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FOUR COMPOSITIONS BY TADEUSZ BAIRD: AN ANALYTIC ESSAY

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FOUR COMPOSITIONS BY TADEUSZ BAIRD

AN ANALYTIC ESSAY

by

BARBARA JAZWINSKI

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Abstract

FOUR COMPOSITIONS BY TADEUSZ BAIRD

AN ANALYTIC ESSAY

by

Barbara Jazwinski

Advisor: Professor Joel Lester

Tadeusz Baird (1928-1981) is generally considered to be one of the important contemporary European composers. His numerous works, frequently performed and recorded in Europe but relatively unknown in the United States, show him to be a talented composer, greatly concerned with tradition but also eager to experiment with new styles and techniques. In his works, Baird successfully combines various disparate compositional techniques with intense lyricism and expressiveness.

The intention of this dissertation is to focus on the development of Baird's compositional technique between 1957 and 1973. The discussion of Baird's compositional technique is based on analyses of pitch-structure, texture, and form in four of his works: String Quartet No. 1 (1957), Four Essays (1958), Exhortation (1959-1960) and Elegeia (1973). Each work represents a different stage in the development of Baird's musical language.

In these four works the pitch-structure undergoes a gradual transformation from strict twelve-tone technique

toward entirely free, atonal structures. Textural changes exhibit a gradual progression in Baird's style from the traditional toward a new handling of texture, from clearly differentiated textures to blurred distinctions. The formal divisions in the early works resemble stereotyped forms. Later works exploit through-composed forms, governed by the sense of individual inner logic.

DEDICATION

To my Mother and in memory of my Father.

ACKNOWLEDGEMENTS

I am deeply grateful and express warm thanks to my two advisors: Professor Mario Davidovsky, whose guidance, ideas and enthusiasm were invaluable in the preparation of Stryga, and to Professor Joel Lester, who provided me with important suggestions, criticism and a rapid response to my many questions during my work on the paper.

I would like to thank Professors Leo Kraft, Henry Weinberg and Charles Dodge for their valuable input, especially during the early stages of the work on Stryga. I also thank Professors Bruce Saylor and Barry S. Brook for their encouragement.

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Chapter I

INTRODUCTION

Tadeusz Baird (1928-1981) is generally considered to be one of the important contemporary European composers. His numerous works, frequently performed and recorded in Europe but relatively unknown in the United States, show him to be a talented and prolific composer, greatly concerned with tradition but also eager to experiment with new styles and techniques. In his works, Baird successfully combines various disparate compositional techniques with intense lyricism and expressiveness.

Baird's compositions were of great importance to the development of the musical life in Poland in the years 1955-1980. As one of the founders and as a frequent participant of the International Festival of Contemporary Music "Warsaw Autumn", which quickly became a forum for new trends and ideas, he exerted considerable influence on many younger composers from Poland and from various other countries as well, including the United States. The following biographical data provided in this paper are derived from Encyklopedia Muzyczna, PWM.

Baird began his composition studies with Boleslaw Woytowicz and Kazimierz Sikorski in Warsaw, during the German occupation. After the war (1947-1951) he studied

at the National Academy of Music in Warsaw. His teachers at the Academy included Piotr Perkowski and Piotr Rytel (composition) and Tadeusz Wituski (piano). For three years Baird also studied musicology at the Warsaw University.

Baird's compositional debut in Poland occurred during a difficult post-war period when novel approaches to the process of composition were not favorably received by the State. At that time, experimentation in various art-forms was considered secondary to "socialist" priorities such as writing uncomplicated music capable of conveying an optimistic and positive message to the listeners.

During this post-war period Baird belonged to "Group 49", which also included composers such as Kazimierz Serocki and Jan Krenz. The enforced ideology of Group 49 was to create communicative, socialist music. It is not surprising, therefore, that Baird's early compositions often conform to this generally prevalent ideology and its esthetics.

Around 1956, after a brief period of interest in neo-classicism (an acceptable alternative to "socialist" music), Baird was drawn to a completely different, more radical musical language. This was made possible by a gradual relaxation of control by the State over the artists and their creations in the years following the uprising of 1956. Baird soon started to experiment with twelve-tone

technique. The new interests are already evident in his String Quartet No. 1 (1957) while his Four Essays (1958) provide an example of a mature and original approach to the new technique, coupled with extraordinary concern for expression, lyricism and orchestral color. The years 1957-1959 were very important for Baird. As a founder and an organizer of the "Warsaw Autumn" he participated in the birth of Polish avant-garde music, a phenomenon unknown in other Eastern-European countries.

Baird's music in the early sixties is radically different from his previous works. Several compositions deal to some extent with indeterminacy and aleatoricism. These elements are often integrated with more traditional aspects of Baird's compositional technique to create dramatic and very expressive musical structures. In the seventies Baird became more and more interested in avant-garde music. His works were no longer influenced by traditional forms. Rather, he tried to combine his intense concern for lyricism and dramatism with novel forms, and searched for different function of various musical elements, especially melody, and texture.

Tadeusz Baird's compositional output covers symphonic music, chamber music, music drama (Tomorrow, based on Joseph Conrad's short story), ballets, theater music (music composed to over 40 dramas by Shakespeare, Sartre, Frisch, Mickiewicz, Slowacki, and others). The lyricism

and the expressive quality of Baird's works caught the attention of several ballet companies. The following works were choreographed: Four Essays (choreogr. J. Jarzynówna-Sobczak; Gdańsk, Hanover, Munich); Love Sonets (choreogr. - W. Gruca; Warsaw); Expressions (ballet Inséparables - choreogr. J. Sanders; Hague); Erotyki (ballet Erotica - choreogr. M Béjart; Brussels); Variations without a theme (ballet Hagaromo - choreogr. H.Takahashi; Tokyo).

Baird was the recipient of many international prizes including First Prize awarded by the International Composers' Tribune UNESCO in Paris (1959, 1963, 1966), the Musical Prize awarded by the city of Cologne (1963), Koussevitzky Prize (1968) and Jurzykowski Award (awarded by Polish Academy of Arts and Sciences in America; New York, 1971).

The variety of styles and techniques consistently employed in Baird's compositions provide fascinating material for both composer and analyst. So far, however, his works have not been a subject of any substantial, published study. Brief discussions of Baird's works and their recordings appear in many journals including Ruch Muzyczny, Polish Music, Musik und Gesellschaft. Das Orchester, Nutida Musik, Die Musikforschung, Neue Zeitschrift für Musik, Musikhandel, The World of Music, Opernwelt and others. But these articles have a very limited value for this dissertation, the intension of which is to focus on the development of Baird's

compositional technique between 1957 and 1973. The discussion of Baird's compositional technique is based on analyses of pitch-structure, texture, and form in four of Baird's works: String Quartet No. 1, Four Essays, Exhortation, and Elegeia. Each work represents a different stage in the development of Baird's musical language.

Chapter II
PITCH

Twelve-tone Compositions versus Free Compositions.

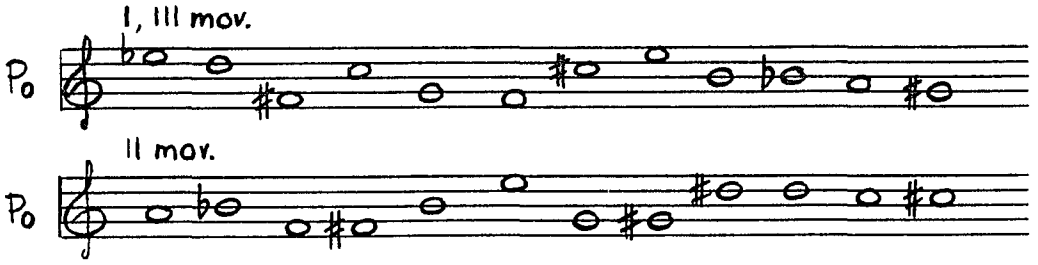
The four compositions selected for discussion in this paper exhibit a gradual change from relatively strict twelve-tone technique toward entirely free, atonal structures. Comparison of the pitch structure of the three works composed between 1957 and 1960 (String Quartet No. 1, 1957; Four Essays, 1958; Exhortation, 1959-1960) shows distinct differences in the pitch organization of each work. The String Quartet No. 1 uses relatively strict twelve-tone technique in the first movement and a relatively free approach to twelve-tone technique in the remaining movements. The Four Essays use a free approach to twelve-tone technique throughout. Exhortation combines elements derived from twelve-tone technique with free atonality. The fourth work, Elegeia, composed in 1973, is a completely free, atonal work which uses pitch bands (clusters) as a major structural element.

Strict Twelve-tone Technique

Relatively strict twelve-tone technique appears mainly in the first movement of the string quartet. In the string quartet there are two different sets, one for the

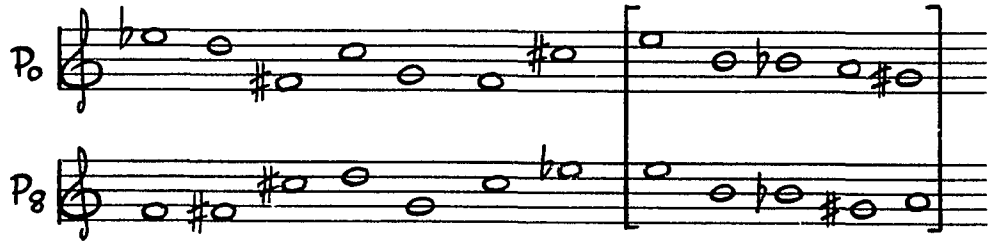
outer movements, and one for the middle movement. Example 2-1 presents these sets as they appear in these movements. See Example 2-1.

Example 2-1. Baird, String Quartet, set from the first and third movements at P0 (see mm. 3-10, vn. 1) and set from second movement at P0 (see mm. 1-8, vla).



The two sets are related in terms of intervals between adjacent pitch-classes. Interval classes 1, 11 and 5, 7 account for 6 of 11 intervals in P0 from the first and the third movements and 10 of 11 intervals in P0 from the second movement. The comparison of these two sets shows that set segments share content of pitch-classes but not ordering between set-forms transposed by eight semitones. See Example 2-2.

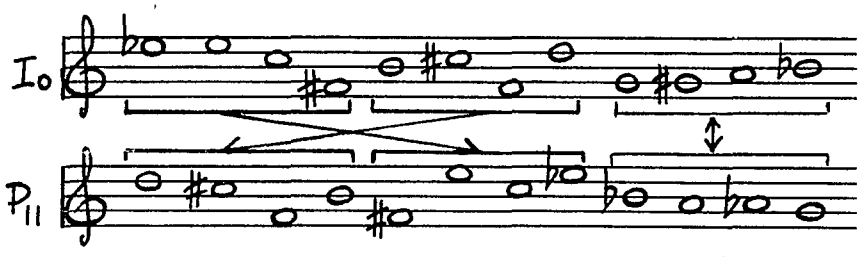
Example 2-2. Baird, String Quartet, set from the first and third movements at P0 and set from second movement at P8.



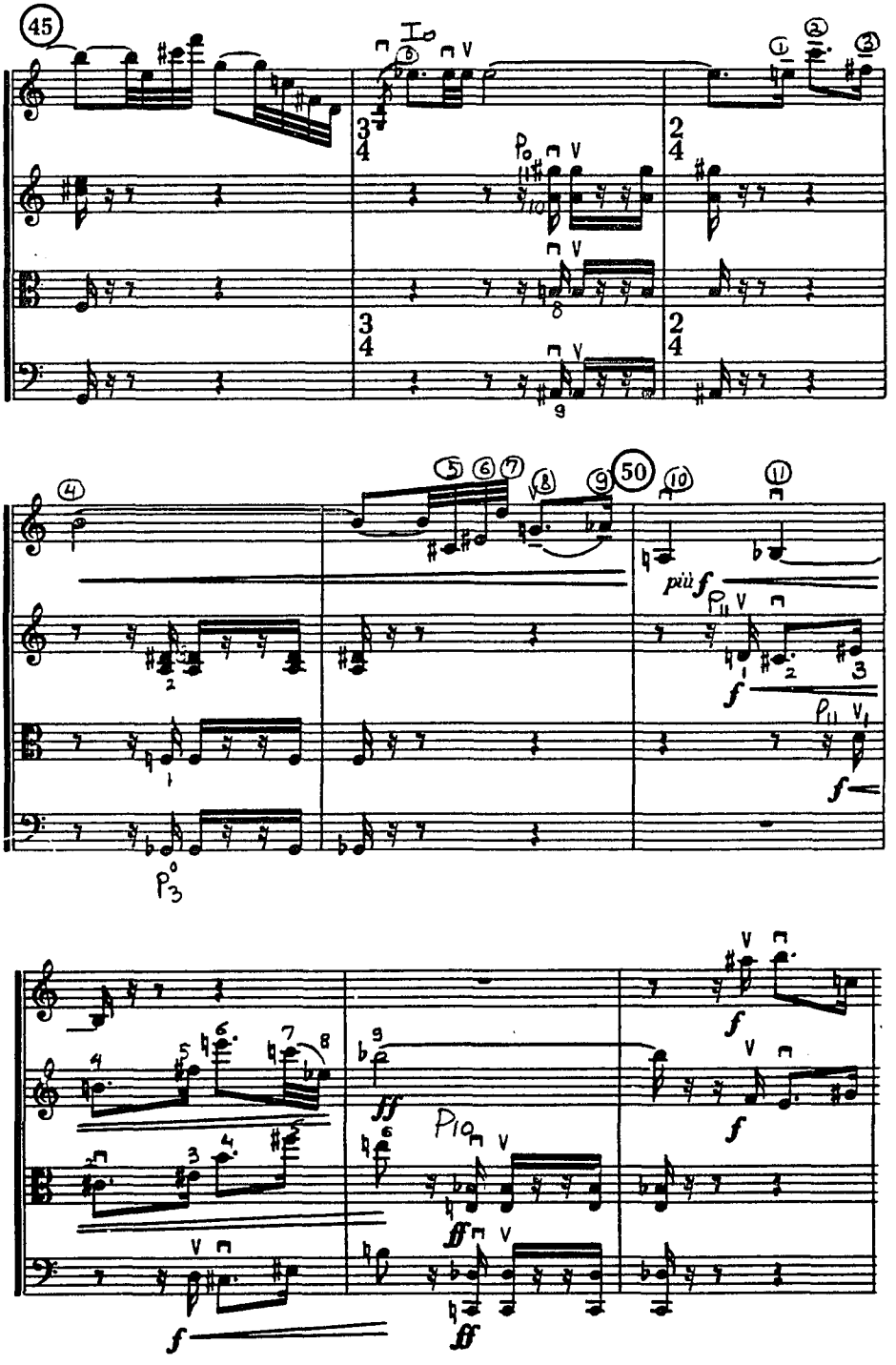
P8 is not prominent in the second movement but it appears in places that reinforce the structural divisions of the movement (mm. 9-13 and 72-76 in the three lower parts and mm. 28-31 in all four instrumental parts). Measures 28-31 and 72-73 function as bridges leading to the return of the main melodic motive.

