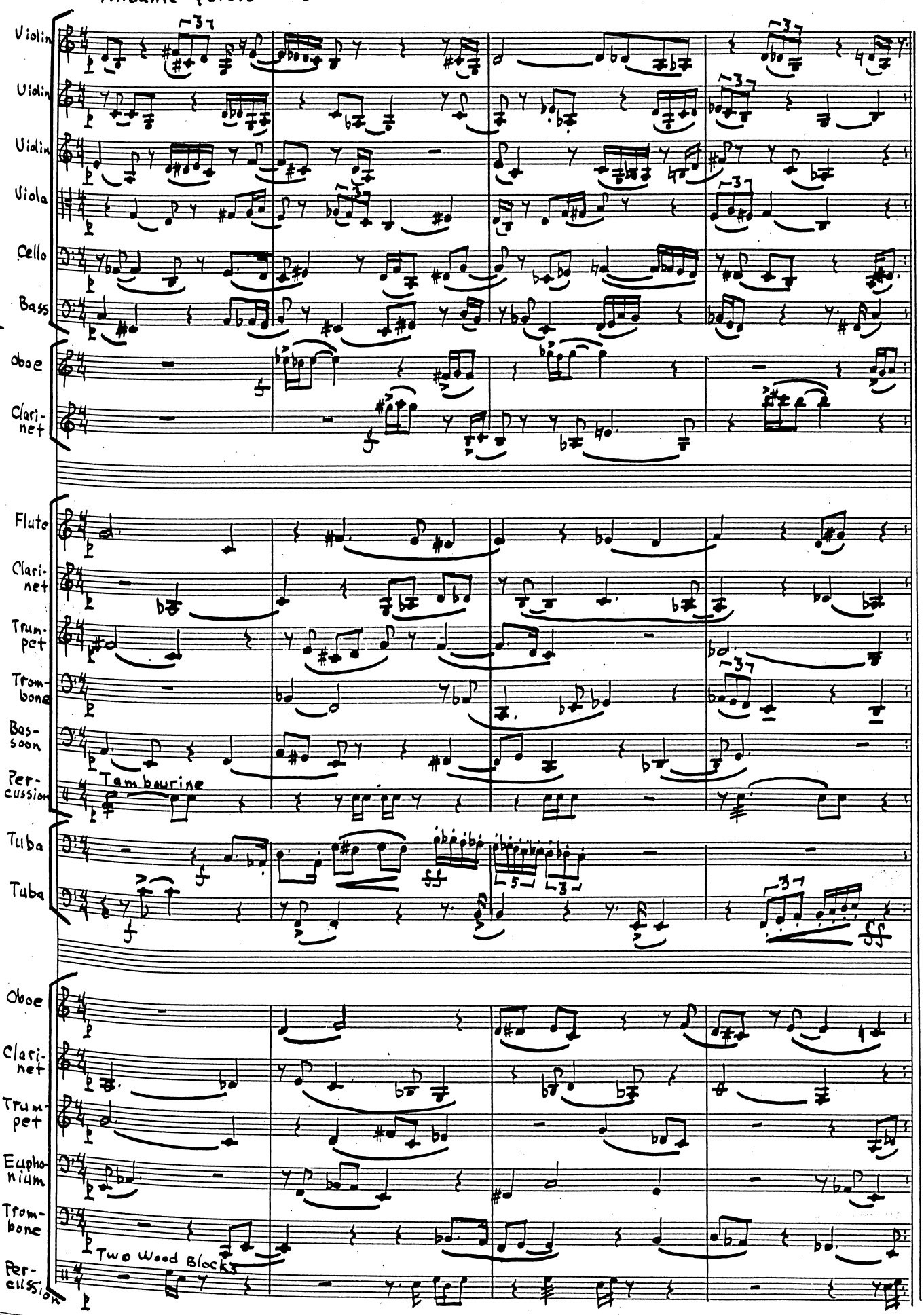
