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Miller, Jeffrey Lynn

AN ANALYSIS OF ROBERTO GERHARD'S "LIBRA" (AND) SINFONIA BREVIS. (ORIGINAL COMPOSITION)

City University of New York PH.D. 1987

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AN ANALYSIS OF

ROBERTO GERHARD'S LIBRA

by

JEFFREY MILLER

A dissertation submitted to the Graduate Faculty
in Music in partial fulfillment of the requirements
for the degree of Doctor of Philosophy,
City University of New York

1987

This manuscript has been read and accepted for the Graduate Faculty in Music in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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date

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essay would have been infinitely more difficult. Bruce MacIntyre answered many questions about musicological procedure in the essay and also showed interest in my composition from the early stages of its development. Lillian Corti gave me her constant advice, support, and encouragement throughout the long and difficult period of composing and writing. In closing, I dedicate this dissertation to the memory of my father, Michael L. Miller, Sr.

CONTENTS

Chapter I

INTRODUCTION

Roberto Gerhard (1896-1970) produced an extensive body of music which constitutes a unique and very personal contribution to the twentieth-century repertoire. Most of his works are in large forms, including opera, symphony, ballet, and chorus with orchestra. In addition, he produced a substantial body of chamber music and, in the 1950s and 1960s, composed several electronic works. Stylistically, Gerhard's music combines the musical nationalism of his native Spain with atonal and serial influences. The nationalistic aspect of Gerhard's music derives from his Spanish (or more properly Catalan) background and his studies with the Spanish composers Enrique Granados and Felipe Pedrell. The serial aspect of his music developed after his study with Arnold Schoenberg and his association with Schoenberg's circle. It is the serially-derived manner which is most prominent in Gerhard's later music, and in the 1950s and 1960s he took part, although in an individual and even isolated way, in the extensions of serial technique then being pursued by many composers. His late music, written in the last decade of his life, is an individual blend of all of these influences. In this essay I attempt to elucidate

the primary compositional procedures of Gerhard's late style through close study of one of his last works: Libra, for chamber ensemble, written in 1968.

Although his works for orchestra, particularly the four symphonies and the Concerto for Orchestra, are better known, Gerhard also produced a large body of chamber music which spans his entire career.[1] Indeed, the Wind Quintet of 1928 can be considered his first fully mature work, and the "Astrological" chamber works Gemini (1966), Libra, and Leo (1969), are among his last; Leo, in fact, is Gerhard's last completed work. In spite of the similar titles of these three late chamber works, Gemini stands somewhat apart. Its ensemble of violin and piano is smaller than those of the other two, which are written for six and ten players respectively. In addition, Gemini differs from the two later works both formally and thematically, whereas Libra and Leo are connected by a variety of factors. Gemini, however, originally had the rather mundane title Duo Concertante, and was only retitled after the later works were written.

Libra and Leo, on the other hand, were almost certainly intended to be on some level representations of

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1. Complete work lists are given in Susan Bradshaw, "Roberto Gerhard," New Grove Dictionary of Music and Musicians, ed. Stanley Sadie (London: Macmillan, 1980), VII, 251-55, and David Atherton, "Gerhard: Catalogue of Works," London Sinfonietta Schoenberg/Gerhard Series (London: Sinfonietta Productions, 1973), 107-120.

the composer and his wife.[2] Libra and Leo were their respective astrological signs and, although these works cannot be considered program music, there is without doubt an intent to create works which correspond to the personalities of the subjects. It is not, I believe, going too far to consider Libra to be, on some level, Gerhard's self-portrait. The "Composer's Note" which he included in the score of Libra supports this view. The note is also enlightening about Gerhard's attitude towards analysis and verbal discussion of music in general:[3]

> Libra--the Balance--happens to be my own Zodiac sign. I have a certain weakness for astrology, in general, and for horoscopes, in particular, and believe that people born under the same Zodiac sign have certain distinctive character-traits in common.
>
> I do not know whether any of mine are exhibited in Libra. If so, I would assume that--as with one's handwriting--this must be due to the utter unselfconsciousness with which the "writing" is carried out. Which would be an additional reason, if one were required, for holding, as I do, that nothing is to be said in music concerning the "heart of the matter."
>
> A good deal could be said, on the contrary, as to the manner in which a composer works technically. But even that is largely superfluous; an informed score-reader finds out most of it for himself, anyway. And I suspect that it must be much more fun to find out for oneself than to be told.
>
> As regards the music-lover, I believe he had better ignore this aspect altogether and stand uncompromisingly by the sound of the music; he can be assured in music the sense is in the sound.

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2. Ates Orga, program note to Leo, London Sinfonietta, 86.

3. Roberto Gerhard, "Composer's Note," Libra (London: Oxford University Press, 1970).

Libra is a central late work of Gerhard's (although there are really no minor works of the last five years of his life). As a chamber work, it contrasts with the better known orchestral pieces, such as the Symphony No. 4 and the Concerto for Orchestra, of the same period. Gerhard's late orchestral compositions make use of massed harmonic effects, such as large clusters in the strings and winds, and of timbral devices not available with the more limited instrumentation of a chamber work. Libra, therefore, represents a more economical embodiment of these features of Gerhard's late style. At the same time, its ensemble of six different instrumentalists (flute/piccolo, clarinet, violin, guitar, percussion, and piano) is typical of the composer. Gerhard's chamber works are, in spite of the homogeneous ensembles of the Wind Quintet and two string quartets, predominantly for mixed chamber ensembles which offer a wide range of timbral possibilities, allowing a similar, if necessarily more limited, use of timbre compared to the orchestral works.

Gerhard's music exhibits a varied stylistic evolution over the five decades of his compositional career; nevertheless, many of the compositional concerns of the earliest works persist through the last. Libra, therefore, can be understood better in the context of Gerhard's previous musical concerns. For this reason, a brief survey of the composer's life and earlier works is included here

before the various aspects of Libra are taken up in detail.

The Life

Roberto Gerhard's career began, as did those of all Spanish composers of his time, in the nationalist tradition then predominant in his country. He was born in 1896 in Valls, Catalonia. His parents were not Catalan or Spanish, but Swiss, thus explaining the non-Hispanic family name. After some parental opposition to the idea of a musical career, Gerhard began studying in 1915 with Enrique Granados and Felipe Pedrell, the two most famous musicians then living in Barcelona. Granados died in the sinking of the Lusitania the following year, but Gerhard continued studying with Pedrell until 1922. Pedrell was strongly nationalistic (his most famous pupil was Falla), and, in addition to being a composer, was a musicologist with a strong interest in early Spanish music. Both aspects of Pedrell's work strongly influenced Gerhard. In 1923, however, Gerhard took an unusual step for a young Spanish composer, and became a pupil of Arnold Schoenberg.

Gerhard had first met Schoenberg in 1922, and in 1923 moved to Vienna to study with him. When Schoenberg, in 1926, accepted a position as professor of composition at the Prussian Academy of Fine Arts in Berlin, Gerhard followed

him there.[4] Gerhard remained Schoenberg's pupil until 1928. The period of study was, therefore, unusually long for a composer of Gerhard's maturity who had already received extensive previous training.

An indication of how successful Gerhard was as a pupil of Schoenberg is the fact that he became an intimate member of the Schoenberg circle. On April 29, 1925, Gerhard arranged an all-Schoenberg concert in Barcelona which Schoenberg attended.[5] In 1931, Schoenberg and his wife went to Barcelona for an extended visit; Gerhard found them an apartment, and they spent Christmas with Gerhard and his wife, who was Viennese and whom he had married in 1930.[6] That Schoenberg trusted Gerhard's musical opinion is shown by his will dated October 1, 1950, in which he recommends the younger composer as a colleague who is qualified to be consulted about the editing and publishing of Schoenberg's unfinished and unpublished works.[7]

After finishing his studies with Schoenberg, Gerhard returned to Barcelona, where he supported himself with a succession of academic and scholarly positions. In addition

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4. Bradshaw, "Roberto Gerhard," New Grove, 252. Bradshaw says that Schoenberg moved to Berlin in 1924. However, all sources on Schoenberg say he went there in 1926.

5. H.H. Stuckenschmidt, Schoenberg: His Life, World, and Work (New York: Schirmer Books, 1978), 304.

6. Stuckenschmidt, Schoenberg, 345.

7. Stuckenschmidt, Schoenberg, 512.

to composing, he edited music by eighteenth-century Catalan composers and translated theoretical works into Spanish; this musicological activity was a continuation of the type of work his teacher Pedrell had done.[8] Gerhard also served on the arts councils of the Catalan government and the Spanish Republican government. This identification with the Republican cause led to his departure from Spain after that government's 1939 defeat in the Spanish Civil War.

Gerhard settled in Cambridge, England, lured there by the offer of a research scholarship by Edward J. Dent of King's College. He lived in Cambridge the rest of his life, eventually becoming a British citizen. Gerhard's music won acceptance slowly (he did not find a publisher until he was in his fifties), and he supported himself by composing music for radio, film, and theater, and by writing arrangements of Spanish folk and popular music. His work in radio led to an interest in electronic music, of which he was one of the first British composers. In 1956, in honor of his sixtieth birthday, the journal The Score published a special Gerhard issue, which helped stimulate greater interest in his music.[9] Performances and commissions increased, and Gerhard, always lucid and articulate about music, began to

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8. Bradshaw, New Grove, 252.

9. The Score 17 (Sept. 1956). The editor of this journal, William Glock, was an early champion of Gerhard's music, as he was later of the music of several other important composers.

be in demand as a teacher. This resulted in a series of relatively brief teaching positions at Dartington, Tanglewood, and the University of Michigan. During his final years, Gerhard completed several major works, including the third and fourth symphonies, the Concerto for Orchestra, the cantata The Plague, and the previously-mentioned chamber works. Many of these late works were commissioned by major musical organizations and foundations; Libra, for example, was a BBC commission. Gerhard died in 1970 in Cambridge, leaving a fifth symphony unfinished.

The Critical Literature

The critical literature on Gerhard is small and consists mostly of journal articles of varying quality. There are no book-length studies, and there is only one completed dissertation, Michael Cunningham's analysis of the Symphony No. 1.[10] Cunningham's study is the essay portion of a composition dissertation done at Indiana University and, at 27 pages in length, is in reality more of an extended article. Cunningham attempts to deal with all aspects of this forty-minute symphony and, although there are some interesting observations, the results are inevitably limited. The bibliography in New Grove lists

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10. Michael Gerald Cunningham, An Analysis of the First Symphony of Roberto Gerhard, unpublished D.M. dissertation (Indiana University, 1973).

three dissertations. One of these, by Keith Potter, was never written.[11] The two listed for Evan Turner are both undergraduate theses (one for a B.A. and the other for a B.Mus. degree), and are not available through the universities.[12]

There are three substantial collections of articles about Gerhard, two of them special issues of journals, and one a program book for a concert series. The earliest is the previously-mentioned September 1956 issue of The Score. Many of the articles in this issue are personal tributes; there are also several substantial disscussions of of the early music, plus a catalogue of works. The next, and most important, collection is the London Sinfonietta's program book for its 1973 series of concerts of the complete chamber music of Schoenberg and Gerhard.[13] It includes a chronology of Gerhard's life, a complete and detailed catalogue of works, program notes for all of the chamber works, various critical articles, and reprints of some of Gerhard's own writings (the Schoenberg half of the volume is similarly comprehensive). Finally, the December 1981 issue of Tempo contains seven articles on various aspects of Gerhard's

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11. Letter from the University of Birmingham Music Department, Oct. 23, 1984.

12. Letter from Prof. Peter Evans of the University of Southampton, Aug. 18, 1983.

13. The London Sinfonietta Schoenberg/Gerhard Series (London: Sinfonietta Productions, 1973).

compositions.[14] In addition to the above three volumes, there are articles scattered among various, mostly British, music journals; the number of these is not large, and there are many years in which no article about Gerhard was published.

Gerhard's own writings offer valuable insights into his way of thinking about music. Between 1952 and 1968 he published six substantial articles on music; five of these appeared in The Score during the 1950s. Most are about his own music or compositional concerns; one is about Stravinsky's twelve-tone music. Although he was a lucid and insightful writer, Gerhard did not, in any of his articles, discuss individual works in detail. Indeed, he felt that specific technical information would detract from, rather than add to, a listener's understanding of a work; this is clearly shown by the note to Libra quoted earlier. He was, however, willing to discuss general musical procedures and the ideas behind them, and on this level Gerhard's writings are very useful.

The Early Music

Although Gerhard's stylistic development covers a wide range, from nationalist-inspired neoclassicism to

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14. Tempo No. 139 (Dec. 1981), "Roberto Gerhard: A Survey Chronology."

abstract serially-derived writing, many of the same technical and sylistic elements appear, in varying combinations, thoughout his music. In many ways, Gerhard is a composer who developed by integrating his previous experience instead of rejecting it, and the same general procedures exist in both the earliest and latest works. Gerhard first used a form of serial writing in the Wind Quintet of 1928. This was his first major work after finishing his studies with Schoenberg, and it was influenced by Schoenberg's own work for the same medium.[15] Gerhard's quintet uses a seven-note set which, although occasionally used in the traditional manner (if it can be said there was such a thing in 1928), is also used as a cantus firmus, a source of motives, a basis for ostinatos, and a melody with a nonserial accompaniment. Gerhard's use of the set thus departs significantly from Schoenberg's.

A somewhat later work, the Violin Concerto of 1942-43, uses a twelve-tone set, but freely and combined with other elements. The set used is that of Schoenberg's String Quartet No. 4, obviously chosen in homage to the older composer. It appears only in the second, slow movement where it forms the basis of the chorale which opens the movement. The rest of the movement is not serial, as is also true of the outer movements. The set is therefore used

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15. Ates Orga, program note for Wind Quintet, London Sinfonietta, 78.

in the manner of a quotation, not as the integral basis of the pitch structure.[16]

It was not until the early 1950s, at the same time as such other composers as Dallapiccola and Sessions, that Gerhard started using the twelve-tone system in a more comprehensive manner. One of the major works of this period is the Symphony No. 1 (1952-53). This work has received considerable discussion, the most extensive being by Michael Cunningham in his 1972 dissertation.[17] The other extended discussion of Gerhard's Symphony No. 1 is in an article by Christopher Ballantine.[18] Unfortunately Ballantine confuses Gerhard's use of pitch serialism in this symphony with his use of rhythmic and formal serialism in later works, thus resulting in inaccurate analytical conclusions.

Gerhard himself explained his working methods of that time in his article "Tonality in Twelve-Tone Music."[19] This article provides the key to analyzing the symphony; it also presents essential elements of Gerhard's thought which would affect the rest of his compositional career. Schoenberg's combinatorial hexachordal practice, one result of

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16. Roman Vlad, "My First Impressions of Roberto Gerhard's Music," The Score 17 (Sept. 1956), 27-34.

17. Cunningham, First Symphony.

18. Christopher Ballantine, "The Symphony in the 20th Century," Music Review XXXII (1971), 219-32.

19. Roberto Gerhard, "Tonality in Twelve-Tone Music," The Score 6 (May 1952), 21-35.

which is to produce hexachords of identical pitch content but with differing orders,[20] is Gerhard's starting point. Gerhard extends this procedure, postulating the hexachord as a harmonic unit equivalent to the triad in tonal music. Thus, free ordering of pitches within hexachords does not violate the twelve-tone system, but affirms, for Gerhard, a type of tonality within it. This gravitation towards the use of sets ordered only by hexachordal partition is, of course, very similar to Hauer's system of tropes.[21] The difference from Hauer is that Gerhard thinks of his hexachords as ultimately deriving from an ordered original set. Gerhard cites Schoenberg's opera Von heute auf morgen as an inspiration for this idea, but his hexachordal technique has perhaps even closer affinities with later Schoenberg works, such as the Ode to Napoleon, which use unordered hexachords.

The analytical result in the Symphony No. 1 is that, as Cunningham notes, traditional serial "note-counting" is useless.[22] Nevertheless, something of the hexachordal basis of the work is quite apparent, as a simple example will show. The very beginning of the work presents the basic set

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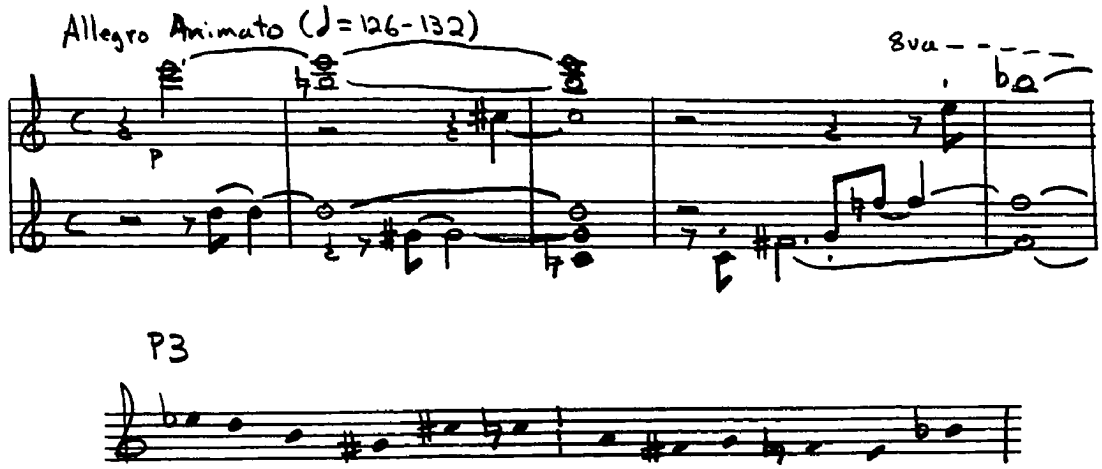
20. Gerhard, "Tonality," 30-32.

21. George Perle, Serial Composition and Atonality, 5th ed. (Berkeley: University of California Press, 1981), 5-6.

22. Cunningham, First Symphony, 1.

at transposition P3, as is shown in Example 1.[23]

Example 1. Symphony No. 1, meas. 1-6.



The sequence of pitches which closes the second movement is not, on the surface, directly related to the basic set. It represents, however, RI3 with the pitch-class order hexachordally permuted, as can be seen in Example 2. This method of pitch-class manipulation is maintained throughout the work, for which reason assigning specific set derivations in denser and more complex passages can become very difficult.

Later in the 1950s Gerhard, like some other composers of the time, began to subject duration as well as pitch-class to serial operations. He explained certain

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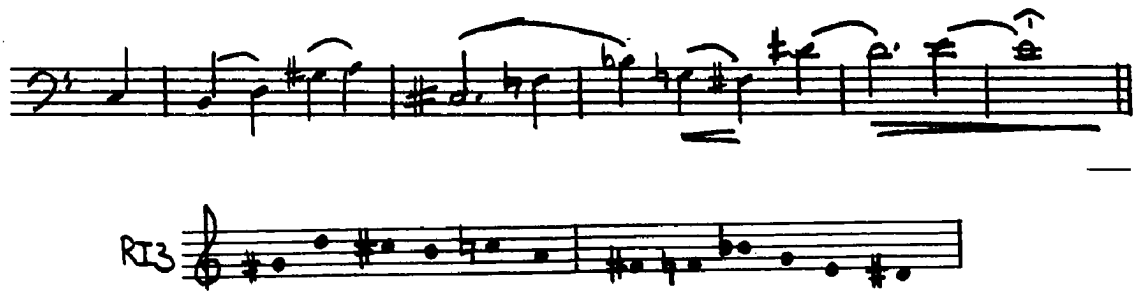
23. I am using the convention of P0 (and I0) always being the transposition beginning on pitch-class C and R0 (and RI0) ending on it, rather than assigning P0 to the first appearance of the set.

Example 2. Symphony No. 1, second movement, last 6 meas., double bass, with RI3 set form.



aspects of his method for doing so in his article "Developments in Twelve-Tone Technique" of 1956.[24] Each pitch-class in the set is assigned a numerical equivalent, determined by its distance in semitones up from a referential pitch-class. This referential pitch-class can be the first note of the set, but more often is the lowest pitch-class in the first hexachord, since Gerhard is, to some extent, still using the method of hexachordal permutation discussed above in reference to the Symphony No. 1; order within hexachords is, therefore, not always fixed. The referential pitch-class receives a value of 12, since 0 would not be meaningful when applied to duration. The pitch-class one semitone above the referential pitch-class receives a value of 1, and so on by semitones up through 11. Gerhard called this numerical expression of the series the "proportions set," because it is used to determine

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24. Roberto Gerhard, "Developments in Twelve-Tone Technique," The Score 17 (Sept. 1956), 61-72. Reprinted in London Sinfonietta, 101-106.

durational proportions, from immediate rhythms to the lengths of complete sections. The choice of which pitch-class is chosen as the reference is obviously arbitrary, but not necessarily more so than any other method for doing so; the result is a numerical set which corresponds to the pitch-class set.

The inversion of the proportions set is obtained by counting down, rather than up, from the referential pitch-class; retrogrades are obtained in the same way as with a pitch-class set. Gerhard does not mention transposition, but it could easily be accomplished by adding a constant value to each number in the set, and subtracting 12 from any number over that value.

How is the proportions set used in actual composing?[25] According to Gerhard,

> The proportions set is the steering device for all time structural operations. In this capacity it is the source of rhythm and articulation at all levels of form organization and, in the last resort, it rules form as a whole.

Gerhard also uses what he called "the complete serial field," that is, all transpositions of the pitch-class set occurring with

> the sequence of transpositions following (so to speak) an acrostic-pattern which reproduces at super-ordinate time levels the interval structure of the original series. The rotation of the transpositions is ruled by the progression of the

---

25. Gerhard, "Developments," 103.

original time set.

In other words, all twelve transpositions of the set are used successively, their order following the order of pitch-classes in the original set. In addition, the duration of each section of the work is determined by the proportions set number corresponding to that of the pitch-class set. Therefore, the length of each section of the work is determined by the original set, as is the transposition of the set used in that section, since the pitch-class and proportions sets are, in reality, the same. The proportions set can also determine the divisions within each section and so on down to the surface level.

This method was used in its strict form only in a few works of the late 1950s, although the insights arising from this ad hoc procedure had a profound effect on Gerhard's later musical thinking. One work which is written in this manner is the Nonet (1956-57) for wind instruments (including the accordion, which Gerhard used in several major works). In the introduction to this work, the proportions set is used to determine the durations, in eighth notes, between successive entries of pitches determined by the pitch-class set. Example 3 illustrates how this works at the very beginning of the Nonet. Successive appearances of members of the set occur with the repeated thirty-second-note figures in various instruments. The bassoon, in measure 1, enters one eighth note after the

clarinet, since the clarinet's concert G-sharp is assigned a proportions set number of 1, but the next entry, that of the oboe, occurs twelve eighth notes after that, since the bassoon B-flat has a value of 12. The entry of the eleventh member of the set, G-sharp, is slightly hidden; it occurs, in the bassoon, accordian, and tuba, as part of the large chord in measure 8.

What is probably Gerhard's most rigorous and comprehensive use of this system of organization occurs in the Symphony No. 2 (1957-59; incomplete revision retitled Metamorphoses, 1967). Susan Bradshaw has discussed the interactions of the proportions and pitch-class sets in this work and its influence on Gerhard's later music.[26] This symphony can be cited as the culmination of Gerhard's "totally organized" manner; in the works which come after it the musical surface starts to encompass a wider range of style and gesture at the same time that the precompositional apparatus becomes increasingly recondite and in some respects irretrievable. That Gerhard, however, retained a fascination for intricate methods of organization is shown by the revision, late in his career, of the Symphony No. 2.[27]

A work which forms an important transition between

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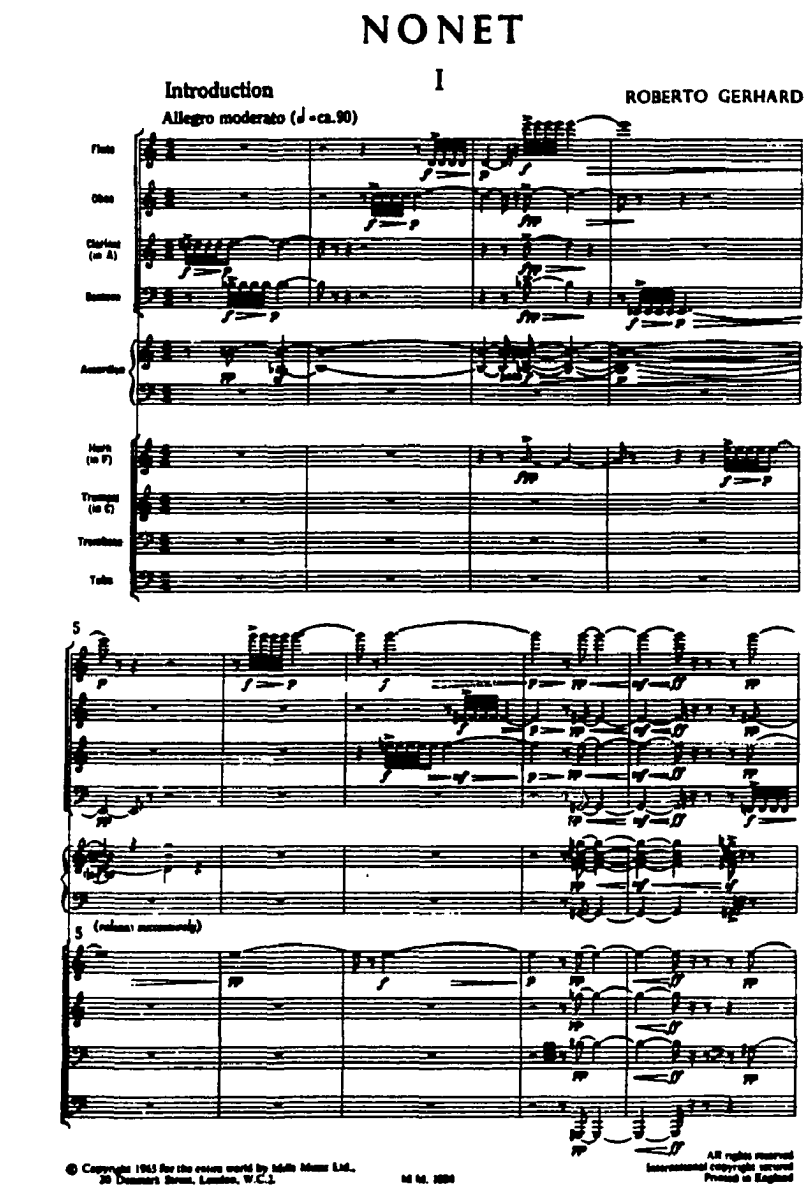
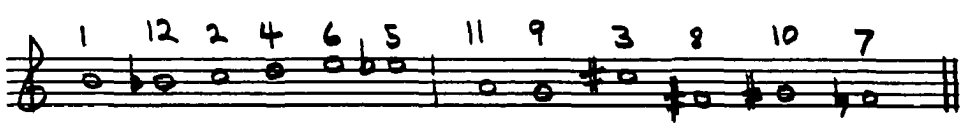
26. Susan Bradshaw, "Symphony No. 2/Metamorphoses," Tempo 139 (Dec. 1981), 28-32.

27. Bradshaw, "Symphony No. 2."

Example 3. Nonet, meas. 1-9, plus basic set.





Gerhard's rigorous procedures of the late 1950s and the freer manner of the 1960s, including Libra, is the String Quartet No. 2 (1961). Although the set is presented clearly at the beginning of the work, the durations of only the second hexachord are serially-derived. In addition, the durational aspects of the series are not used after that.[28] At the beginning, a strict rotational scheme, in which the order of transpositions follows the pitch order of the set, is used, but that begins to be obscured as more and more nonserial elements are introduced. These nonserial features are often motivically derived from the series, such as by extracting pitch cells from set segments or by using set segments as scales. By the end of the work, the free elements predominate over the serial ones.

Libra (1968) is typical of Gerhard's late music in that it presents an extremely varied musical surface. There are, moreover, many different types of compositional processes at work, so much so that the result for the would-be analyst can easily be one of confusion. Gerhard was not composing, of course, for analysts. He was, indeed, somewhat suspicious of verbal explication of music, once

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28. See Keith Potter, "Gerhard's Second String Quartet," London Sinfonietta, 95-97. Potter's otherwise excellent discussion is flawed by treating the pitch-class and proportions sets as separate entities, rather than as separate aspects of the same set. In addition, he exaggerates the meaning of "serial" in an effort to prove that the entire work is serially-derived.

complaining about "the fallacy that music can be explained."[29] I feel, based on the experience of repeated listening, that Libra is convincingly organized and conveys a sense of musical purpose. The problem, then, is how to verbally account for such a wide range of events. In the pitch-class realm alone, these span twelve-tone gestures to simple folk-like melodies, and much in between. Additionally, non-pitch elements also play a major role in the impact and organization of the work.

What is necessary at the outset is the conviction that the organization of a work which, like Libra, sounds convincing can, in some way, be uncovered if not explained. In music, as Gerhard stated, "the sense is in the sound,"[30] but the attempt to find and explain this sense is worthwhile, if ultimately limited. It is that task with which the remainder of this essay will be concerned.

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29. Gerhard, "The Composer and his Audience," Twentieth Century Music, ed. Rollo H. Myers (New York: The Orion Press, 1968), 80.

30. "Composer's Note" to Libra.

Chapter II

FORM AND CONTINUITY

Gerhard arrived at the concept of form he applied in his late music through his participation in developments in serial technique which took place during the 1950s. His efforts to integrate many levels of music convinced him of the totality of musical form and the artificiality of separate movements: "I prize wholeness above unity and versatility above consistency. I reject the traditional breaks between...separate movements. To my mind, the time-gaps are extraneous to the whole."[31] Thus, all of Gerhard's instrumental works after the Chaconne for solo violin of 1959 are single movements, each divisible, however, into sections which interact with each other on various levels.

The procedure of division into sections within single movements built up from segments develops from the use of the proportions set, which implies the existence of twelve sections, durationally related proportionately to the set, within each work. Even though Gerhard abandoned this

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31. Quoted in Orga, "The Man and His Music," London Sinfonietta, 90.

type of strict temporal organization with the String Quartet No. 2, the use of sections (though not necessarily twelve in number) within single movements as the usual type of formal organization remained. Libra's temporal organization is of this kind. The work's fifteen-minute span is divided into nine sections. Each, except the last, is between one and a little less than two minutes long; the final section lasts approximately two and one-half minutes. While there are no great contrasts in length among the various sections, there is considerable variety among the tempos and meters. Table I shows, for each section of Libra, the starting rehearsal number and measure, basic tempo and meters, and a short description of formal characteristics.

Tempo indications, both verbal and metronomic, are by themselves incomplete as guides to the perceived tempo of music. Harmonic rhythm, attack density, the proportion between the longest and shortest note values in a section, and many other factors affect the listener's perception of tempo. In much twentieth-century music, many notated tempo contrasts are not audible due to the frequent lack of clear harmonic rhythm and steady pulse; many works which look fast actually sound slow. Gerhard, in the faster sections of his works, tends to use consistent density and pulse more than many other composers with serially-derived styles. The contrasts of meter and tempo between the various sections of Libra are rather clear, although not always large.

TABLE I

Formal Outline of Libra

SECTION	REHEARSAL/MEASURE NO.	TEMPO AND METER	GENERAL CHARACTERISTICS
1.	meas. 1	♩=76, 5/4 and 3/4	Slow, almost meterless; long held notes and chords punctuated by faster motion; violin is principal instrument.
2.	No. 3/meas. 8	♩.=84, 6/8 (=2/4)	"Pentatonic" flute/clarinet duet, steady meter and tempo; becomes texturally and rhythmically more elaborate later.
3.	No. 11/meas. 11	Stringente, ♪=200, 7/16, 11/16, etc., then ♩=88, 2/4, later ♩=100, then ♩=120	Most complex section metrically; begins with changing meter passage, then becomes steady 2/4, but with subtle tempo changes forming general accelerando; textural development and register contrasts important.
4.	No. 20/meas. 9	Calmo, ♩=69, 4/4, then Largamente, ♩=58, 3/4	Slow guitar/violin phrase, then guitar (with timpani) "cadenza" showing Spanish influence.
5.	No. 24/meas. 3	Deciso, con moto, 𝅗𝅥=92, 2/2	Fast, rhythmic, use of ostinato, active texture, wide registral range.
6.	No. 31/meas. 5	♩.=60, 6/8	Continuation of previous section, but somewhat calmer and less active; some use of ostinato; elaborate textural contrasts.
7.	No. 36/meas. 6	Calmo, ♩=76, 4/4	Four-voice "chorale;" slow, consitent texture, limited register; serial.
8.	No. 38/meas. 6	𝅗𝅥 =ca. 80, 1/2	Fast, active texture, spare at first but becomes denser; 6/8 against 1/2 at end.
9.	No. 53/meas. 5	♩=ca. 80, 2/4	One-half the tempo of previous section; dominated by "folk" melody; ostinatos, melodic and registral restriction.

Furthermore, Gerhard had highly individual ideas about the nature of musical continuity. In his Concerto for Orchestra of 1965, he claimed to be using three types of continuity, which he discussed in a preface to the score. The first type is, according to Gerhard, "characterized by a high rate of eventuation," with "tonal configuration...the leading composition principle." The second type features "almost static yet pulsating...patterns" and features multiple ostinatos. The third type of continuity features "the virtual suspension of meter (only preserved for the convenience of notation)," and attempts to conjure up the impression of very slow motion.[32] Although these types of continuity are not used in any organized way in Libra, it is notable that Gerhard paid such close and conscious attention to this compositional issue. Even though he may not have used the same type of formal organization in Libra, it seems clear to this writer that Gerhard paid as much attention to matters of form and continuity in Libra as in the Concerto for Orchestra.

In general, Libra progresses from beginning to end with no exact repetitions except for those which are immediate, such as ostinatos. This is in conformity with Gerhard's previous practice; he once stated, in relation to his Symphony No. 1, that he was attempting to write

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32. Roberto Gerhard, Concerto for Orchestra (London: Oxford University Press, 1965).

continuous melody with no repetition, such as that which existed in medieval or Asian music.[33] The same is true of Libra, although there are thematic cross-references, as will be seen, between sections, as well as motivic unity which pervades the entire work.

The various sections, as shown in Table I, also exhibit varying degrees of internal formal complexity. For example, section 7, which begins at No. 36, measure 6, is a four-voice chorale which is consistent in terms of texture, metric complexity (the quarter note can clearly be heard as the regular beat), rate of rhythmic motion, and motivic consistency. It therefore contrasts strongly with, for example, section 3 (No. 11, measure 11), which progresses through metric and rhythmic complexity and subtle tempo changes. These differences, although not always striking between adjacent sections, help define sectional identity through contrast. There is, therefore, more continuity within sections than between them.

The basic formal approach in Libra is that of a coordinated contrast of tempo, meter, and continuity between sections. While the nine-section division is the primary formal structure of the work, other important groupings, recurrences, and references do occur. These other formal events do not overrule or even contradict the nine-section

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33. Roberto Gerhard, program note to recording of Symphony No. 1, Argo ZRG 752.

basic structure; rather, they add additional levels of richness and complexity.

One of these formal subtleties is the grouping of the nine sections into three larger units. Each of these is begun by one of the three slow sections, numbers 1, 4, and 7, which divide the work into thirds, or in each case, at least, initiate a three-section "gesture," to choose a word that emphasizes the dynamic continuity of Gerhard's formal plan. That is, sections 2 and 3 grow out of section 1 and are connected to each other; the same triple grouping applies to sections 4, 5, and 6 as well as sections 7, 8, and 9. The fact that the most substantial pauses in the piece occur before sections 4 and 7 reinforces the impression, at this level, of tripartite division.