The set that occurs in the outer movements is constructed so that there is tetrachordal invariance between I1-related set-forms. But this relationship is explicitly stated only once in the first movement in mm. 46-52. The two sets are I0 and P11, the latter of which appears incomplete. The common tetrachords are projected by register (see mm. 48-49, vn. 1 and mm. 50-51, vn. 2 where three out of four pitches appear in the same register). The tetrachords are also projected to a limited extent by the grouping and by the instrumentation, but not by rhythm. See Example 2-3.

Example 2-3. Baird, String Quartet, 1st movement, mm. 45-53, and the set at I0 and P11.



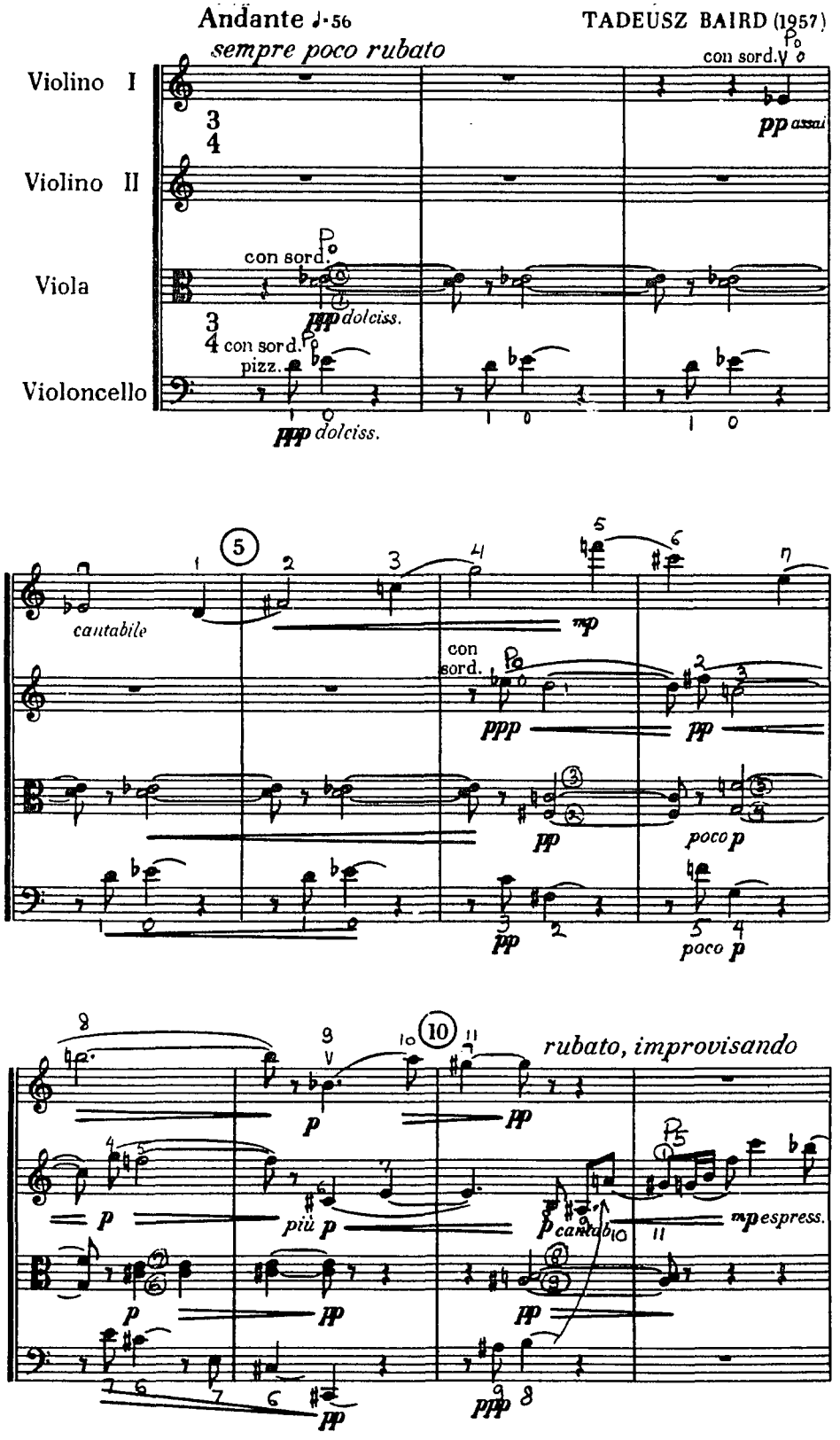
Example 2-3, cont.



Transformations of the set. At many points in the String Quartet No. 1 the two sets appear incomplete or otherwise transformed. The transformations mainly involve the reversal of the order of pairs of pitch-classes and elimination or addition of pitch-classes. In the opening measures of the first movement, for instance, the first violin melody presents P0 in order, while the accompaniment orders the set 1-0, 3-2, 5-4 etc. (see Example 2-4). Another type of transformation, barely present in the first movement but common in the second and third movements, involves the isolation of various segments of the twelve-tone set as melodic motives in a developmental fashion. The discussion of Baird's motivic technique later in this chapter illuminates this procedure further.

Baird's relatively strict twelve-tone technique is clearly evident in the opening measures (mm. 1-10) of the quartet. See Example 2-4.

Example 2-4. Baird, String Quartet, 1st movement, mm. 1-10.



In the first ten measures the only form of the set used is P0. Each presentation of the set is endowed with a different rhythm. The rhythm in the individual lines is relatively simple and repetitive. The first violin presents the set in its entirety in mm. 3-10. In this statement the registration spans over two octaves and a minor third. The resulting melody is very expressive. It contains several large leaps and changes of dynamics (pp<mp<p>pp). The second violin starts the presentation of the set in m. 6. The melody resulting from this statement of the set is endowed with a different shape which completely changes its character. In the viola part the incomplete set (order # 0-9) is segmented into five dyads presented as simultaneities. The first and the fourth adjacencies are repeated several times. The incomplete set in the cello includes reversal of the order of pairs of pitch-classes (order # 1-0, 3-2, 5-4, etc.).

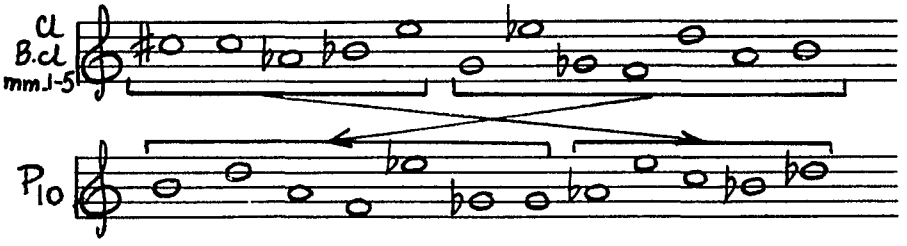
Freer Twelve-tone Technique

Freer twelve-tone technique is already evident in the string quartet, especially in the third movement. It is clearly present in each of the Four Essays where in many cases the maintenance of invariant pitch-classes is not a primary consideration in the voice-leading or in the harmonies. The integrity (or "the ordering") of the set is

often superseded by motivic development.

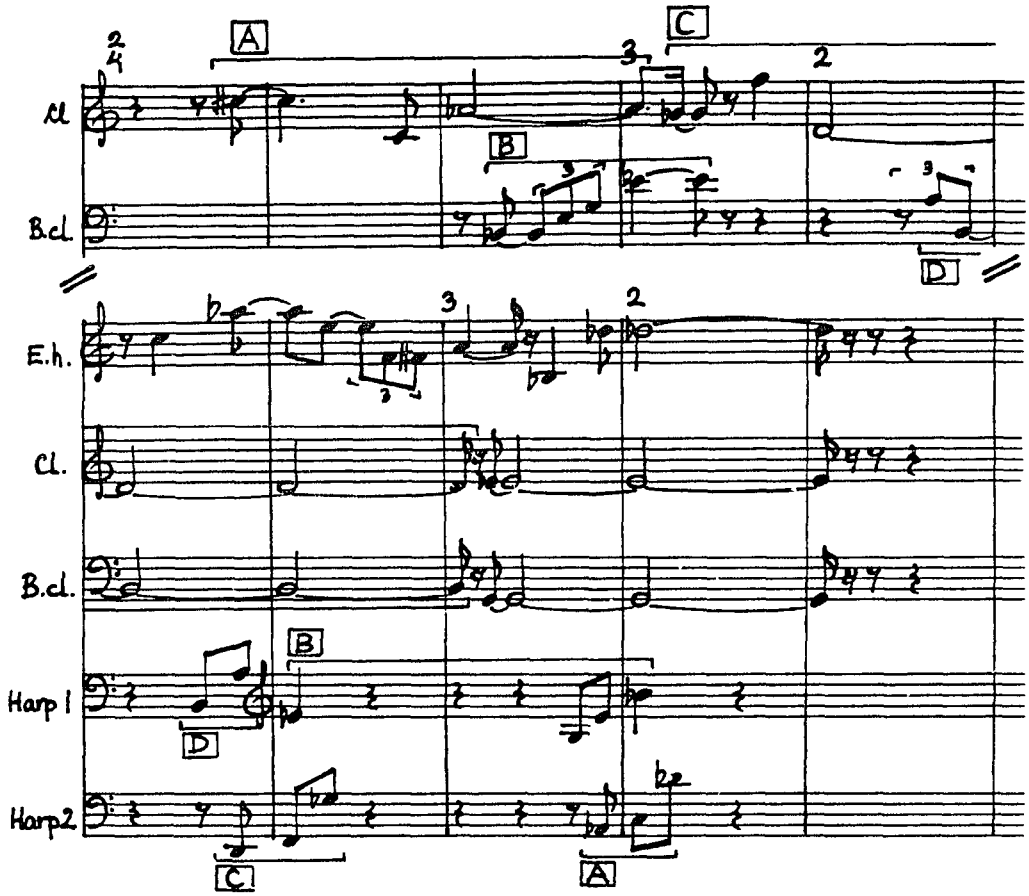
One of the characteristic aspects of the Four Essays is the juxtaposition of short sections utilizing relatively strict twelve-tone technique with free sections. Occasionally, the free sections incorporate melodies that are somewhat similar to the set. For example, in the fourth essay, comparison of segments of the set introduced in mm. 10-12 with segments of the melody in the two clarinet parts in mm. 1-5 shows that they share identical pitch content but not the ordering of pitch-classes. See Example 2-5.

Example 2-5. Baird, Fourth Essay, mm. 1-5 of the clarinet and the bass clarinet part and the set at P10.



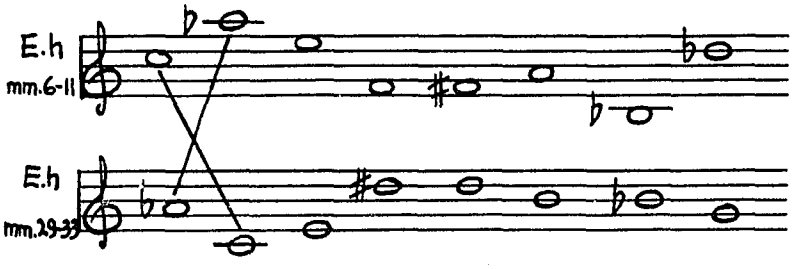
The melodic motives found in the clarinet and in the bass clarinet in mm. 1-5 recur, in reverse order and in different registers, in the two harps in mm. 6-10. See Example 2-6.

Example 2-6. Baird, Fourth Essay, mm. 1-10.