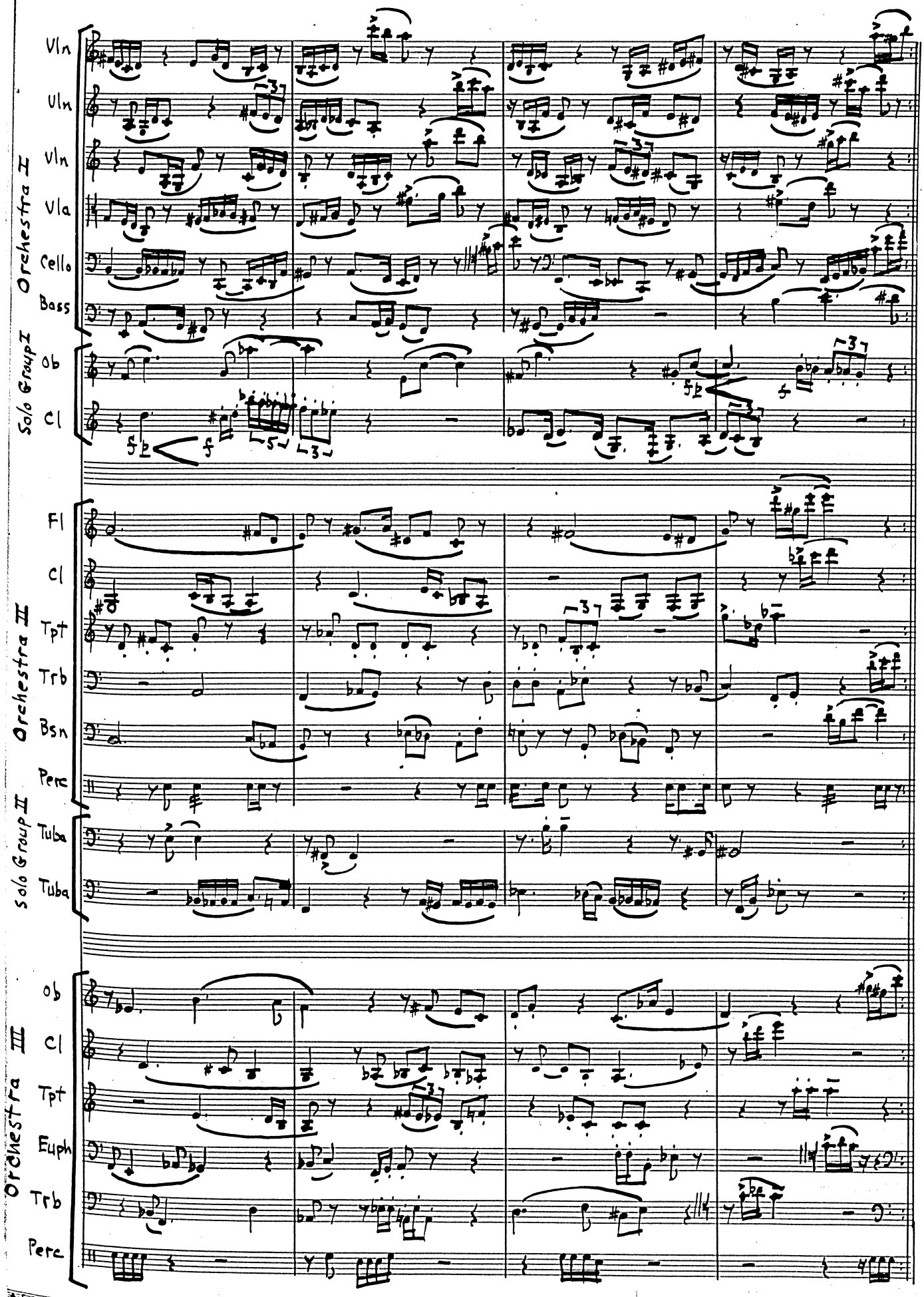
Version I