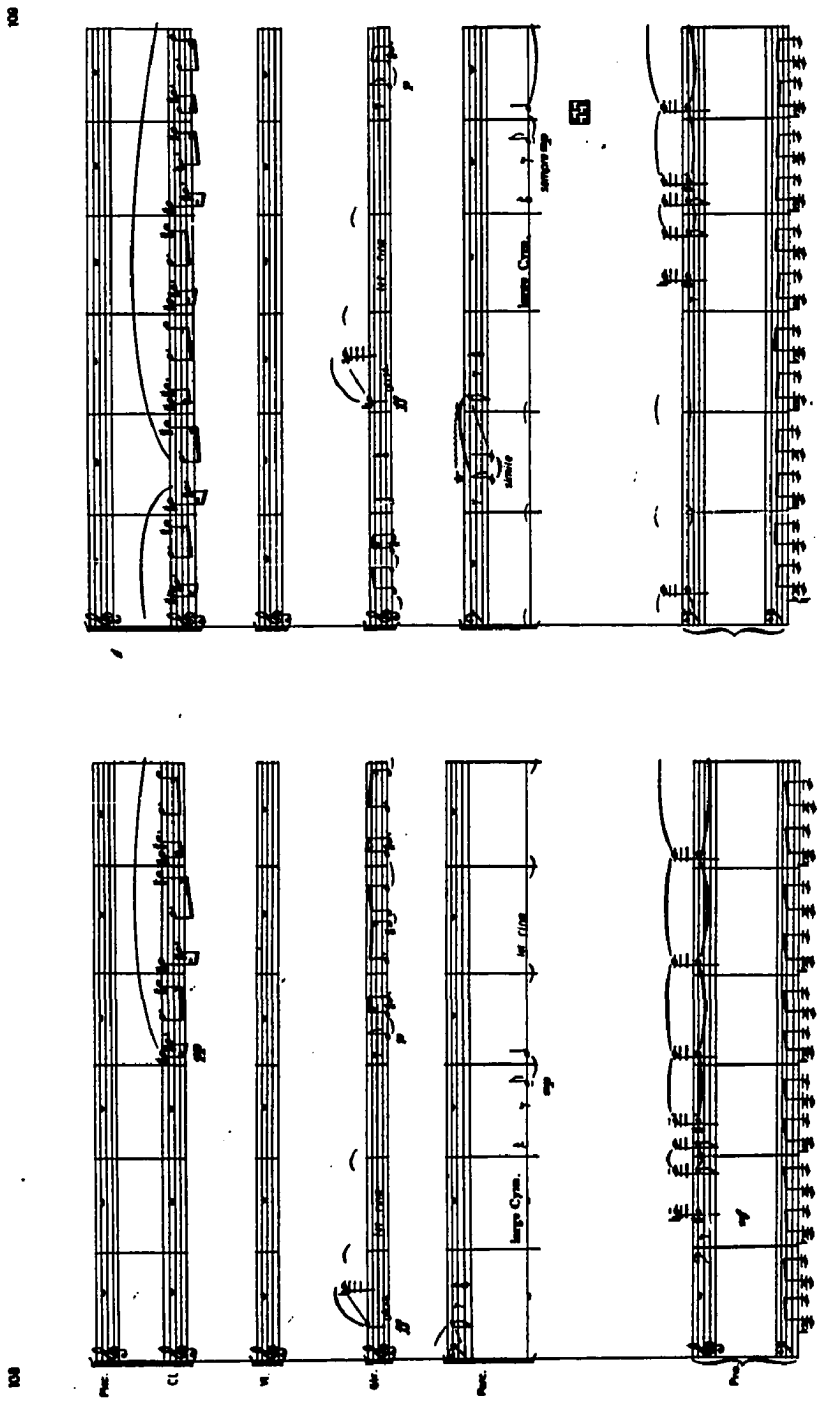
No more consistent pattern is maintained than that the progression of sections within each of these thirds of the piece represents, in each case, a development or intensification of material and mood in some manner. For example, sections 1 through 3 present a general increase in tempo, density of pitch attacks, and textural complexity. Sections 4 through 6 exhibit a similar intensification although it is accomplished by somewhat different means, notably the reiteration of the pitch D and the use of ostinato. Although the tempos do not increase as dramatically between sections as in the first three sections, neither do they decrease: although the notated

tempo change between sections 5 and 6 (half note equals 92 to dotted quarter equals 60) seems to indicate a slowing down, the two sections are heard as being in nearly the same tempo. The predominant note value, the eighth note, equals 184 in section 5; this is nearly the same as the sixteenth note value, 180, in section 6.

The last three sections of Libra achieve a third intensification cycle, but in another way. After the chorale of section 7, section 8 builds up to a texturally dense passage, starting at No. 45, measure 5. After that, section 8 makes a transition to the final section, which is exactly one-half its tempo. This concluding section of Libra is unique in character within the work. It features a clarinet melody (Example 4) which uses four of the pitch-classes of a pentatonic scale; this rather repetitive melody is accompanied by various ostinatos and recurring figures. In its enigmatic simplicity, this final section achieves a haunting conclusion after the often complex earlier sections.

Although at first the clarinet melody of the final section seems to be at odds with the rest of the work, it is prepared for earlier. At the beginning of section 2 (No. 3, measure 8) a flute melody enters which retrospectively can be seen to be closely related to the melody of the final section. Later in section 2, at No. 9, measure 6, the flute figure is rhythmically transformed from its original

Example 4. Libra, No. 54, meas. 2 to No. 55.



quarter-note hemiola in 6/8 to a dotted rhythm in 2/4. It is also expanded in pitch from its original three pitch-classes (D, F, G) until, at No. 10, measure 7, it is clearly based on the G minor pitch collection.

When this melody returns as the basis of the concluding section, the dotted rhythm is also used, clearly establishing its relationship to the similar passage in section 2. It has not been established whether this is an actual folk tune. The melody has been described by one commentator as being of South American folk origin,[34] but another source credits it with being of Oriental inspiration.[35] Certainly it gives the impression of being of folk origin. It would seem that the style of this melody is at odds with the generally highly chromatic style of Gerhard's music, but the integration of seemingly disparate elements is a feature of many of his late works.[36] This melody must have been meaningful to the composer, since it returns, in a similar setting, at the end of Leo, the work written just after Libra. Perhaps, like the titles of those works, it has an autobiographical resonance; there is no

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34. Ates Orga, program notes for Libra and Leo, London Sinfonietta, 85-86.

35. Misha Donat, "Thoughts on the Late Works," Tempo 139 (Dec. 1981), 42.

36. Donat (Tempo 139, 40) mentions this feature in the Symphony No. 4 and Violin Concerto, and Orga (London Sinfonietta, 93) discusses it in the Harpsichord Concerto.

doubt that it is meant to connect the two pieces. The use of almost the same closing passage for two different works raises intriguing biographical and musical questions; perhaps Leo is a portrait of Gerhard's wife if Libra is of Gerhard himself. The presence of such material suggests that there is a secret program for the work. This clearly has formal implications for Libra, indicating that there are extramusical factors interacting with the more abstract, purely musical, ones described earlier. Since the composer did not reveal himself about this matter other than in his rather cryptic program note to Libra, it is only in analysis of the music that any answer can be found.

Chapter III

PITCH

At first glance, Libra appears to make use of an almost bewildering variety of pitch-class formations. Twelve-tone sets, tone clusters, and diatonic collections all appear at one time or another. Because of this variety, the organizational basis of the work's pitch-class structure is not readily apparent to either the eye or the ear. One feature which soon does become apparent, however, is Gerhard's use of chromatic saturation, that is, the practice of keeping all pitch-classes in constant circulation.[37]

Pitch Cells

The use of chromatic saturation does not by itself provide a sufficient means of pitch organization; more immediate methods than the use of unordered aggregates are needed. Gerhard, in the greater part of Libra, turns to the

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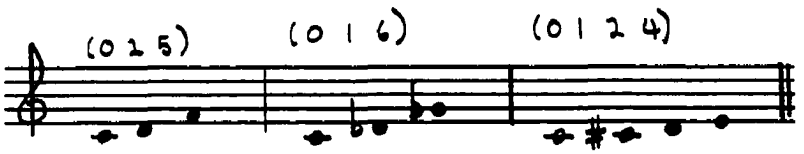
37. The term "chromatic saturation" is used here as defined by Charles Rosen in Arnold Schoenberg (Princeton: Princeton University Press, 1981), 57ff.

use of pitch cells.[38] There are three primary pitch cells used in Libra, two of three members and one of four, as shown in Example 5. These cells are, in pitch-class integer notation,[39] (0 2 5), (0 1 6), and (0 1 2 4).

Example 5. Principal pitch cells of Libra.



These three cells have several intervals in common which enable them to be integrated and combined with each other easily. For example, cells (0 2 5) and (0 1 2 4) each contain a "major second" (interval-class 2) and a "minor third" (interval-class 3). (0 1 6) and (0 1 2 4) each contain "minor seconds" (interval-class 1), and (0 2 5) and (0 1 6) share a "perfect fourth" (interval-class 5).

Additionally, the four three-member cells which can be derived from (0 1 2 4) are often used independently. These secondary cells are (0 1 2) (a three-note chromatic

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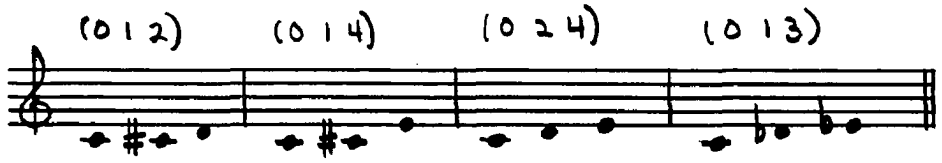
38. I am using the term "cell" in the manner defined by George Perle in Serial Composition and Atonality, 5th ed., 9-10.

39. My use of integer notation for the cells is in the form used by Pieter C. Van den Toorn in The Music of Igor Stravinsky (New Haven: Yale University Press, 1982). In addition, transpositions are referred to by the lowest pitch-class of the cell, with "T" referring to the normal form and "I" to the inversion.

cluster), (0 1 4), (0 2 4) (a whole-tone segment), and (0 1 3) (which is (1 2 4) at T0) (Example 6).

Example 6. Cells derived from (0 1 2 4).



Larger pitch structures are often formed from the basic cells. One way this is done is by combining two different cells. Another is by combining a cell with its own transposition or inversion. Related to the second method is Gerhard's practice of extending a single cell cyclicly, by alternation of its intervals, so that larger pitch structures are generated.

This last technique is used particularly with cell (0 1 6), which is the perfect fourth plus tritone formation much used in twentieth-century music from early Schoenberg onwards.[40] This cell can be extended by the alternation of interval-class 6 and interval-class 5 (or interval-class 7, if the inversion is wanted). For example, cell (0 1 6) can be extended to produce (0 6 1 7 2 8 etc.). Depending upon which interval the cycle begins with, the result will encompass either all twelve pitch-classes (if interval-class

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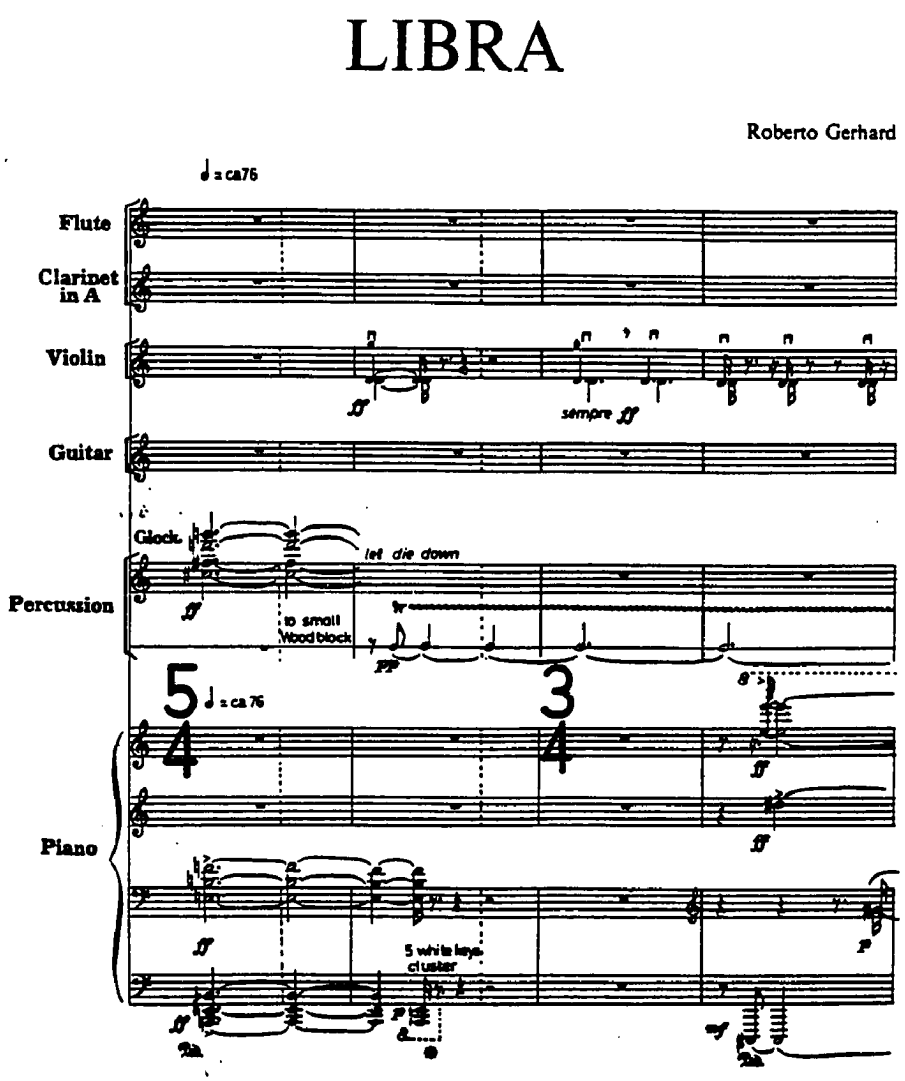
40. Charles Rosen extensively discusses Schoenberg's use of this trichord in Schoenberg, 42-44.

6 is the beginning interval) or eleven pitch-classes (if interval-classes 5 or 7 are the starting points) before any pitch-class duplications occur. The use of this technique is thus well-suited to a chromatically saturated pitch universe.

The opening chord of Libra (Example 7) consists of a ten-pitch-class collection derived from two non-adjacent segments of a cycle projected from the (0 1 6) cell. In integer notation, the cycle, with the omitted pitch class in parentheses in the middle, is (9 3 10 4 11 5 (0) 6 1 7 2). It can be clearly seen that this cycle uses alternating interval-classes 6 and 7. The first six members are played by the piano and the last four by the glockenspiel. Although the registral presentation of the piano's pitches follows the cyclic order, the glockenspiel's does not, although it is arranged symmetrically.

Section 1 of Libra, of which Example 7 is the beginning, makes extensive use of cell (0 1 6) and its cyclic extensions. This section also introduces cell (0 1 2 4) and the three-member cells derived from it. For example, in measure 4 in Example 7, the piano's C-sharp, D-sharp, and E can be interpreted as (0 1 3) at I1. The piano's last note in the example, G-sharp, is followed immediately by an A (not shown) which, together with the violin's continuing D, forms (0 1 6) at T8.

Example 7. Libra, measures 1-4.

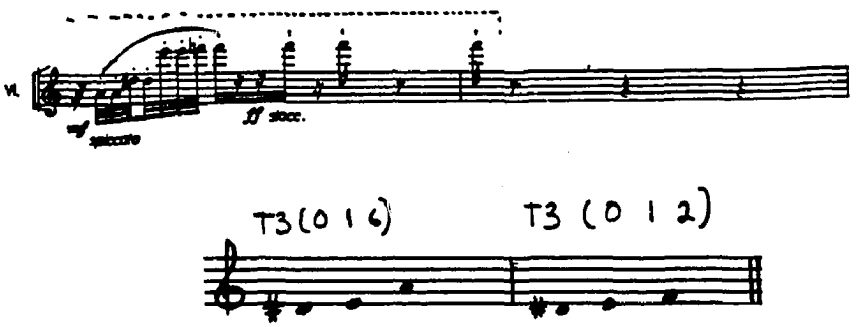


The violin is the most important instrument in section 1; this section is virtually an accompanied cadenza. Commensurate with this status, it makes use of all of the important cells which appear in the section. Its part up to No. 1 consists of reiterations of the opening D4; at No. 1, five measures of the violin stating an F7

begin.[41] Thus, the interval of a minor third is dramatically outlined over three octaves.

At No. 1, measure 6, the violin plays a figure which partially fills in the space between the D4 and F7, and which combines two pitch cells, (0 1 6) and (0 1 2) (Example 8). The D-sharp, E, and A form (0 1 6) at T3, and D-sharp, E, and F form (0 1 2), also at T3; thus two cells are combined in a way that results in only four pitch-classes; such overlapping cellular combinations are common in Libra.

Example 8. Libra, No. 1, meas. 6, violin.



The remainder of the pitches in this passage can easily be attributed to forms of the basic pitch cells. The guitar chord which occurs at No. 1 is a typical example. It consists of pitch-classes F-sharp, G, B-flat, and B, and can be explained perhaps most logically as consisting of simultaneous statements of (0 1 4) at T6 and I7. This is another instance of the type of cellular combination

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41. The system for naming pitch registers used here is that of the Acoustical Society of America, in which the octave from middle C upwards is C4-B4, the octave above that C5-B5, and so on.

previously mentioned, but this time using complementary inversions of the same cell.

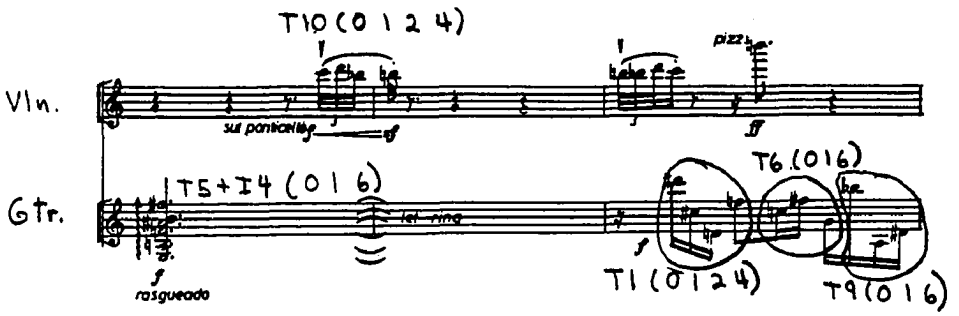
Before continuing with the discussion of pitch cells, Gerhard's use of the filling-in of chromatic space merits attention. For example, the opening chord of Libra contains ten pitch-classes, with C and G-sharp missing. The low piano cluster which appears in measure 2 (see Example 7) could be said to provide the C, but the register and duration of the cluster make it a percussive, not a pitch, event. The violin D is joined in measure 4 by the piano's C-sharp, D-sharp, and E, forming a four-pitch cluster, then joined by G-sharp (its first appearance) and A in measures 4 and 5. The pitches needed to fill in the space between these two structures, F, F-sharp, and G, appear at No. 1. At No. 1, measure 2, the previously-mentioned F7 appears in the violin, and C (its first appearance) through E are filled in by piano and guitar. This chromatic collection is extended by the piano's low B at No. 1, measure 6. With that note other, more obviously cellular, processes take over, and chromatic filling-in and extension become less important in this section.

Gerhard frequently, in Libra, fills and extends chromatic space. Closely related as a tendency is the use of chromatic aggregates; the impulse towards the completion of complete twelve-tone collections becomes a harmonic norm. This tendency does not contradict the use of pitch

cells as described above. It could, indeed, be said that the use of pitch cells is a way of making motivic sense of chromatic saturation; it could equally well be said that chromatic saturation is one way of providing a harmonic context for cellular operations.

The first full appearance of cell (0 1 2 4) is at No. 2, which is still in section 1. There, the violin states the cell twice at T10 (Example 9). The first four notes of the guitar at No. 2, measure 3, also form the same cell at T1. The other pitches in Example 9 are derived from cell (0 1 6). The six-note guitar chord at No. 2 consists of a statement of T5 (F, F-sharp, B) combined with I4 (E, A, A-sharp). The last six notes of the guitar at No. 2, measure 3 form two successive statements of (0 1 6) at T6 (F-sharp, G, C) and T9 (A, B-flat, D-sharp).

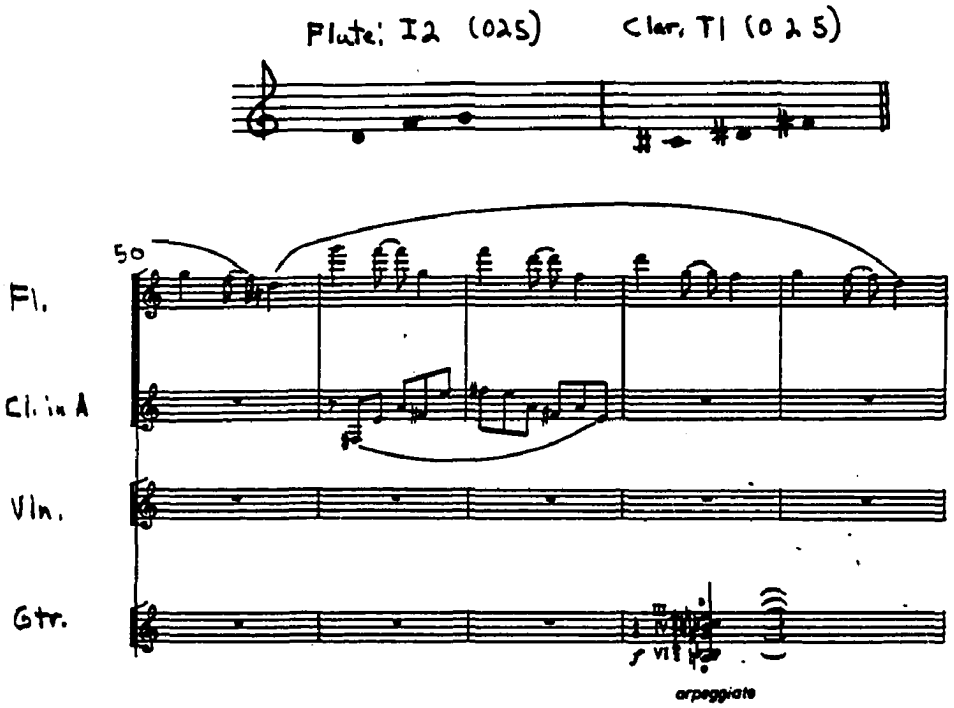
Example 9. Libra, No. 2 (cymbal and piano omitted).



The third important cell, (0 2 5), appears first at the beginning of section 2 (No. 3, measure 8). It is presented as the basis of a duet for flute and clarinet

accompanied by the other instruments except for violin (the violin, having been prominent in section 1, is silent at the beginning of section 2; the flute, which was not used in section 1, is the principal voice at the start of the second section). Both flute and clarinet use the (0 2 5) cell, the flute in the I2 form and the clarinet in T1. Example 10 illustrates several measures from this passage.

Example 10. Libra, No. 5, meas. 3-7 (piano and percussion omitted).



The aggregate of the flute and clarinet pitches in this passage (C-sharp, D, D-sharp, F, F-sharp, G) can also be expressed as two inversionally related statements of cell (0 1 2 4) at T1 and I3. Although the interpretation of this

passage as deriving from (0 2 5) is clearly primary for orchestrational and melodic reasons, the possibility of multiple readings is often present because of the close interval-class links between the principal cells.

The accompaniment to the flute-clarinet duet completes the twelve-tone aggregate by employing the pitch-classes not present in the melody instruments. In Example 10, the guitar's six-note chord consists of exactly those six pitch-classes. From the beginning of section 2 until the passage illustrated in Example 10, except for an initial twelve-tone chord in the piano, the guitar-piano accompaniment uses only the pitch-classes not present in flute and clarinet. Gerhard thus achieves chromatic saturation at the beginning of section 2 by dividing the chromatic aggregate into two discrete collections, one for the melody and one for the accompaniment.

An interesting feature of this passage at the start of section 2 is the use of melodic octaves in flute and clarinet; each instrument uses only three pitch-classes, but in each case those pitch-classes appear in several octaves. This practice is somewhat rare in nontonal music ever since Schoenberg's early works ("orchestrational" octaves, used for timbral and harmonic reinforcement, are more common). In Libra, such melodic octaves largely occur only in sections 2 and 9, and there in passages which relate to the "folk tune" which dominates section 9 and is forecast in

section 2.

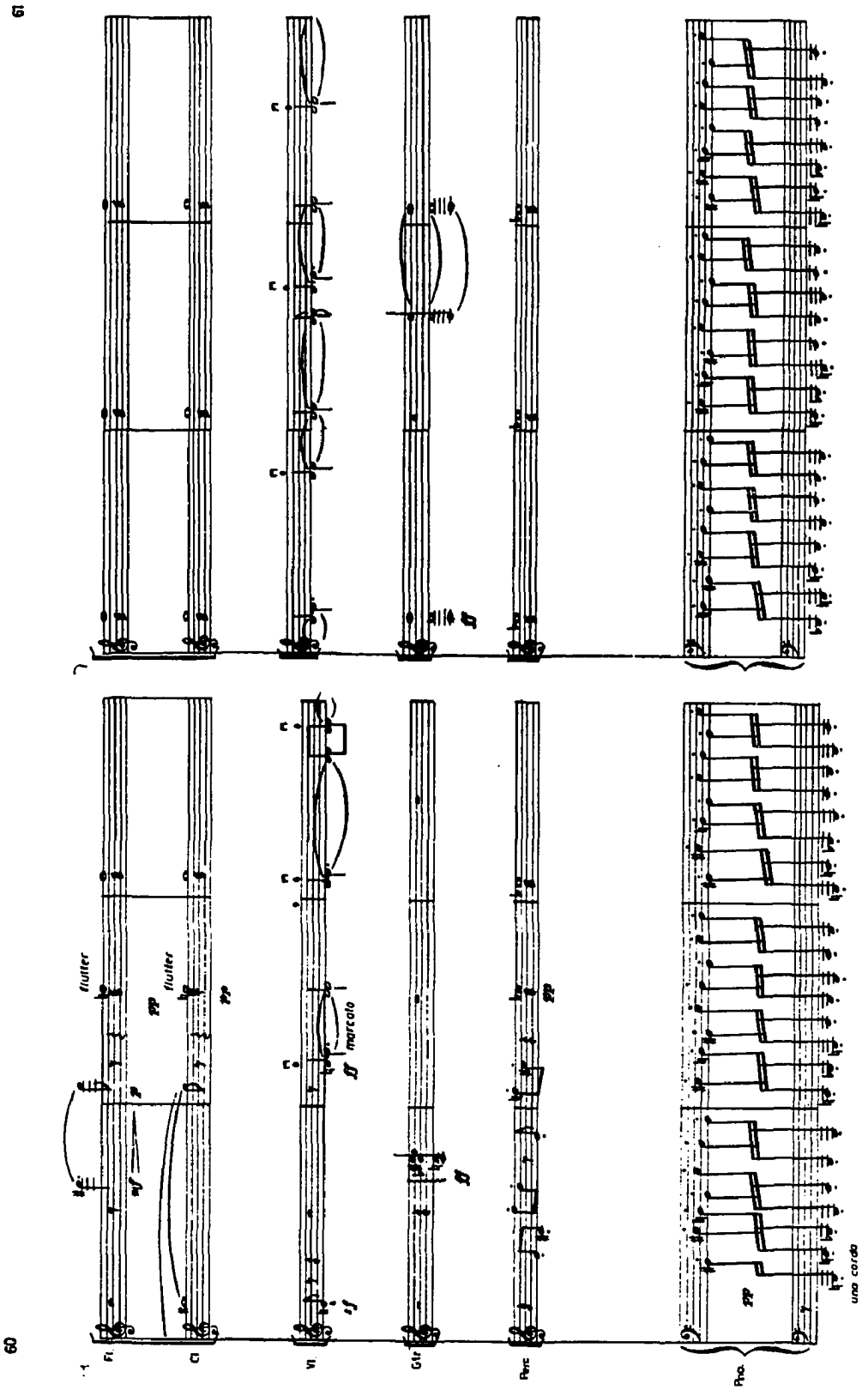
The folk-tune melody, which occurs in its full form at No. 54, measure 5 in section 9 (see Example 4 in Chapter 2) consists of only four pitch-classes: C, E-flat, F, and A-flat. These can be derived from two inversionally-related (0 2 5) cells: one at T3 which produces E-flat, F, and A-flat, and one at I0 which results in C, E-flat, and F. The same type of derivation thus produces the the simple tetratonic melody of section 9 that produces the more harmonically chromatic (but clearly motivically related) duet that opens section 2.

The other pitches in this passage in section 9 illustrated by Example 4 are also disposed in a way typical of Libra. The left hand part of the piano consists of an ostinato using A, C, and D-flat, or (0 1 4) at T9. The F-sharp and G of the piano's right hand and the E and D-sharp of the guitar for a (0 1 3 4) cell at T4; this cell, although not one of the principal cells, does appear often enough to be considered an important subsidary cell. It is intervallically closely related to cell (0 1 2 4): (0 1 3 4) has an additional interval-class 3 (minor third), but one fewer interval-class 2 (major second), but all other intervals are identical between the two cells. In the passage in section 9 under discussion here, this cell is symmetrical around F, the only pitch-class which exists in two octaves in the clarinet melody.

The three pitch-classes missing from the passage illustrated in Example 4, B-flat, B, and D, appear soon afterwards. The D appears as the first pitch of the piccolo's four-note whole-tone segment at No. 56; this and the other whole-tone segments in Libra can be read as an extension of cell (0 2 4). The B-flat and B (spelled C-flat) appear as replacements for the piano's F-sharp and G at No. 56, measure 5.

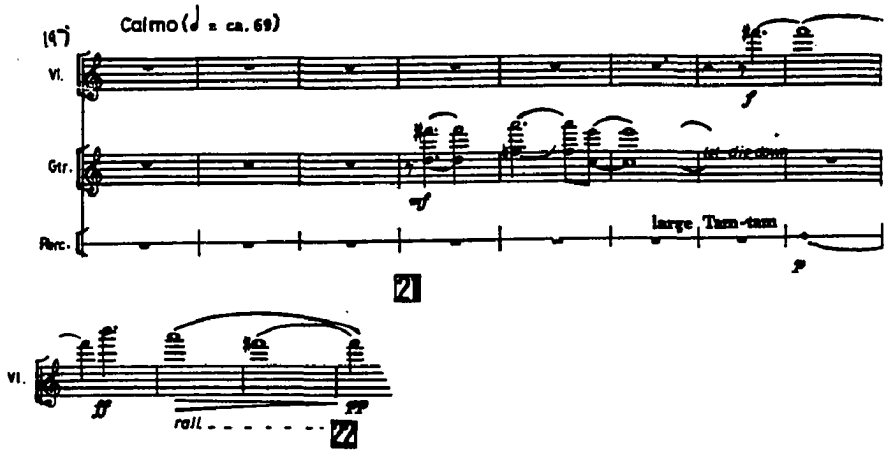
Cell (0 2 5) also appears in several other contexts. At No. 27, measure 5, simultaneous presentations of I7 and I8, played hocket-like a "minor ninth" apart, form the basis of an accompanimental ostinato (Example 11). The same cell also appears in a different context at No. 21 in section 4 (Example 12). There, it first appears in the guitar in parallel "minor tenths" at T0 and T4. This is followed by the violin stating the same cell at I6. The total pitch content of the passage in Example 12 consists of only seven pitch-classes. These are not derived from any particular scale or collection, and cannot be further allocated among any of the basic pitch cells. This is, therefore, along with the guitar cadenza which immediately follows it, one of the rare passages in Libra in which chromatic saturation is not maintained. The motivic connections, due to the pitch cells, are strong enough to ensure continuity with the remainder of the work. In addition, the fact that this passage does have some

Example 11. Libra, No. 27, meas. 5-10.



chromatic pitch content ensures that it does not violate the general harmonic ambiance of Libra. Nevertheless, the lack of chromatic saturation forms a contrast with the general ambiance of Libra. Although this work is largely chromatically saturated, it is not always evenly so; the rate and frequency of the achievement of chromatic saturation is an important structural feature. The passage illustrated in Example 12 thus contrasts with the more pitch-saturated and chromatically active passages.

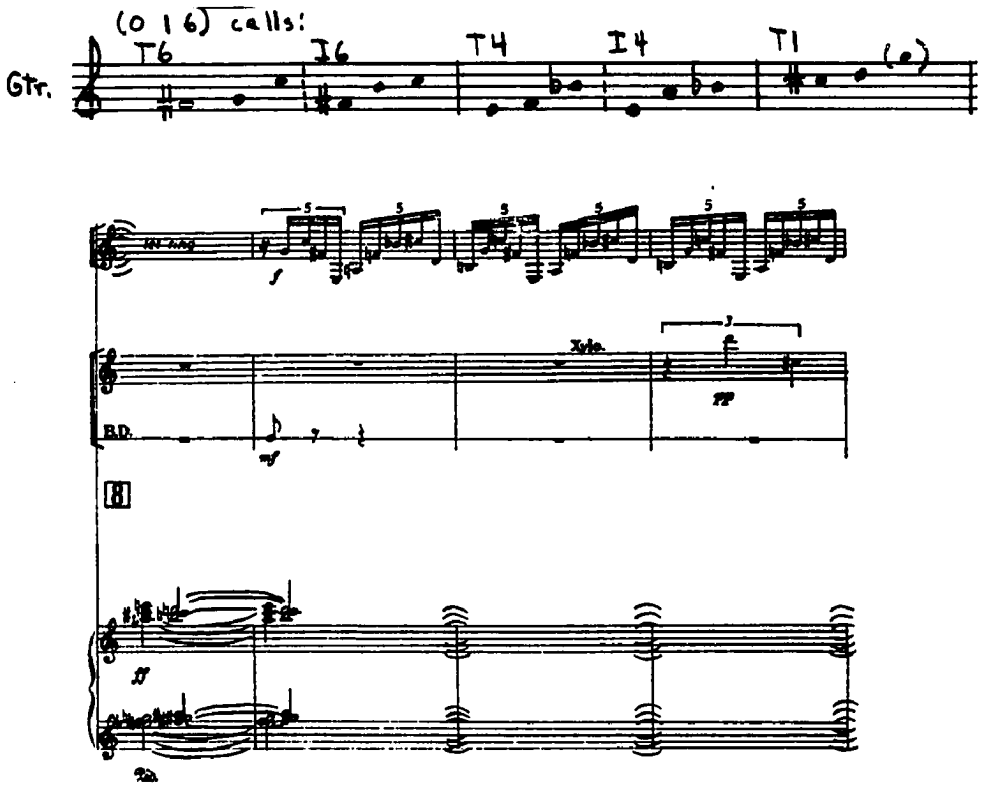
Example 12. Libra, No. 21 to No. 22.



In many of these dense and very chromatic passages, the interactions of pitch cells are less clearly discernible than they are in the examples discussed thus far. A typical passage, shown in Example 13, occurs in section 2 from No. 8 to No. 9. The passage opens with a chord which, as notated, contains eleven of the twelve pitch-classes disposed in the space of an octave and a semitone. One must suspect,

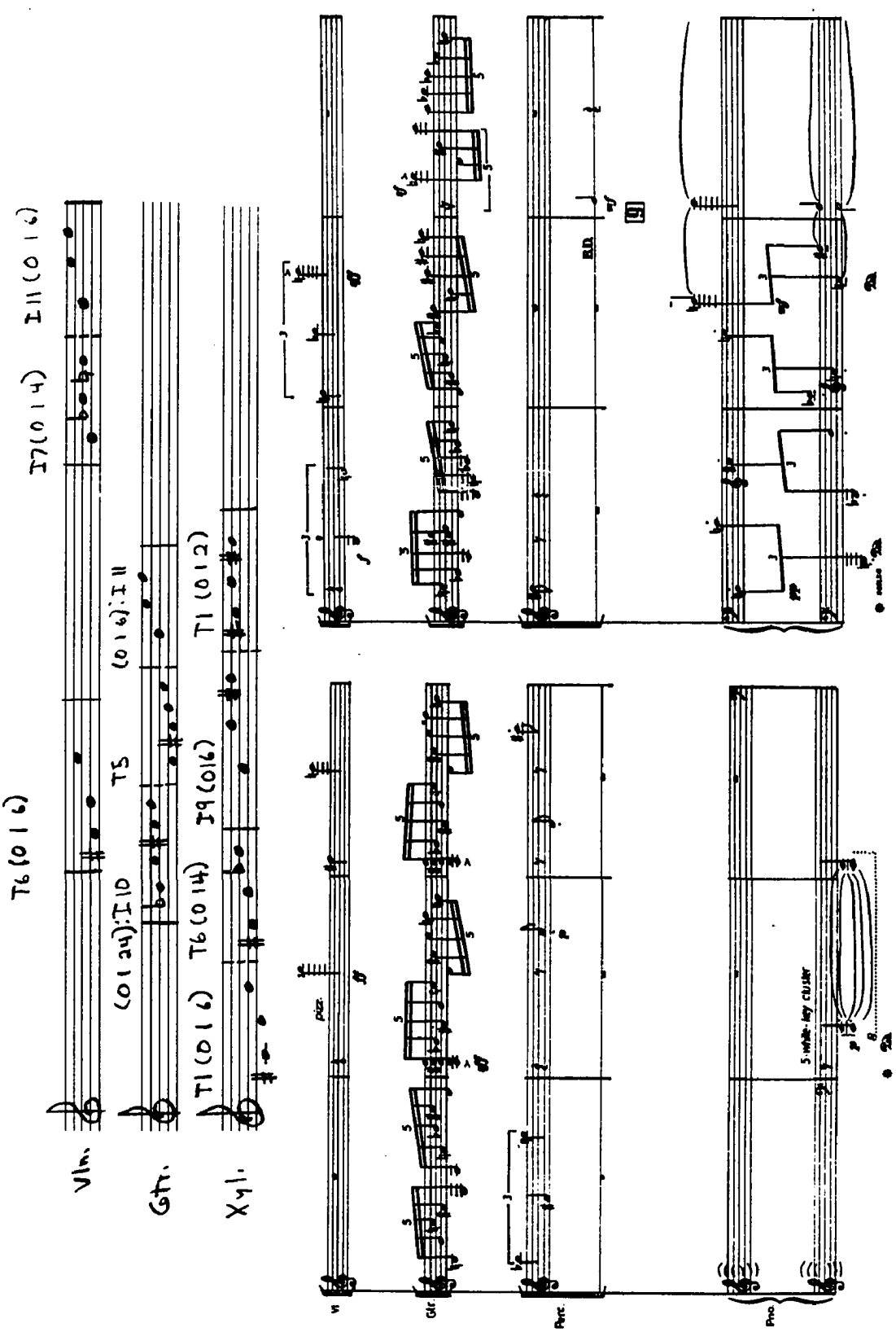
however, that one of the two notated A-sharps should be an A-natural, thus producing a symmetrical twelve-tone chord; this exact type of twelve-tone chord occurs four other times in Libra, including twice at the very beginning of section 2.

Example 13. Libra, No. 8 to No. 9 (example continued on next page).