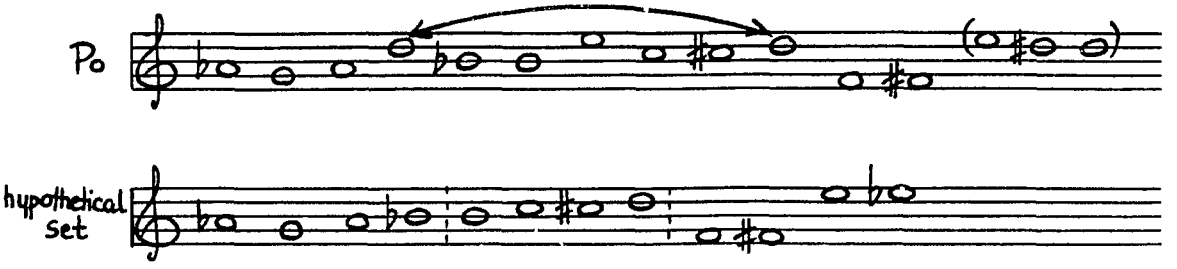
The melody in the English horn in mm. 1-10 is not directly related to the other instrumental parts but with the clarinet and bass clarinet pitches it forms I0. The same melody recurs in mm. 29-33 where it is again presented by the English horn. See Example 2-7.

Example 2-7. Baird, Fourth Essay, pitches that occur in mm. 6-10 and 29-33 in the English horn.



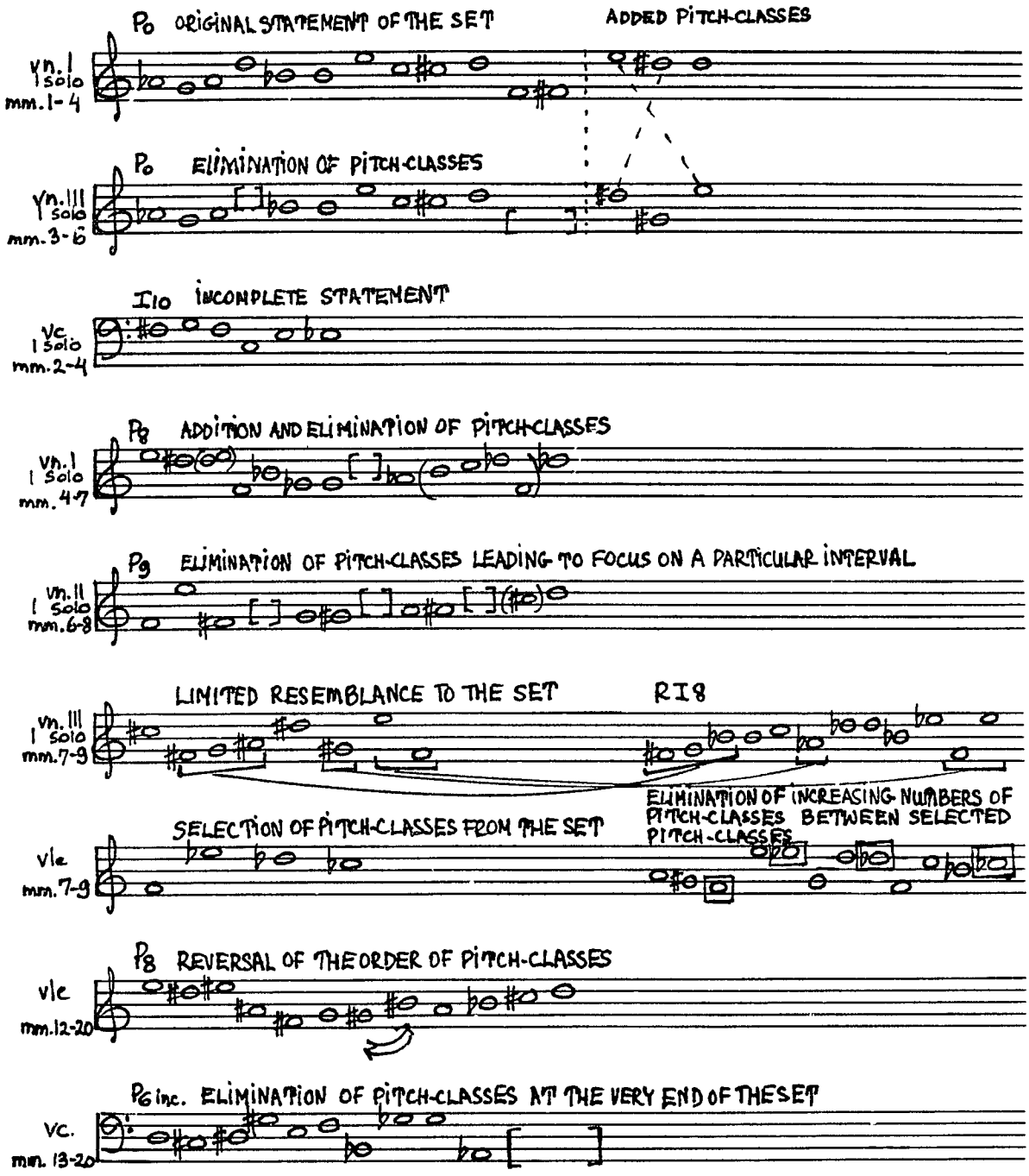
In the Four Essays the set usually functions as the source collection of pitch-classes. In the second, third, and fourth essay the set consists of twelve pitch-classes. In the first essay the set repeats one pitch-class and omits another. This set might be derived from a hypothetical "set" from or to which elements are added. The hypothetical set is suggested by the addition of pitch-classes at the very end of the set in m. 4 in the first violin solo part and in m. 33 in the first violins, and by the elimination of the fourth pitch-class (the pitch-class that recurs in the set) in the violin III solo part in mm. 3-4. See Example 2-8.

Example 2-8. Baird, Fourth Essay, the set and the hypothetical set.



In each essay the set undergoes constant transformations including incomplete statements, elimination or addition of pitch-classes, reversal of the order of selected pitch-classes, selection of pitch-classes from the set in order to focus on a particular interval, and elimination of increasing numbers of pitch-classes between selected pitch-classes. Example 2-9 illustrates the transformations of the set in the first essay. See Example 2-9.

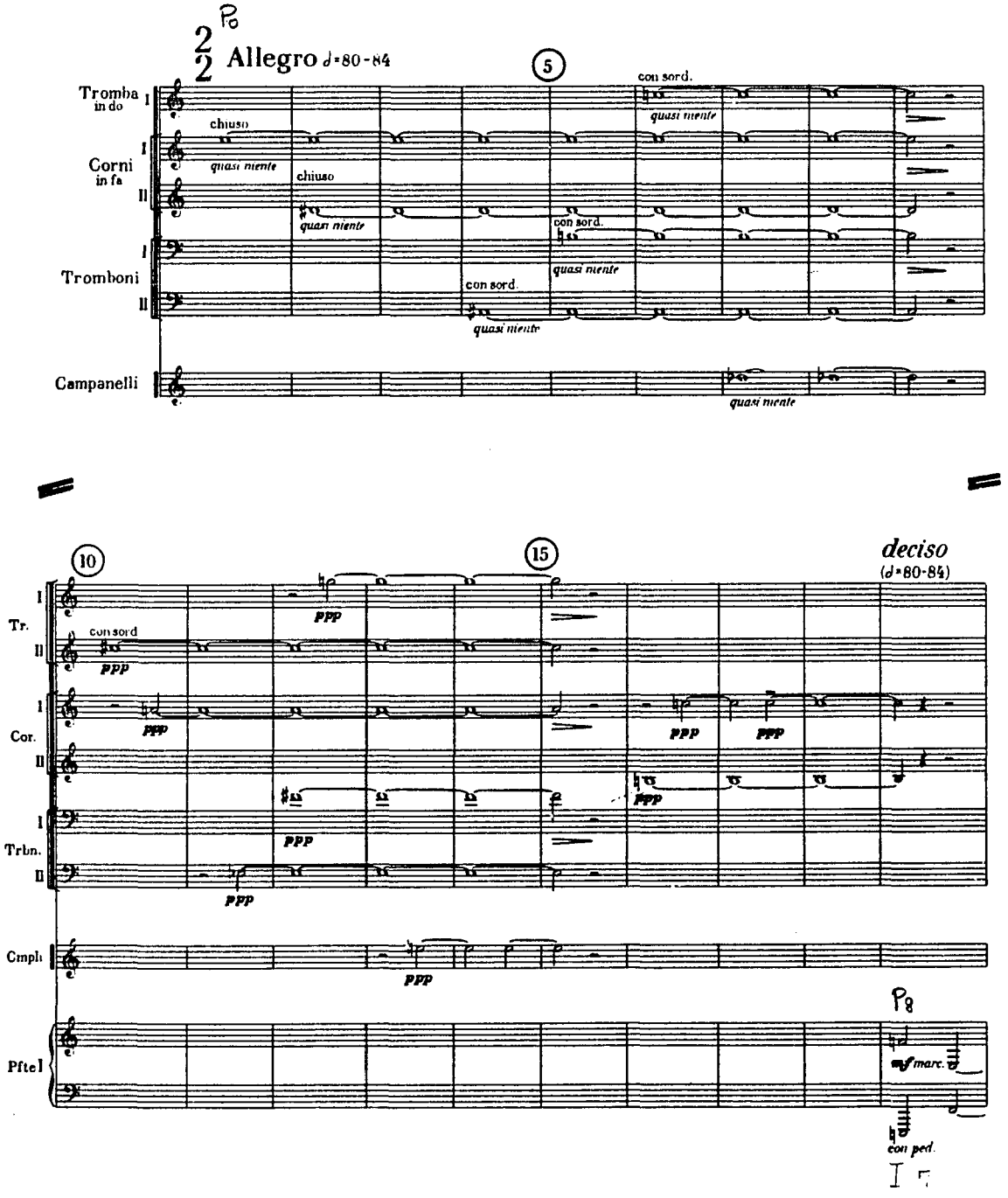
Example 2-9. Baird, First Essay, transformations of the set.



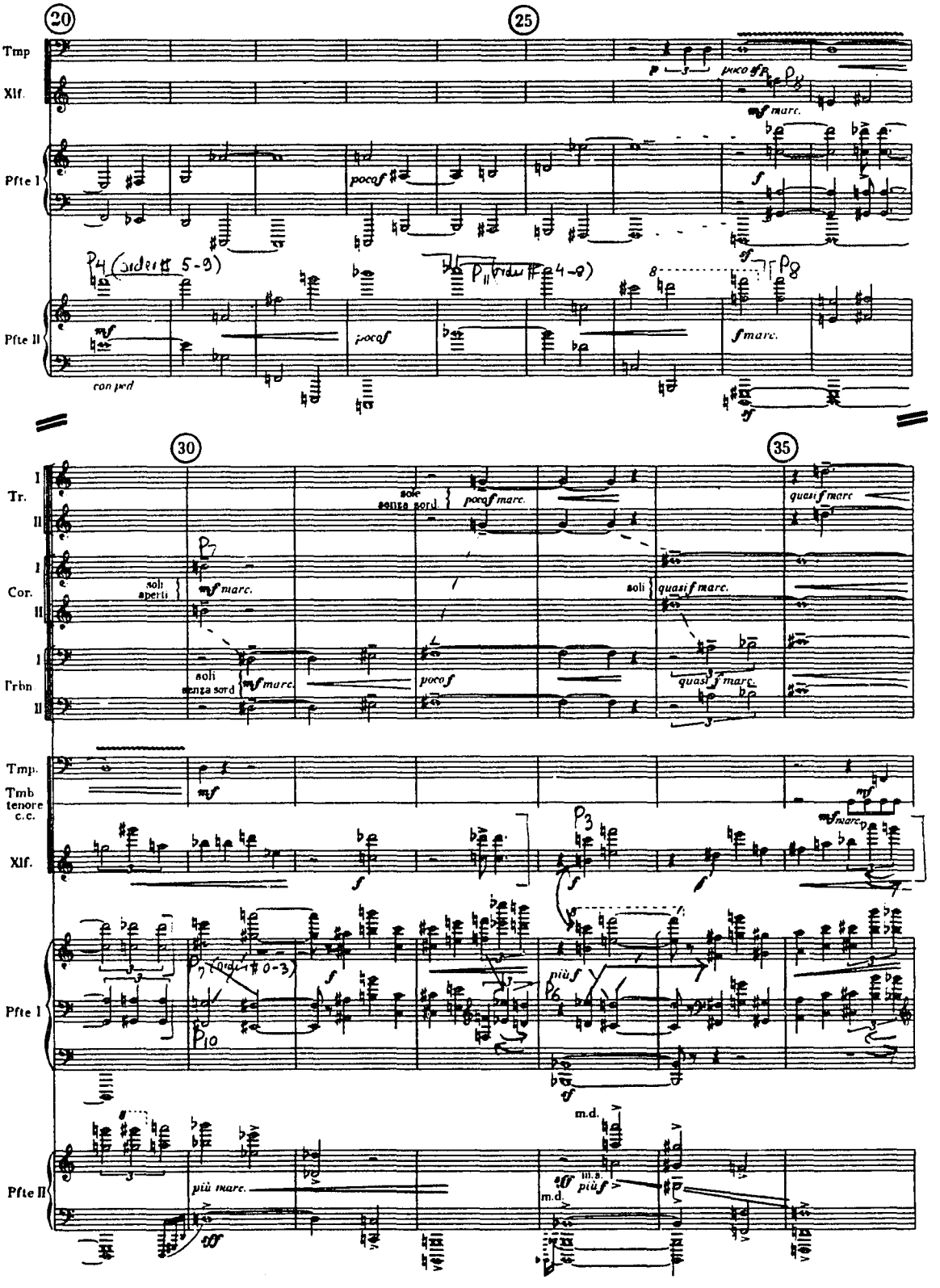
* Square brackets [] indicate missing notes. Parenthesis ( ) indicates added notes.