Andante Quieto ♩= 60



Score in C - Sounds as written

Version I



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Andante Quieto ♩=60

Version II

30 seconds

Orchestra I

vln

vln

vln

vla

Cello

Bass

Solo Group I

ob

Cadenza

cl

Cadenza

Orchestra II

Fl

cl

Tpt

Trb

Bsn

Perc

Tambourine

Solo Group II

Tuba

Cadenza

Tuba

Cadenza

Orchestra III

ob

cl

Tpt

Euph

Trb

Perc

Two woodblocks

No two parts begin at exactly the same time.

Score in C – sounds as written

ALFRED
No. 107 24-ORCH.

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30 Seconds

Orchestra I

Vln

Vln

Vln

Vla

Cello

Bass

Solo Group I

ob

cl

Orchestra II

Fl

cl

Tpt

Trb

Bsn

Perc

Solo Group II

Tuba

Tuba

Orchestra III

ob

cl

Tpt

Euph

Trb

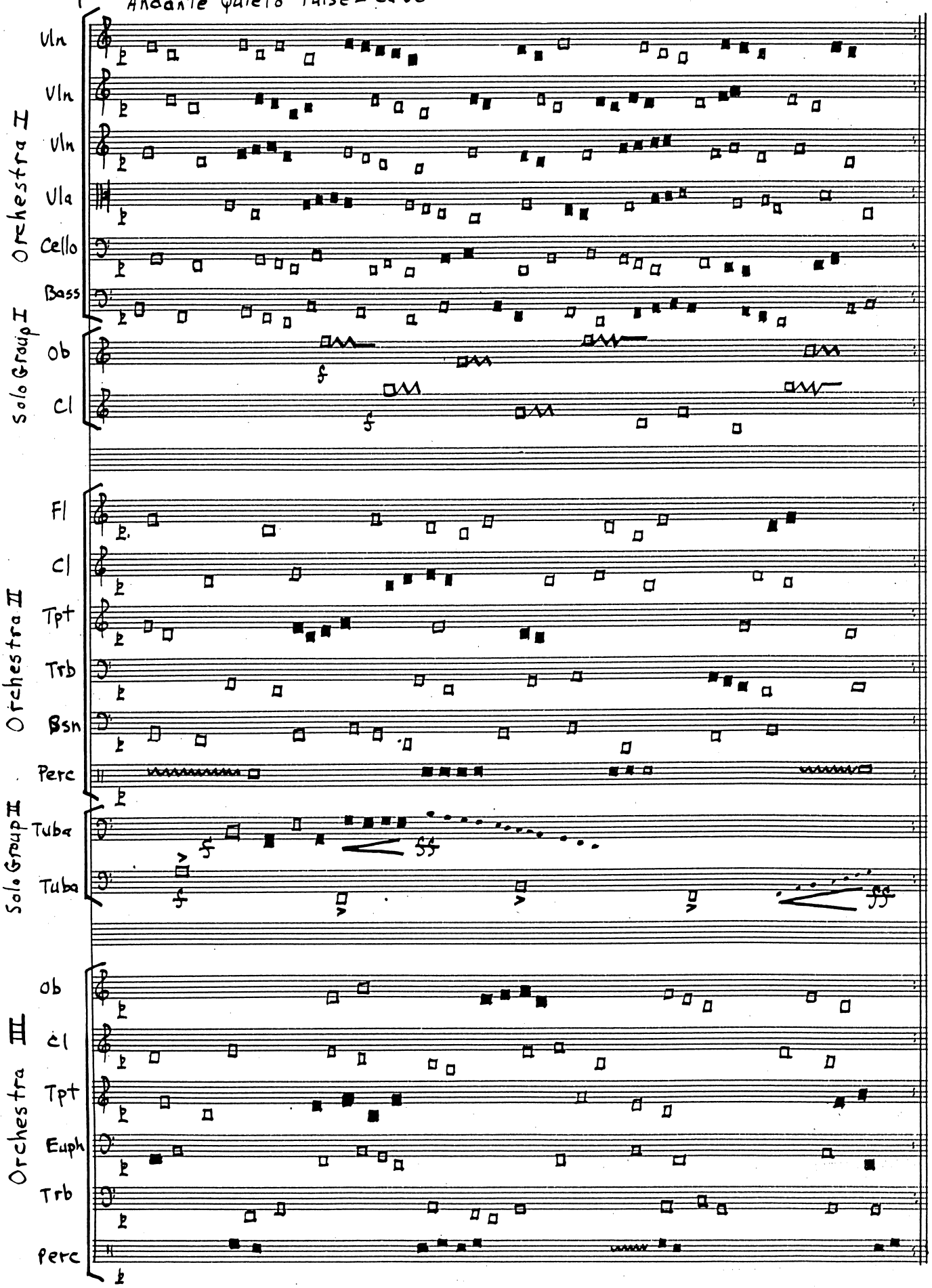
Perc

MAESTRO
No. 107 24-ORCH.
INDEPENDENT MUSIC PUBLISHERS
315 E 42 ST N.Y. 17, U.S.A.