In the second measure after No. 8, the guitar begins an ostinato passage which changes its pattern after four measures and then again after two more measures. The

Example 13 continued.



pitches are derived, at first, from various forms of cell (0 1 6). For example, the pitches from the first full measure of the guitar, No. 8, measure 3, can be explained as deriving from, successively, (0 1 6) at T6 (F-sharp, G, C) plus I6 (F-sharp, B, C), T4 (E, F, B-flat) plus I4 (E, A, B-flat), and T1 (C-sharp, D, (G)). When the pattern changes at six measures after No. 8, the guitar part includes (0 1 2 4) cells along with (0 1 6) cells: (0 1 2 4) occurs at I10 (B-flat, C, C-sharp, D) and T5 (F, F-sharp, G, A) and (0 1 6) occurs at I11 (B, E, F). In the guitar's last two measures before No. 9, however, derivations are less clear and could be explained in several ways. There is a large number of pitch-classes occuring in each measure, ten and nine respectively. They pass by with great speed, and the missing pitch-classes could be thought of as supplied in each measure by the other instruments. Perhaps the best explanation is that a general progression of increasing density in pitch, rhythm, and texture leads to the climax at No. 9.

Such a use of "increasing densities" is, indeed, typical of Gerhard's practice in Libra. Any number of cellular explanations could be proposed, but there is no particular reason, in such a dense passage, to suppose that any one of them is more particularly apposite than any other. A textural interpretation of such a passage would seem more appropriate; is is common in this work for

passages to begin with pitch-cellular material and to finish with textures featuring frequent appearances of all twelve pitch-classes.

The instrumental parts other than the guitar's in Example 13 are more easily explained. The xylophone phrase at No. 8, measure 4, consists of overlapping cells (0 1 4) at T6 (F-sharp, G, B-flat) and (0 1 6) at T1 (C-sharp, D, G). The violin phrase at No. 8, measures 8-9, also consists of the same two cells; there it is (0 1 4) at I7 (G, B-flat, B) and (0 1 6) at I11 (B, E, F) which are combined, although the presence of (0 1 6) at T4 and I5 could also be proposed. Cell (0 1 6) also forms the previous violin phrase, at No. 8, measures 6-7; there it is at T6 (F-sharp, G, C). The xylophone phrase which occurs at the same time (No. 8, measures 6-8) uses cell (0 1 6), at I9 (A, D, D-sharp), with the additional C-sharp forming a (0 1 2) cell along with D and D-sharp (this is an inversion of the violin phrase which was illustrated in Example 8). The piano phrase can be explained as an accretion of all pitches except G and A-flat, which are present in the guitar, although the last six notes also form two (0 1 6) cells. There is a general registral ascent in this passage, the goal being the high B6 which is reached by both violin and piano.

Gerhard's characteristic method of organizing pitches throughout Libra is the use of a limited number of

cells which are combined and permuted. This procedure takes place against a "harmonic background" of chromatic saturation, with completion of twelve-tone aggregates a common practice. These combinations of pitch cells often become so dense that texture seems to dominate pitch. Ancillary methods of pitch organization, used in a limited way in Libra, will be discussed in succeeding sections of this chapter.

Serial Aspects

There are indications that some of the pitch material used in Libra may be serially-derived, although in a limited and even tentative manner. Gerhard may even have thought of a twelve-tone set as the starting point for the pitch organization of the work, although the final results are removed from any consistently observable type of serial practice. The set which governs those aspects of Libra which are evidently serial is shown in Example 14; it is used primarily in section 7, with some appearances in section 6. As shown in the example, it is tetrachordally partitioned, with unordered content within tetrachords; because of this feature, transpositions, as with the pitch cells, will be named according to the lowest pitch-class of the first hexachord.

The assumption in almost all writings about Gerhard's late music seems to be that it is serial in some

Example 14. Libra, tetrachordal partition of basic set.

sense, but definite evidence is rarely presented. Ates Orga gives a set in his program note to Libra in the London Sinfonietta book; this set is shown in Example 15.[42] Orga states only that "the serial basis is suggested" by the set he proposes, and there is no evidence given that he had any access to Gerhard's sketches or any other primary sources. Although many of the principal cells of Libra can be extracted from Orga's set, there is no passage in the work that uses this set in any consistent manner. The conclusion one is left with is that, feeling he had to present a set for the work, Orga took the opening chord, arranged it in linear order from the bottom up, then added the two remaining pitch-classes at the end.

The set given in Example 14, on the other hand, appears clearly as the basis of the four-voice chorale (played by flute, clarinet, and double-stopped violin) which makes up section 7 (beginning at No. 36, measure 6). The consistent four-part homophonic texture confirms the

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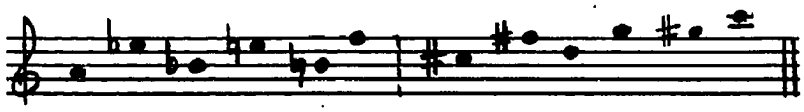
42. Ates Orga, "The Works," London Sinfonietta, 85.

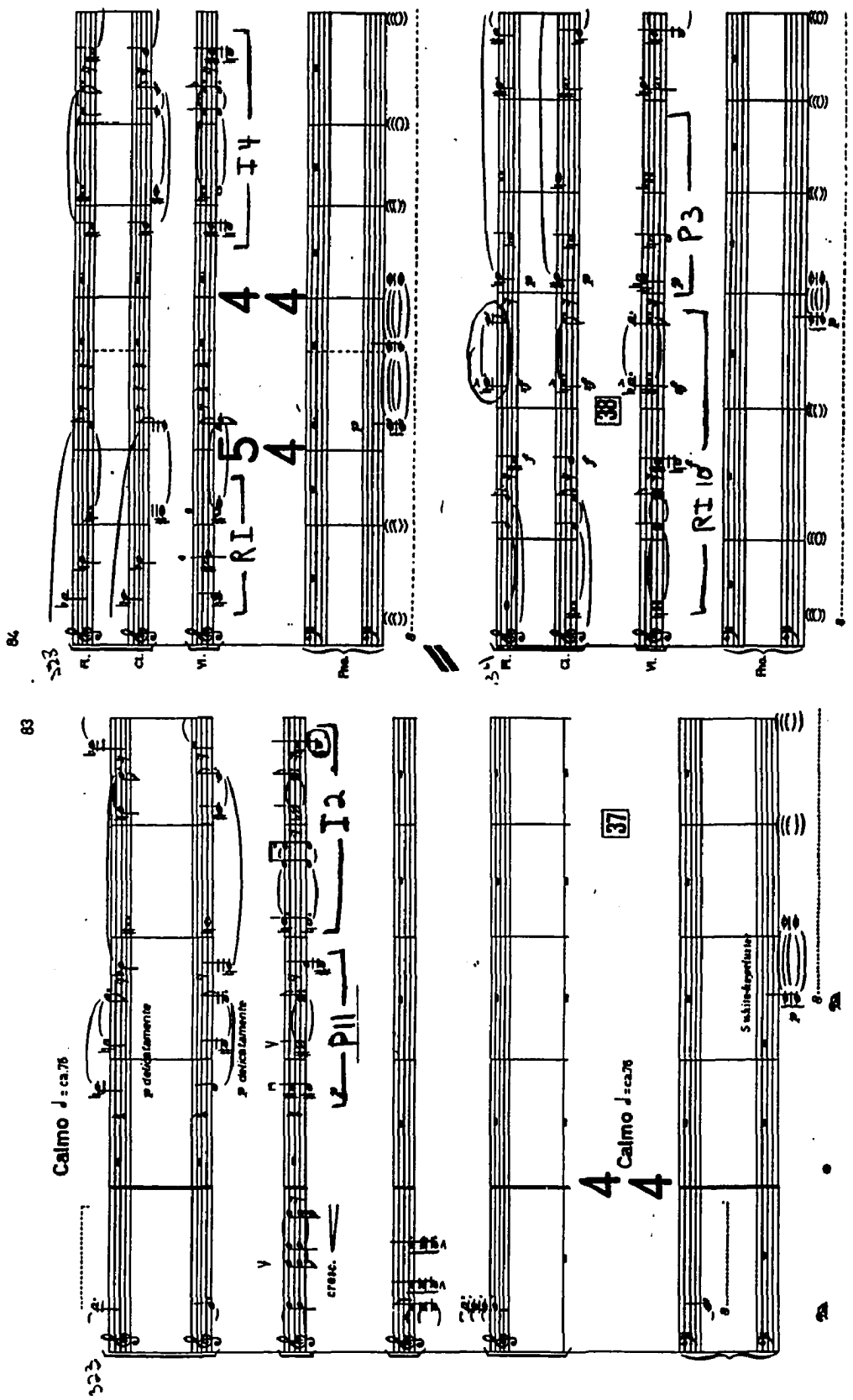
Example 15. Ates Orga's proposed set for Libra.



tetrachordal partitioning of the set, and results in a new statment of the set starting every third chord. The first two tetrachords of the set are identical with cell (0 1 2 4), providing a link with the cellular material of Libra. The third tetrachord consists of two whole steps a major third apart, and is thus a symmetrical segment of a whole-tone scale. Section 7 is illustrated in Example 16, with the set-forms indicated.

Although this chorale passage is clearly based on the set shown in Example 14, some deviations must be noted. In the fourth beat of No. 37, the last segment of a statement of I2, the lower violin note would have to be a G-natural, not a G-sharp, to conform to the set. At No. 38, the climactic chord of the section, the inverted (0 1 2 4) cell that would be the usual first tetrachord of RI10 is altered: the B-natural of the expected cell (A, B-flat, B-natural, C-sharp) is replaced with a C-natural, resulting in a (0 1 3 4) cell. This latter cell does occur in Libra, but it is not the one expected in using this set. Did Gerhard want the high C approached by an octave plus a

Example 16. Libra, meas. 4 before No. 37 to 4 meas. after No. 38.



tritone in the flute, plus the symmetry of (0 1 3 4) in order to draw attention to this important point? Finally, the last two chords of the passage are not derived from the set, but revert to cellular construction. The first chord at No. 38, measure 4, is two (0 1 4) cells at T10 and I6 (A and B-flat are common to both). The second chord in that measure consists of (0 1 6) at T7 combined with (0 2 5) at I8; C-sharp and G-sharp are common to both cells. Although these deviations, plus the lack of evidence for order within tetrachords, make any serial analysis of section 7 rather limited, the use of the set is consistent enough to support a conclusion that Gerhard was indeed composing serially in this section.

The same set is also used, in a limited way and in combination with other elements, in section 6. There, as shown in Example 17, it appears at No. 35 in the guitar in the P10 form.[43] This is answered, in the next measure, by I2 in the flute. However, the order of the flute's last two trichords is reversed from the guitar's, and the order of pitches within each trichord is also changed. Gerhard is therefore briefly using trichordal partitioning in this passage. The order of the set used in Libra is never more conclusively established than as that which is implied by

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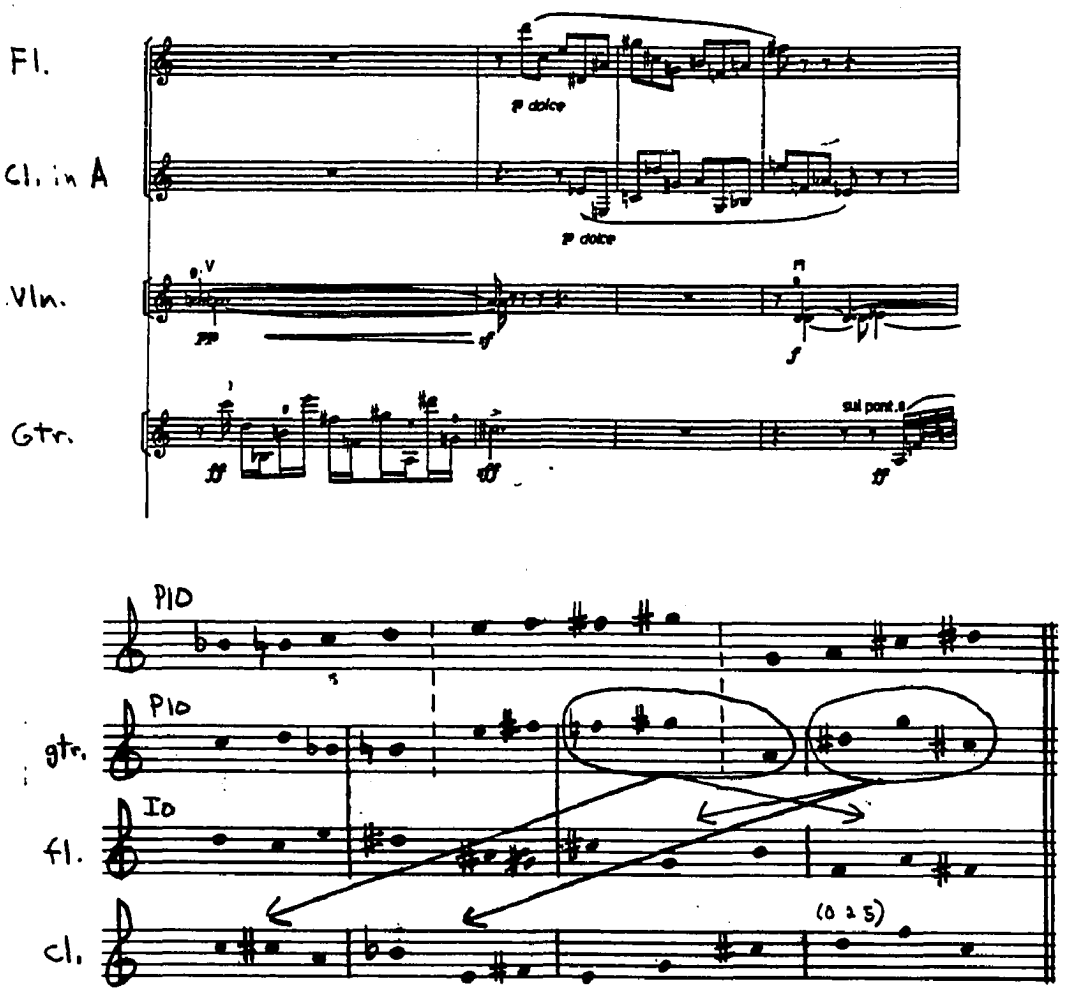
43. Since the transpositions are labelled tetrachordally, it is B-flat, the third note, which determines the transposition level, not C, the first.

the multiple tetrachordal and trichordal partitioning used in sections 7 and 6, respectively. It is possible that Gerhard had a definite order in mind; if so, the guitar phrase at No. 35 seems the most likely, since both types of partitionings can be extracted from it.

Example 17. Libra, No. 35, plus basic set and trichordal partitions of guitar, flute, and clarinet.



The clarinet figure which follows, and largely overlaps, that of the flute's consists of twelve notes but only ten separate pitch-classes. The first two trichords are the same as the last two of the guitar and flute, but with a different transpositional relationship, so that the resulting hexachord is different. The last two trichords in the clarinet form two cells not in the set: one is a "diminished triad," the other cell (0 2 5). Gerhard is thus creating new material by combining some aspects of the trichordal partitioning of the set with pitch cells. Cellular and serial material therefore is combined in this passage.

The basic set also appears, briefly, three times in section 5. Two of these occur in the violin, at No. 28, measure 8 (P11) and starting on the last quarter note of No. 28, measure 9 (RI11). In addition, a statement of the set at R7 occurs in the clarinet at No. 30, measures 1-2 in the clarinet. All of these statements use tetrachordal partitioning as in section 7. They do, however, take place in a fast, dense passage along with other, mostly cellular, material. Although the set is therefore deeply buried in this passage, its appearance there helps establish its importance.

There are many additional examples of twelve-tone melodic figures in Libra, but few can be related in any way to the basic set. Almost all can be explained as deriving

from the basic pitch cells; none form sets which have any independent importance in the work. In contrast, the set which largely governs section 7 and occurs in sections 5 and 6 does influence the pitch structure, even if only in a temporary and limited way. The set's use of (0 1 2 4) for two of its tetrachords links it to the more common pitch cells used in the remainder of the work. Although it cannot be said, therefore, that Libra as a whole is serial, the idea of serialism informs the musical language of the work.

Other Pitch Collections

In spite of the general chromatic environment of Libra, various more limited pitch collections are, in addition, used. These do not appear purely by themselves, but are always integrated with other pitch material in ways that preserve chromatic saturation. Their manner of presentation, which highlights the nonchromatic aspects by timbre and register, keeps the identity of these additional pitch collections separate.

An example which has already been mentioned is the use of cell (0 2 5) at the beginning of section 2. The division of pitch material among flute, clarinet, and guitar, as illustrated in Example 10 above, ensures that the particular quasi-pentatonic quality of the cell is projected. The effect is of separate planes of sound, each of which has its own identity, but which are connected

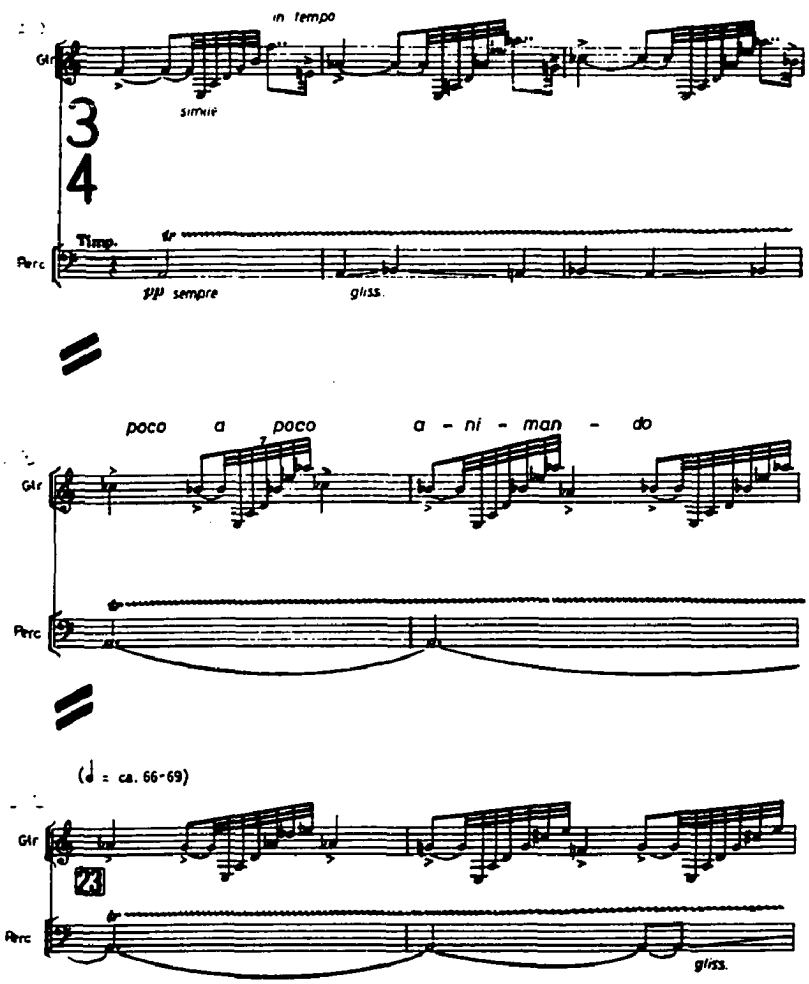
through membership in a twelve-tone aggregate.

The whole-tone scale is another of the nonchromatic collections used in Libra. Cell (0 1 2 4) contains the whole-tone segment (0 2 4), so the use of whole-tone material is easily connected with at least one of the basic cells. As with the other nonchromatic material, these whole-tone fragments never appear alone, and a complete whole-tone scale never appears. The influence of this scale is, even so, apparent. For example, in section 9 the piccolo, at No. 56, begins its line with the whole-tone segment D, E, F-sharp, and G-sharp. Later, at No. 57, measure 3, this is extended by the addition of A-sharp and B, resulting in a five-note whole-tone segment plus an additional pitch. In spite of the "odd" pitch-class, the whole-tone sound of the passage is apparent.

Gerhard also uses diatonic collections, and even the type of linear melodic motion more typical of tonal music, and integrates them into the general chromatic background. An example of this is the guitar "cadenza" at No. 22 in section 4 (Example 18). The first and last pitch collections used in this passage are each six-note diatonic segments: the first (at No. 22) consists of pitch-classes D, E, F, G, A, and B, and the last (at No. 23, measure 2) of C-sharp, D, E, F, G, and A. Both segments, therefore, belong to the "D minor" collection, although they do not function tonally in Libra. Most of the other collections

used in Example 18 consist of two (0 1 2) chromatic clusters. The collection which appears at No. 23 consists of one (0 1 3) and one (0 1 2) cell; these two cells are arranged as (0 1 3 6 7 8) at T1, and move linearly to the diatonic segment (0 1 3 4 6 8) at T1 in the next measure. Gerhard thus achieves transition between the chromatic and diatonic collections.

Example 18. Libra, No. 22, meas. 2 to No. 23, meas. 2.



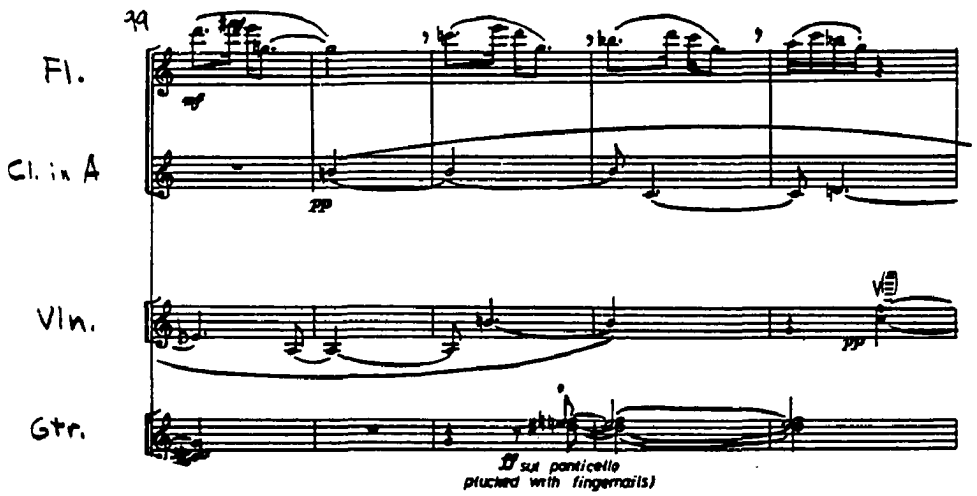
Gerhard also relates the diatonic and chromatic collections by retaining three common pitch-classes, E, A, and D, throughout, always played on the three lowest strings of the guitar. The other pitches are, therefore, always played on the top three strings of the instrument; this technique is very characteristic of guitar music. So is the use of rasqueado, the technique of playing chords with a fan-like strumming of the fingers; this lends a definite Spanish flavor to the passage, as this method of playing is intimately associated with flamenco. The timpani in this passage seems to have principally a percussive, rather than a pitch, function although it could be contended that the overtones of the timpani's A reinforce the guitar's low open strings.

This passage in section 4 is also sustained by linear motion in the melody. From the beginning F in the guitar, the line passes up through A-flat to C-flat, then descends stepwise through B-flat, A-flat, and G back to F. This is another way of making sense of a harmonically diverse passage.

Another example of melodic linear motion occurs at No. 10, measure 7 at the end of section 2 (Example 19). There, in a short passage very similar to one in the closing section, a melody which uses the G-minor collection descends to G in a sequential pattern. As might be expected, Gerhard is careful to integrate this rather tonal melody into the

chromatic basis of the work. First, the passage grows directly out of the passage which begins section 2, which is based on cell (0 2 5) and which forecasts the folk melody of section 9. Second, the harmonization of the passage does not support the tonal implications of the melody, but instead contradict them, producing a rather hallucinatory effect. The accompanimental pitches are derived from the pitch cells in general use, and are combined in ways which produce all twelve pitch-classes during this example.

Example 19. Libra, No. 10, meas. 7 to No. 11, meas. 3 (sustained F-sharp in piano omitted).



Exactly the same sequential melody recurs in section 9 at No. 56, measure 7. There, it is transposed a whole step down from its appearance in the Example 19, and is accompanied by the piano ostinato, piccolo whole-tone segments, and guitar semitones of the final section. There

it achieves its resolution as the culmination of the folk melody which ends Libra.

Another recurring pitch feature is the use of reiteration. This is especially noticable in the case of the D4 in the violin which appears in the second measure (see Example 7 above). Although this pitch is in no sense a tonal center, it is an important referential point. When it first appears, in section 1, the D is stated repeatedly for seven measures. It later reappears in section 5, at No. 27, measure 6, almost exactly midway through Libra (see Example 11). There, the violin is doubled in octaves by the guitar. Even though nine other pitch-classes also appear in this passage, the D is clearly primary due to the octaves, the repeated attacks by the violin, and most important, an association with its earlier appearance at the beginning of the work.

The use of reiteration is not confined to the use of single pitches. Larger pitch structures and timbral events are also established in this manner. One such reiterated event is the low piano cluster which occurs in measure 2 (Example 7) and which recurs throughout the work; this will be discussed more fully in the next chapter. Gerhard's use of reiteration is one way in which pitch and timbral procedures are connected.

In Libra, Gerhard uses a wide variety of pitch material. The basic context is that of chromatic

saturation, against which a limited number of pitch cells function. A twelve-tone set is also used briefly and can be connected to both the basic chromaticism of the work and to the pitch cells, one of which forms an important part of the set. Diatonic collections and sequential passages, also related to the pitch cells and integrated with the chromatic background, also appear. Reiteration is used as a way of establishing the importance of certain pitches and chords. Gerhard seems to be using the interactions of a variety of types of material rather than only one source for pitches. In this manner, material which could become somewhat disparate is integrated in support of a diverse, yet coherent, range of musical expression.

Chapter IV

RHYTHM, TIMBRE, AND TEXTURE

Metric Characteristics

Composers have taken two general approaches to the notation of the metrical complexities of music in the twentieth century. One is to preserve the barline as an accentual device, thus necessitating the notation of frequent changing meters; Stravinsky is often thought of as being typical of this approach. The other method is to keep metric changes to a minimum, thus reducing the barline to a notational device. Gerhard uses both approaches although he tends towards the second approach described above. In general, meters do not change frequently, often remaining constant for entire sections. The table of basic meters and tempos in Chapter 2 lists the meters for each section of Libra; in general, once established, these are adhered to.

As in much twentieth-century music, then, the barline in Libra is usually a device of notational convenience, and has no accentual function. The notated meter is therefore usually not heard, although the beat is often quite clear. However, there seem to be four general, but not always distinct, metric types used in Libra.

The first is characterized by the seeming suspension of the basic pulse. This roughly corresponds to Gerhard's third, timeless, type of continuity referred to, in relation to the Concerto for Orchestra, in Chapter 2. The opening of Libra, illustrated above in Example 7, offers an example. Even though strings of fast even notes might emerge at various times, the beat and meter are, in general, not discernible. To some extent, the later slow sections 4 and 7 share this quality, although the quarter-note beat can easily be heard in the guitar solo of section 4; section 7's chorale also, at times, reveals its basic pulse.

In the second type of metric organization, the beat is clear but is not heard as belonging to any particular meter. Most of Libra seems to belong to this type. One feature, in fact, which distinguishes Gerhard's music from that of many of his contempoaries is the clear beat and propulsive quality of much of his music. Much of the serial and serially-derived music of the 1950s and 1960s seems to suspend forward motion and clear rhythm; Gerhard's music rarely does this. In Gerhard, however, it is the beat itself and not necessarily the meter which is often heard clearly. This is especially true in the chamber works; Gerhard's orchestral compositions often depend upon textural and timbral devices which obscure the beat, whereas in a chamber work everything is more exposed. The frequent use of ostinato in Libra is a contributing factor to the

frequent strong beat; it often introduces a sense of pulse, as any form of rhythmic repetition will.

Depending upon its periodicity and contextual factors, an ostinato can temporarily contradict the notated beat. The piano ostinato in Example 11 above (No. 27, measure 5), for example, repeats every three eighth notes, while the violin attacks its pitch once every seven eighth notes, thus contradicting the previous quarter note beat. However, the ostinato passage is short, and is preceded by a passage which consists of consistent quarter notes and pairs of eighth notes on the beat. The effect, rather than that of dislodging the beat, consists of a heightening of tension leading to the climax of the phrase.

The third type of metric organization uses a regular, unchanging meter which can be heard as such. The dividing line between this and the second type of metric organization is subtle, and very dependent upon context. For example, in section 5, from which the example discussed in the preceeding paragraph comes, the notated 2/2 meter can often be heard clearly (although it also can be interpreted as a fast 4/4). The same is true of the succeeding section 6, where the fast eighth note beat is never in doubt, but from which the 6/8 notated meter gradually emerges, again with the help of an ostinato. The only section of Libra where the measure, and thus the meter, is predominant over the beat is section 2, where the 6/8 against implied 3/4

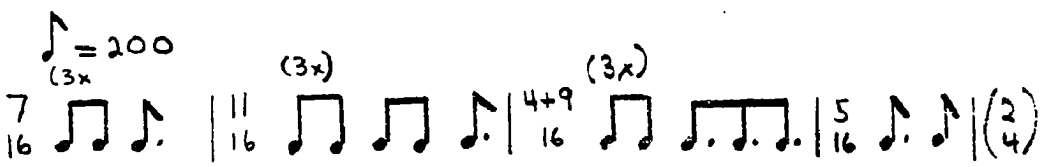
hemiola section which occurs at the start of the section (No. 3, measure 8) make the measure the clear organizing unit. Even that passage is soon superseded, as the 2/4 meter with its multiple subdivisions of the beat becomes more prominent between No. 6 and No. 7.

The section of Libra where regular meter is used most audibly is the final one. The folk-song theme used there is clearly in duple meter, and the context it appears in, especially the piano ostinato, emphasizes that feature. The tonal nature of the melody also reinforces the regular meter. The events which could contradict this, such as the contradictory material in the guitar and percussion, do not threaten the section's metric identity.

The last type of metric organization is related to the third in its identity of meter and notation, and is used only briefly. This is the use of complex changing meter, which appears only at the beginning of section 3 (No. 11, measure 10). At that point there is a passage consisting of three measures each of 7/16, 11/16, 4+9/16, and 5/16, before the meter settles down to a fairly steady 2/4. The process used is simultaneously additive and subtractive, as is shown by the basic rhythmic pattern illustrated in Example 20 (this is a schematic reduction, the actual music using 16th and 32nd notes at the fast tempo of quarter note equalling 200). This passage in particular is reminiscent of Stravinsky's rhythms. Although Gerhard is most often

mentioned in relation to Schoenberg and his school, his use of propulsive rhythms and frequent ostinatos is atypical among Schoenberg's pupils. This suggests a concurrent interest in Stravinsky's music, perhaps reinforced by some continuing influence of Gerhard's roots in Spanish nationalism and its dance-rhythms.[44]

Example 20. Libra, No. 11, meas. 11, to No. 12, meas. 11, reduction of rhythmic pattern.



Section 3 is the most structurally complex in Libra, using frequent changes of tempo, texture, and density. In its large design, however, it constitutes an accelerando from quarter note equals 100 to quarter note equals 120. It is the only section with such internal tempo changes, and also features the most rhythmic variety of any section, featuring several different divisions of the beat (triplets, quintuplets, and sextuplets as well as even divisions). After the opening measures, however, the meter becomes a

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44. Gerhard wrote only one article dealing with Stravinsky's music and, although it indicates extensive knowledge of Stravinsky, it is about his twelve-tone music, not rhythm. See Roberto Gerhard, "Twelve-Note Technique in Stravinsky," The Score 20 (June 1957), 38-43.

fairly clear and unambiguous 2/4; all of the complexity is within beats and among tempo relationships.

Libra does not use the metric complexity and subtlety of tempo relationships of some other works contemporary with it. Although he was interested in problems of temporal discourse and perception, Gerhard's approach is very different from that of, for example, Elliott Carter. Sections are well defined rather than being in a state of flux. Except for those passages where the beat seems suspended, it tends to be steady and unambiguous. Rhythmic relationships within sections also tend to be fairly clear and simple. The emphasis is on clarity and directness rather than on deliberate exploitation of ambiguity. Considering, however, the complexity which exists in Gerhard's use of pitch, the clarity of rhythm and meter is probably a virtue; ambiguity in too many parameters could lead to disorganization. As it stands, the rhythmic directness of Libra helps clarify the multiplicity of pitch procedures.

Rhythmic Cells

The pitch cells which form much of the basis of Libra are often paralleled in their means of rhythmic presentation. This is often done in short strings of even note values the same length as the cells. When these are combined, a complex set of relationships can result,

although usually against a composite rhythmic background of even durations. Thus the most common rhythmic cell in Libra is one of three notes of equal value, corresponding to the basic cells of three pitches. Many longer rhythmic figures are made by addition or extension of these cells. As has been seen in the examples discussed earlier, there are many strings of equal note values in Libra, and many of them can be explained as combinations of pitch cells (this even includes the twelve-tone sets used at various times). The usual composite rhythm of equal note values is, however, frequently interrupted, and the basic value of the composite rhythm often changes from phrase to phrase or section to section; form in Libra is often partially defined this way. Some cross-rhythms and rhythmic layering are used, but not in a very complex way; these exist mostly in section 2, and do not exceed 2 against 3 or 3 against 5, all with the beat clearly defined. The norm is a clear composite rhythm of a single value.

Dotted rhythm, such as that used in the closing section's folk melody, also plays a motivic role. The dotted rhythms occur mainly in the final section 9, but also in sections 2 and 4. In section 2, this occurs where the folk melody is quoted briefly, as can be seen in Example 19; the other use of dotted rhythm is in the guitar solo of section 4 (Example 18). In all of these passages, "tonal," nonchromatic pitch collections are used, suggesting an

association of dotted rhythm with tonality and the "folk" elements used in those places.

One rhythmic technique which Gerhard does not appear to use in Libra is rhythmic serialization. It is possible that some durational or formal aspects of the work are derived from the series, but if that is so, they have not been detected by this writer. Even in the earlier works which used rhythmic serialization, such as the Nonet, the duration series was used mostly to determine formal proportions, leaving note-to-note durations free. Thus, the surface of Libra is not very different from that of the Nonet; such changes as there are apply to structure, not surface rhythm.

Timbre

Timbre plays an important part in all of Gerhard's late works; indeed, the subject of timbre was of very great interest to him. His compositions use timbral effects which range from the use of pure noise to a delicate and controlled use of pitch. Gerhard's interest in including the total spectrum of sound in his music is shown in the following excerpt from his 1964 BBC talk "Sound Observed,"[45] in which he stated his conviction that

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45. Quoted by Ates Orga, "The Man and his Music," London Sinfonietta, 91.

> ...sound and noise are always inextricably mixed together. There is a definite noise-content in the purest sound that a violin can produce, and it is indispensible as part and parcel of its character... In addition, the meaning of "sound" as I take it here should be taken to cover both pitched and indeterminately pitched sound.

Gerhard's late works exhibit his interest in timbre as a structural determinant. Many employ unusual instruments, such as accordion (used in several works), mandolin, and guitar. They also make use of a wide variety of percussion instruments, and of a wide variety of ways of playing them. For example, cymbals are often bowed or stroked on the edge with screw-rods, as well as played by more standard means. Various percussive, timbral, and indeterminate effects are also frequently used in the stringed instruments. Although all of these techniques are common now, they were fairly new in the 1960s; Gerhard never uses them gratuitiously, as sometimes seems the case in other music of the time, but in order to extend the range of expressive musical sound. In addition, Gerhard was one of the pioneers of electronic music in Britain; this aspect of his work culminated in his Symphony No. 3, "Collages," for orchestra and electronic tape, written in 1960.

Although Gerhard's orchestral works, because of their large resources, are perhaps more abundant in coloristic effects, the chamber works, including Libra, still make effective use of timbre. The massed effects available in the orchestra cannot be used, but are often

replaced by a more subtle use of instrumental color. One important feature used in all of Gerhard's late works, including Libra, is the deliberate blurring of the boundary between pitch and noise. Although there are always large components of both in every sound, most sounds can be considered in terms of their relative pitch and noise content. For example, the more complex a sound is, the less pitch dependent it becomes, even if the individual components are each individual, sustained pitches with little percussive content. Pitch as such is less important in a chord of ten pitch-classes than in a chord of three.

The chromatic cluster is a common sonority in Gerhard's efforts to bridge pitch and noise. The use of these arises naturally out of the chromatic nature of Libra. In clusters with as few as three or four pitches, which are frequently used, the individual pitches can be easily heard and motivically allocated. If the cluster becomes somewhat larger, the total sonority often becomes more important than the individual pitches, even though it can be heard that discrete semitones are the basis of that sonority. This is especially true if the cluster is timbrally homogeneous. The only instrument in Libra which can produce such clusters is the piano, and it is in the piano part where most of them can be found. There are, in the piano part, many clusters of three to six notes; larger ones also occasionally appear. For example, there are two

cases of ten-note chromatic clusters, and five appearances of the twelve-tone chord (at varying transpositions) distributed over an octave plus a semitone which was discussed earlier in relation to section 2 (see Example 13).

Register is also important in establishing the pitch/noise boundary. Pitches are less discernible at registral extremes, and complex sounds in the lowest register often have a high noise content due to the clashing of overtones. For example, in the second measure of Libra, as shown in Example 7 above, there appears a short cluster consisting of the five lowest white keys of the piano. This clearly should not be analyzed as consisting of the pitches A0 through E1, but as a percussive sound. This same cluster reappears throughout the piece, forming, in its way, another of the referential sonorities which Gerhard establishes; this cluster, for example, underlies all of section 7, as can be seen in Example 16. Once, at No. 43, interestingly, a cluster appears using the white keys B0 through F1, a unique registral and pitch variant with no easy explanation.

Registral extremes are very common in Libra, and often help define the timbral and formal profile of the work. Gerhard uses the full range of each instrument, thus maximizing the available timbral vocabulary. The fact that Libra's ensemble features instruments from all families but the brass provides many coloristic possibilities, and

Gerhard exploits many of them. Each instrument is used fully and idiomatically without, in general, the appearance of any large numbers of special effects or unusual performing techniques.