The freer twelve-tone technique is also evident in mm. 1-39 of the third essay. See Example 2-10.

Example 2-10. Baird, Third Essay, mm. 1-35.

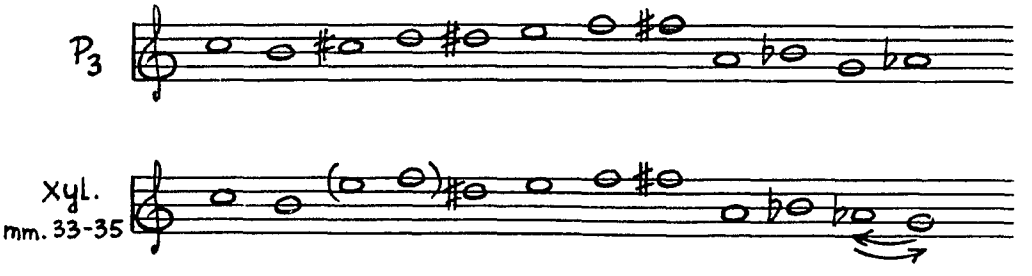


Example 2-10, cont.



The set is introduced in mm. 1-19 by the brass instruments and the chimes. Two pitches of the set (order # 6 and 11) are first played by the chimes (mm. 7 and 13) and then repeated by a brass instrument. In mm. 19-39 strict twelve-tone technique is used simultaneously with free passages and with passages that develop motives found in the set. In mm. 1-39 the instrumentation and the pitch structure are intricately interrelated. The brass instruments utilize strict twelve-tone technique. The xylophone part uses both the strict presentation of the set (mm. 27-32) and the transformation of the set which includes the reversal of the order of two pitch-classes and the elimination and subsequent addition of two pitch-classes. See Example 2-11.

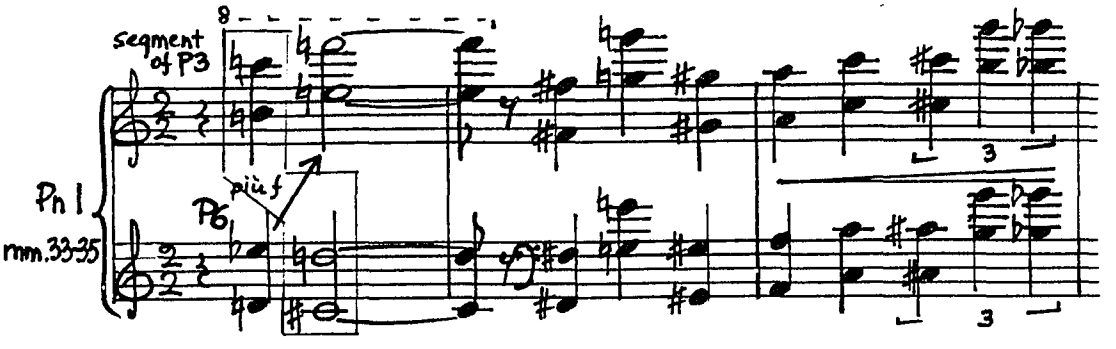
Example 2-11.



In the first piano part the set functions both as the ordering of the twelve pitch-classes and as the source collection of pitch-classes that undergo two types of transformations. The techniques used for the transformation of the set resemble those that appear in the xylophone

part but are used more extensively. The xylophone and the first piano part occasionally double or exchange pitches. For example, in m. 33 the first piano part simultaneously presents P6 in its entirety and an isolated four-pitch segment of P3. Two pitches from this segment are the missing pitches from the presentation of P3 in the xylophone in the same measure. See Example 2-12.

Example 2-12. Baird, Third Essay, mm. 33-35 of the first piano part.



The second piano part alternates free passages with the passages where the set functions as the source collection of pitch-classes. In the second piano part one segment of the set is used as melodic motive in a developmental fashion. The discussion of motives later in this chapter includes citation of this procedure.

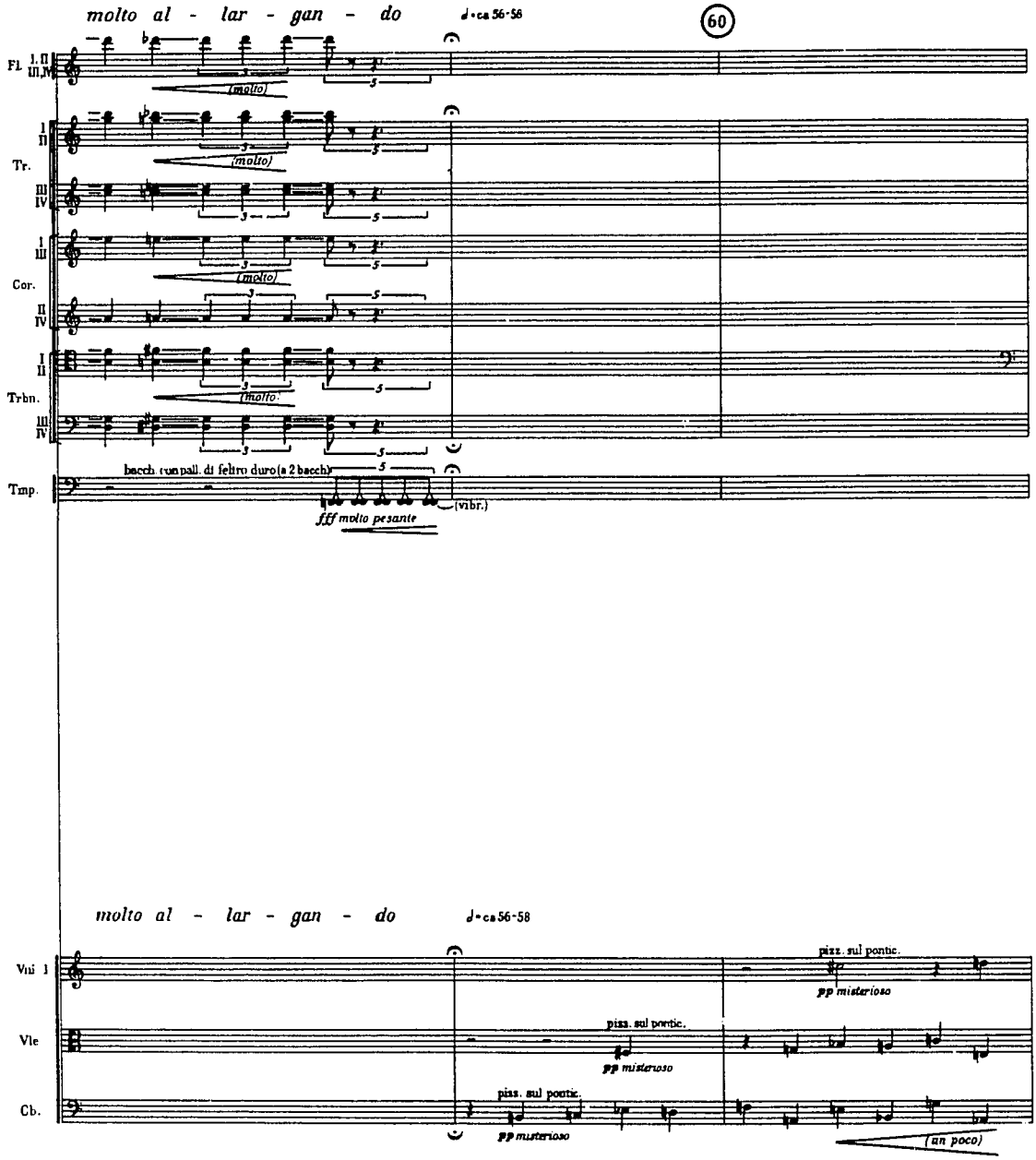
Toward Free Atonality

Baird's interest in free atonality is evident in Exhortation (1959-1960) and Elegeia (1973). Exhortation

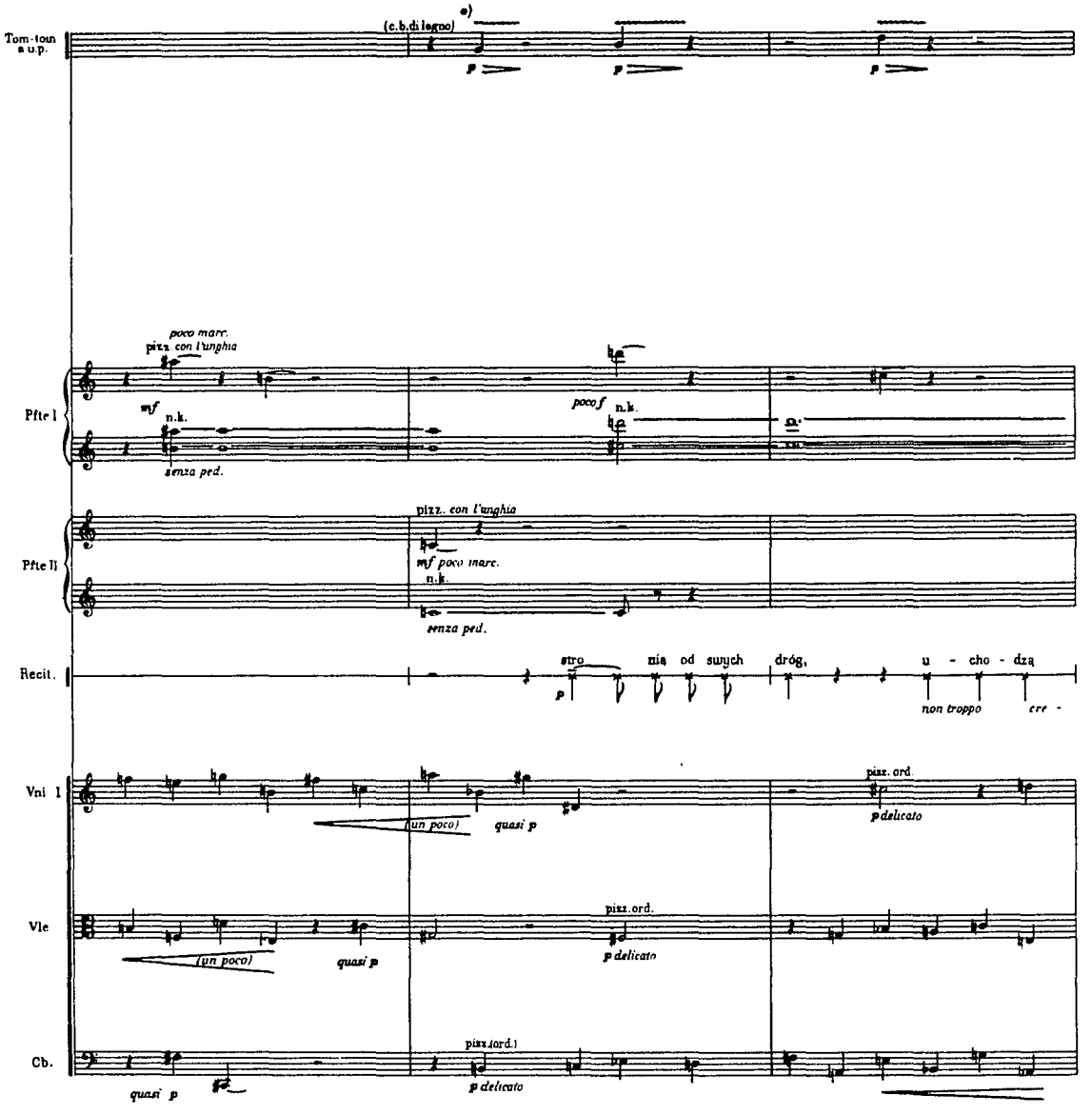
is not a serial work. There is no twelve-tone set that consistently functions either as ordering of pitch-classes or as source collection of pitch-classes. In Exhortation, Baird constantly uses all twelve tones of the chromatic scale but there is no a priori functional connection between them. The integrative elements in this work are short motives that appear in different transpositions and transformations. The motives are occasionally expanded through the permutation of their components, through the interpolation of pitch-classes or through the combination of several different transpositions. A citation of this procedure appears in the discussion of motives. In Exhortation, the association of timbres and articulation attains sufficient individuality to function referentially. This procedure is discussed in chapter III of this dissertation.

In Exhortation, there are frequent superpositions or successions of two or more transpositions of a series of twelve pitch-classes. This is not an example of twelve-tone technique but rather of imitation combined with elements typical of twelve-tone technique. Extended passages based on imitation occur several times in Exhortation. For example, mm. 59-71 and mm. 101-107 exploit this technique continuously. In these sections imitation functions as an integrative element along with timbre and articulation. See Example 2-13.

Example 2-13. Baird, Exhortation, mm. 58-63.