Version III

Total Duration With Repeats: 30 seconds

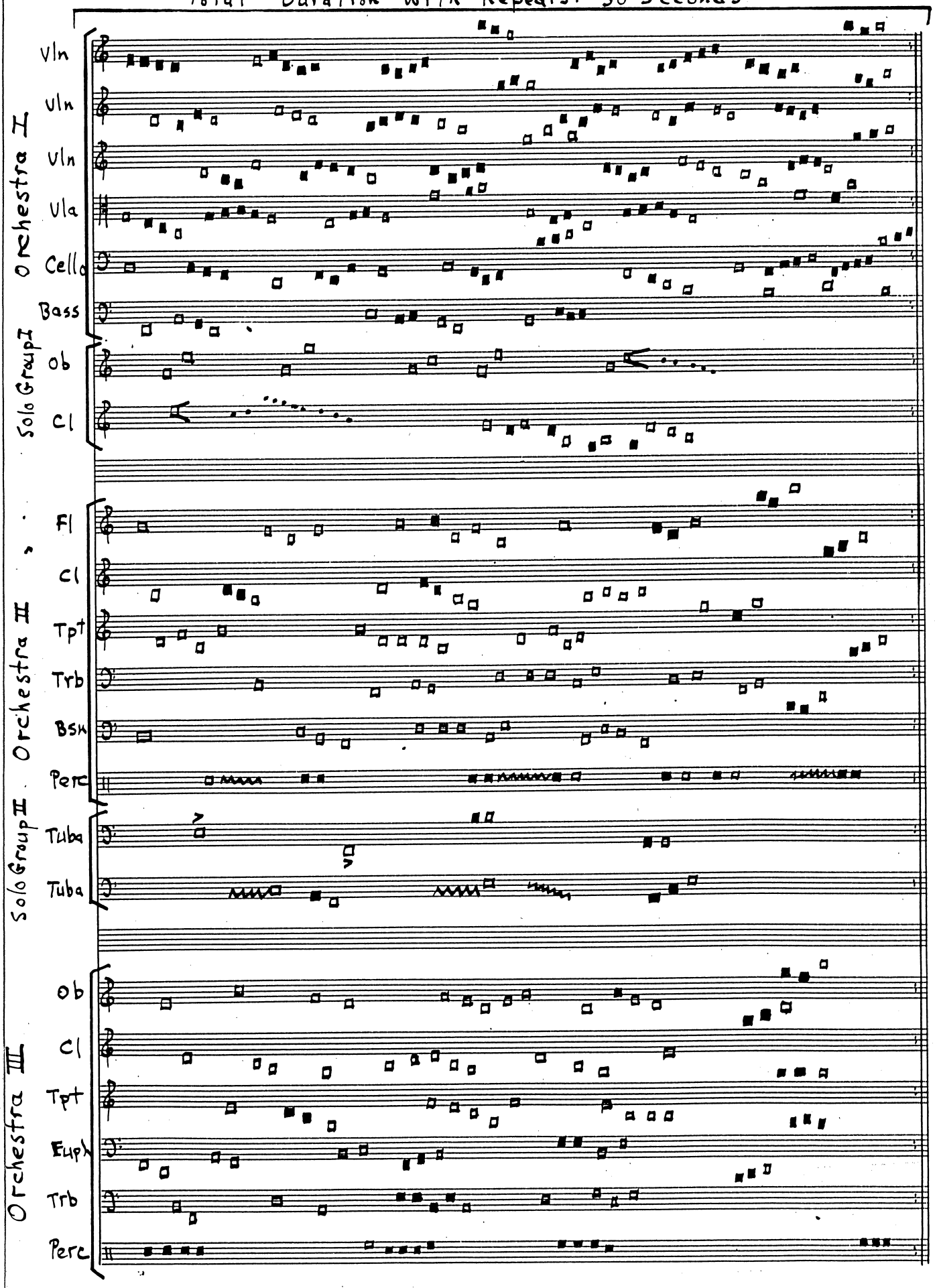
Andante Quieto Pulse = ca 60



Score in C - Sounds as written

MAESTRO
No. 107 24-ORCH.
INDEPENDENT MUSIC PUBLISHERS
315 E 42 ST N.Y. 17 U.S.A.