There are, nonetheless, a certain number of coloristic instrumental effects used in Libra. The large number of percussion instruments, both pitched and unpitched, provides for a wide range of sonorities. Both guitar and violin frequently use sul ponticello and harmonics. In addition to the previously-mentioned rasgueado, the guitar employs plucking with the fingernails and the common device of tuning the low E string down to D. The most unusual string effect, however, is the use of violin glissandos in harmonics, graphically notated by means of a wavy line, in the closing section. Since natural harmonics are discontinuous, the rather eerie effect is that of soft and constantly changing very high pitches. The effect is really not as random as it appears on the page, since it would sound very similar in every performance.

Perhaps the most important way in which Gerhard uses timbral resources is as a delineator of form. One way this is done is by using different combinations of instruments in succeeding sections. For example, section 1 features the violin, starting with its first repeated notes, and could almost be considered an accompanied cadenza for that instrument. The flute is the only instrument not used in

the first section, but it appears prominently in section 2. Section 4 uses limited resources, and is primarily a guitar cadenza accompanied by timpani. Limited timbres are also used in section 7, the chorale for flute, clarinet, and violin. Piccolo instead of flute appears in section 9. The use of register also helps differentiate sections; section 7, for example, employs well-defined registral ranges, wheras sections 1 and 3 use the full range of the ensemble. The limited registral and pitch vocabulary of each instrument and restricted timbres used in the closing section 9 contribute to its odd and rather melancholy character. Many other, less obvious, types of timbral differentiation between the sections also appear. Each section has its own sound, another way Gerhard both creates form and exploits timbre.

Texture

Musical texture cannot be separated from pitch, rhythm, and timbre. In Gerhard's late music the traditional idea of texture as homophonic or polyphonic no longer applies in any strict sense (although most music transcends those categories to some extent). That is not to say that in Libra some voices are not frequently more important than others, or that a hierarchy of voices cannot sometimes be determined. Especially in the sections where the folk melody appears it is, as would be expected, dominant in a

rather traditional way. Even there the texture could not be considered strictly homophonic, as all parts contribute significantly to the total result.

Such figures as the ostinato which underlies the closing section, or the other ostinatos used in various places, can be considered accompanimental rather than melodic. Sometimes, however, as in the passage illustrated by Example 11 above (No. 27, measure 5), it is the combination of overlapping ostinatos and sustained pitches which creates the entire texture. The technique is much more common in the orchestral works, but is found in Libra as well.

Since it is not useful to speak of tunes or themes in Libra, except for the two sections in which the folk tune appears, it should not be expected that traditional relationships between melodic parts will apply. It is the development and juxtaposition of pitch and rhythmic cells, expressed using the various timbral resources, which create textural interest. Melodic imitation or repetition, except in the sense of the proliferation of motives, is not used. What does occur is the contrast of densities arrived at by combining motives, rhythms, and timbres.

Even in a passage in which the texture appears to be relatively traditional, such as the four-voice chorale of section 7, there is no real melodic function. What is interesting, besides the steady homophonic movement of all

four parts, in contrast to the other sections of the work, is the harmony's serial derivation and cellular consistency. The top voice is not a melody, nor the bottom one a bass line.

Not only do contrasts of textures between passages and sections provide interest, varying rates of textural change are also used. Some parts of Libra use relatively consistent textures, such as the previously-mentioned section 7. The guitar cadenza of section 4 and the closing section 9 also are examples of unchanging textures within sections. Many parts of Libra, however, make use of large textural contrasts with in sections, such as the sudden changes of section 1. Other sections feature gradual and controlled textural changes, such as in the passage from section 2 (at No. 8) illustrated in Example 13 above. There, an increase of textural density parallels the accretion of pitch-classes; by the end of the passage, a largely textural explanation makes as much sense as trying to allocate pitches among cells. Just as Gerhard obscures the boundary between pitch and timbre, he also creates a contiuum between pitch, rhythm, and texture.

Section 3, which is structurally the most elaborate in Libra, consists of three passages in each of which the texture gradually grows more complex. These begin at No. 11, measure 11, No. 13, measure 2, and No. 15, measure 6. This textural elaboration in each passage is accompanied,

overall, by a gradual increase in tempo and, within each of the three passages, by timbral and registral expansion.

Gerhard thus uses texture as a primary structural feature in Libra, where it forms a link between pitch, rhythm, and timbre. The textures used range from simple four- part homophony to complex interrelated polyphony. The contrasts and transitions between these various textural types provide much of the coherence and interest of the work.

Chapter V

CONCLUSION

Libra is a work which uses such multifarious musical means that it could easily be open to many conflicting interpretations. The pitch realm alone ranges from twelve-tone sets to a four-pitch-class folk melody; other elements of the work exhibit a similar diversity. On the face of it, this range seems so great as to be irreconcilable with consistent organization. Making matters more difficult for the analyst is the fact that Gerhard did not intend for any analysis to be easy; he believed that verbal description was often beside the point. He used rational means to organize his works, but they are means not ends, and should not, according to Gerhard, necessarily be apparent in the finished product:[46]

> It is not always realized that all the paraphernalia of rational, systematically organized thought that goes nowadays into the composing of music, is but one very partial aspect of the creative effort. The whole serial technique, for example, is in the end nothing but a kind of cradle of scaffolding which allows the composer to work at certain aspects or levels of the sound-fabric, at which he could not get

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46. Roberto Gerhard, "The Composer and His Audience," Twentieth Century Music, ed. Rollo H. Myers (New York: The Orion Press, 1968), 82-83.

> without this scaffolding. But what matters, needless to say, is the work. Once this is finished we want the scaffolding removed. It is not meant to attract attention. If the work has been successful the props must have become invisible in the end.

No doubt every composer has experienced the difference between the means, always personal and sometimes rather arbitrary, which might be used to get a piece written, and what actually exists in the finished work. Gerhard is therefore expressing justifiable irritation at critics who pay too much attention to systems and techniques, and not enough to results. Certainly the scaffolding appears invisible enough in Libra; even so, many musical connections, which the composer must have been aware of, clearly link various aspects of the work.

In the area of pitch, serial and non-serial elements are held together by the presence of one of the basic cells in the set and a general use of chromatic saturation. The non-chromatic elements are also related to the cells, and are usually complemented by pitches which fill in the chromatic background. Thus, the pitch organization of Libra is basically cellular in an ambiance of chromaticism, with other elements relating to the cells.

Rhythm relates to pitch by being the temporal expression of the pitch cells. With the grouping of rhythms into meter, a link with form is made by metric and tempo differentiation of sections. This sense of form is also aided by several other elements. Timbre plays a formal role

by the allocation of differing instrumental resources between sections. It also defines form by being an important component of recurring events, such as the violin's D in sections 1 and 5, and the low diatonic piano cluster which occurs several times. Timbre is also linked with pitch through such procedures as the use of chromatic clusters and registral extremes.

Melody also plays a role by including both pitch and rhythm, and contributing to form by existing in distinctive shapes which recur. As an element of texture, it has an important part in the various types of continuity which Gerhard uses as a formal device. Texture itself is a primary component of the effect of the work; contrasts between and development of textures are among the most striking features of Libra.

Technical analysis and description are not sufficient to explain how, or if, an internally diverse work such as Libra forms a coherent entity. It could be said that the diversity of the work results in a wide and intriguing range of musical expression; a case could also be made that the piece threatens to sink into incoherence. I feel that Libra does work as an effective and expressive musical composition, but that it cannot be explained by recourse to one generating impulse. It is as the result of multiple interactions of a variety of musical and even some extramusical factors that Libra must be explained.

An awareness of Gerhard's historical position helps to explain the type of music he wrote. His evolution from nationalism through serialism has already been discussed, as has the fact that he absorbed a wide variety of musical influences. Gerhard's generation of composers was, in some ways, in an odd situation. They came after the basic discoveries of Schoenberg and his followers, and were able to benefit as composers from those developments, but also to remember when they were new and controversial. On the other hand, they were old enough to be wary of many of the radical musical developments of the 1950s and 1960s, and were no doubt considered too conservative by many of the young ccomposers of that period. Gerhard, along with his friends and colleagues Roger Sessions and Luigi Dallapiccola, started as a nationalists and came to serialism late, in Gerhard's case almost twenty-five years after his studies with Schoenberg. All three composers felt that they had to develop their own ways of utilizing the technique, which resulted in the admission of large amounts of diversity into their serial compositions. Gerhard went farther than his two friends in being influenced by the developments, such as total serialism and electronic music, of the avant-garde of the 1950s. For this reason his music is the most eclectic of the three, and the most problematic.

Libra cannot be evaluated on the basis of any one criterion. It is the dramatic combination of all of the

elements of the work, perhaps including a secret autobigraphical program suggested by Gerhard's title, which gives Libra its effectiveness. Only in this manner can such seemingly alien features as the folk melody of the flamenco-like guitar cadenza be explained in the context of the work. That is not to say that a high level of technical organization does not exist in Libra; it is just that the work includes other important elements as well.

It is perhaps true that some of the stronger features of Gerhard's late style are somewhat diluted in Libra; although timbre and texture, for example, are imaginatively used, they are not as strong as in the striking late orchestral works with their greater resources. Libra, however, expresses a more intimate and personal vision than a composition for large forces could. It is this quality of direct expressiveness which makes Libra one of Gerhard's most individual and attractive works.

BIBLIOGRAPHY

Books, Articles, and Dissertations

Atherton, David. "Gerhard: Catalogue of Works," The London Sinfonietta Schoenberg/Gerhard Series. London: Sinfonietta Productions, 1973, 107-20.

Ballantine, Christopher. "The Symphony in the 20th Century," Music Review XXXII (1971), 219-232.

Berry, Wallace. Review of Concerto for Orchestra, Notes XXIII/4 (June 1967), 836-37.

Birmingham, University, Music Department. Letter to the author, October 23, 1984.

Bradshaw, Susan. Letter to the author, November 1, 1983.

_____. Program note to recording of Libra, performed by the London Sinfonietta conducted by David Atherton. Decca HEAD 11.

_____. "Roberto Gerhard," New Grove Dictionary of Music and Musicians, 20 vols., ed. Stanley Sadie. London: Macmillan, 1980, VII, 251-55.

_____. "Symphony No. 2/Metamorphoses--The Compositional Background," Tempo 139 (Dec. 1981), 28-32.

Buller, John. "Roberto Gerhard's Leo," Tempo 91 (Winter 1969-70), 27-29.

Cunningham, Michael Gerald. An Analysis of the First Symphony of Roberto Gerhard. Unpublished D.M. dissertation, Indiana University, 1973.

Donat, Misha. "Thoughts on the Late Works," Tempo 139 (Dec. 1981), 39-43.

Drew, David. "Roberto Gerhard," Musical Times CXI (1970), 307.

_____. "Roberto Gerhard--A Chronology," London Sinfonietta Schoenberg/Gerhard Series (1973), 74-75.

Evans, Peter. Letter to the author, August 18, 1983.

Gerhard, Roberto. "Apropos Mr. Stadlen," The Score 23 (July 1958), 50-57.

_____. "The Composer and His Audience," Twentieth Century Music, ed. Rollo H. Myers. New York: The Orion Press, 1968, 75-84.

_____. "The Contemporary Musical Situation," The Score 16 (June 1956), 7-18.

_____. "Developments in Twelve-Tone Technique, The Score 17 (Sept. 1956), 61-72. Reprinted in London Sinfonietta Schoenberg/Gerhard Series (1973), 101-106.

_____. "Tonality in Twelve-Tone Music," The Score 6 (May 1952), 23-35.

_____. "Twelve-Note Technique in Stravinsky," The Score 20 (June 1957), 38-43.

Goldman, Richard Franko. "Reviews of Records (Gerhard's Symphony No. 1)," Musical Quarterly LII/1 (1976), 139-44.

The London Sinfonietta Schoenberg/Gerhard Series. London: Sinfonietta Productions, 1973 (see also entries for individual articles).

MacDonald, Calum. "Sense and Sound: Gerhard's Fourth Symphony," Tempo 100 (June 1972), 25-29.

Mason, Colin. "Roberto Gerhard's First Symphony," Musical Times CIII (Feb. 1962), 99-100.

Neighbour, O.W. "Arnold Schoenberg," New Grove Dictionary of Music and Musicians, 20 vols., ed. Stanley Sadie. London: Macmillan, 1980, XVI, 701-25.

Orga, Ates. "The Man and His Music: An Essay," London Sinfonietta Schoenberg/Gerhard Series (1973), 87-94.

_____. "The Works," London Sinfonietta Schoenberg/Gerhard Series (1973), 76-86.

Perle, George. Serial Composition and Atonality, 5th ed. Berkeley: University of Caliornia Press, 1981.

Potter, Keith. "Gerhard's Second String Quartet," London Sinfonietta Schoenberg/Gerhard Series (1973), 95-97.

Rosen, Charles. Arnold Schoenberg. Princeton: Princeton University Press, 1975.

The Score 17 (Sept. 1956). "A Tribute to Roberto Gerhard on His Sixtieth Birthday" (see also individual articles).

Stuckenschmidt, H.H. Schoenberg: His Life, World, and Work. New York: Schirmer Books, 1978.

Swift, Richard. Review of Symphony No. 3, Notes XXX/3 (March 1974), 606-07.

Tempo 139 (Dec. 1981). "Roberto Gerhard: A Survey Chronology" (see also individual articles).

Van den Toorn, Pieter C. The Music of Igor Stravinsky. New Haven: Yale University Press, 1982.

Vlad, Roman. "My First Impressions of Roberto Gerhard's Music," The Score 17 (Sept. 1956), 27-34.

Walsh, Stephen. "Two New Works by Gerhard," Tempo 87 (Winter 1968-69), 27-29.

Scores

Gerhard, Roberto. Concerto for Orchestra. London: Oxford University Press, 1965.

_____. Gemini. London: Oxford University Press, 1970.

_____. Leo. London: Oxford University Press, 1970.

_____. Libra. London: Oxford University Press, 1970.

_____. Nonet. London: Mills Music, 1965.

_____. String Quartet No. 2. London: Oxford University Press, 1972.

_____. Symphony No. 1. London: Mills Music, 1959.

_____. Symphony No. 3, "Collages." London: Oxford University Press, 1972.

_____. Symphony No. 4, "New York." London: Oxford University Press, 1971.

_____. Wind Quintet. London: Mills Music, 1960.

Recordings

Gerhard, Roberto. Gemini, Leo, Libra, performed by the London Sinfonietta, cond. by David Atherton. Decca HEAD 11.

_____. The Plague, performed by Alec McCowen (narrator), National Symphony Orchestra and Chorus, cond. by Antal Dorati. Decca HEAD 6.

_____. Symphony No. 1, Dances from Don Quixote, performed by the BBC Symphony Orchestra, cond. by Antal Dorati. Argo ZRG 752.

_____. Symphony No. 3, "Collages," performed by the BBC Symphony Orchestra, cond. by Frederick Prausnitz. Angel H-36558.

_____. Symphony No. 4, Violin Concerto, performed by the BBC Symphony Orchestra, Yfrah Neaman, violin, cond. by Colin Davis. Argo ZRG 701.

SINFONIA BREVIS

for orchestra

by

JEFFREY MILLER

A composition submitted to the Graduate Faculty
in Music in partial fulfillment of the requirements
for the degree of Doctor of Philosophy,
City University of New York

1987

This manuscript has been read and accepted for the Graduate Faculty in Music in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

Jan 18, 1987
date

Henry Weinberg
Professor Henry Weinberg, Examining Committee

20 Jan 87
date

Barry S. Brook
Professor Barry S. Brook
Executive Officer

Professor Robert Starer
Professor Sherman Van Solkema
Professor Joel Lester
Professor Leo Kraft
Professor David Olan

Supervisory Committee

The City University of New York

INSTRUMENTATION

2 Flutes (2nd fl. doubles piccolo)
2 Oboes
2 Clarinets in B-flat
2 Bassoons

4 Horns in F
2 Trumpets in C
2 Trombones (1st tenor, 2nd bass)

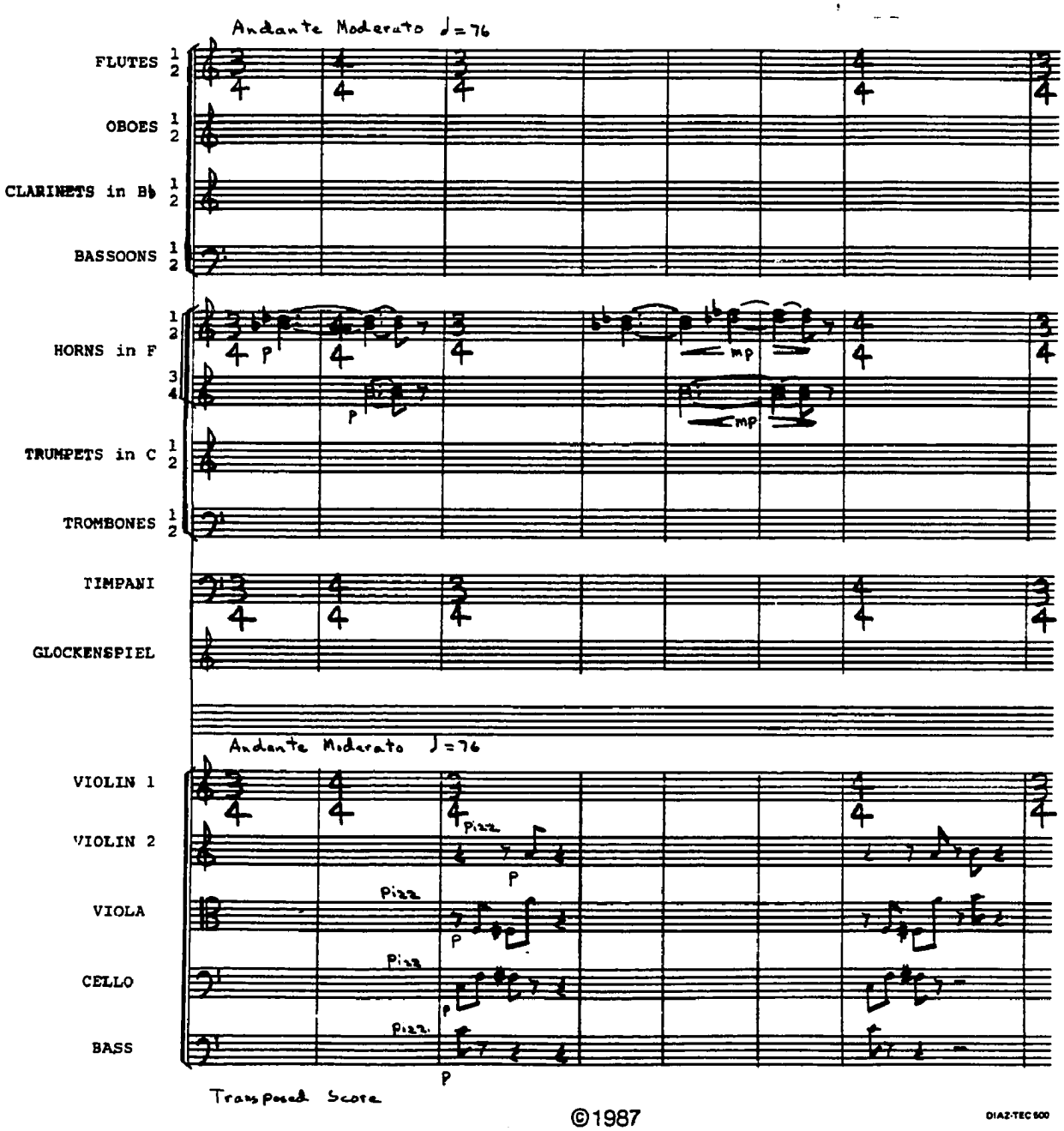
Timpani
Percussion (2 players)
- Woodblock
- Triangle
- 2 Suspended Cymbals (1 small, 1 large)
- Crash Cymbals
- Tam-Tam
- Snare Drum
- Military Drum (with snares)
- 2 Tom-Toms
- Tenor Drum (without snares)
- Bass Drum
- Glockenspiel
- Xylophone
- Marimba

Strings

SINFONIA BREVIS

for orchestra

JEFFREY MILLER



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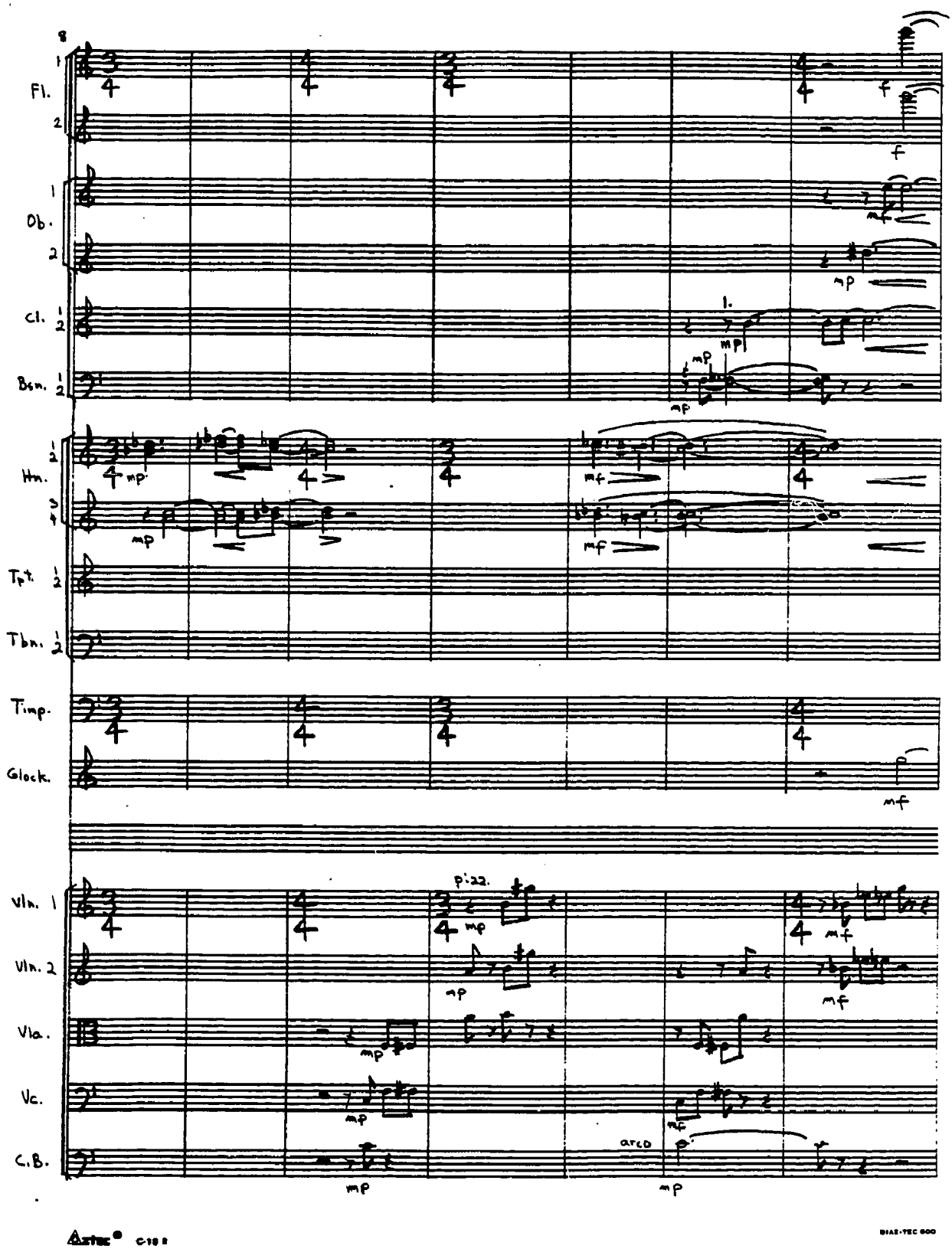

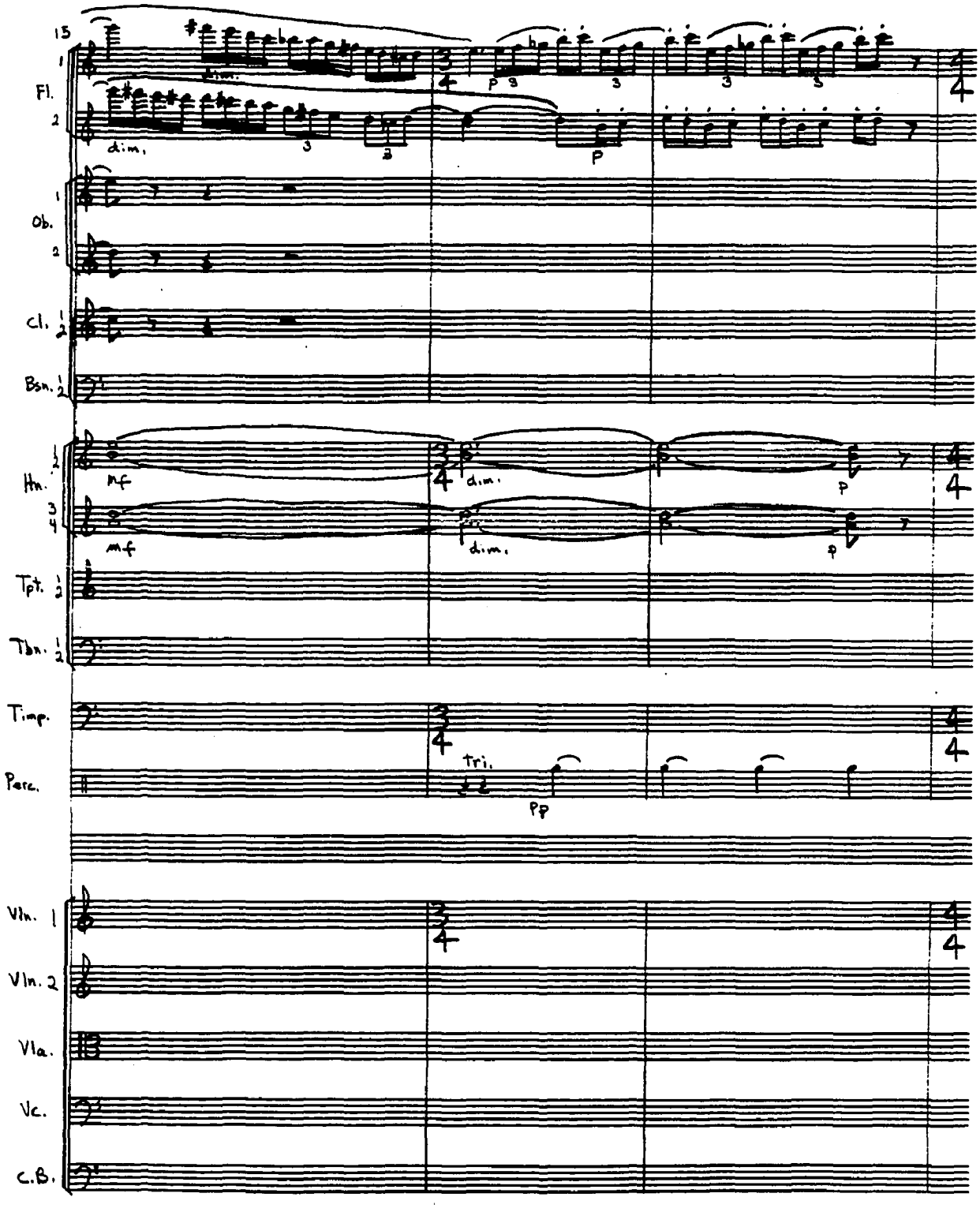
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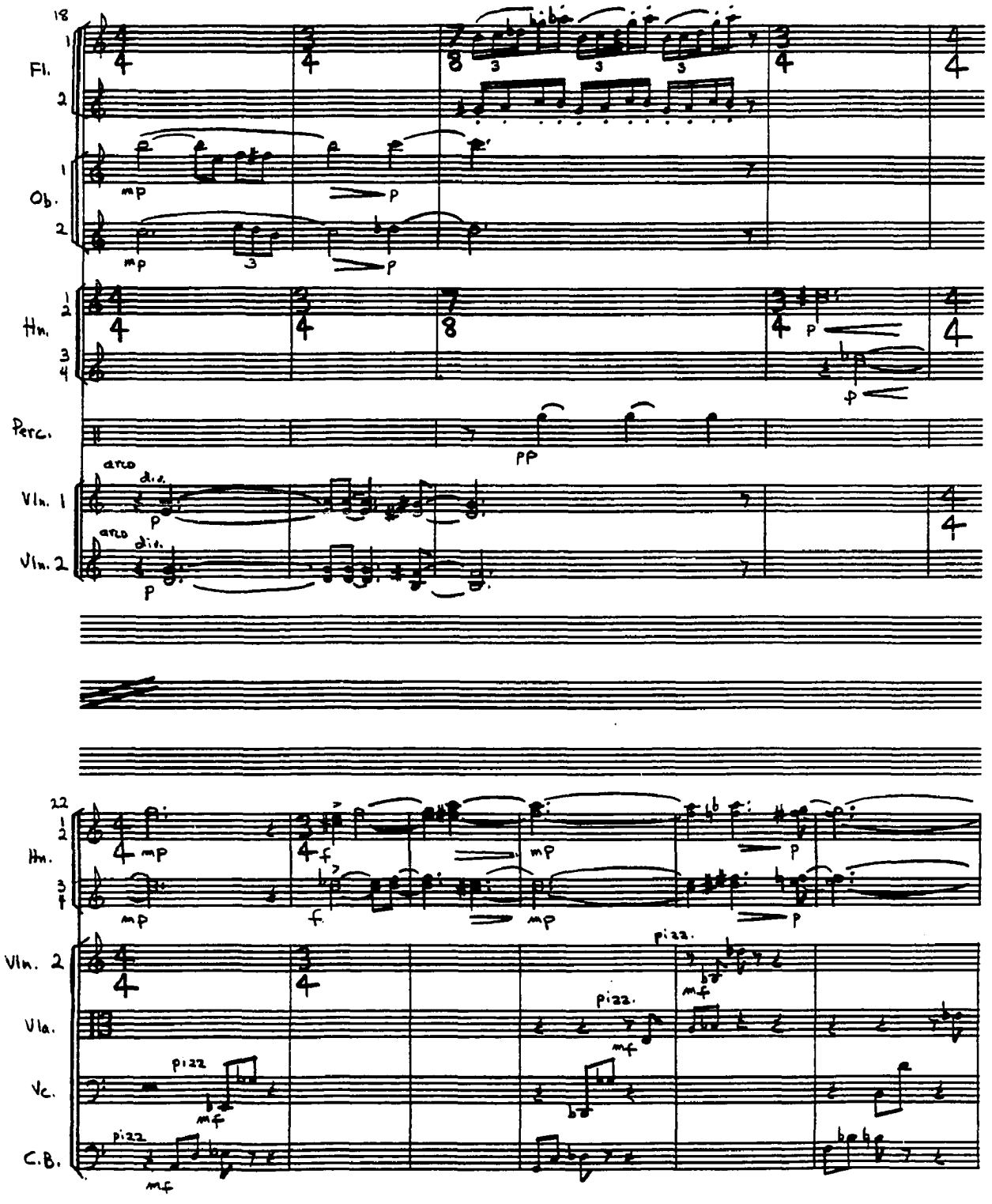