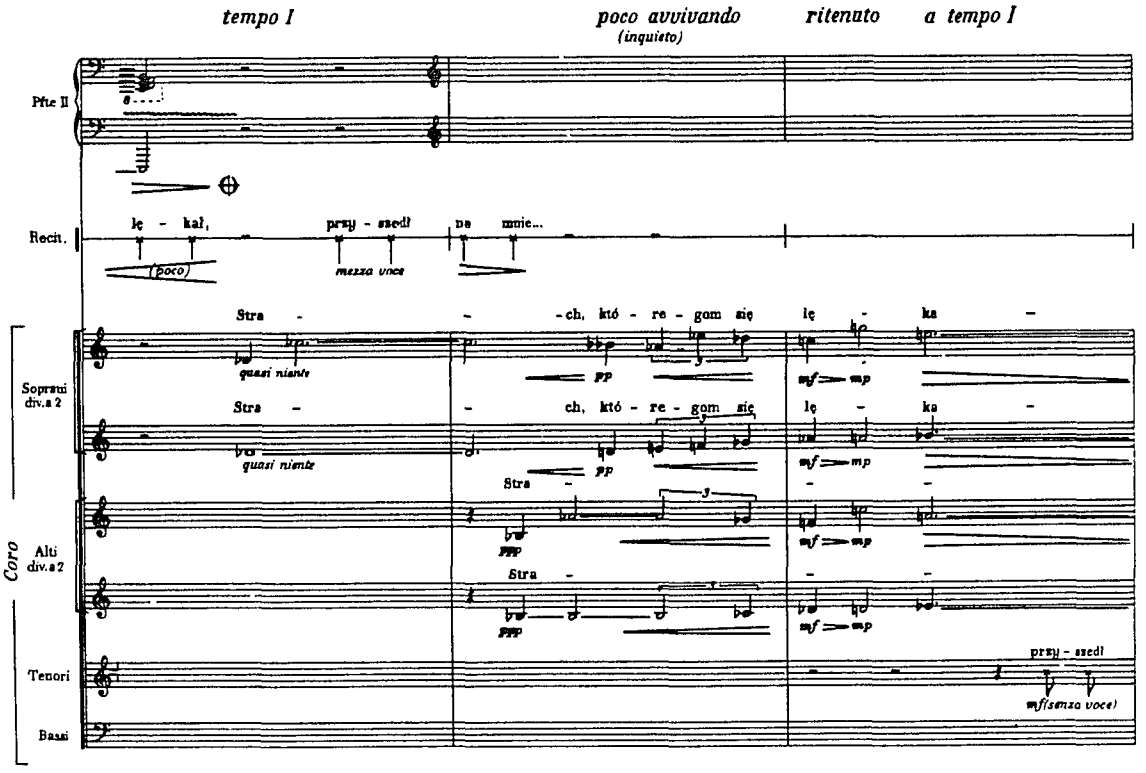
Example 2-13, cont.



* Trzl polega na uderzaniu w środek instrumentu i cofaniu wibrującej jeszcze w dłoni pałki
Der Triller besteht darin, daß man das Instrument in die Mitte schlägt und dann den noch in der Hand schwingenden Schlegel zurückzieht
Trill consists in striking the middle of the instrument and withdrawal of the stick still vibrating in the palm

There are other instances in Exhortation where very short passages are imitated. In those cases imitation is usually inexact, with slight modifications in the melodic line. See Example 2-14.

Example 2-14. Baird, Exhortation, mm. 22-24.

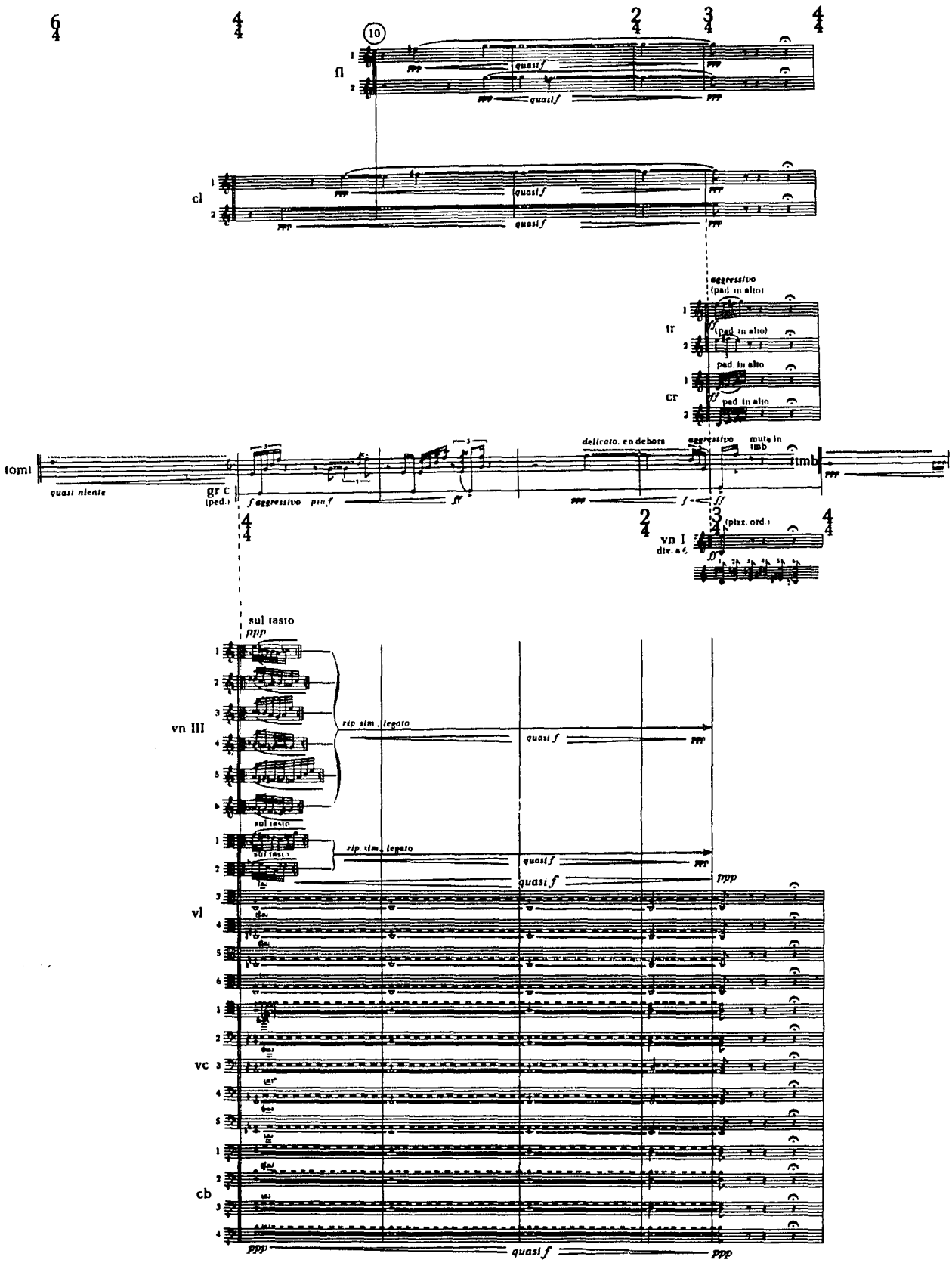


Elegeia exemplifies dramatic changes in Baird's compositional technique. In contrast to the early works, the pitch structure in Elegeia is free from the influences of the twelve-tone technique. Although the composer continuously uses all twelve pitch-classes, they are not ordered in any preconceived fashion. Neither are there

any source collections of pitch-classes. Certain parts of the work tend to emphasize, or center on specific pitches. In the opening section the pitches seem to expand from e" outwards and in the closing section they gravitate towards a central pitch a'. Because of constant presence of tone-clusters the effect of any individual pitches as focal points is greatly reduced.

The most important element in the pitch structure of Elegeia is the extensive use of tone-clusters consisting of varying numbers of pitches. Because of the proximity of the pitches and the use of one predominant orchestral color, the tone-clusters are perceived as static blocks of sound and function as the background for other developments. When heard against such background the simplest gestures and isolated timbres acquire dramatic significance. See Example 2-15.

Example 2-15. Baird, Elegeia, mm. 8-14.



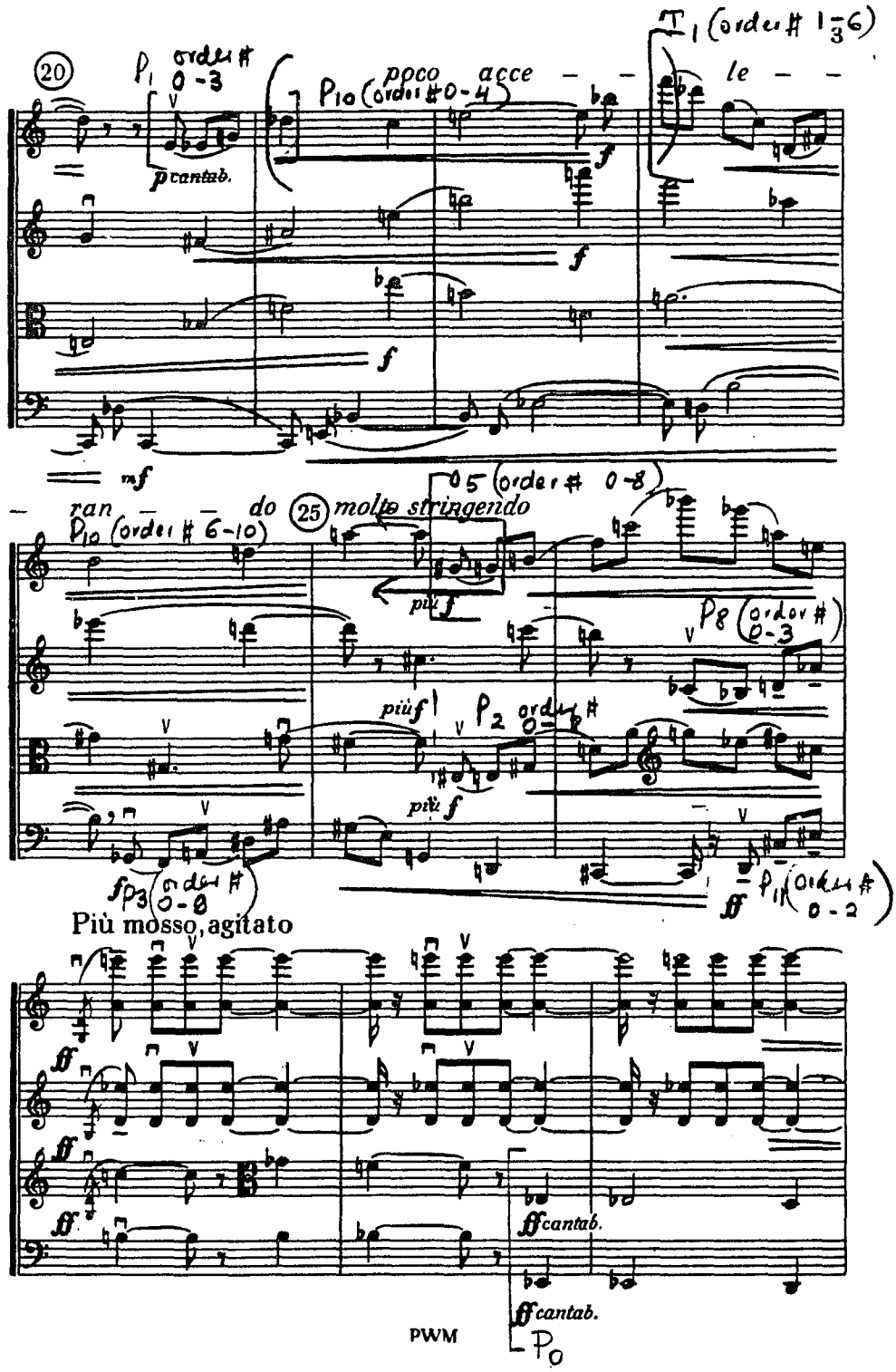
In example 2-15, mm. 8-13, the effect of the tone-cluster is strengthened by the addition of eight continuously repeated melodic motives which appear simultaneously in the six solo violin parts (vn. III) and in two viola parts. The pitch content in each of these melodic motives repeats three or more pitches that are present in at least one other motive.

Motives

As demonstrated in the preceding discussion, Baird's music evolved from relatively strict twelve-tone structures toward freer pitch structures. Underlying this change is an increasing importance of motives as determinants of the pitch structure.

The technique of selecting segments of the set and subsequent use of these segments as melodic motives first appears in the opening movement of Baird's String Quartet No. 1. It is combined with changes in texture, tempo, and rhythm as the developmental preparation for the return of the theme in m. 28. But this technique is not used extensively and has little bearing on the remainder of the movement. See Example 2-16.

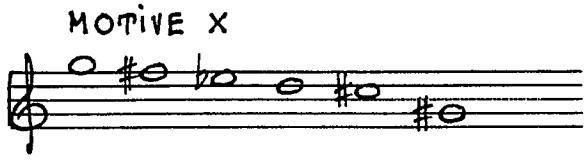
Example 2-16. Baird, String Quartet, 1st movement, mm. 20-29.



In the first movement Baird also exploits the dichotomy between the pitch segments that function within the framework of a larger unit (vn. 2, mm. 19-21) and pitch segments that function as independent melodic motives (vn. 1, mm. 20-22).

In the pitch structure of the third movement of the quartet the set is no longer the sole primary organizing element. The other element is a melodic motive, henceforth referred to as motive x, that appears in constant transpositions and transformations throughout the movement. See Example 2-17.

Example 2-17. Motive x.