Total Duration With Repeats: 30 Seconds



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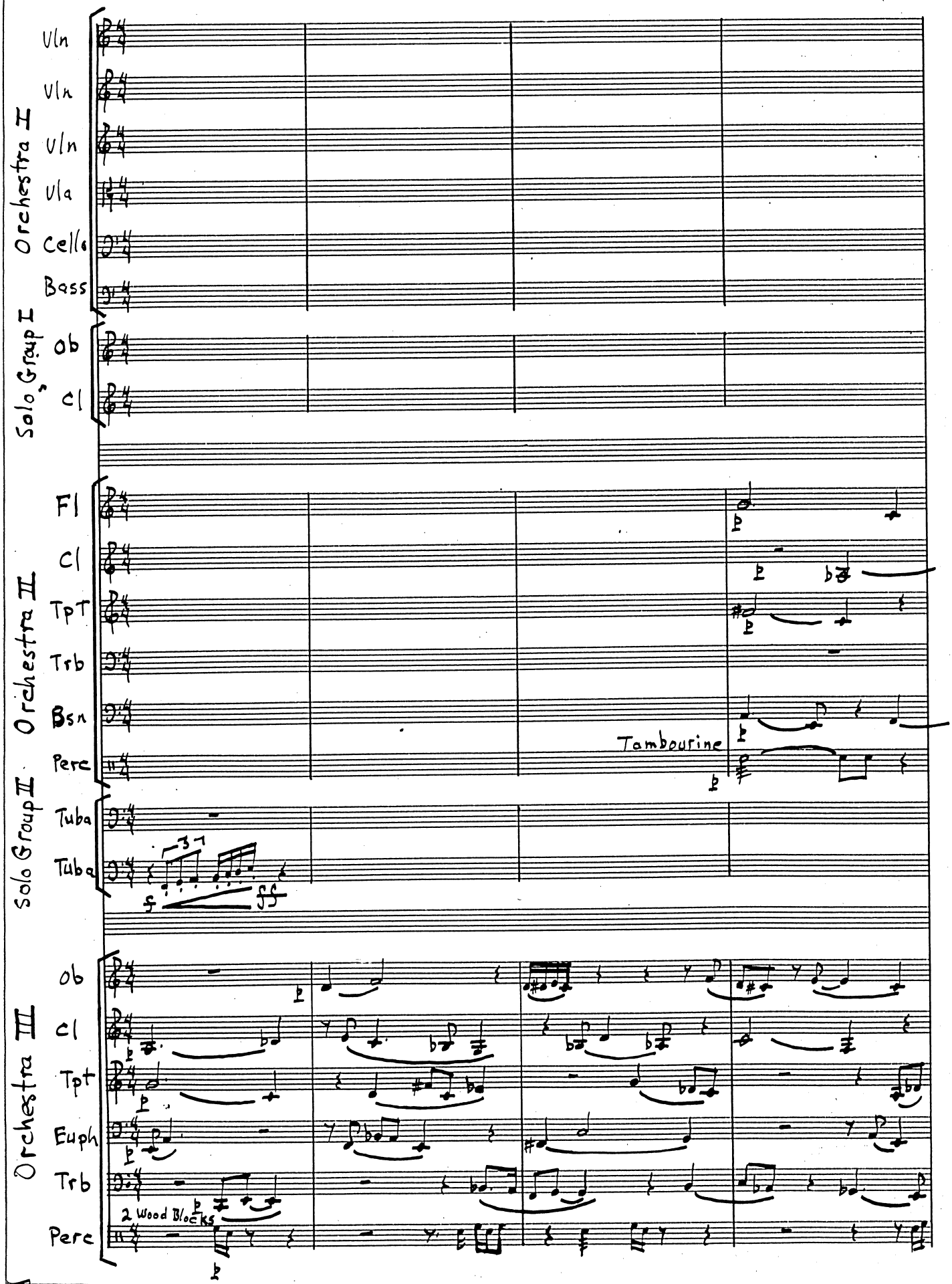
Thin Textured Passage