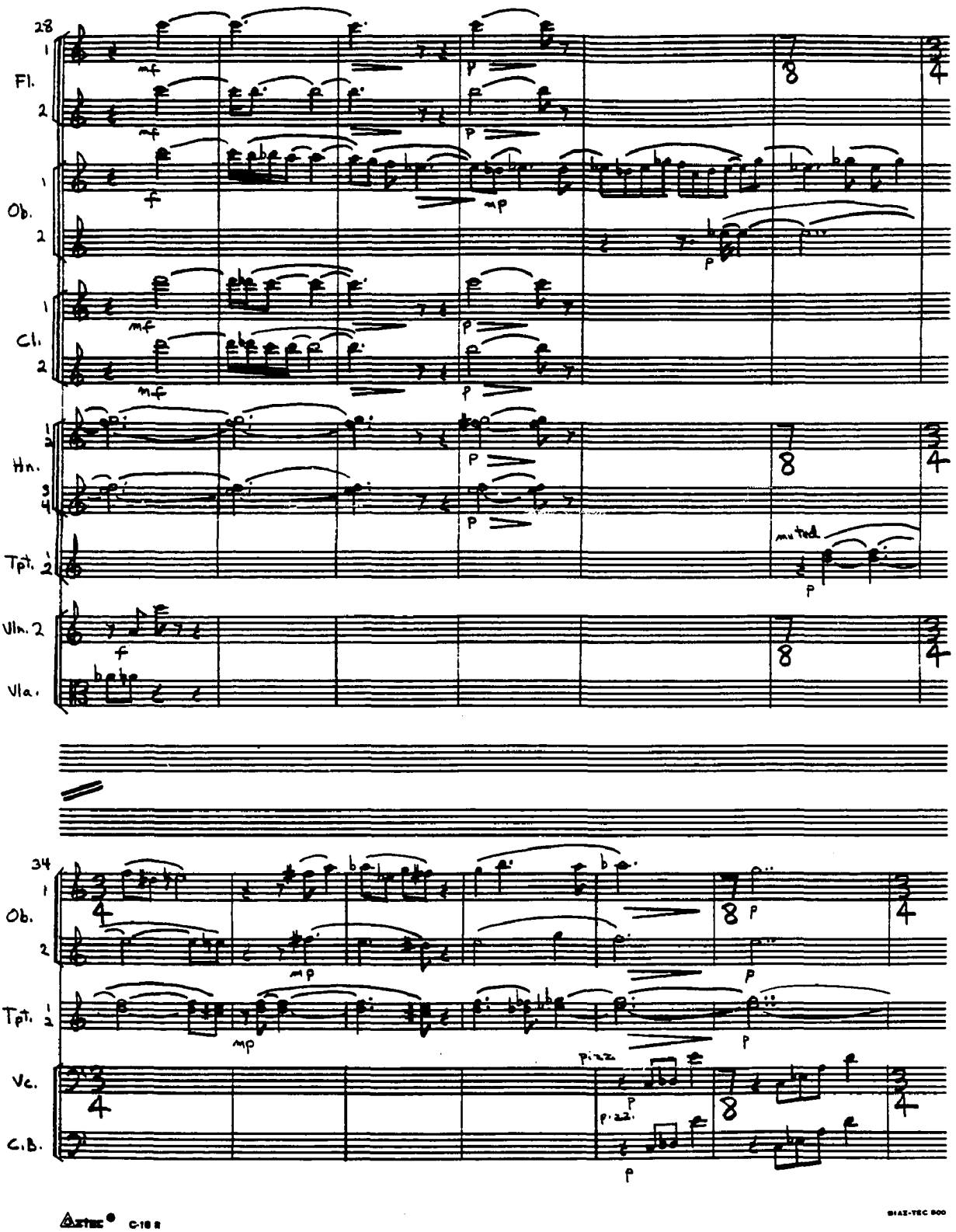

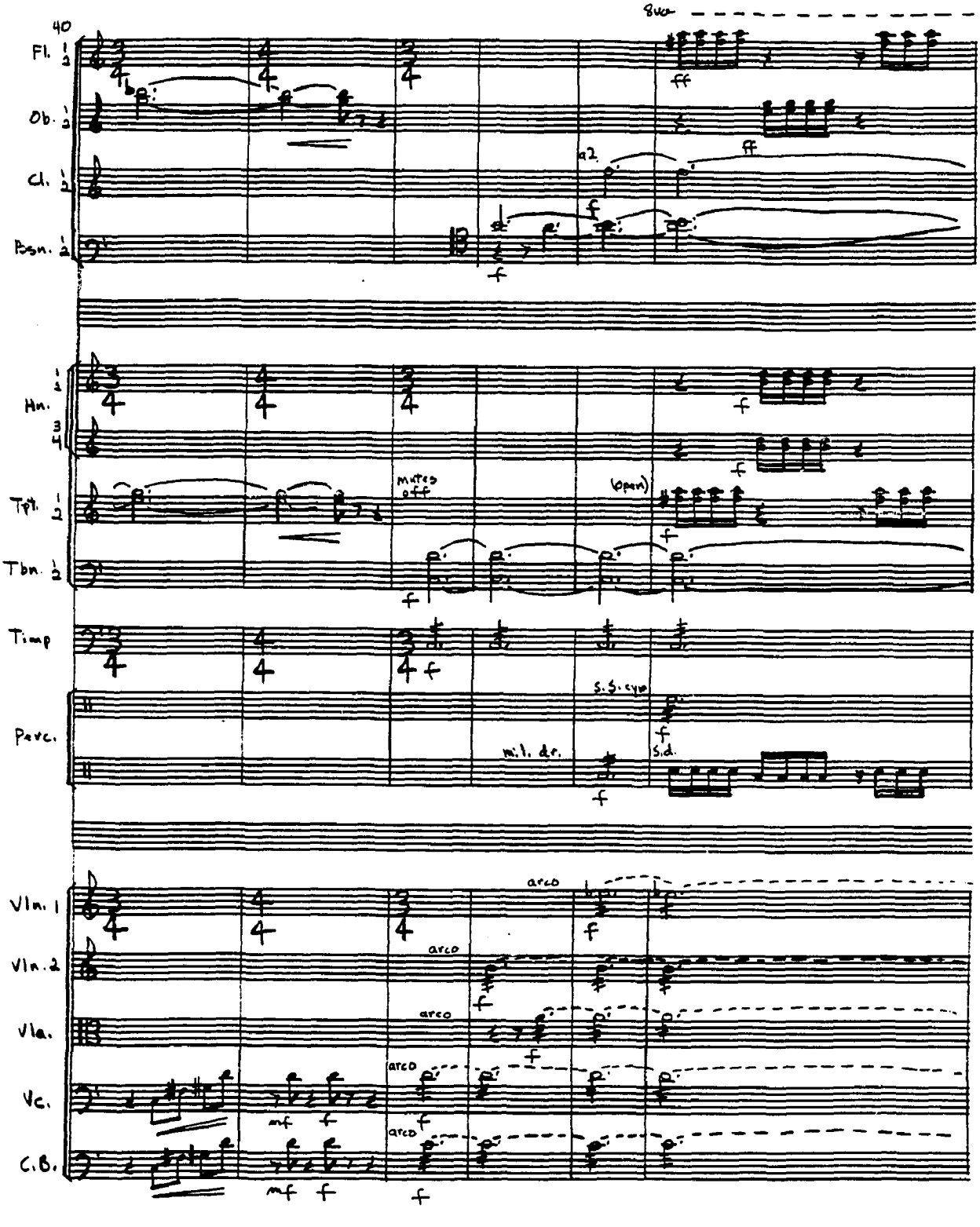

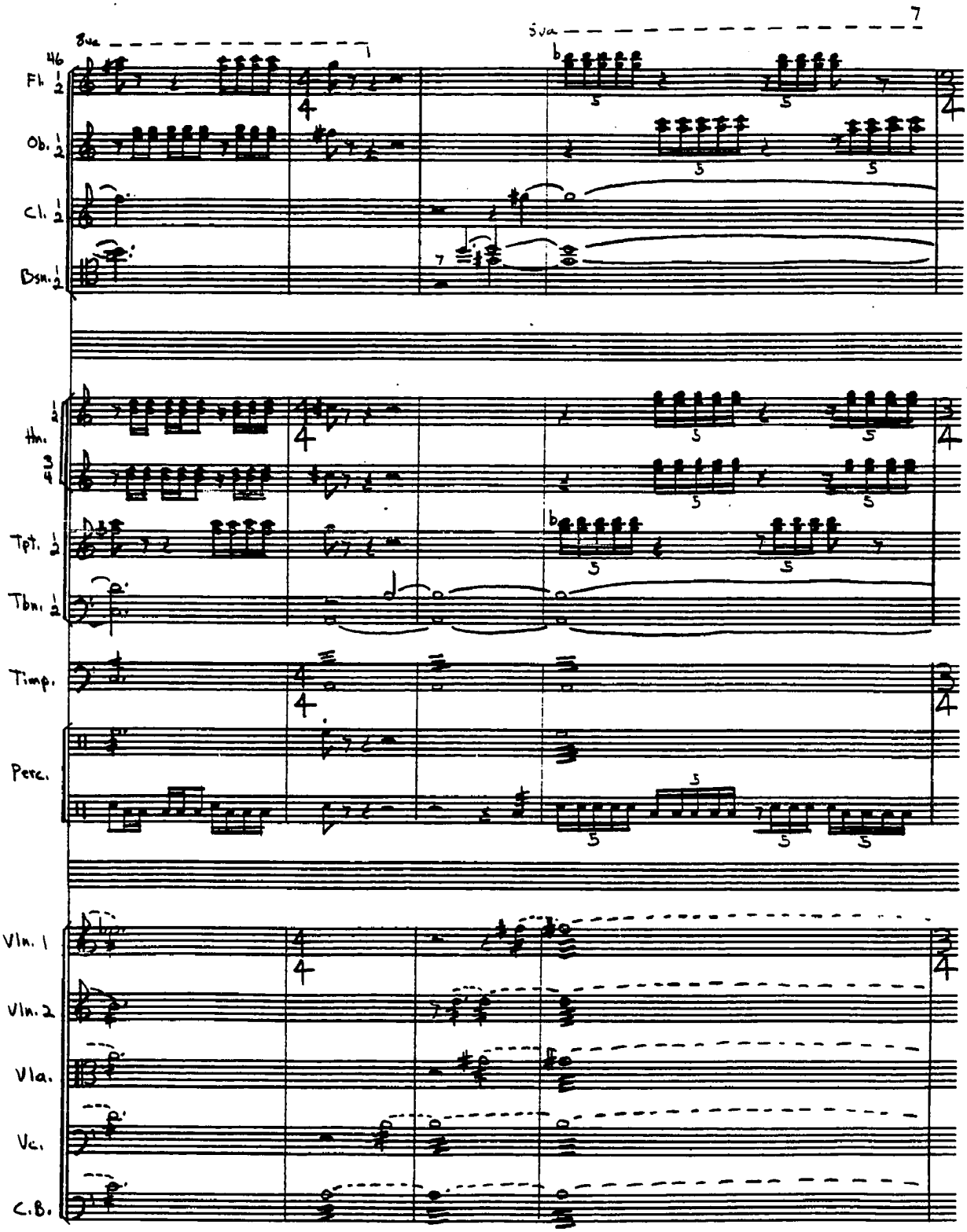

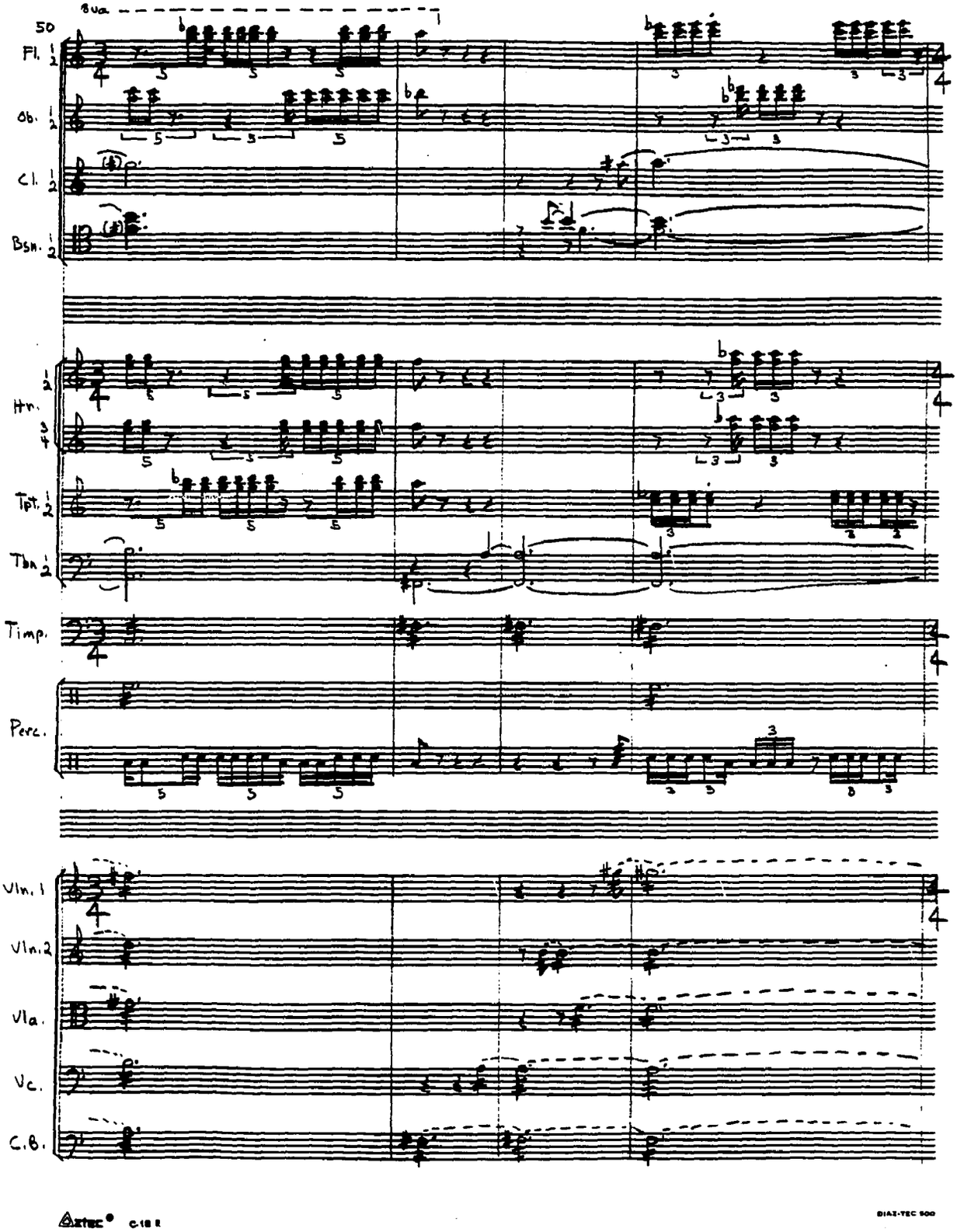

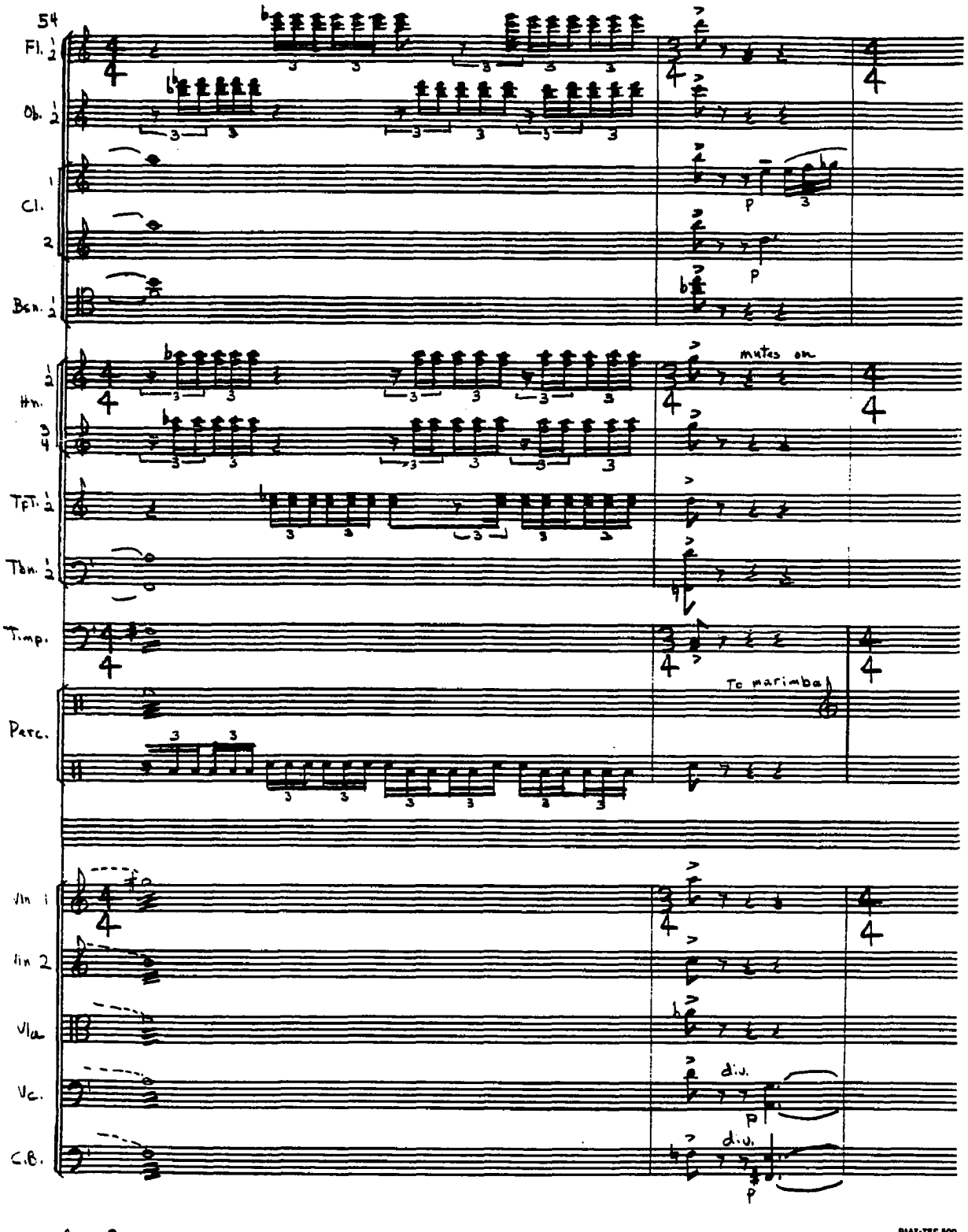

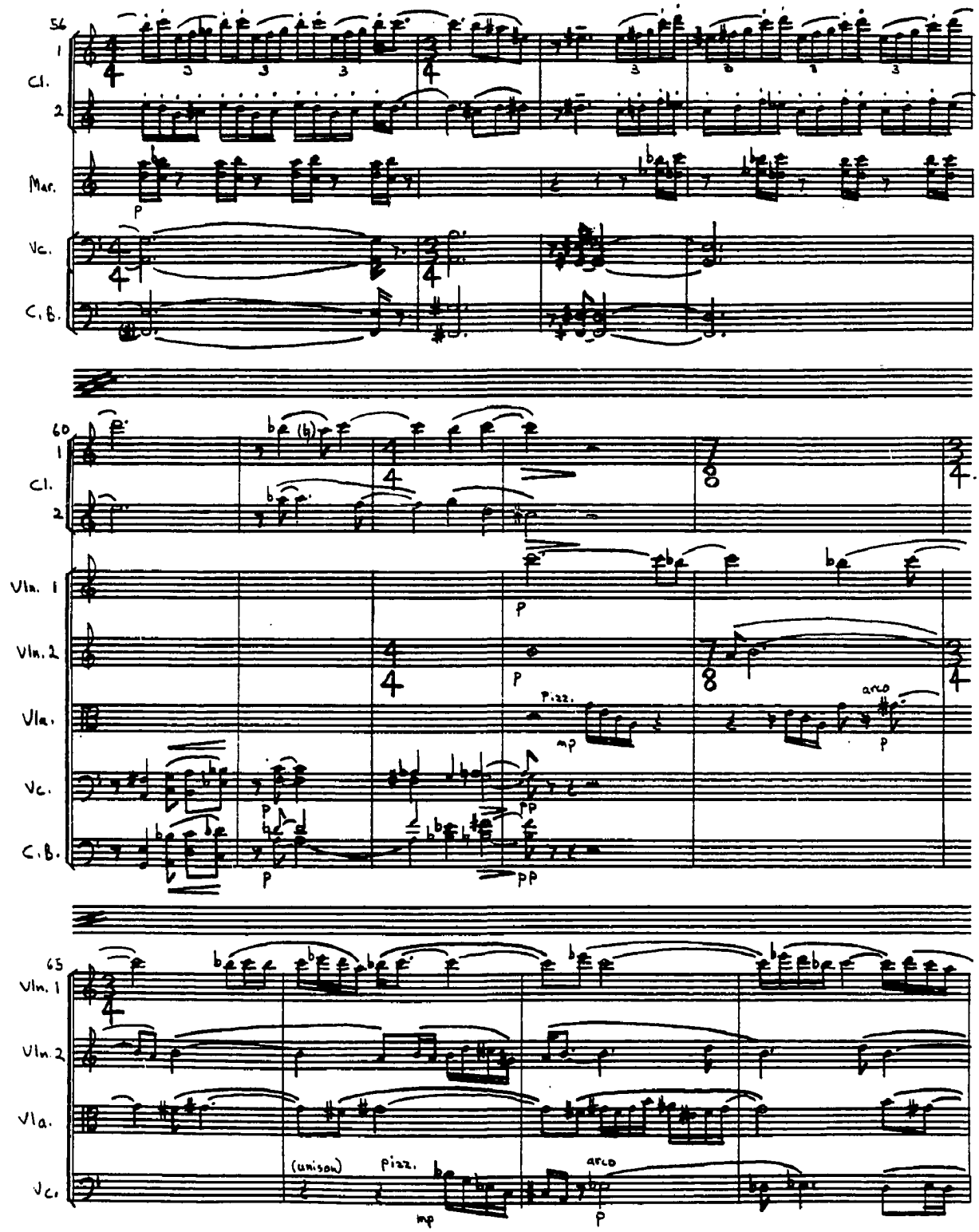

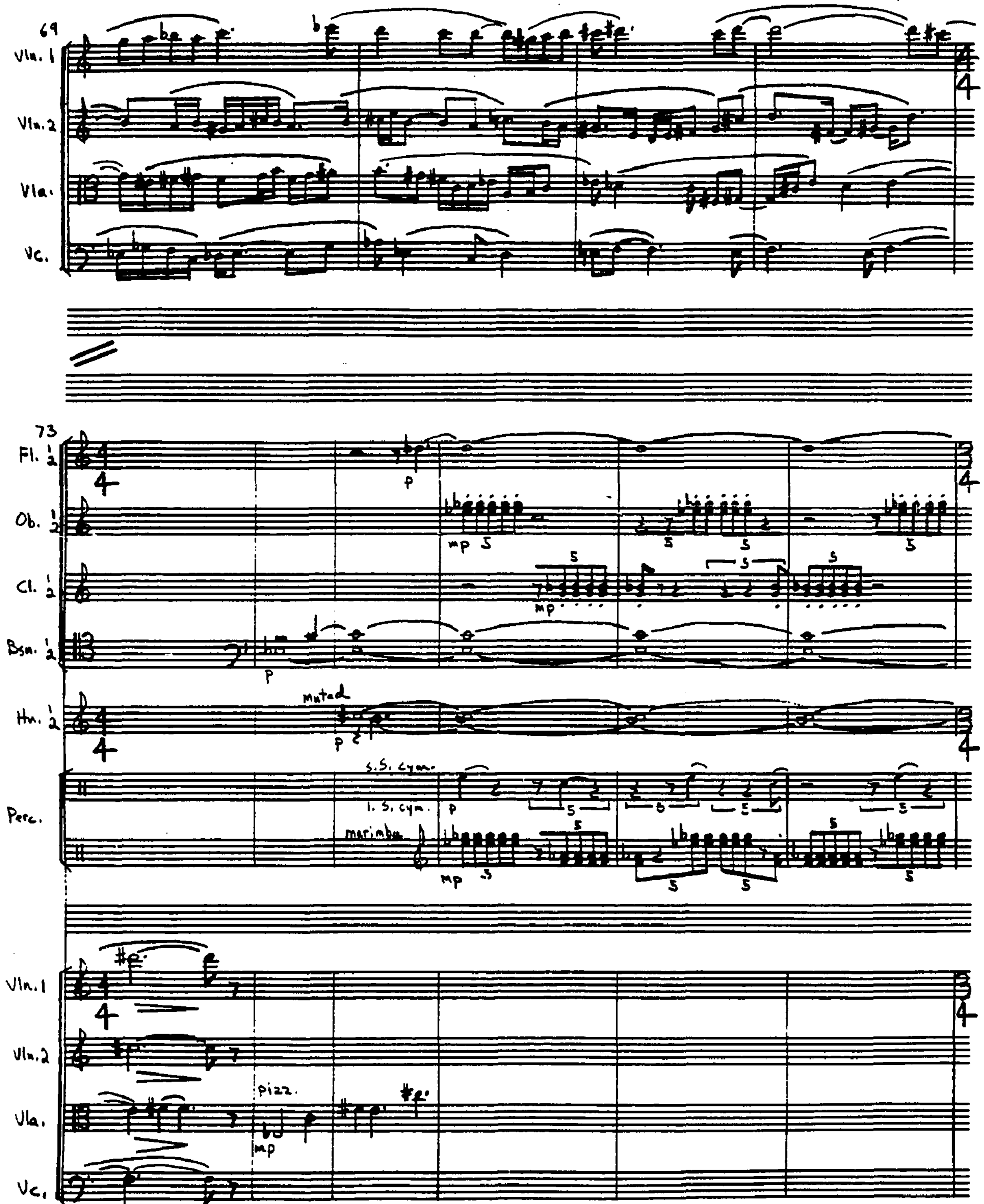

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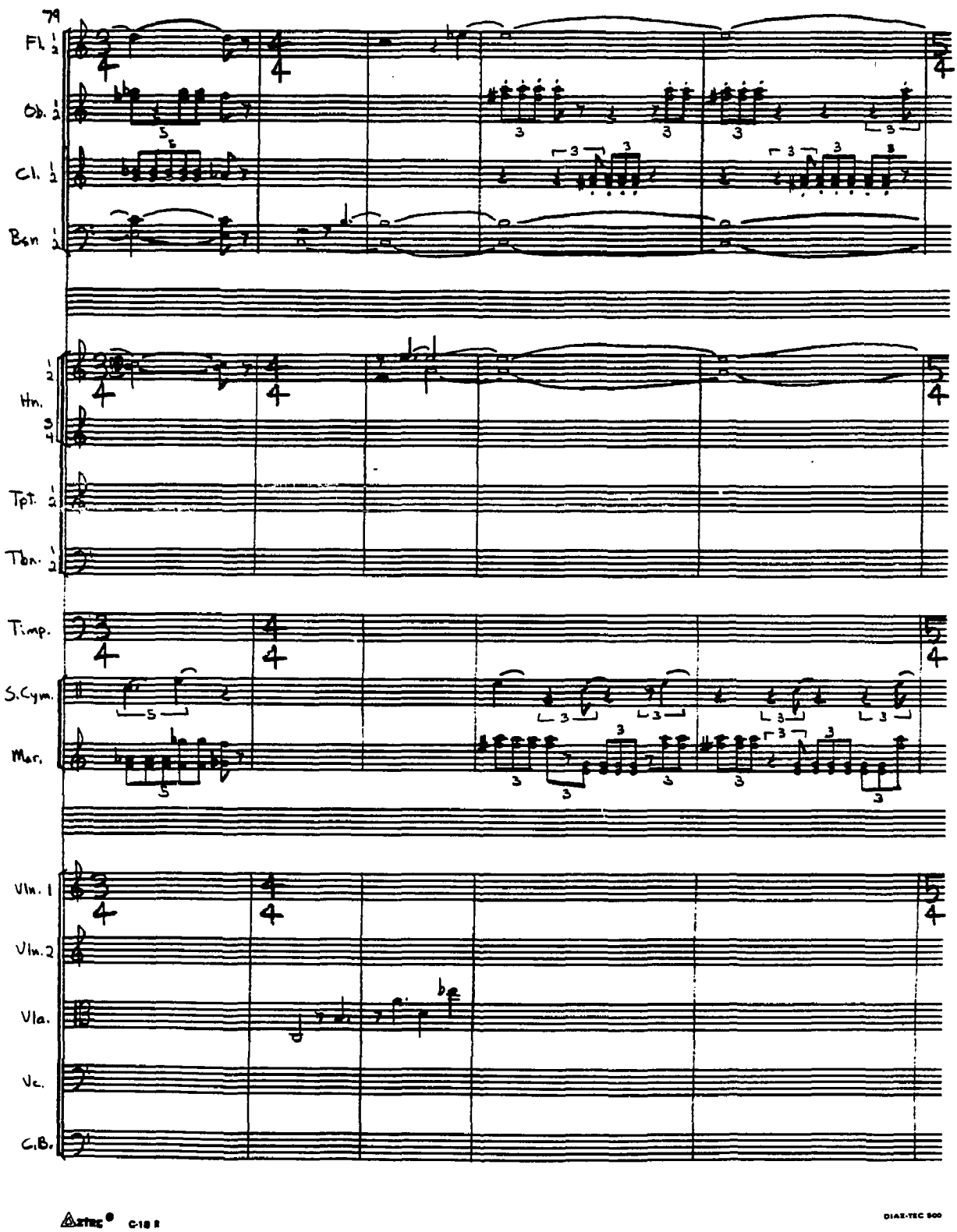