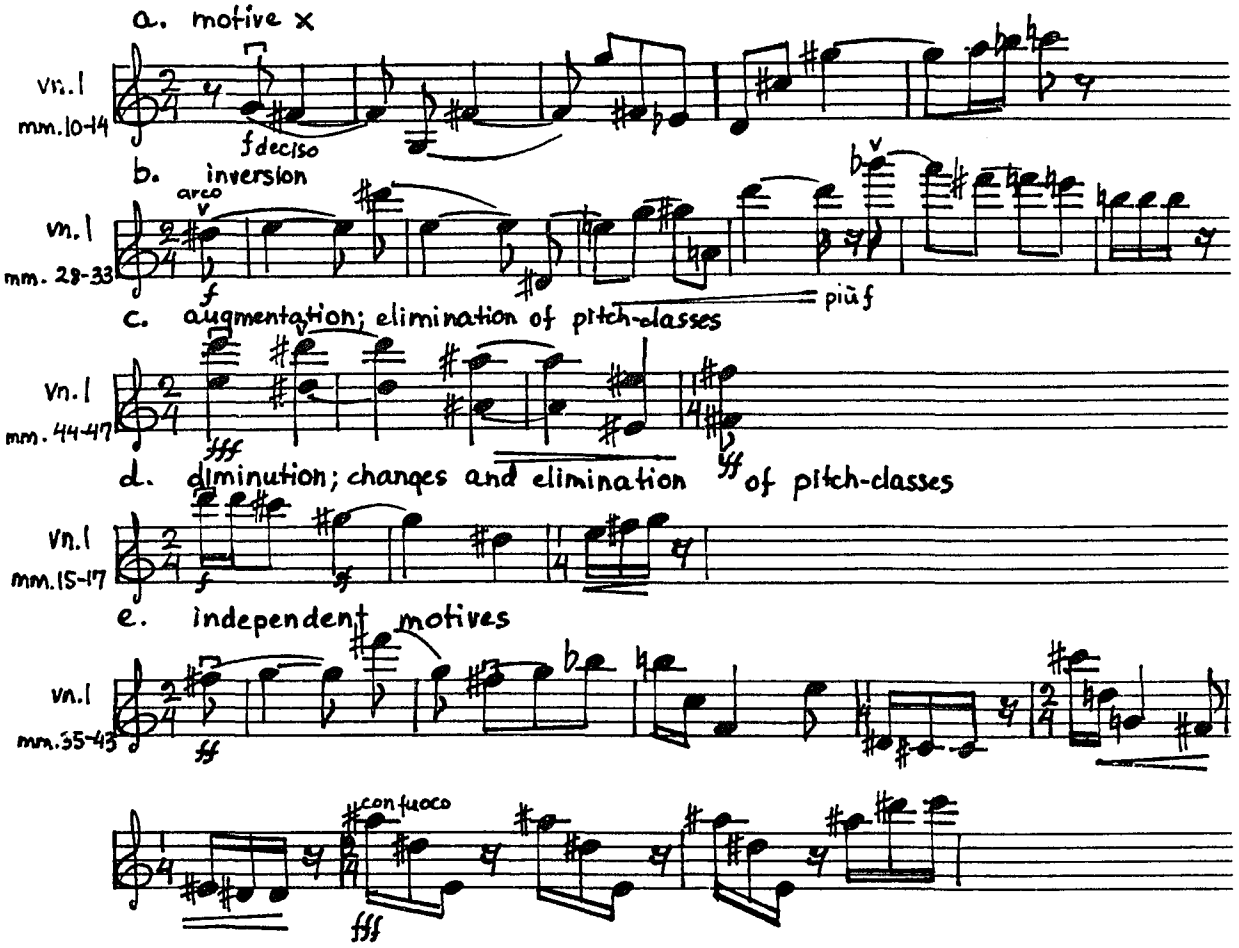
Measures 10-56 exploit motive x almost exclusively. There is only one presentation of the set (mm. 23-27). The last two pitches of the set are equivalent to the first two pitches of motive x in measure 27:

D♭ C E B♭ F E♭ B D A A♭ | G F♯ |
| G F♯ | E♭ D C♯ G♯ |

Motive x undergoes constant changes or development. It appears in its prime or inverted form, in various transpositions, in different registers, with changes in articulation

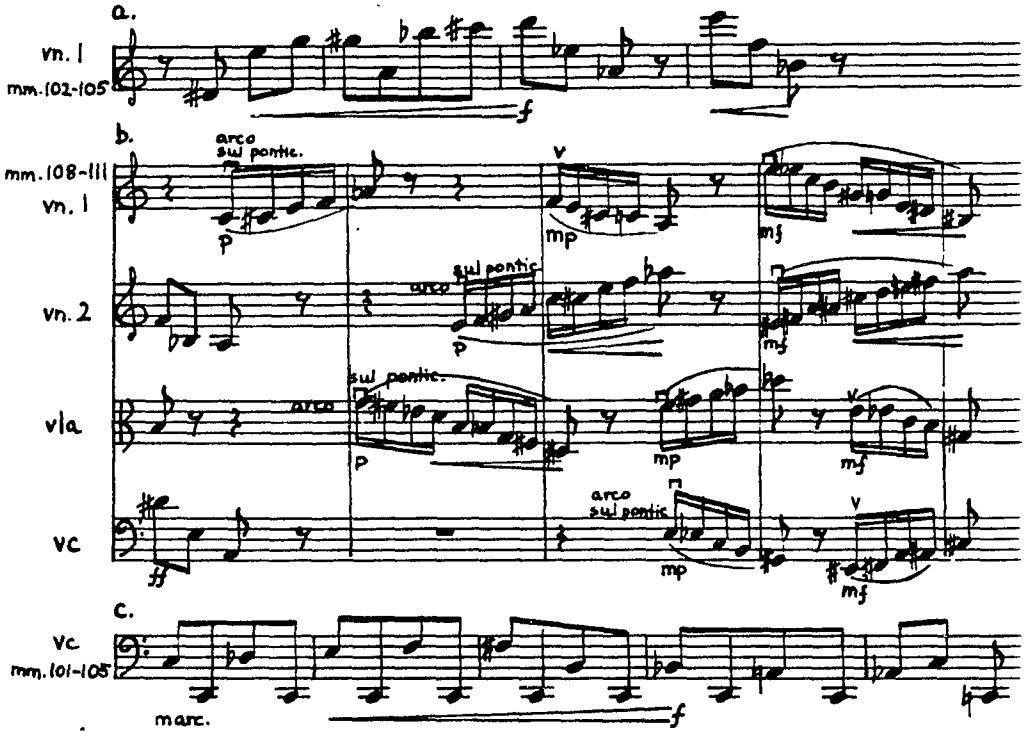
and dynamics. The melodies resulting from statements of motive x are endowed with a variety of contrasting shapes. Occasionally, the length of the motive is changed by interpolation or elimination of pitch-classes. The motive also appears in augmentation and in diminution. In certain cases characteristic elements are isolated from motive x and transformed into independent motives (see Example 2-18e). See Example 2-18.

Example 2-18. Transformations of motive x.



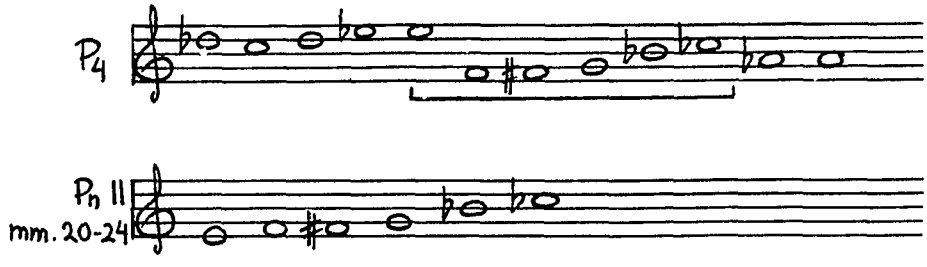
Measures 90-117 provide new transformations of motive x. Here, the gradual development of motive x leads to the creation of new motives that bear only limited resemblance to the original motive they are derived from. The new motives are presented in groups of 3 eighth-notes and sixteenth-notes. These rhythmic changes further intensify the difference between motive x and its derivatives. See Example 2-19.

Example 2-19. New transformations of motive x.



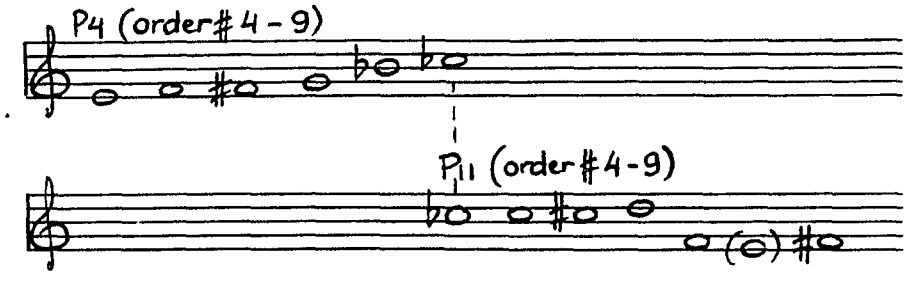
In the Four Essays, the procedure of selecting various segments of the set to be used as melodic motives is further expanded. For example, in the third Essay a motive, henceforth referred to as motive z, is derived from the set. See Example 2-20.

Example 2-20. Motive z.



Motive z is isolated and presented twice in succession in mm. 20-27. The second presentation of motive z is transposed up a fifth. The last pitch in the previous statement of motive z becomes the first in the second statement. See Example 2-21.

Example 2-21. Two presentations of motive z, mm. 20-27 in the second piano part.

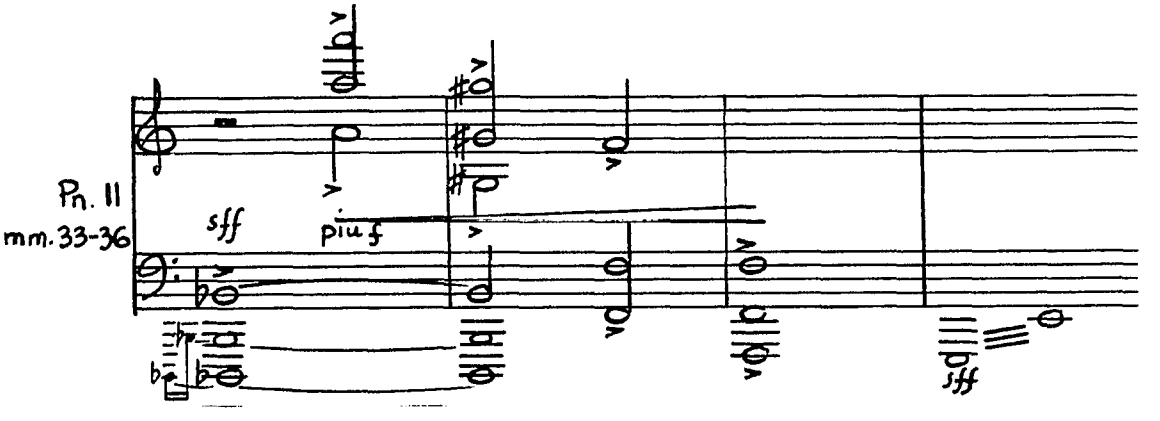


Motive z also appears in an inverted form (mm. 21-24). The presentation is incomplete. The missing pitch, C♯, is sustained in the first piano part:

C♯- - - - - C
G♭ F E C

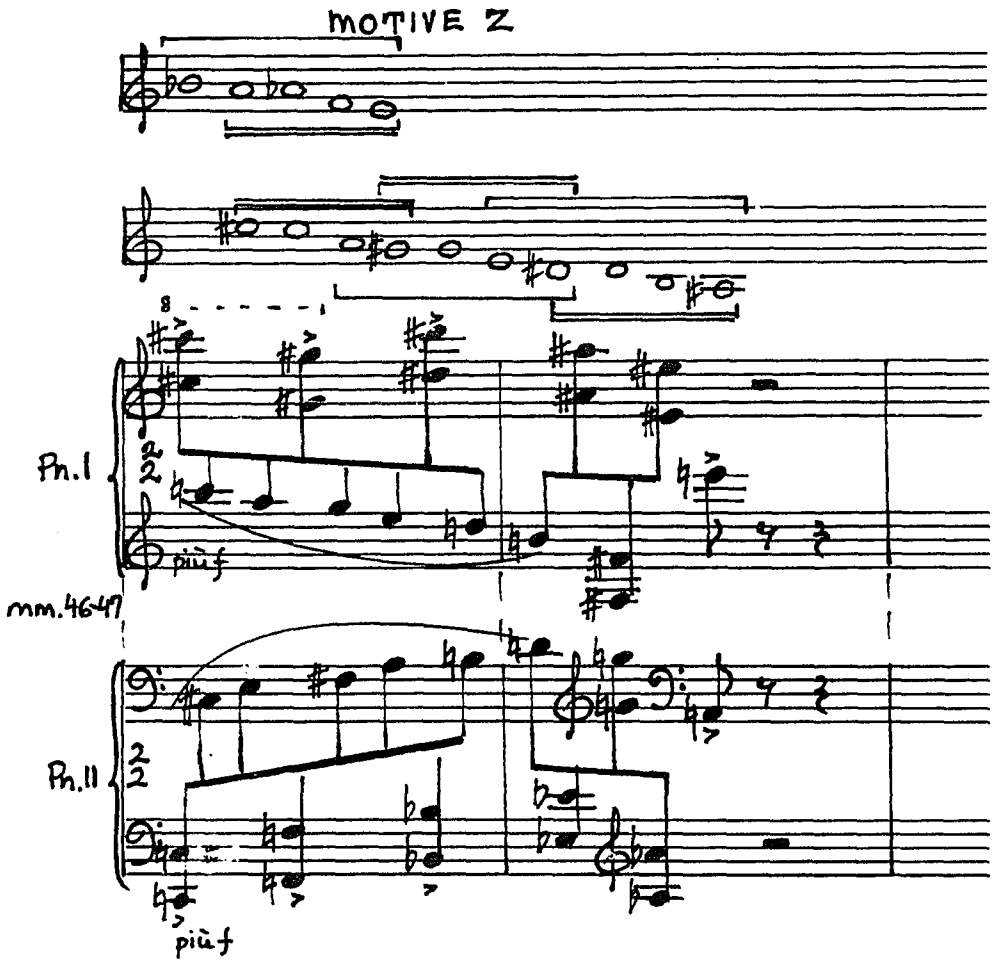
The inverted motive z can also be found in mm. 33-36, where it is emphasized by high dynamic level and characteristic articulation in preparation for the subsequent appearance of this motive in mm. 40-63 and its role as an important structural element. See Example 2-22.