Andante Quieto. ♩= 60



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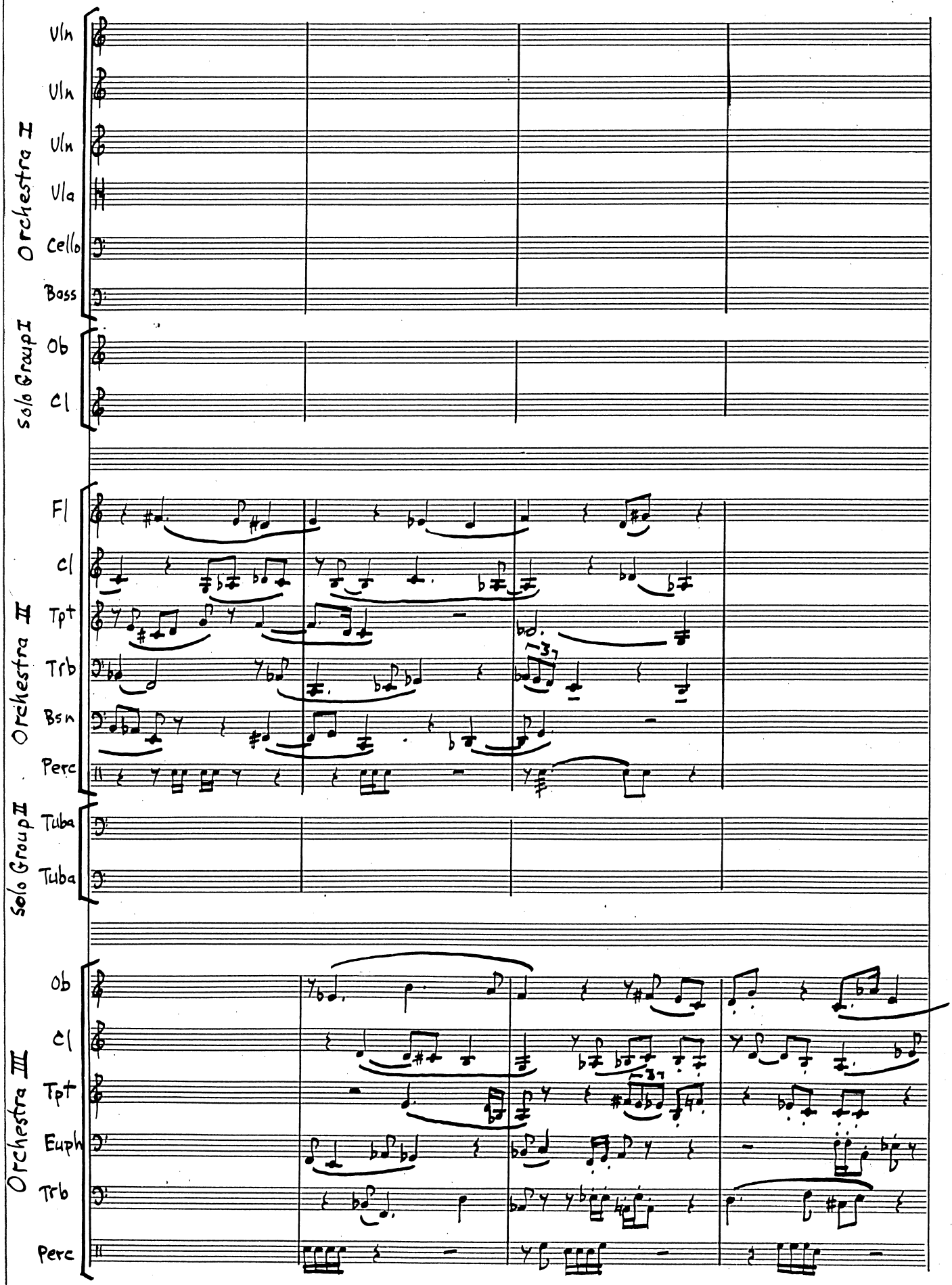

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