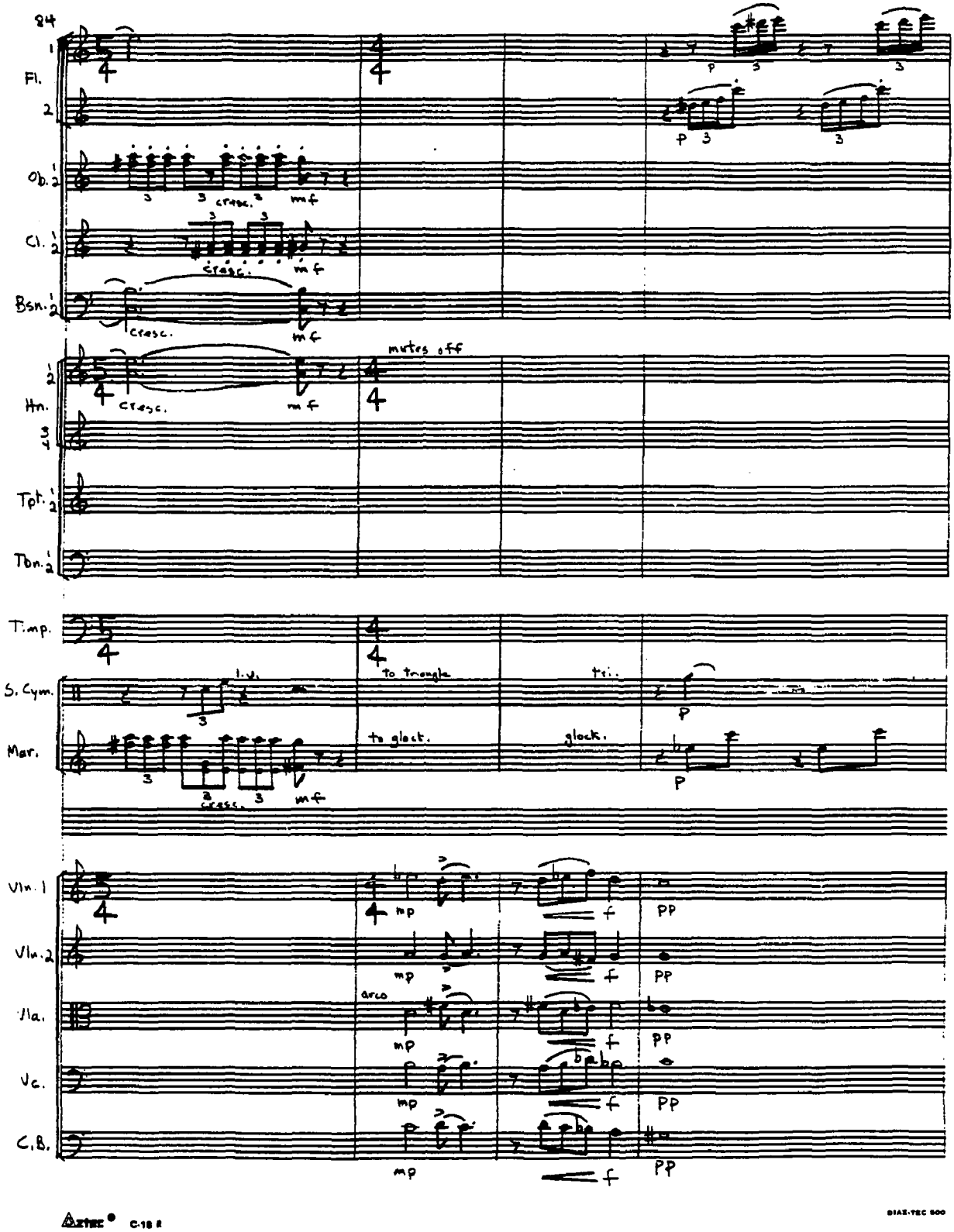

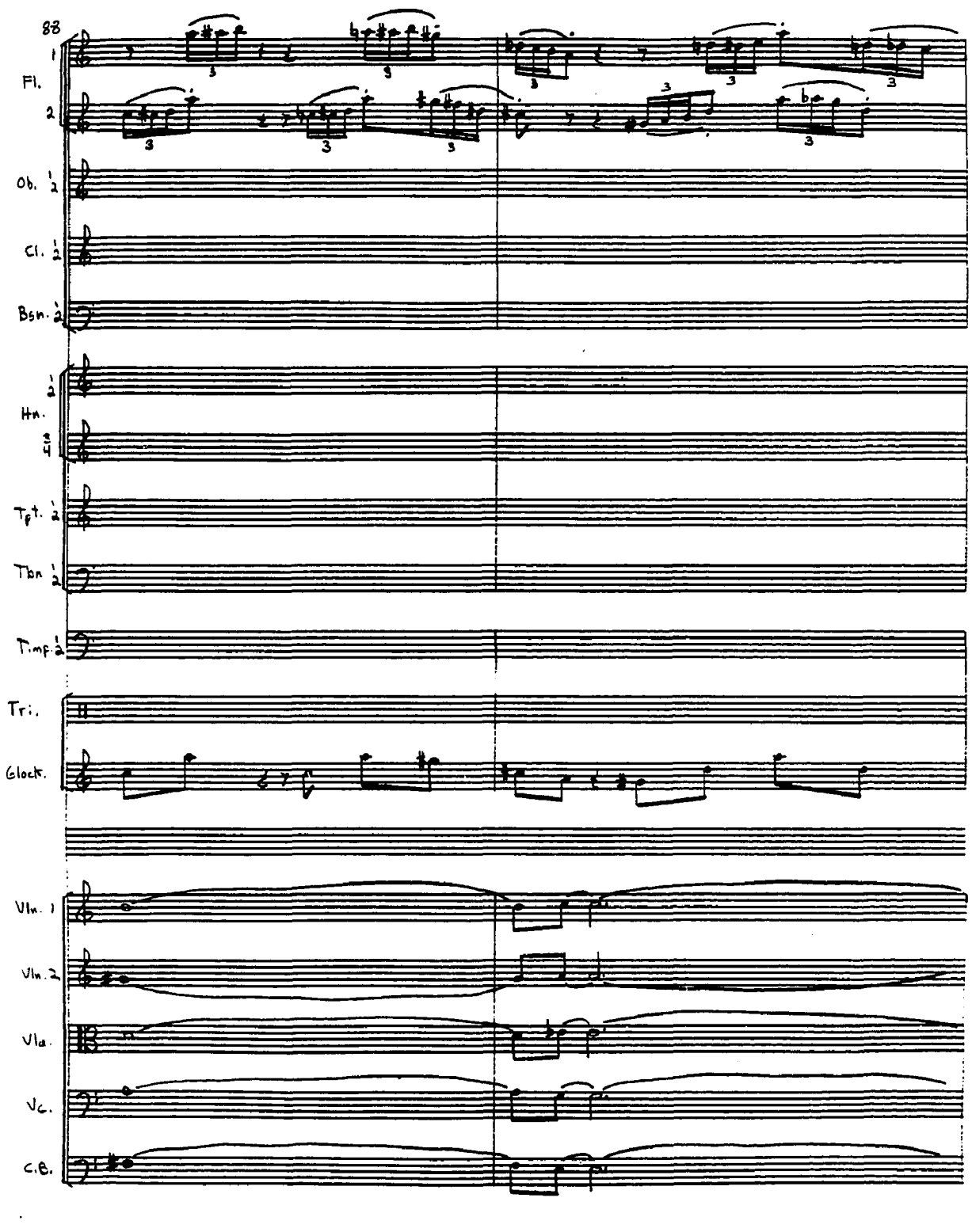

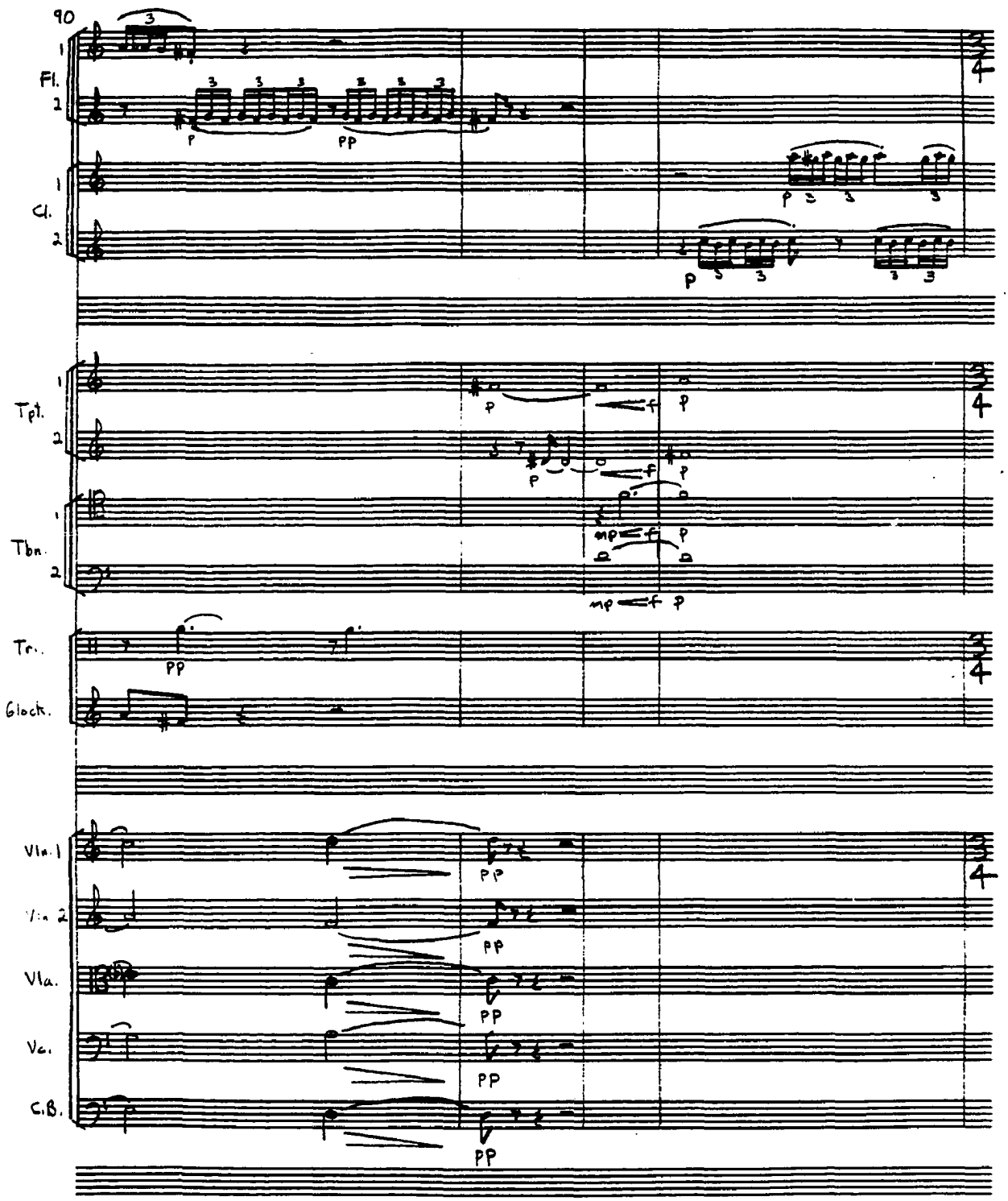

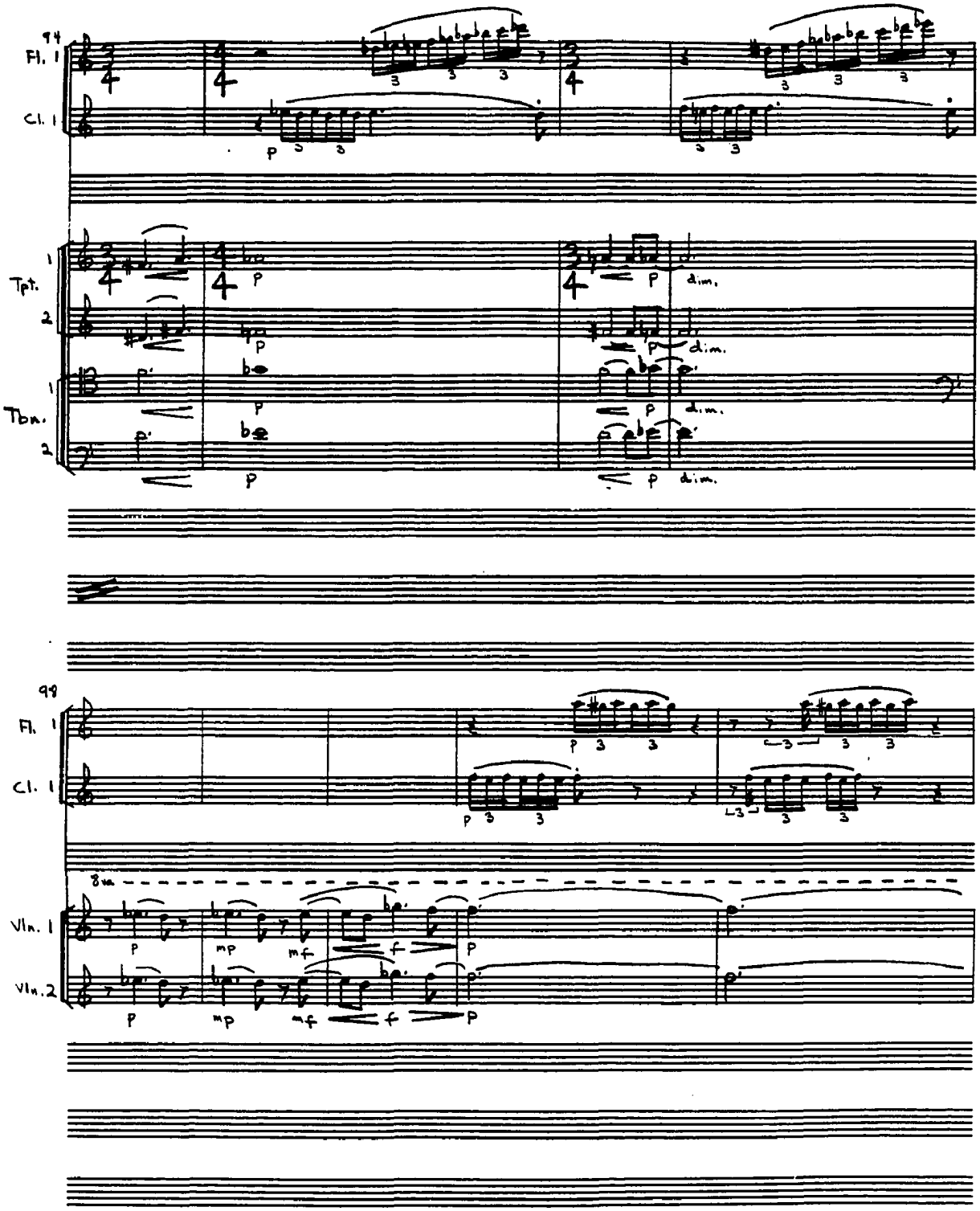

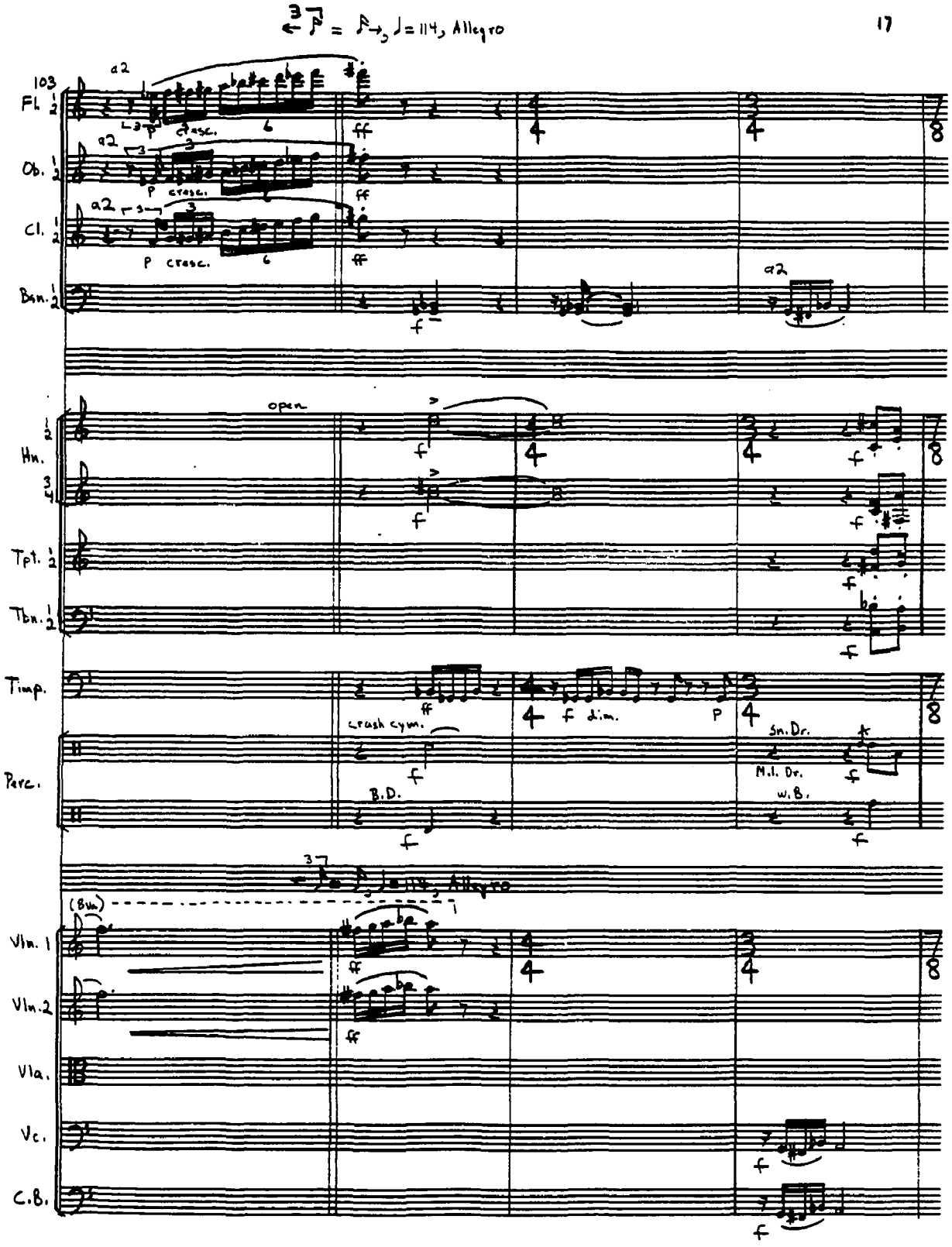

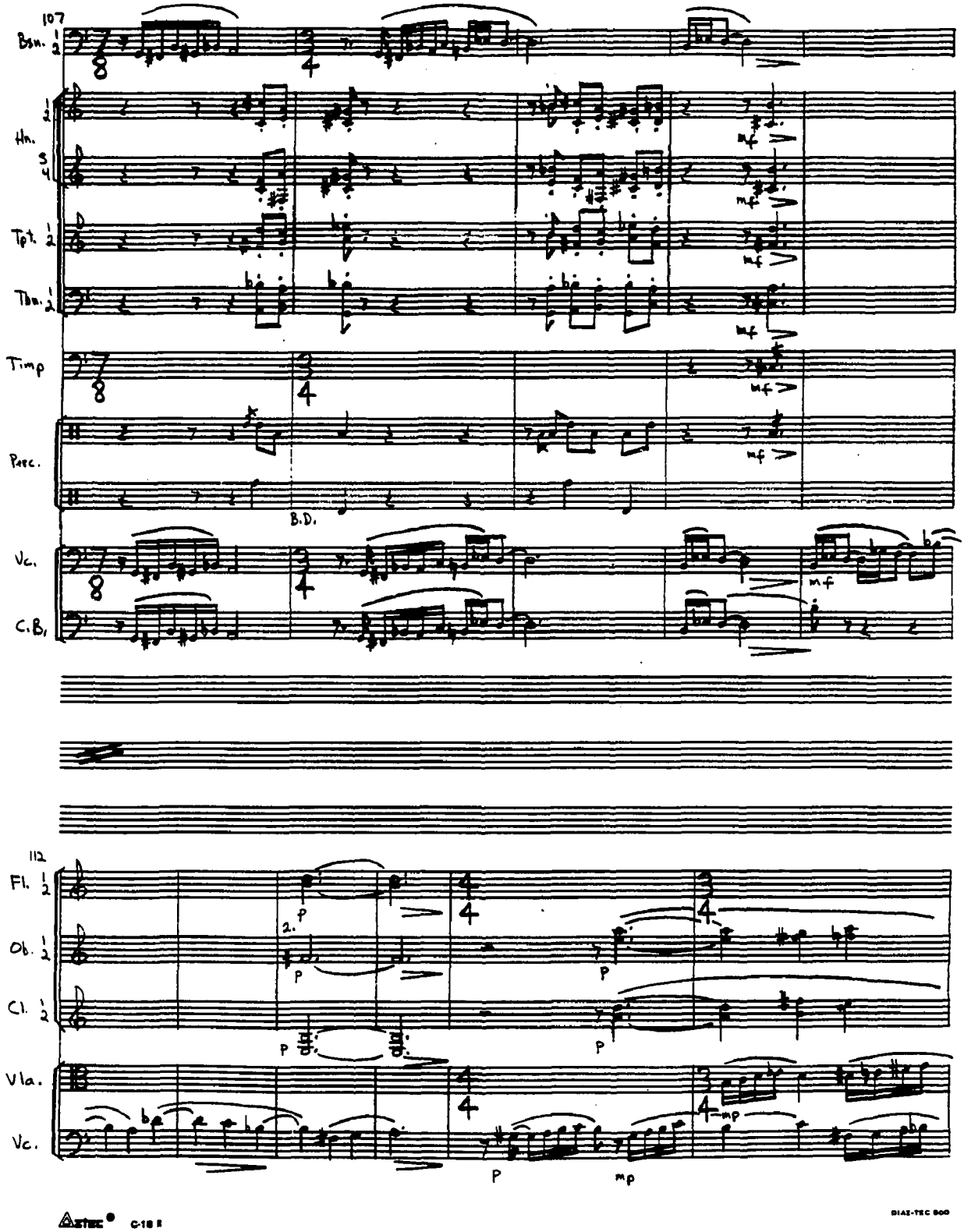

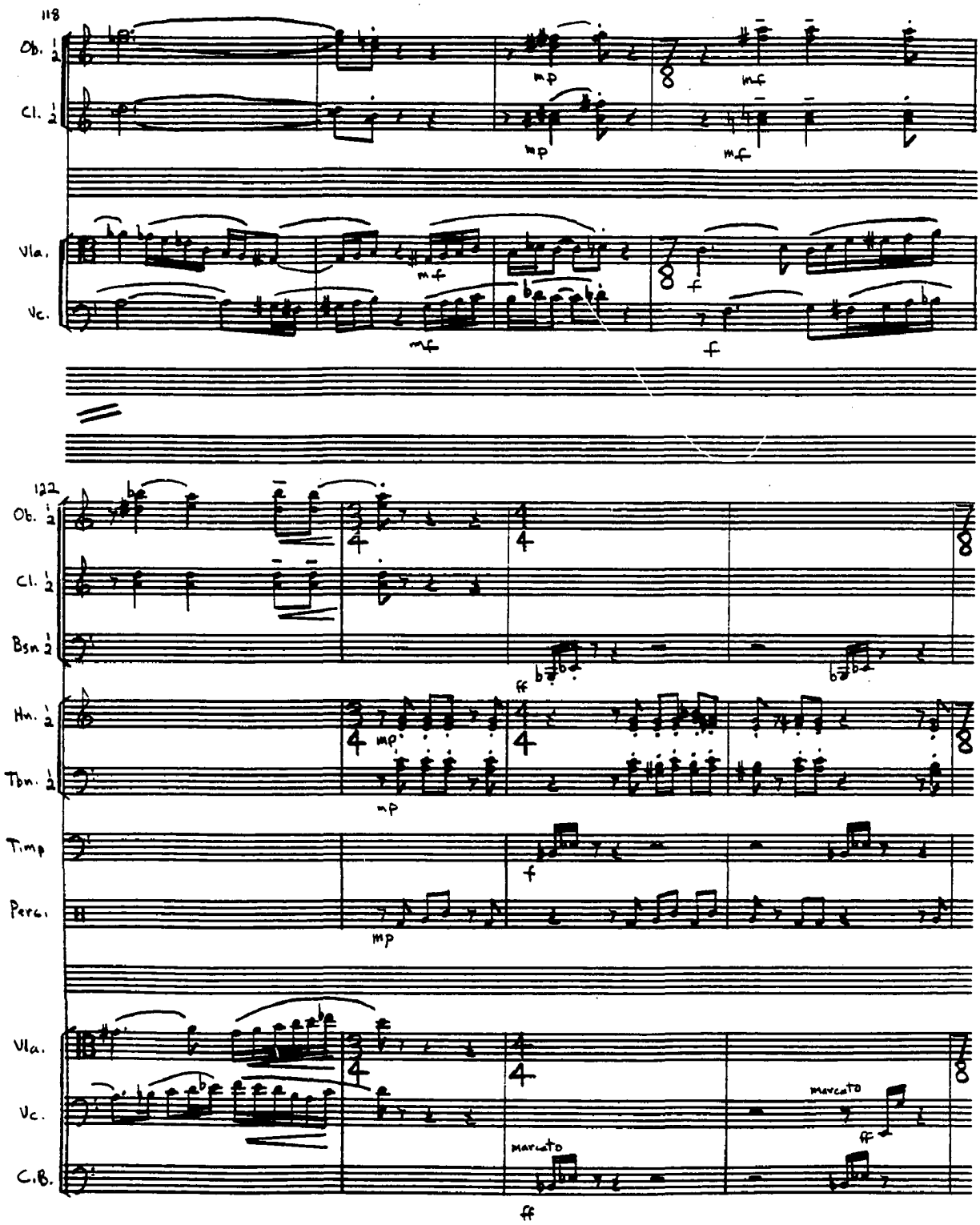

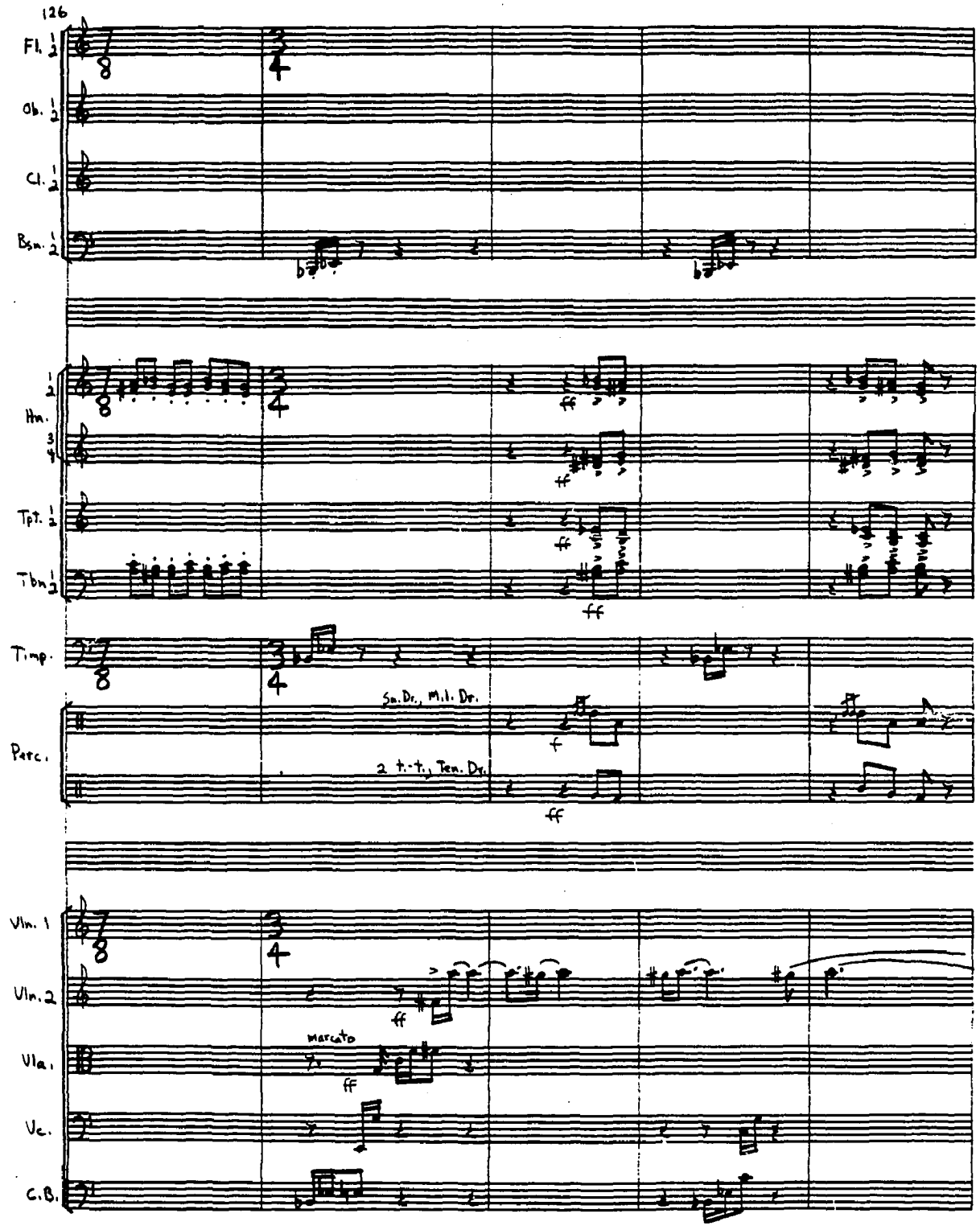

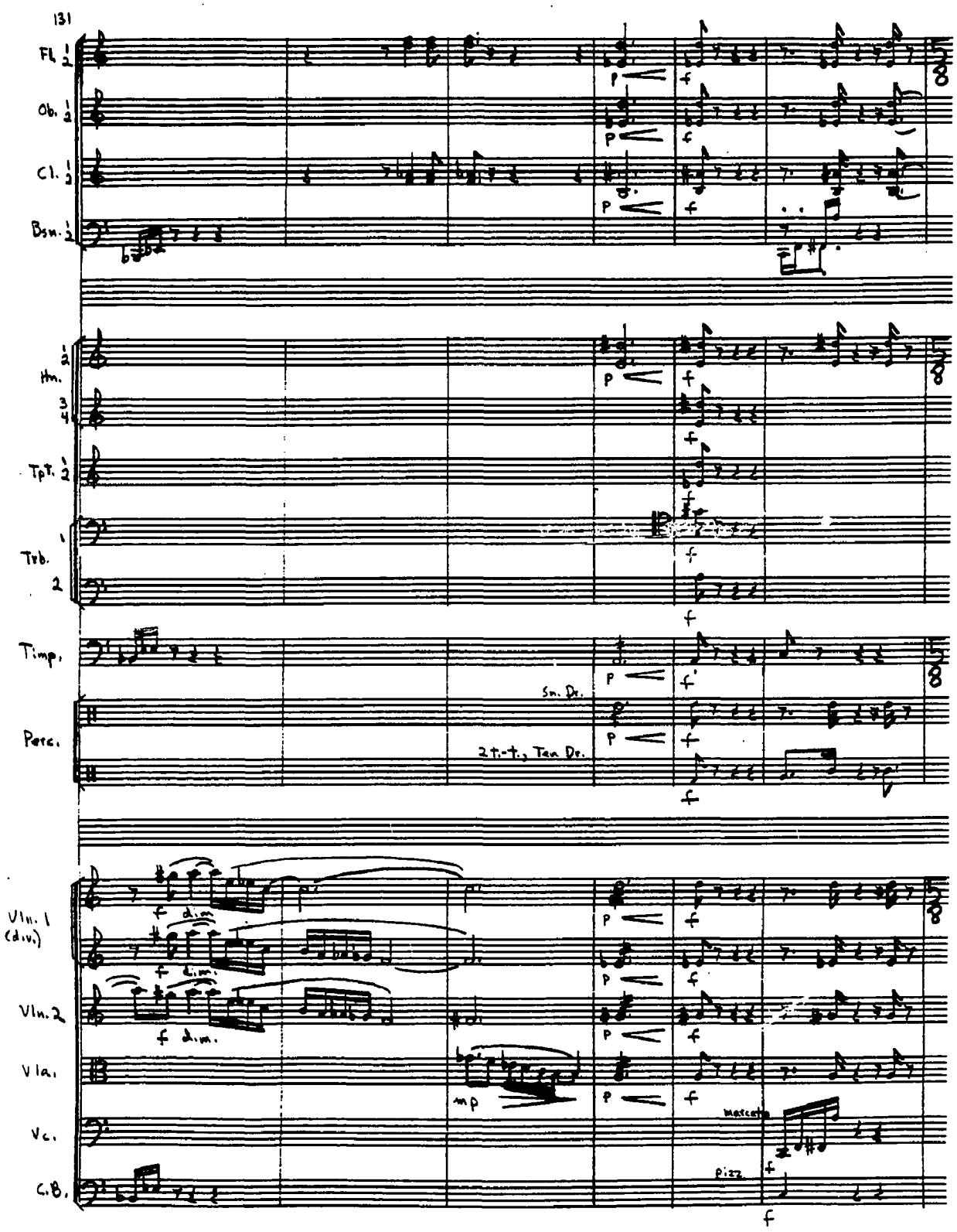

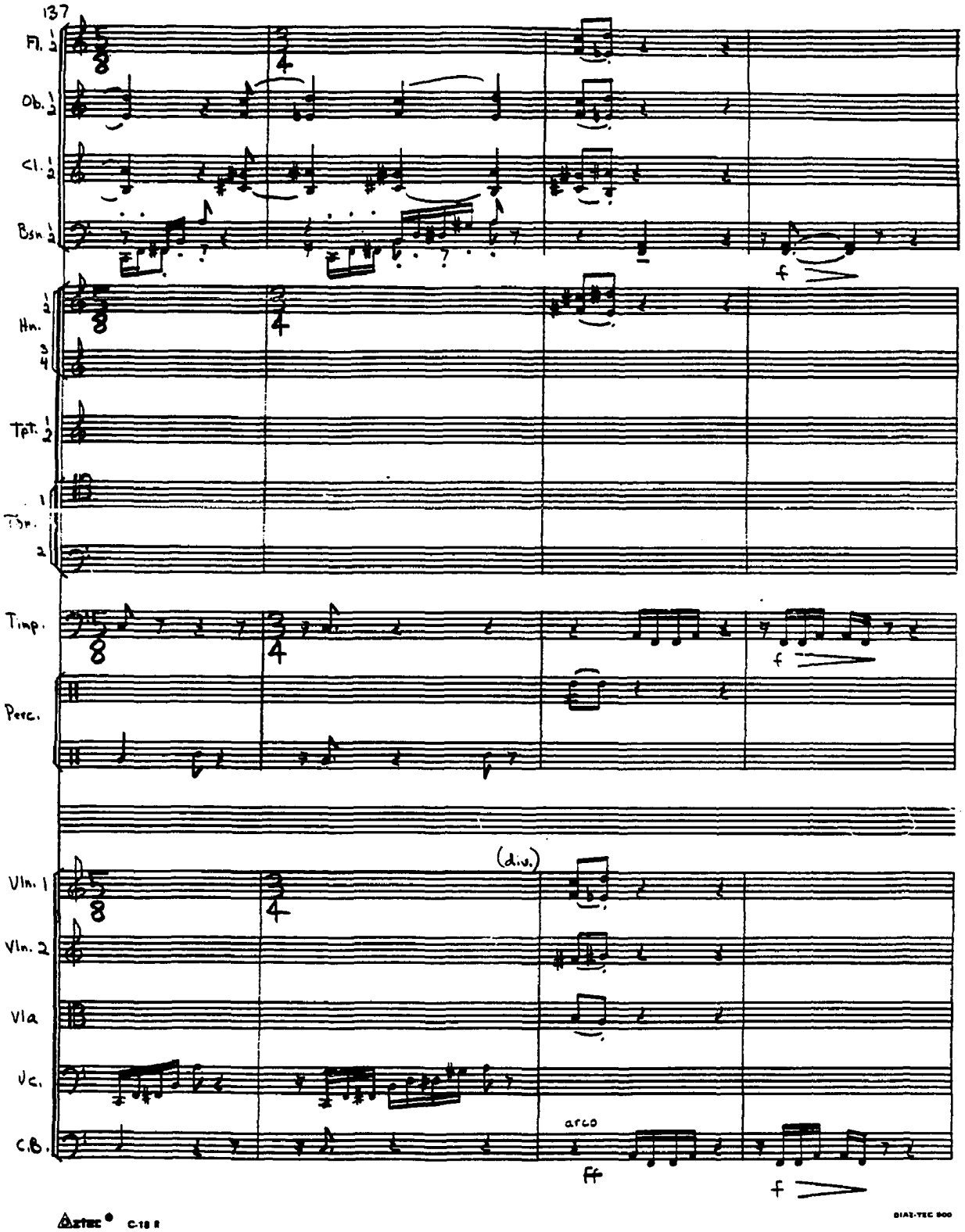

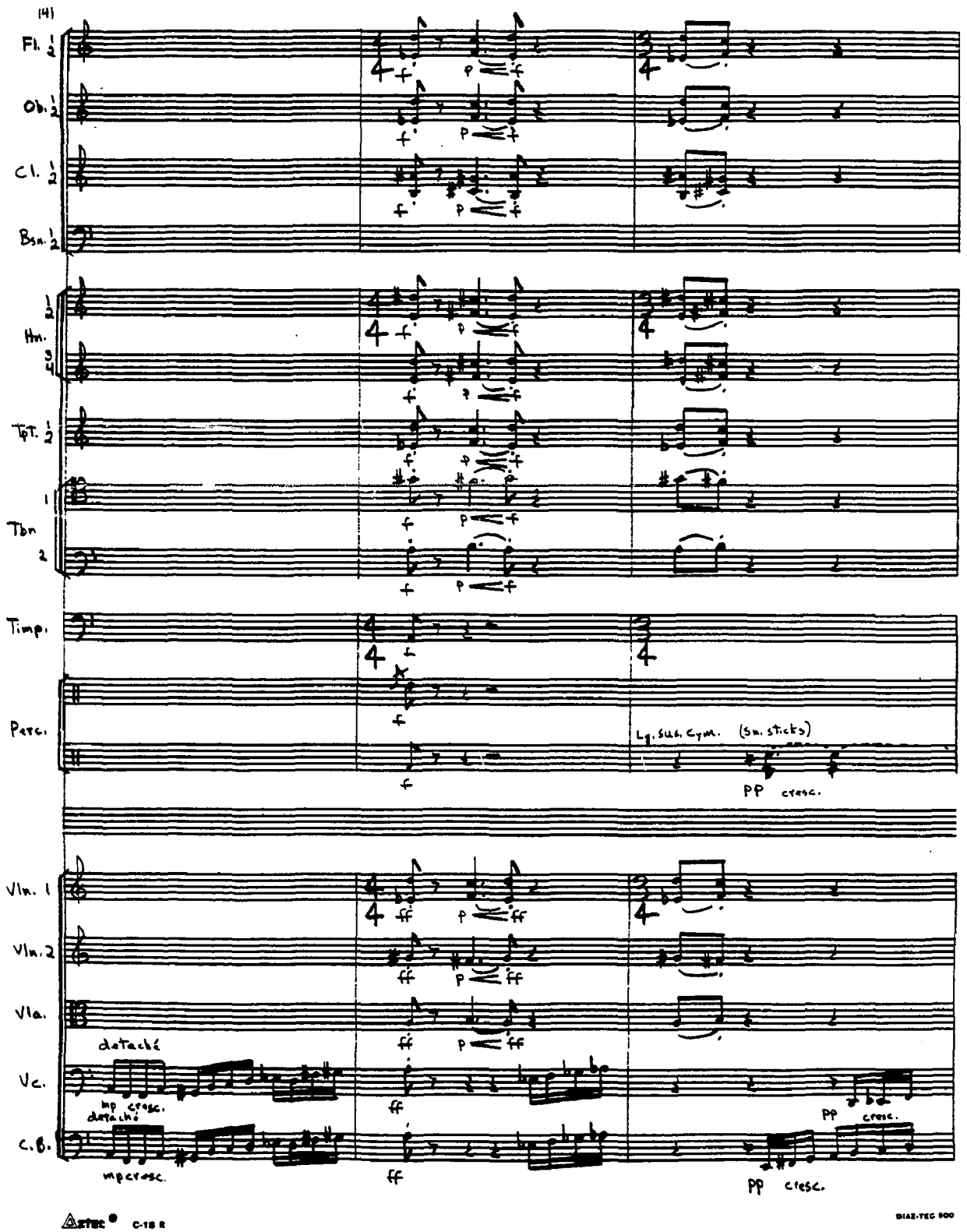

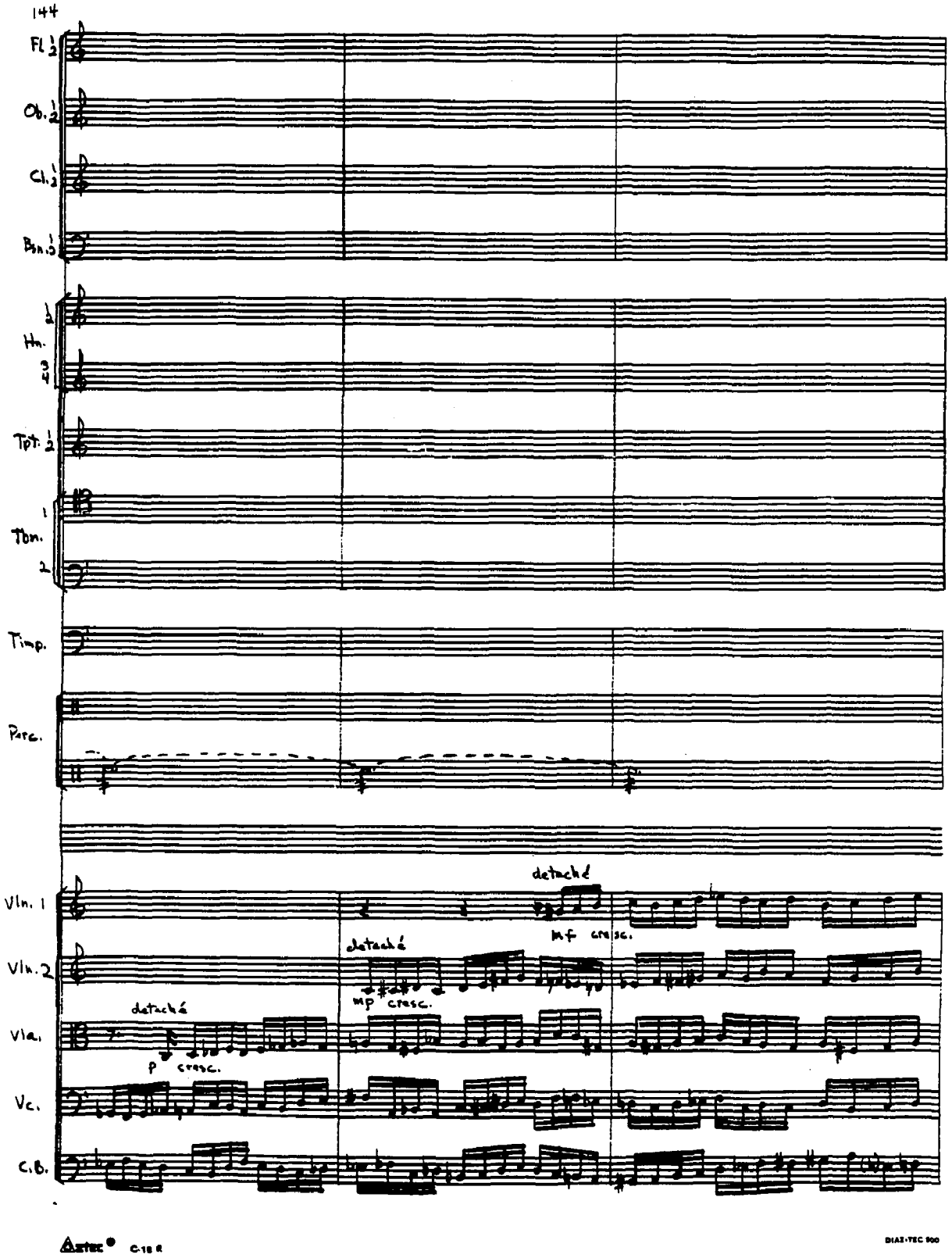