Example 2-22. Baird, Third Essay, mm. 33-36 of the second piano part.



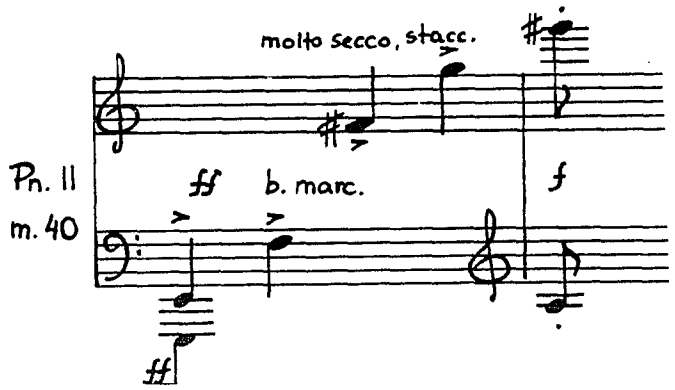
The two piano parts in mm. 46-53 are based on the inverted motive z. Segments derived from motive z are combined with motive z to form longer melodic units. See Example 2-23.

Example 2-23. Baird, Third Essay, mm. 46-47 of the first and second piano part; inverted motive z.



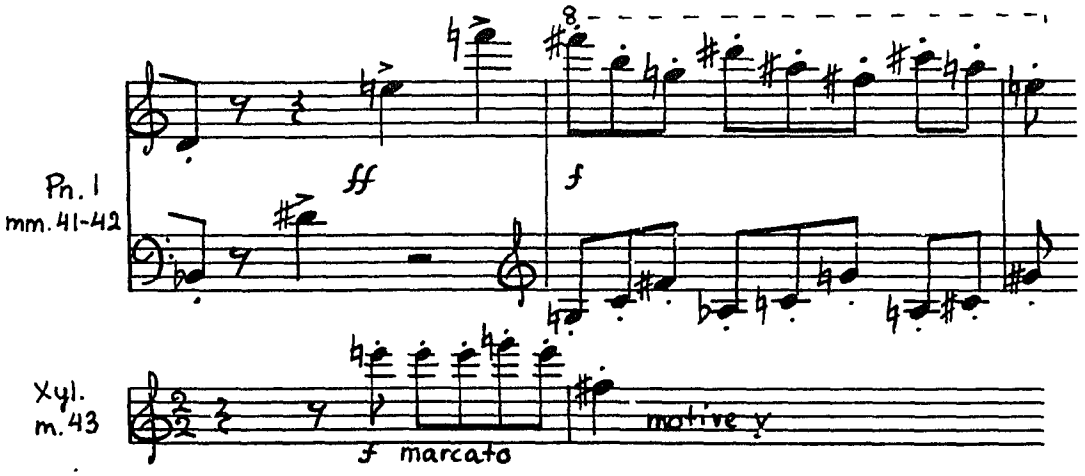
Measures 40-45 are also derived from the presentation of motive z in mm. 33-36 where it appears in a characteristic form (see Example 2-22). The articulation, dynamics, regular rhythmic attacks and large intervals of mm. 40-45 bear an unmistakable resemblance to mm. 33-36. See Example 2-24.

Example 2-24. Baird, Third Essay, m. 40 of the second piano part.



Another motive, henceforth referred to as motive y, is derived from the pitches and the rhythmic grouping of mm. 41-45. Motive y contains pitches emphasized in mm. 41-45 by means of register or position within measure. See Example 2-25.

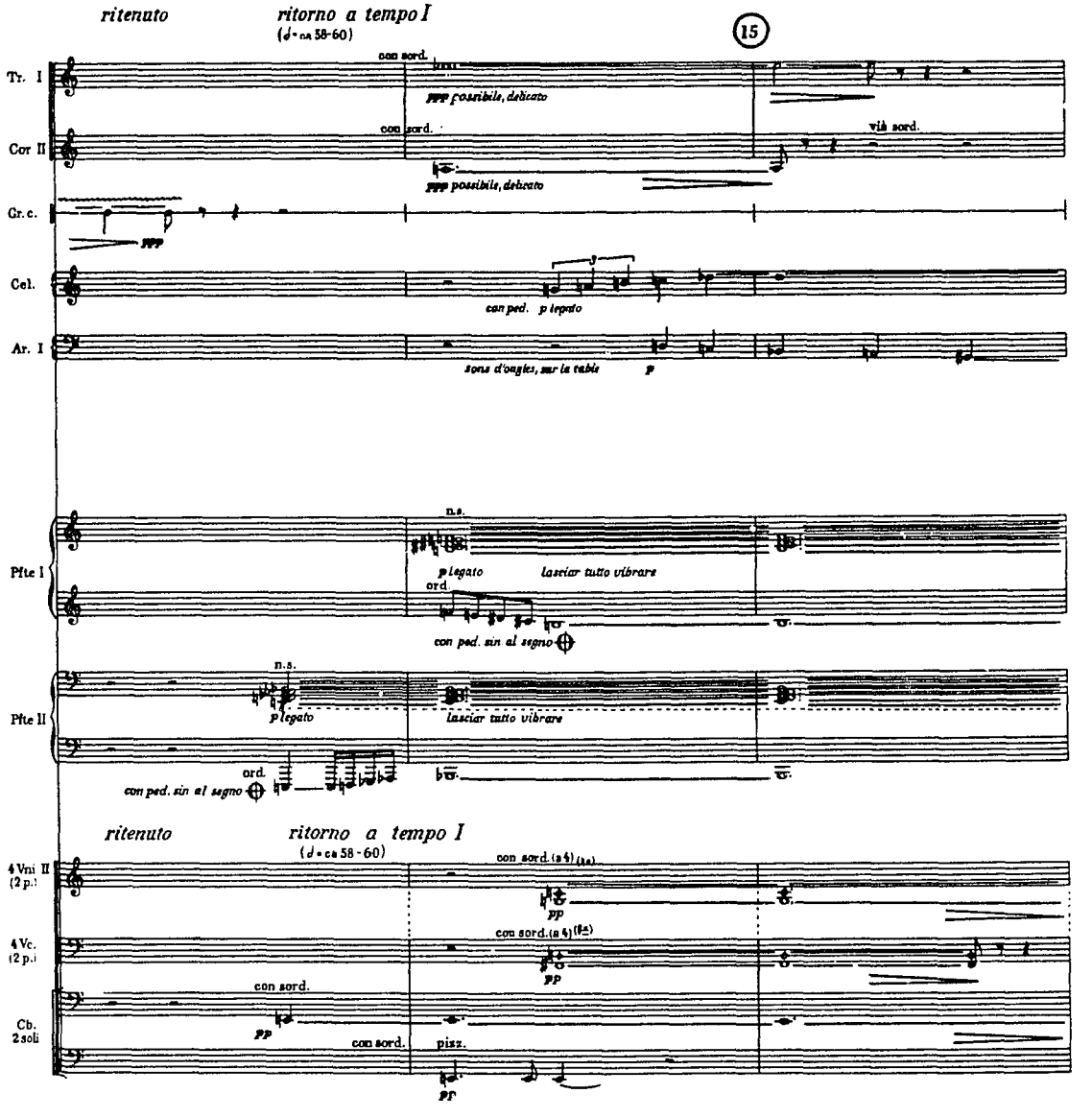
Example 2-25. Baird, Third Essay, mm. 41-42 of the first piano part and m. 43 of the xylophone part; motive y.



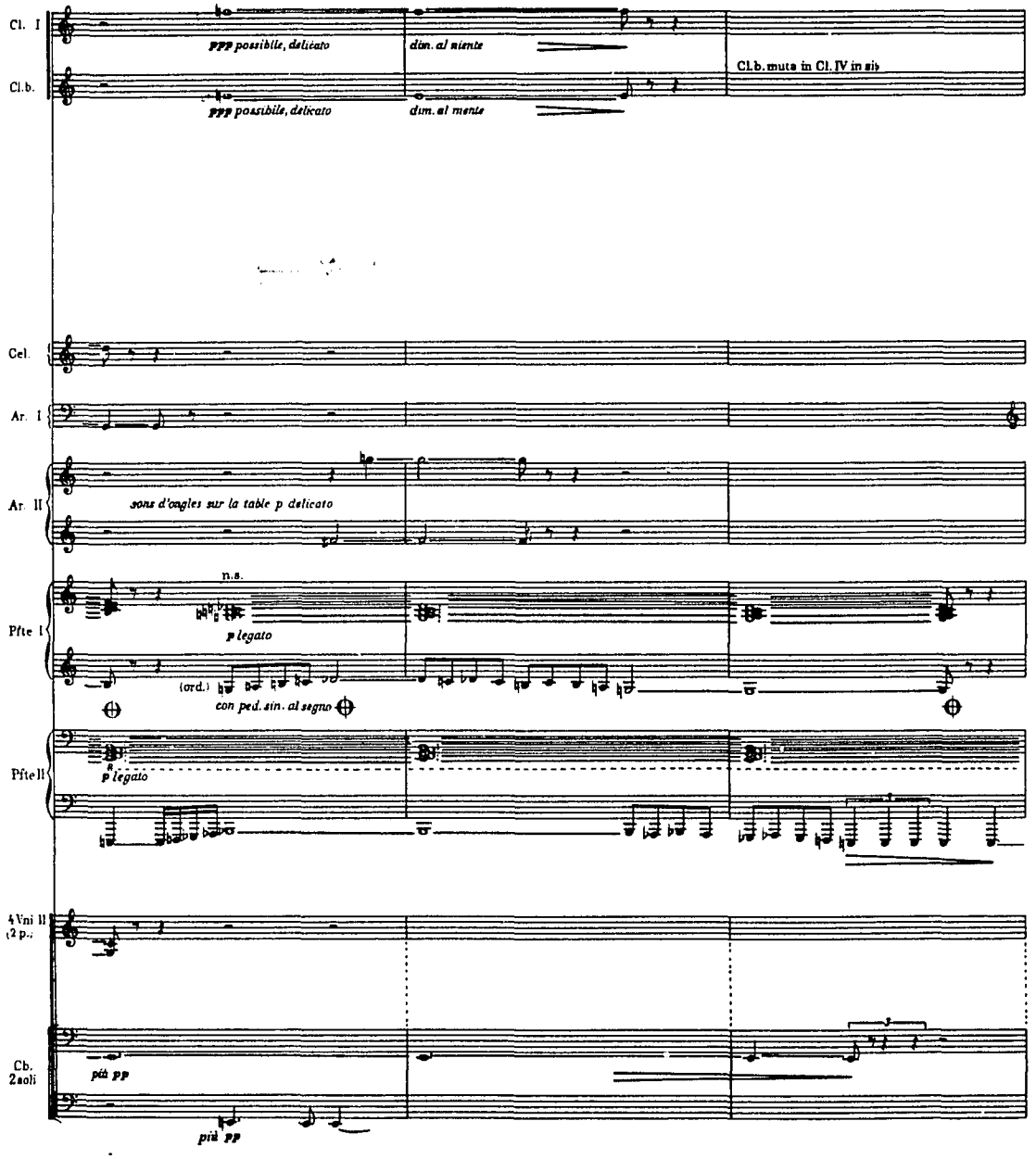
In Exhortation, short motives replace the set in their function as principal integrative elements. The motives appear in various transpositions and transformations. As mentioned above, the most important transformations

include expansion of these motives through the permutation of their components, the interpolation of pitch-classes and the presentation of various transpositions in direct succession, but not in the same instrumental part. See Example 2-26.

Example 2-26. Baird, Exhortation, mm. 13-18.