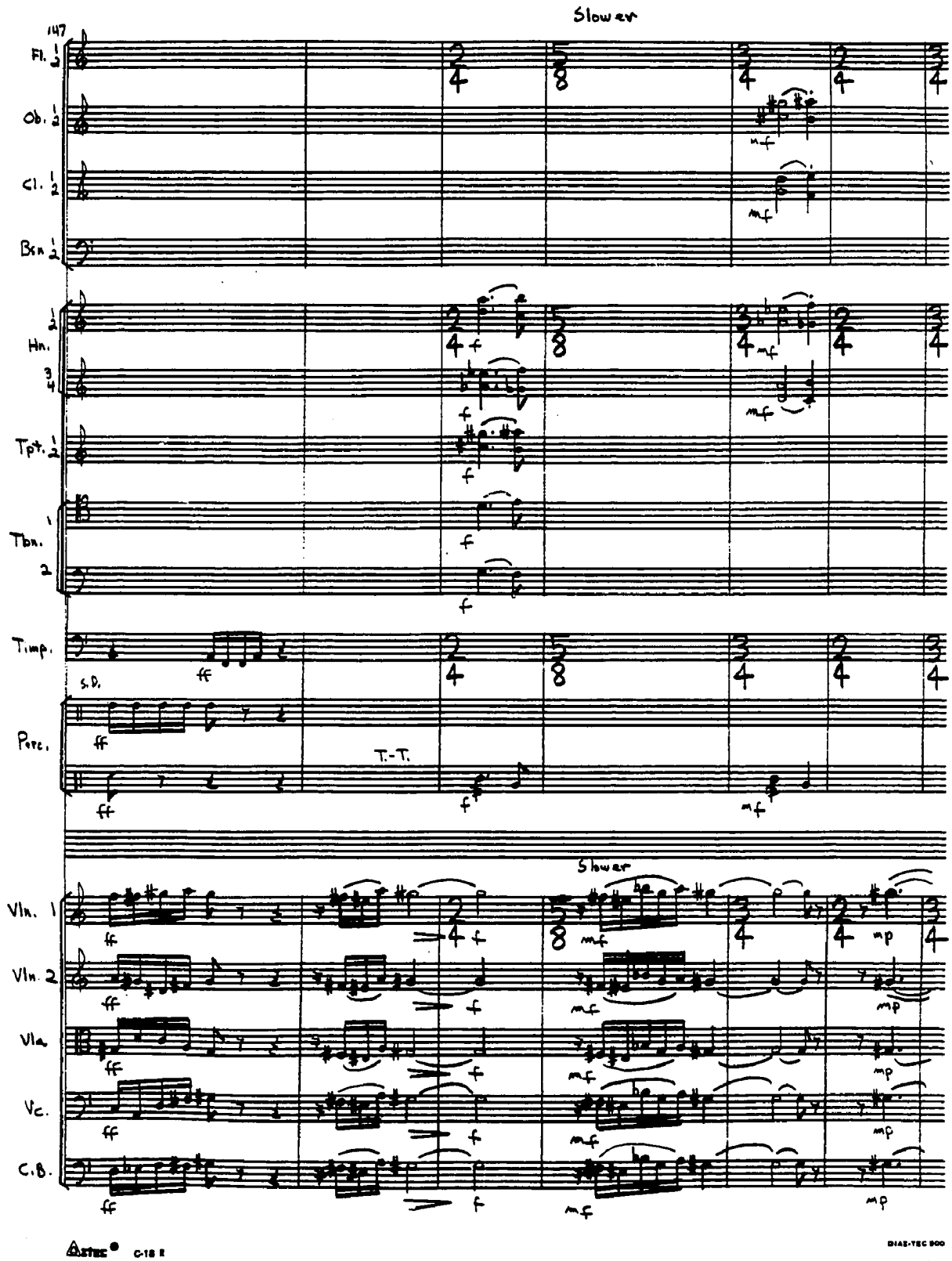

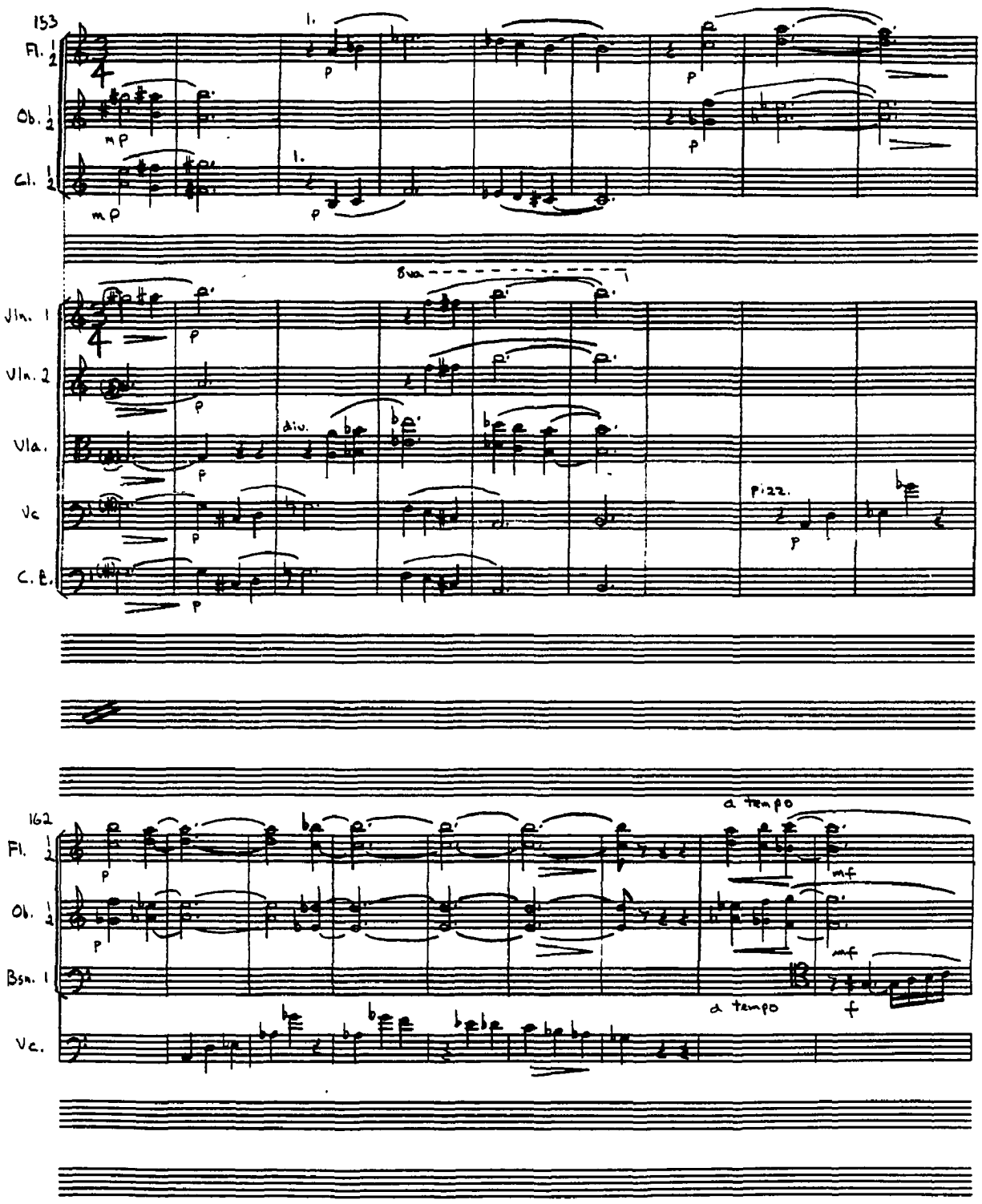

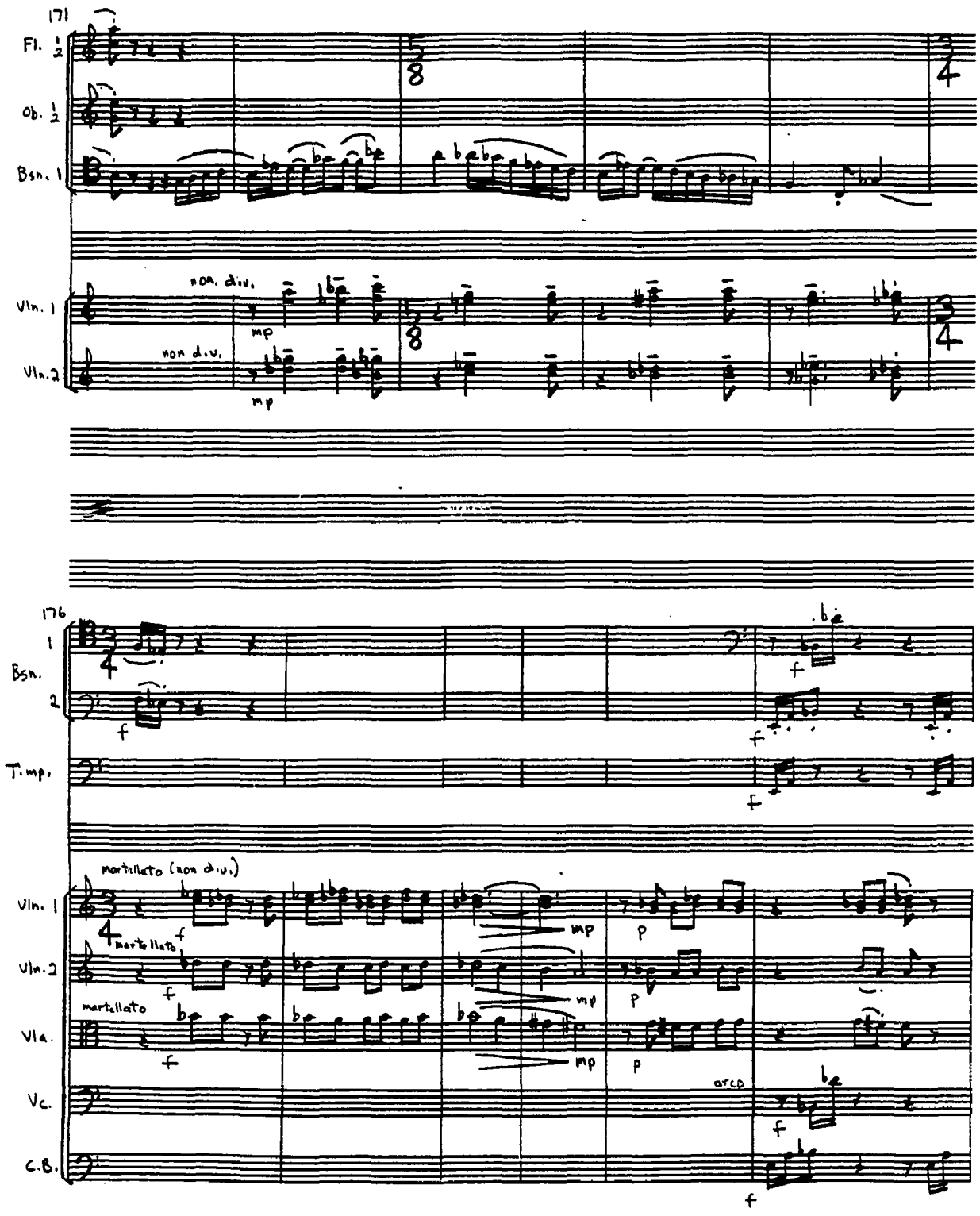

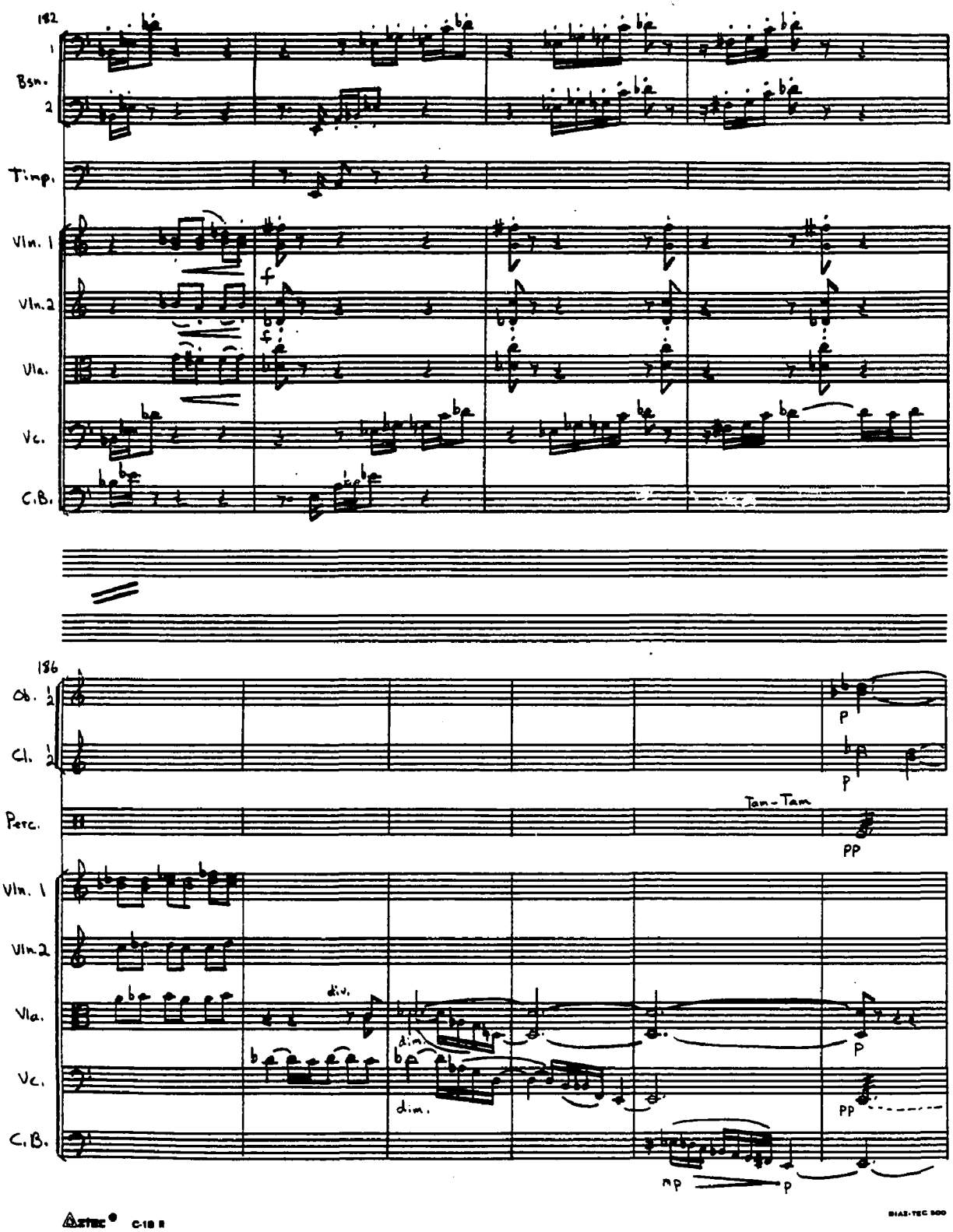

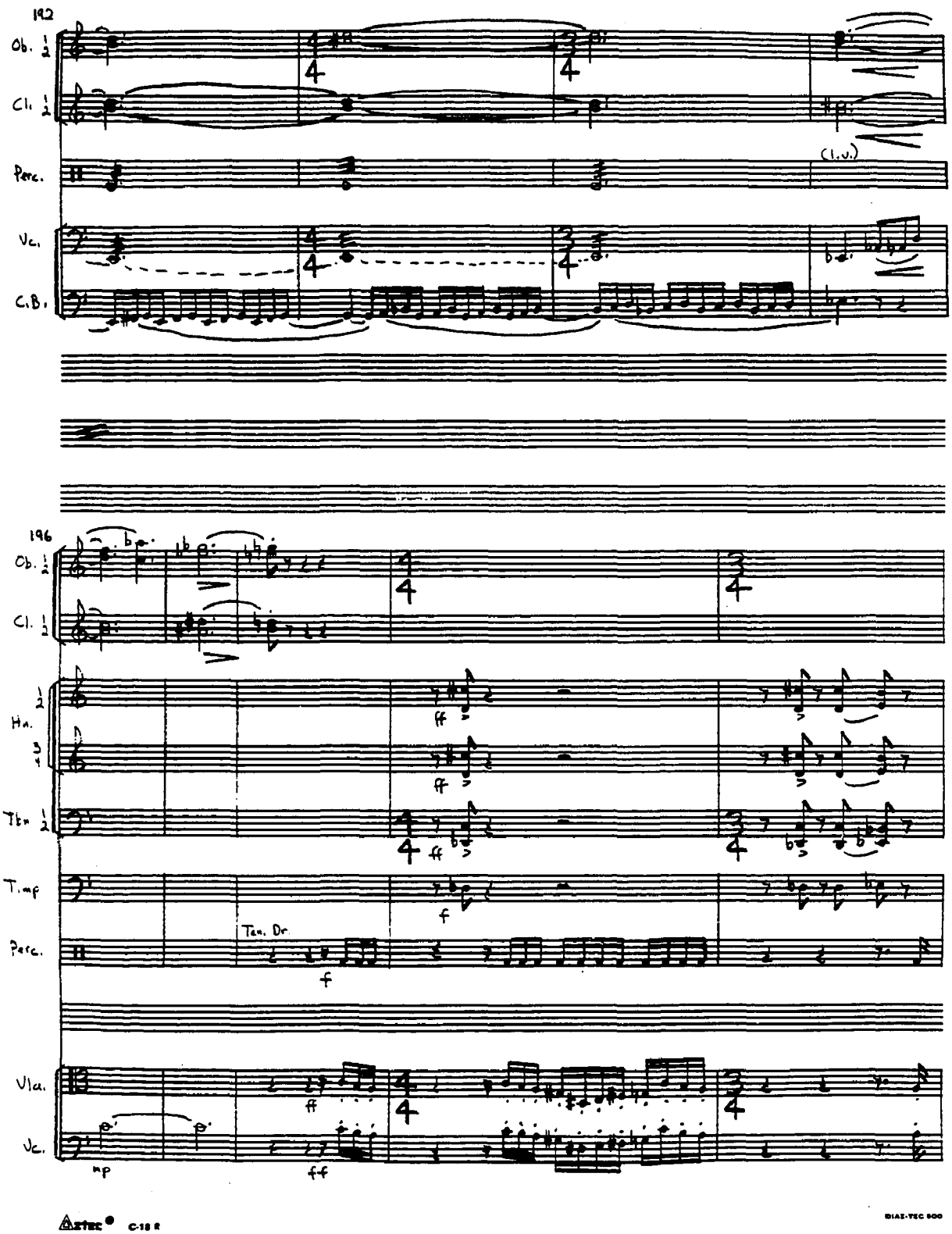

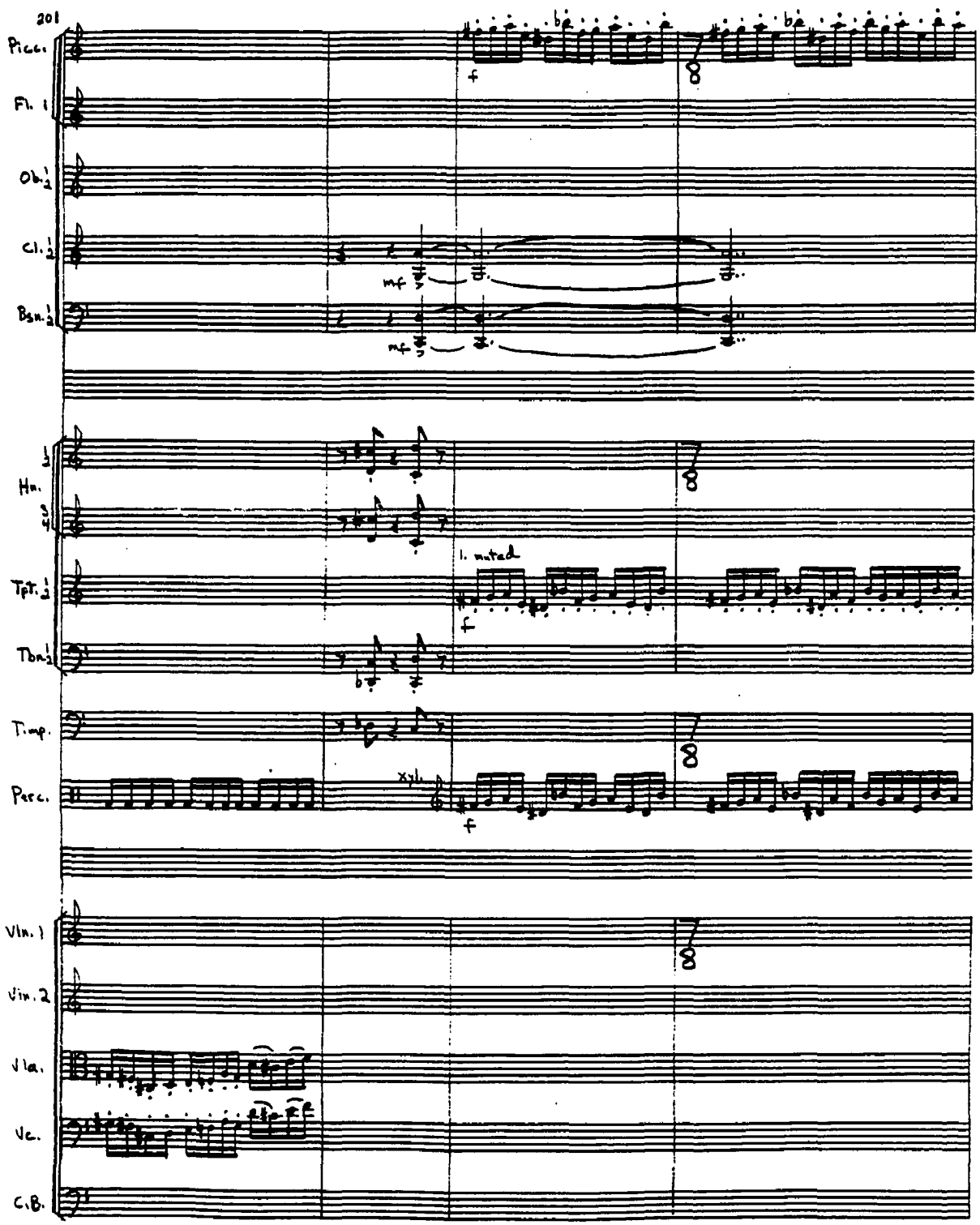

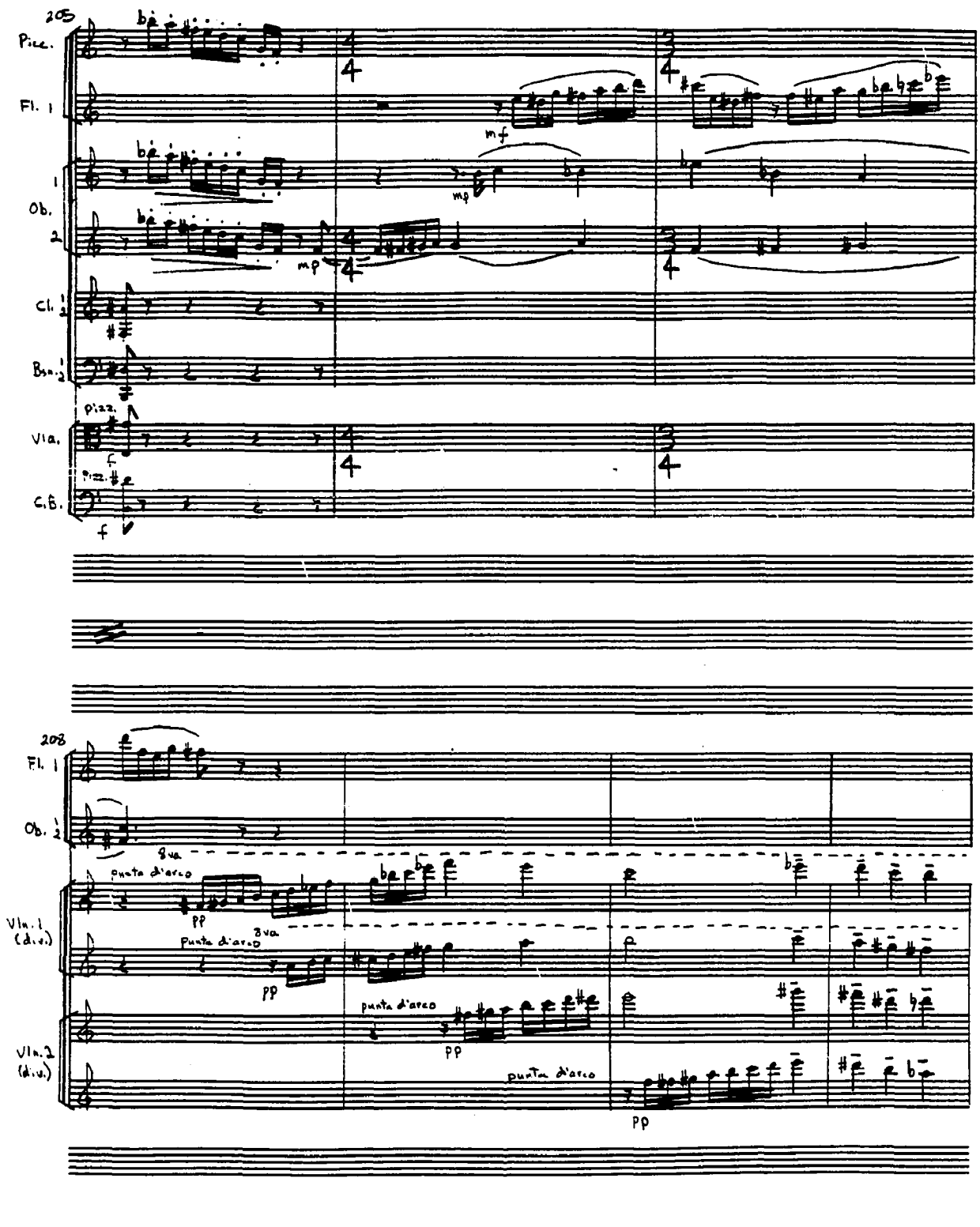

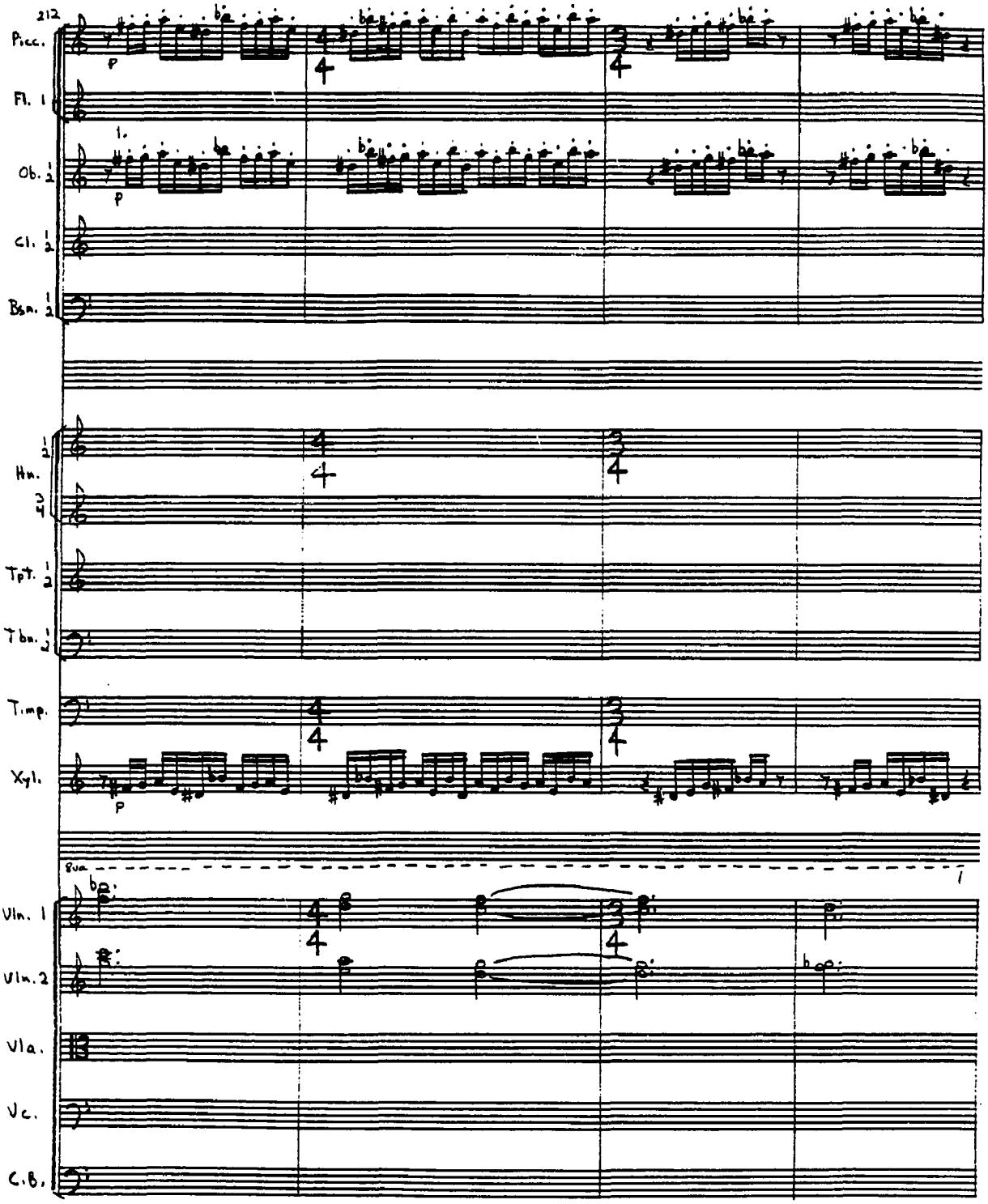

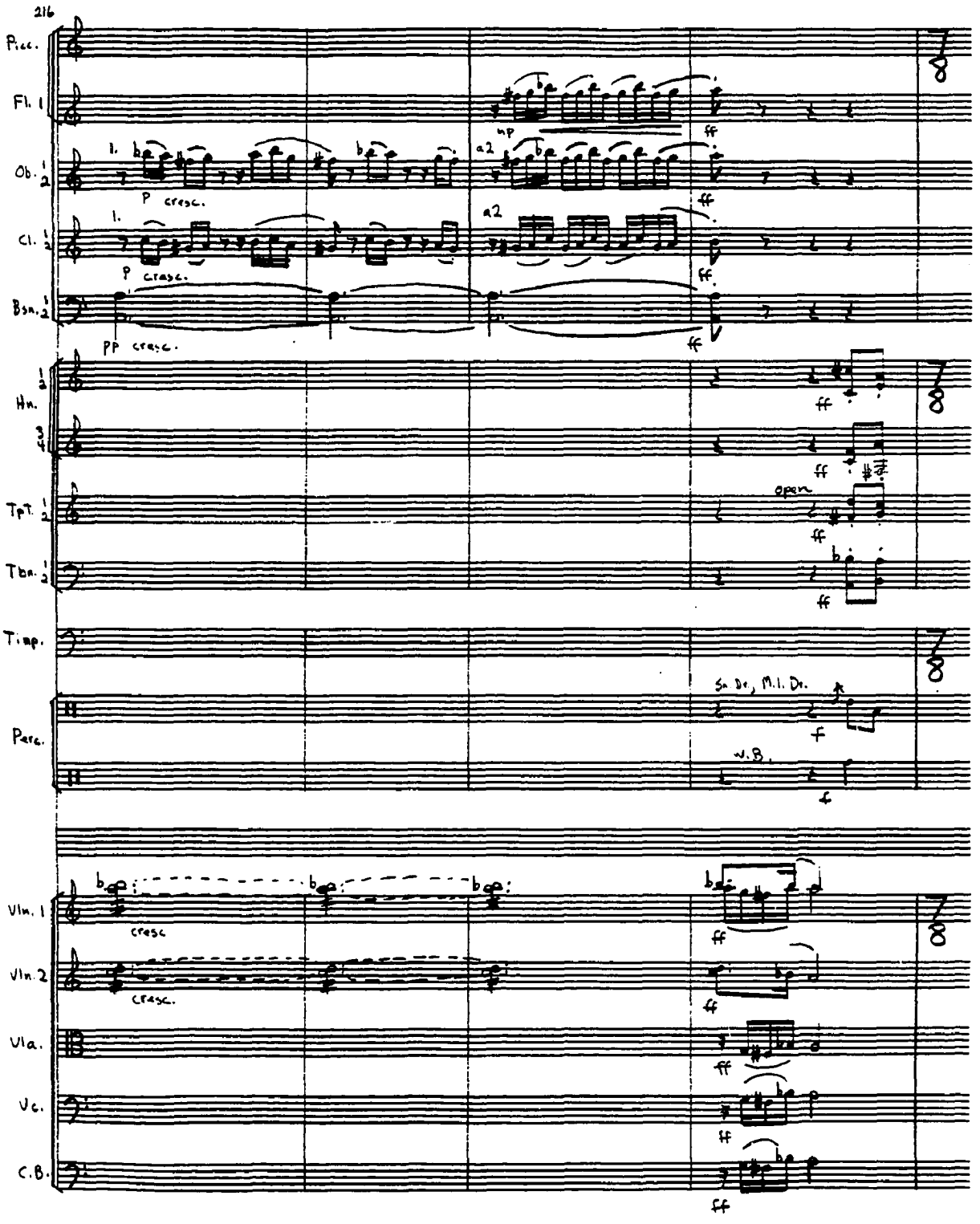

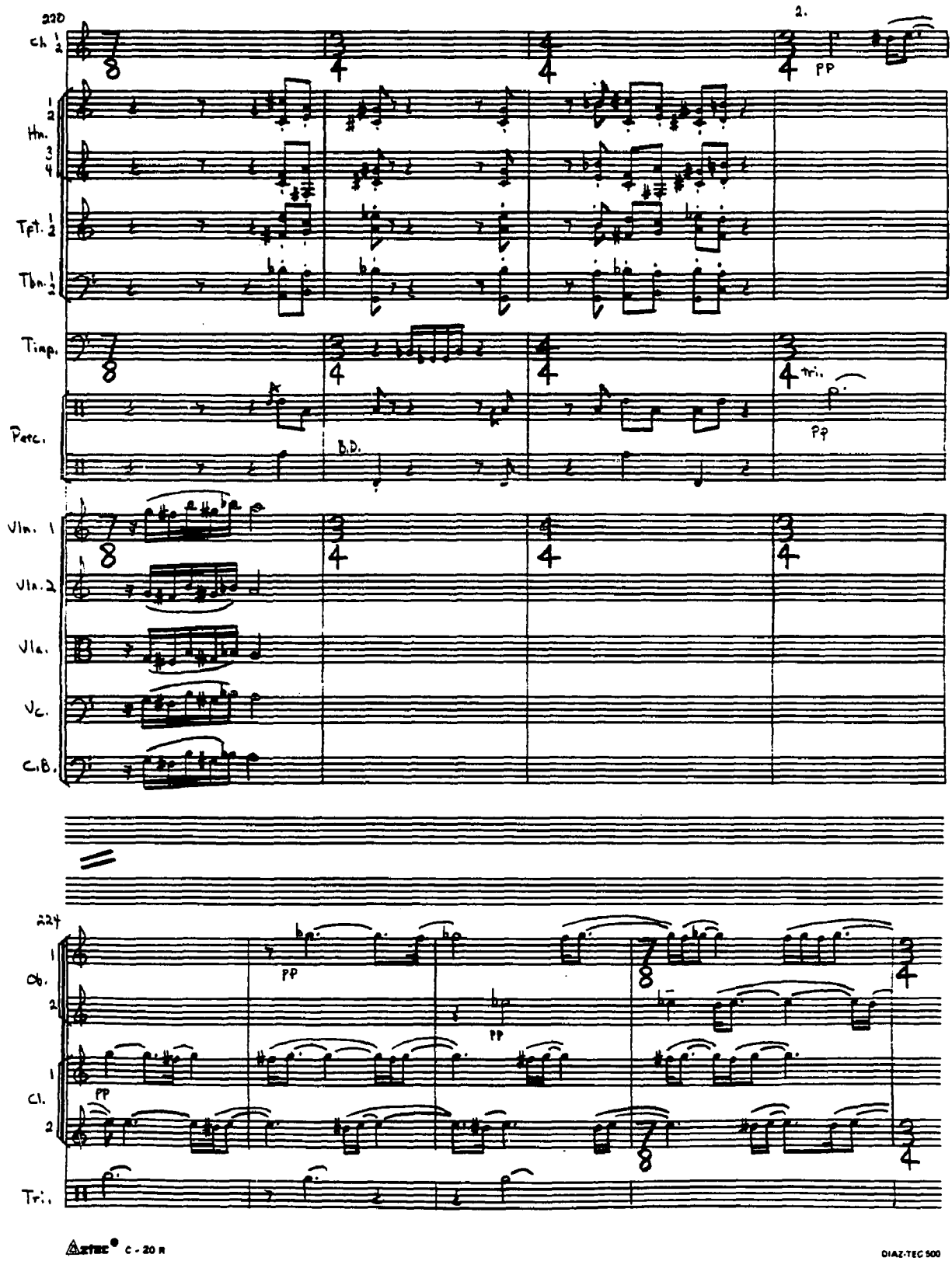

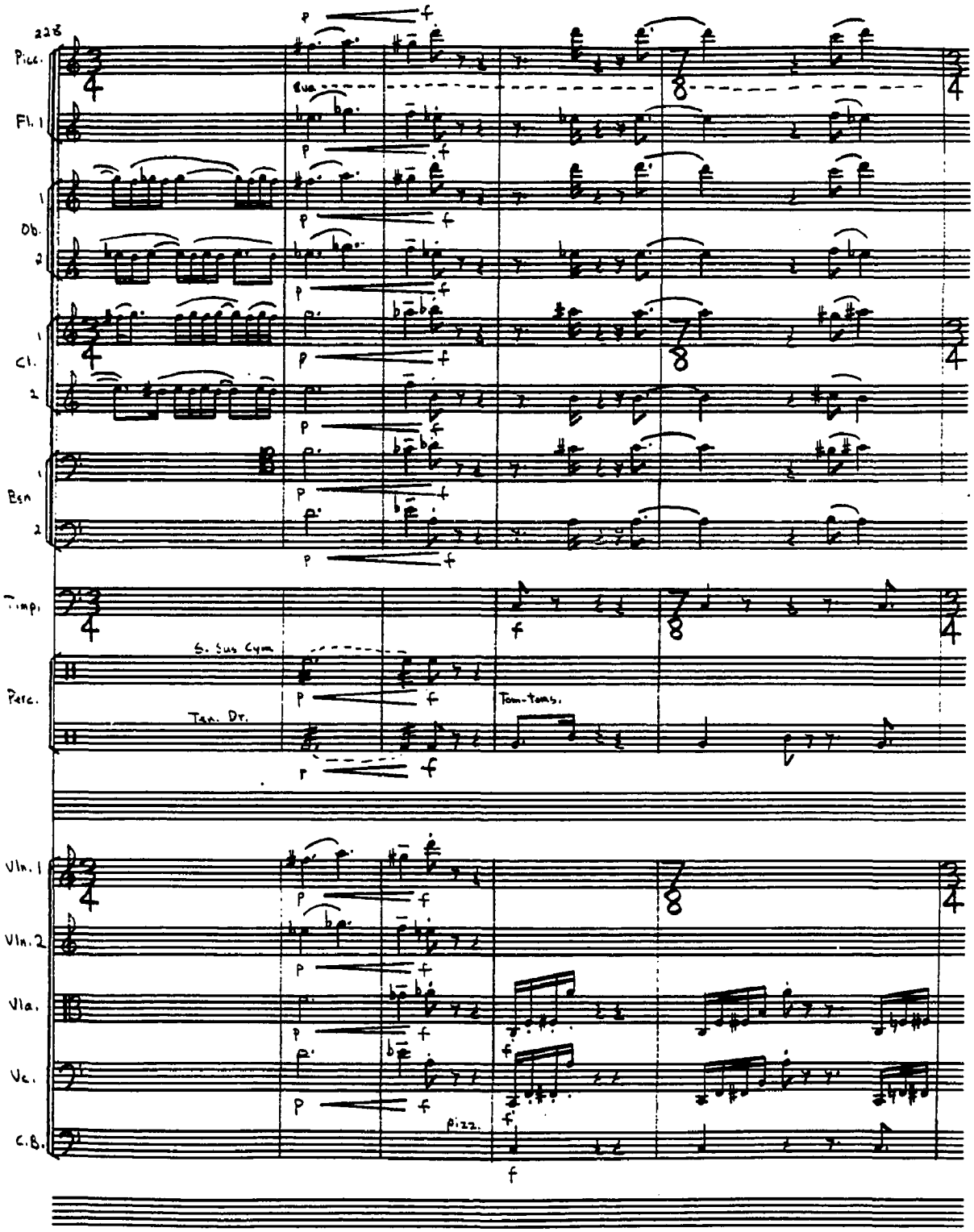

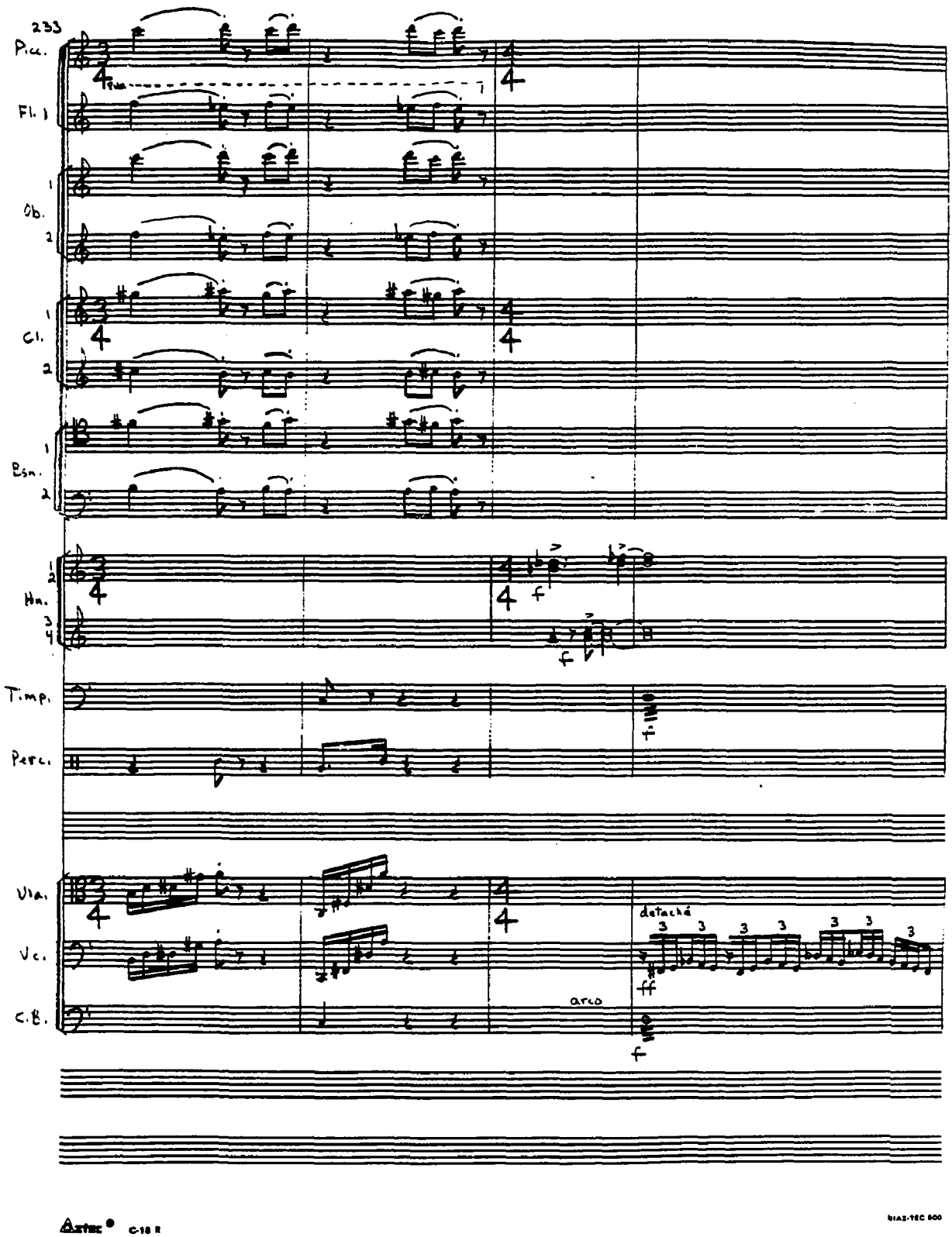

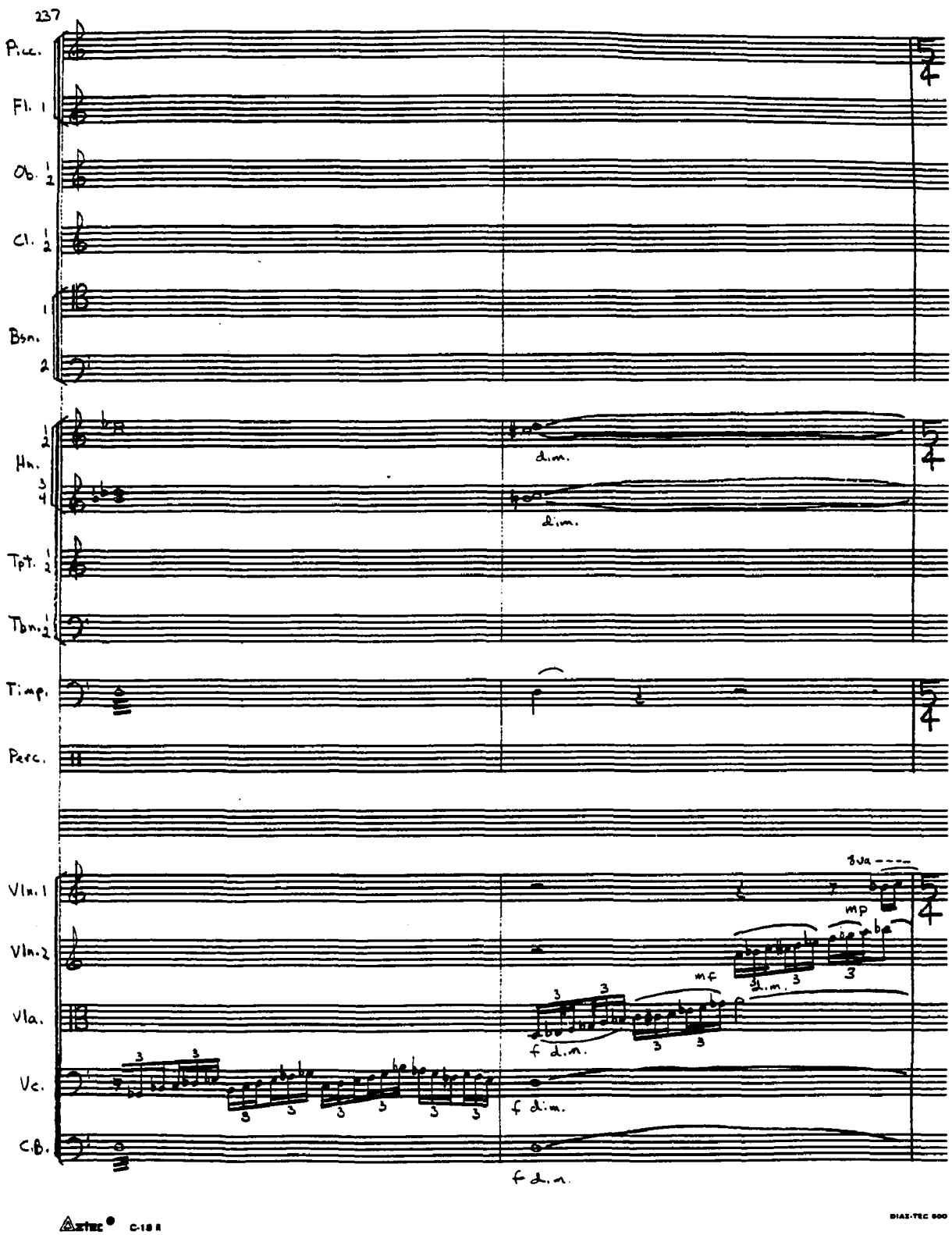

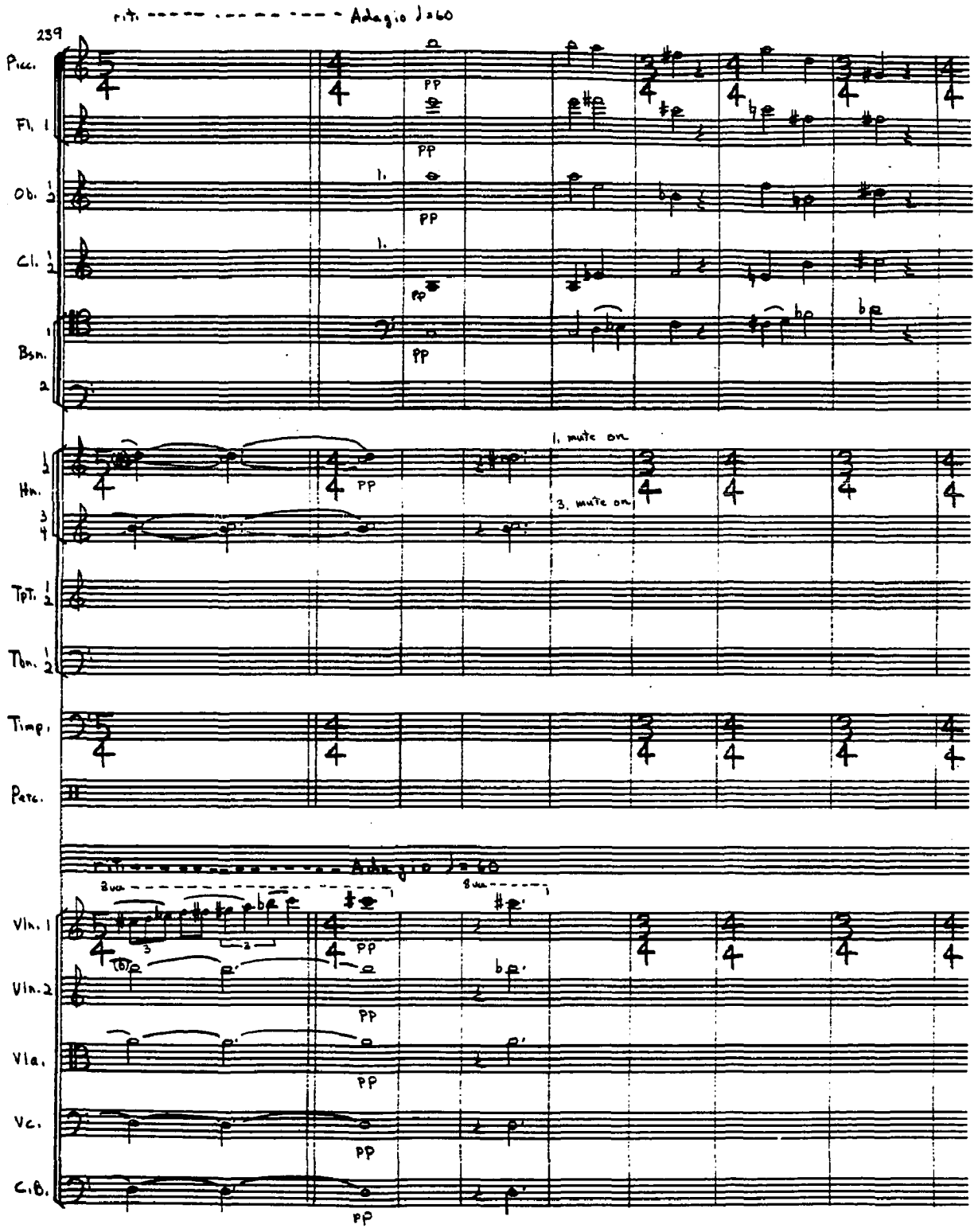

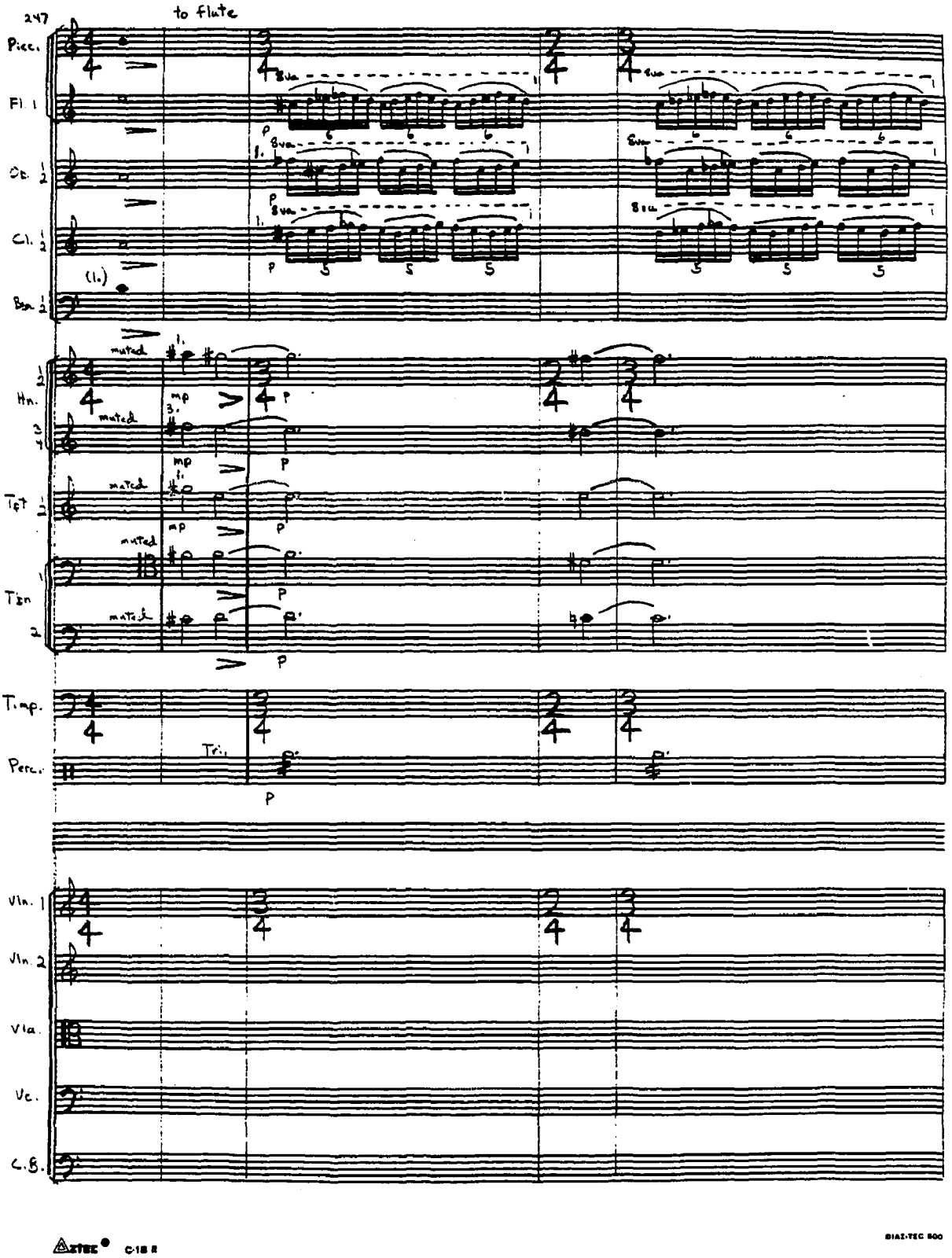

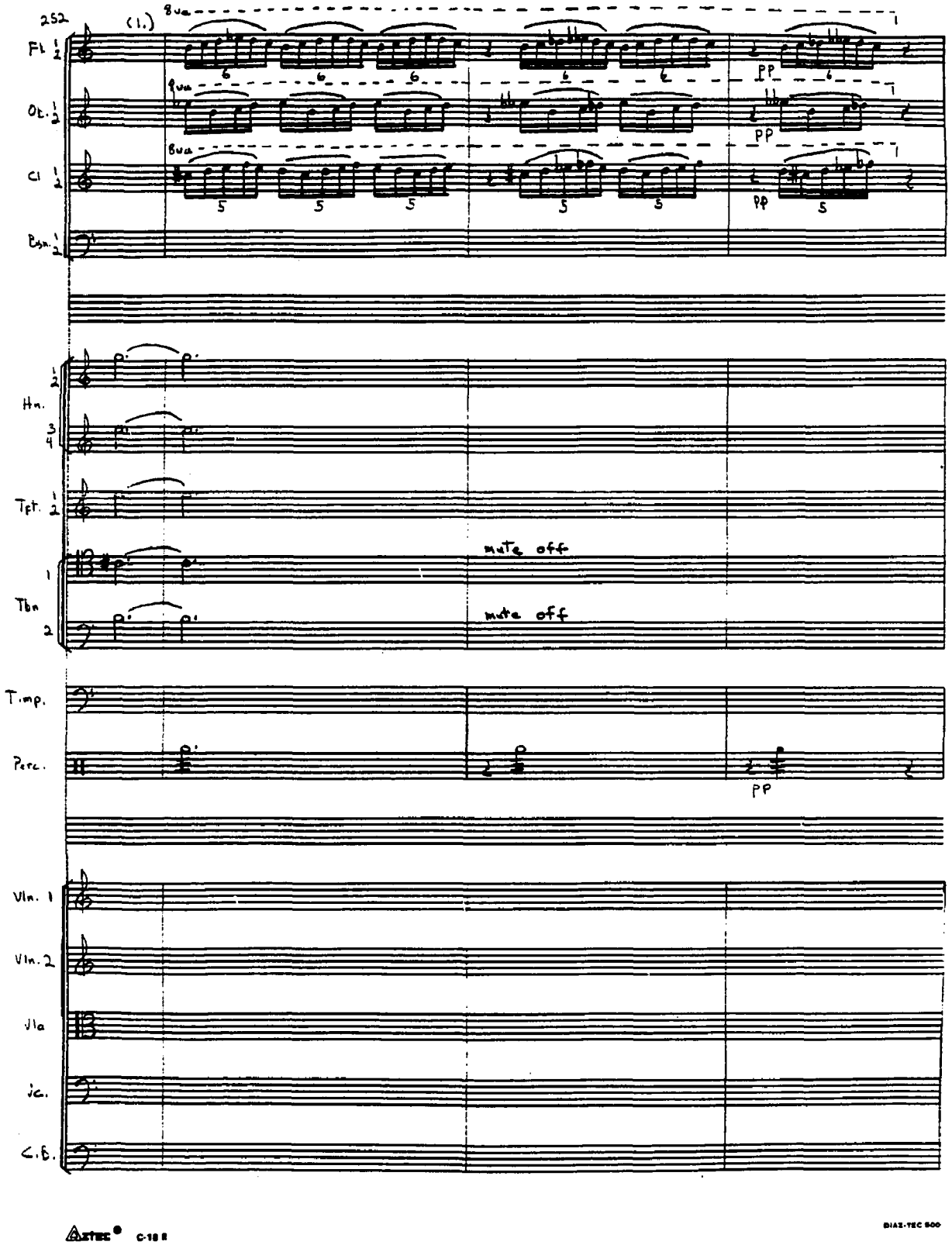

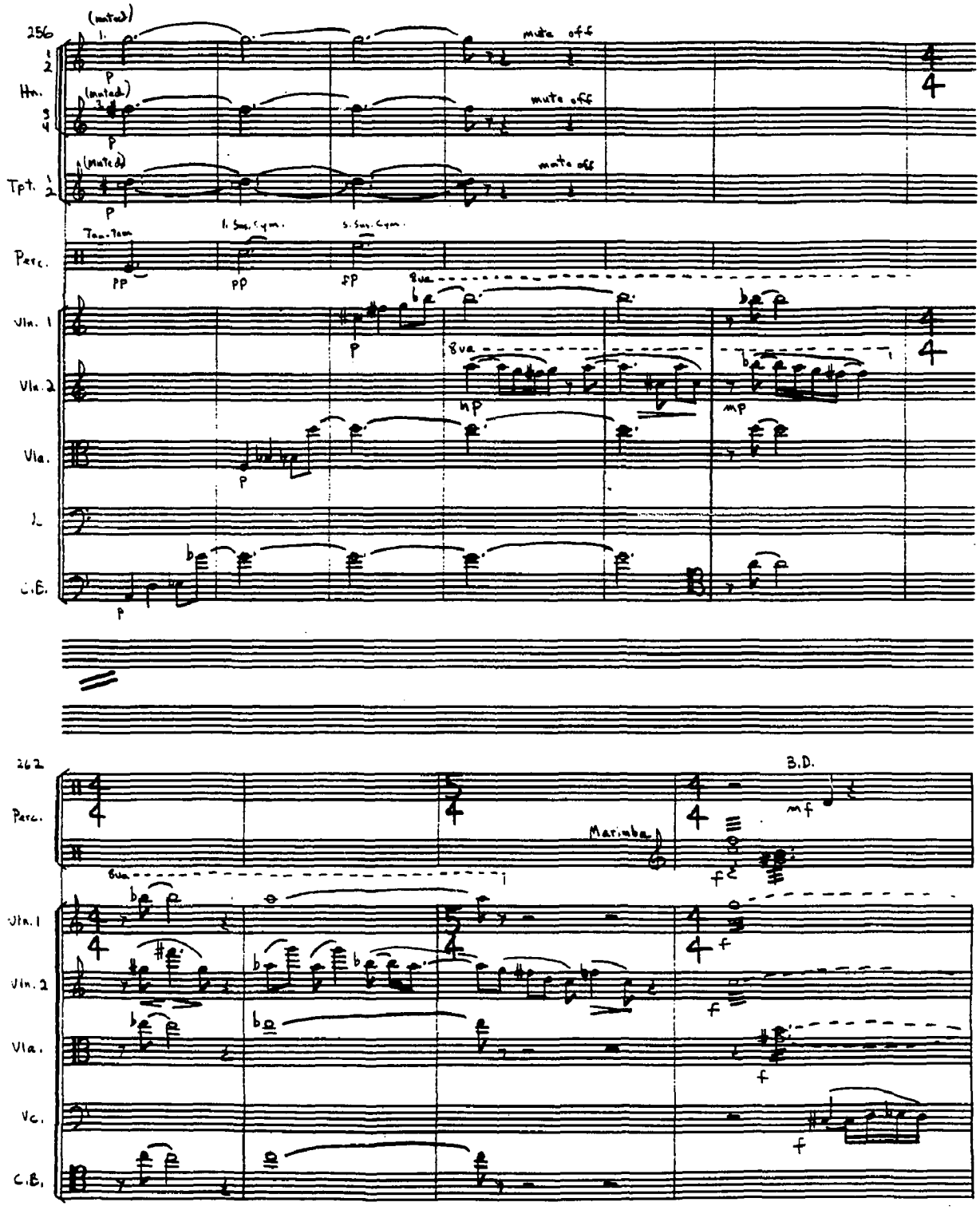

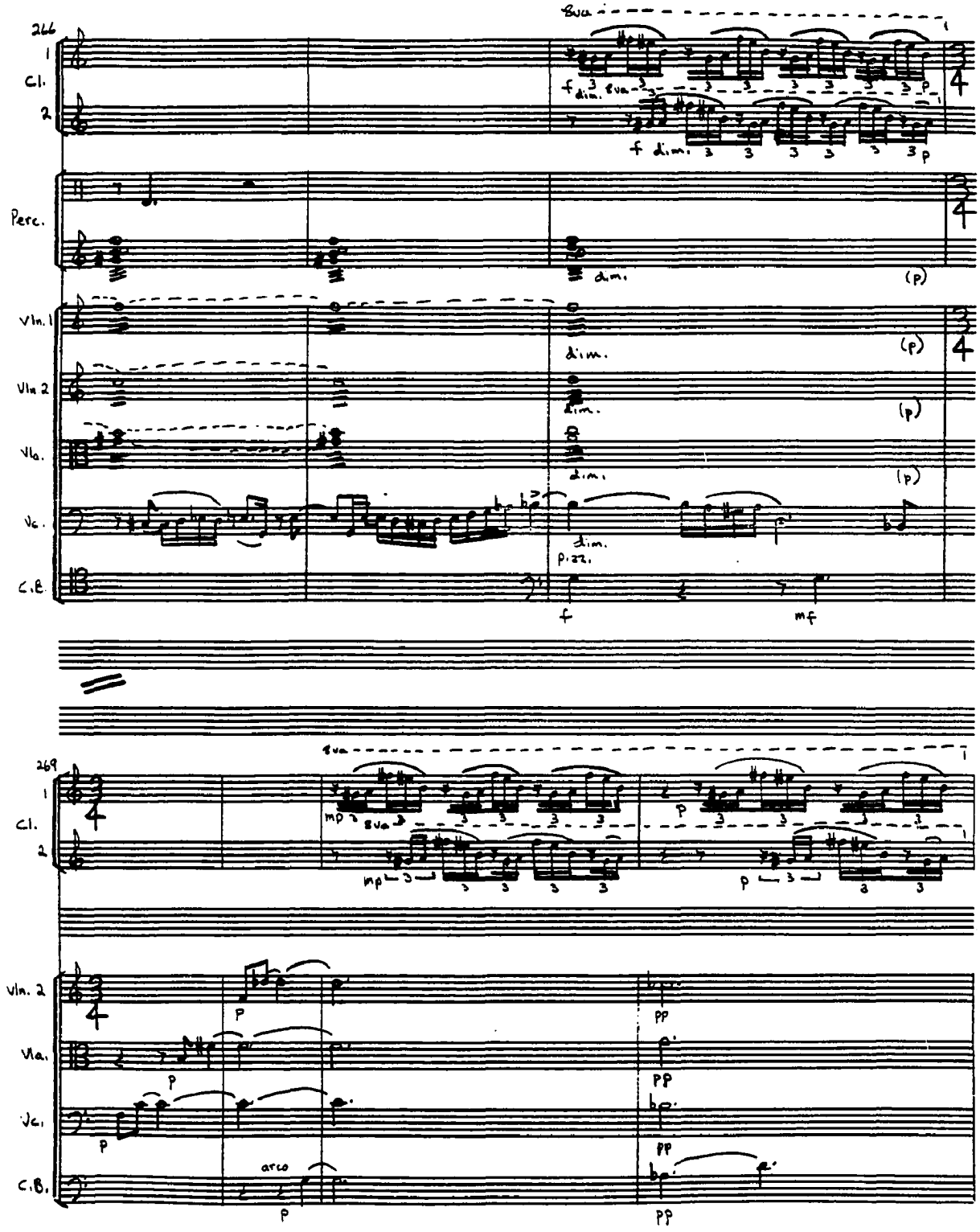

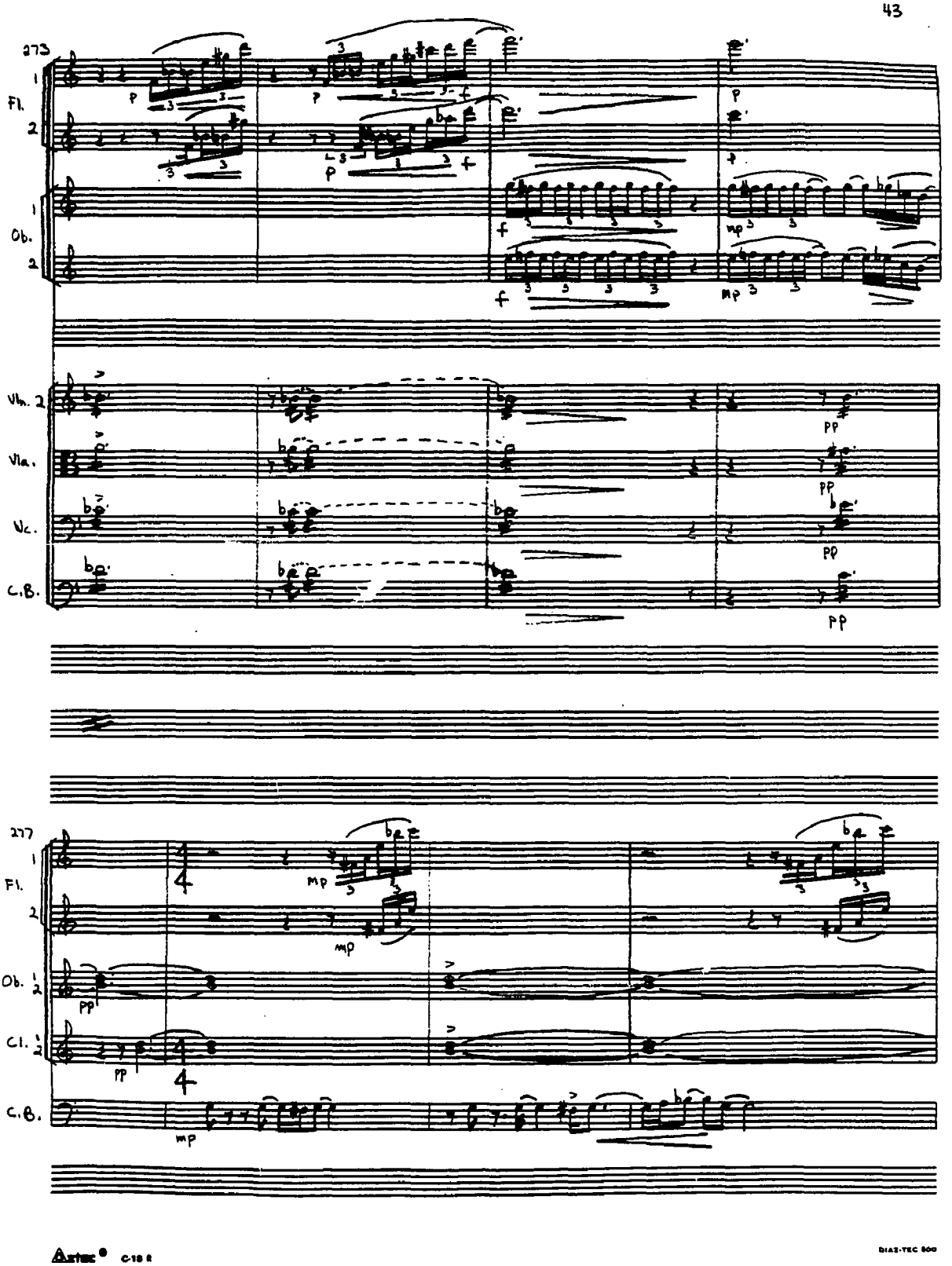

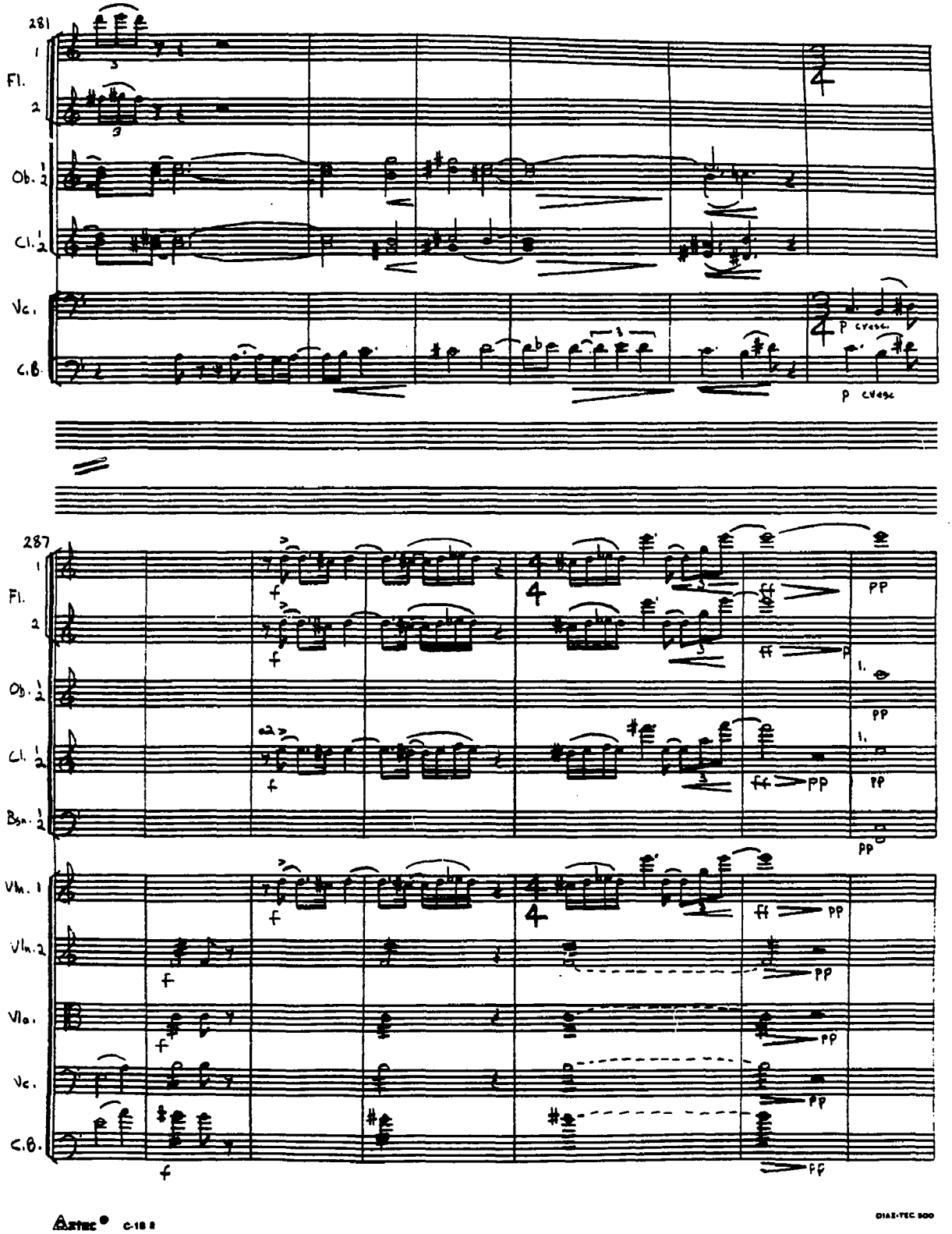

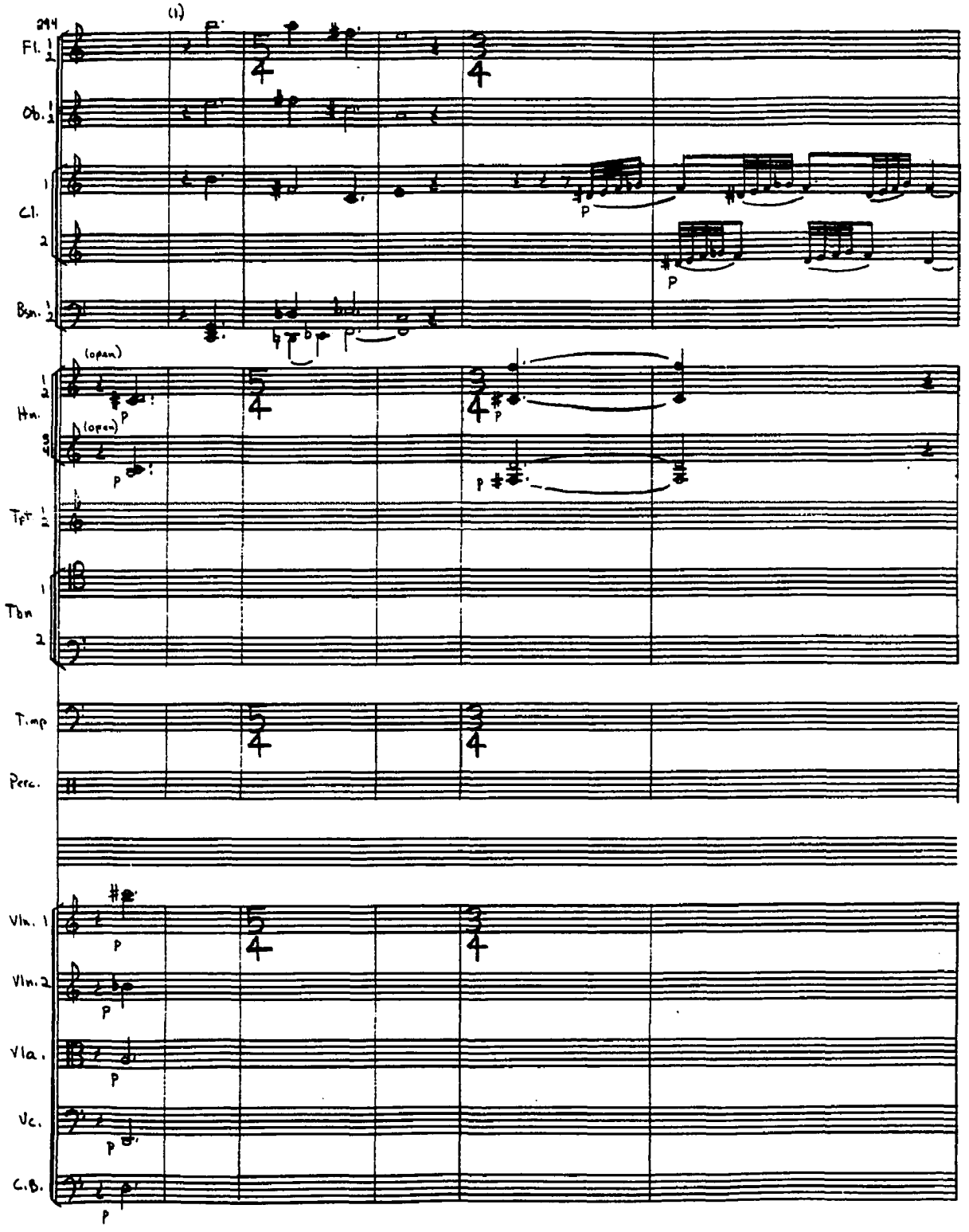

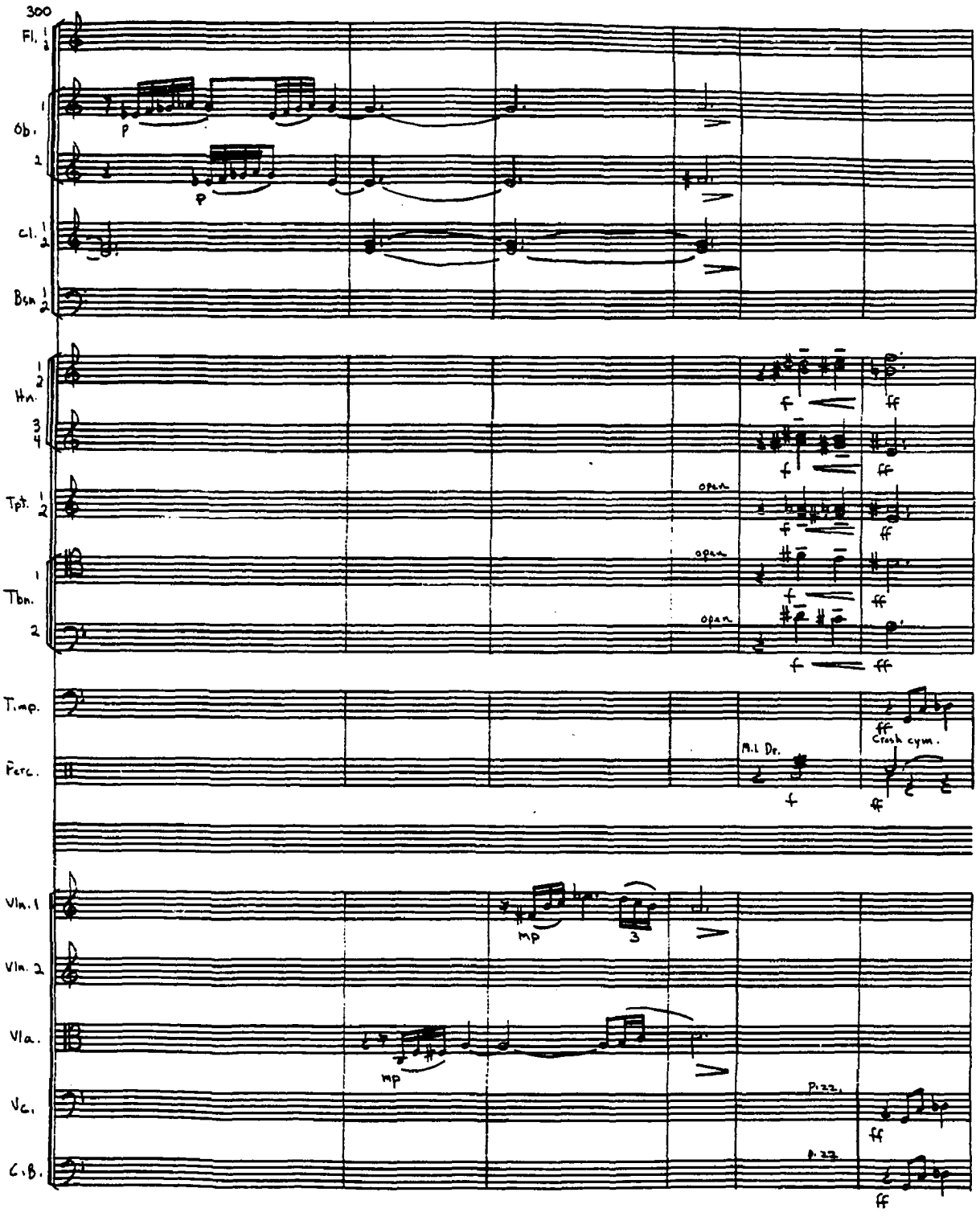
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