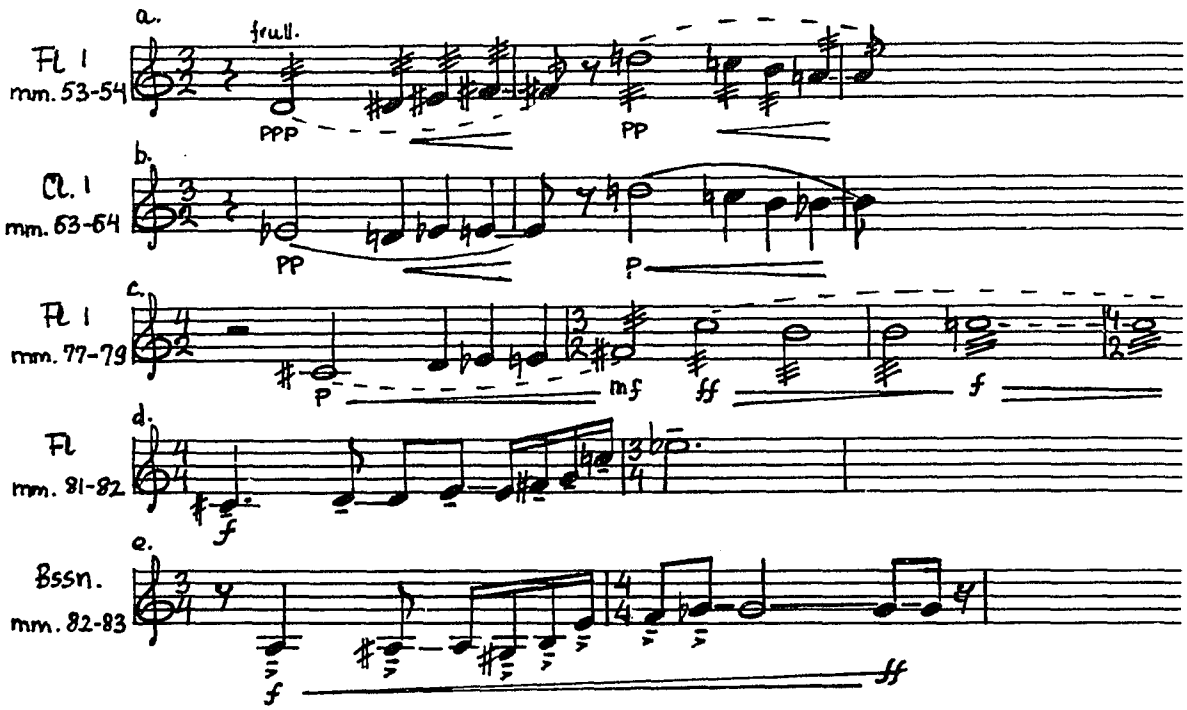


Example 2-26, cont.

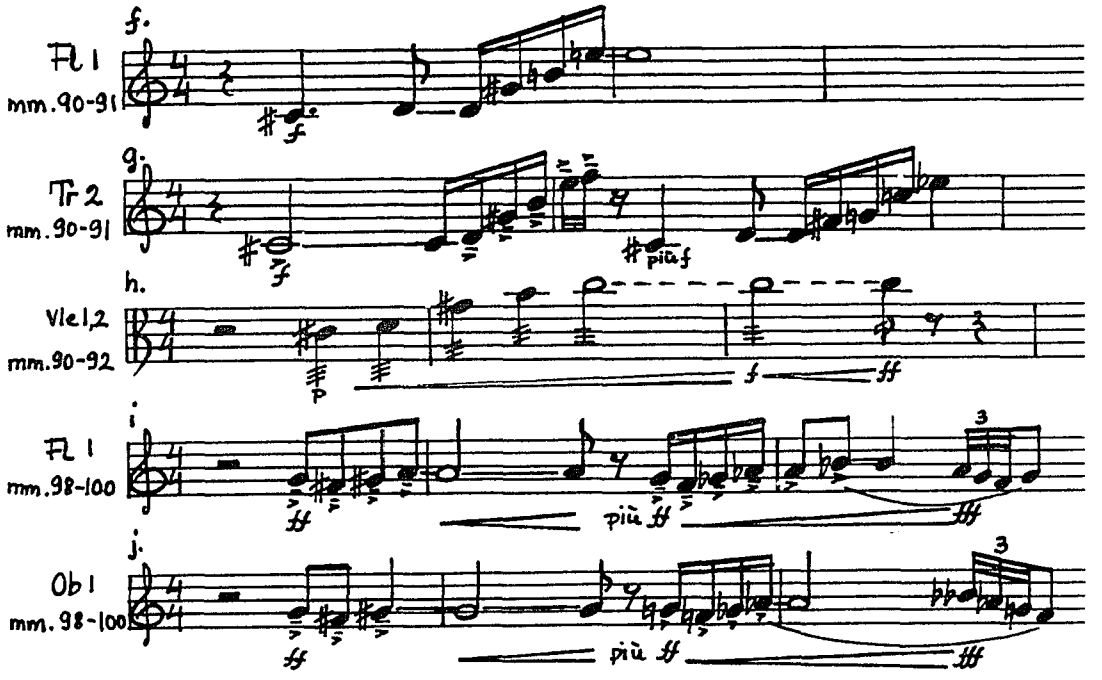


Motivic development is used less extensively in Elegeia than in the earlier works. It occurs mainly in mm. 53-116. Other parts of Elegeia use variation technique almost exclusively and there are few, isolated examples of motivic development. The most important motive to be used in a developmental fashion appears in mm. 53-54. It undergoes a series of gradual transformations which preserve the contour of the melody but change the size of intervals, the rhythm, meter and articulation. Subsequent transformations of the motive bear little resemblance to the original motive. Nevertheless, they are clearly derived from the first four pitches of that motive (see Example 2-27d,j). See Example 2-27.

Example 2-27. Motivic transformations in Elegeia.

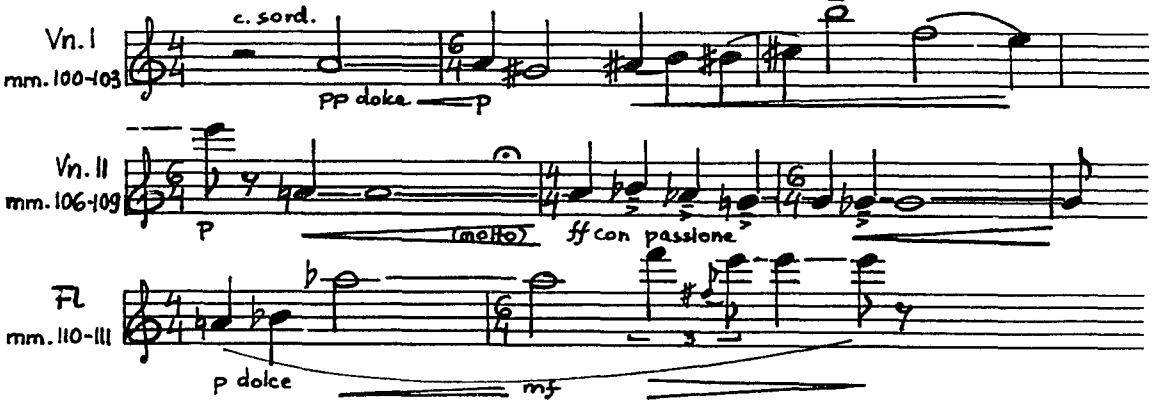


Example 2-27, cont.



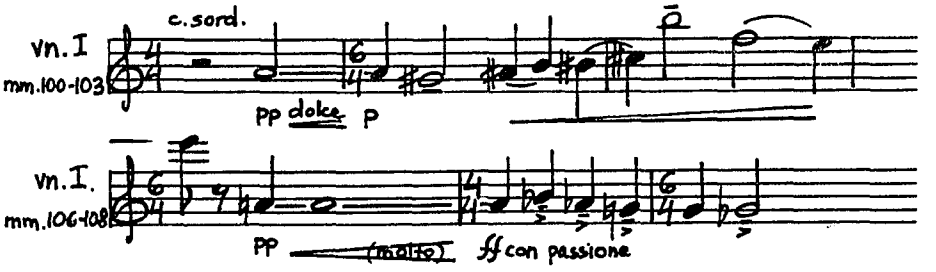
The final transformations of the original motive appear in mm. 100-115. These three forms are the result of the combination of the original motive with the new forms that were arrived at during the long process of transformation. See Example 2-28.

Example 2-28. Final transformations of the original motive in Elegeia.



For the first and only time in Elegeia an inverted form of a motive appears in the strings in mm. 106-109. See Example 2-29.

Example 2-29. Baird, Elegeia, mm. 100-103 and 106-108 of the first violin part.



Chapter III

TEXTURE AND TIMBRE

The discussion of texture in this chapter is based on Wallace Berry's definition of texture which appears in his book Structural Functions in Music:

> 'The texture of music consists of its sounding components; it is conditioned in part by the number of those components sounding in simultaneity or concurrence, its qualities determined by the interactions, interrelations, and relative projections and substances of components lines or other component sounding factors.'
>
> Wallace Berry, Structural Functions in Music (Prentice-Hall, Inc., 1976), 184.

Texture and timbre play an important role in the processes of thematic differentiation, unification of diverse themes, sectional differentiation, and contrast in each of the four works that are discussed in this paper. This chapter deals with gradual changes of texture which ultimately result in changes in Baird's style. All four works display a gradual progression in Baird's style from a traditional toward a new handling of texture, from clearly differentiated textures to blurred distinctions.

Traditional Handling of Texture

The String Quartet No. 1 (1957) is the most traditional of the four works with respect to texture. A relatively

uncomplicated texture accompanying thematic statements contrasts with more complex textural activity in the developmental sections, and relative stabilization of texture at cadential points.

Thematic statements are associated with relatively simple textures because of the focus on melody and rhythm, and the expository nature of the theme. In the developmental sections more complex textural activity involves significant expansion of the register, greater density both in horizontal and in vertical relations, and increased textural rhythm (the rate of change of textural activity). At cadential points, the stabilization of texture is associated with the reduction of the number of real sounding parts, lesser density and smaller register.

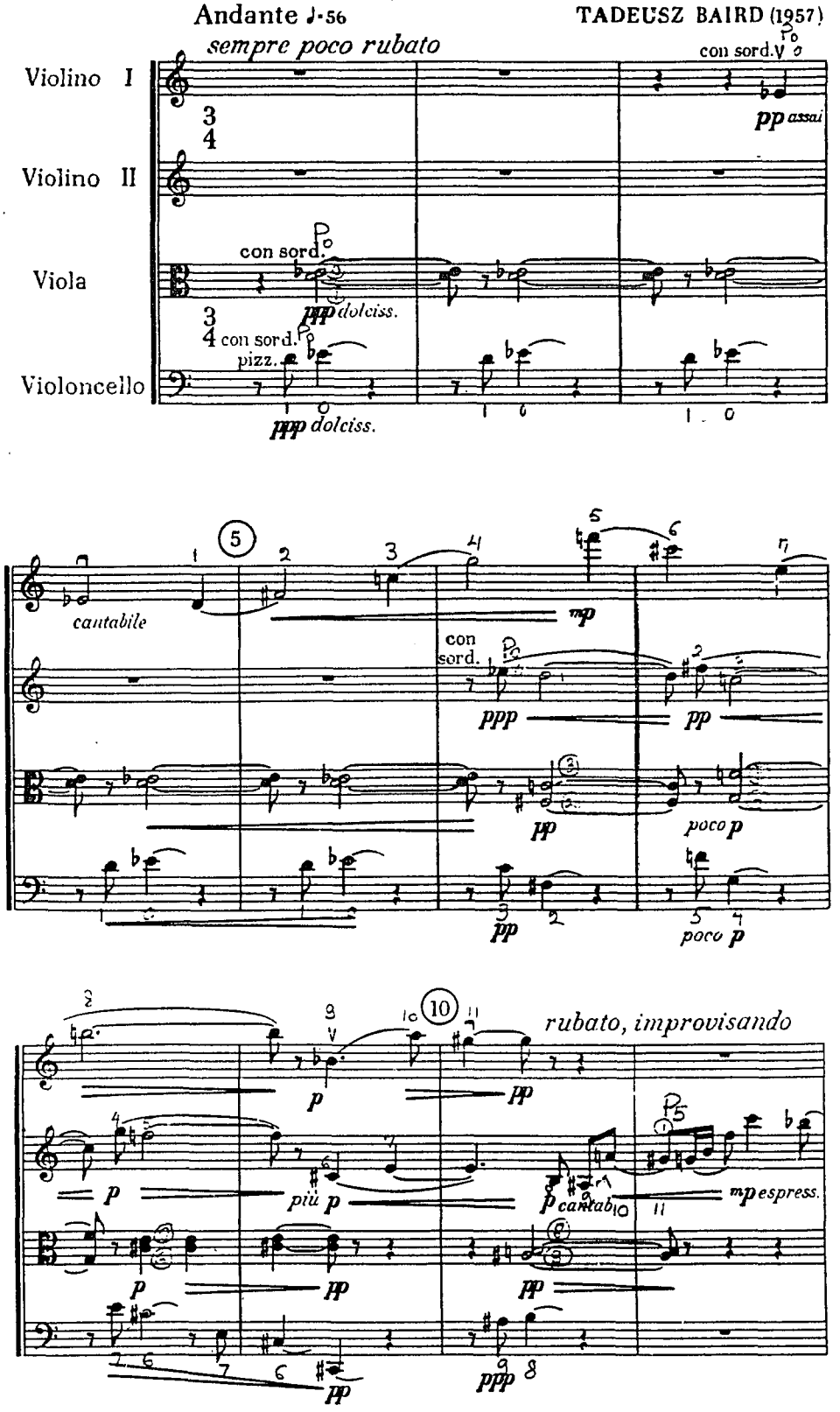
The serial structure of the String Quartet No. 1 often correlates with the texture. Polyphonic sections state up to four set-forms simultaneously. Also, in these sections incomplete set statements or set segments often appear as melodic motives, developed in a traditional fashion. Homophonic sections tend to present no more than two set-forms, often at the same transpositional level (such as P0, R0, I0). But this correlation does not hold throughout the quartet. It applies to the first movement and to mm. 188 to the end of the third movement. The second movement is predominantly contrapuntal. The correlation between texture and the pitch structure in this movement resembles

the correlation characteristic of the polyphonic sections of the first movement. The main body of the third movement (mm. 10-188) exploits not the set, but motive x. In the two final sections of the third movement (mm. 188 to the end) which either restate the first movement material or present it within the development of the preceding sections, the pitch structure again correlates with texture in a manner typical of the first movement.

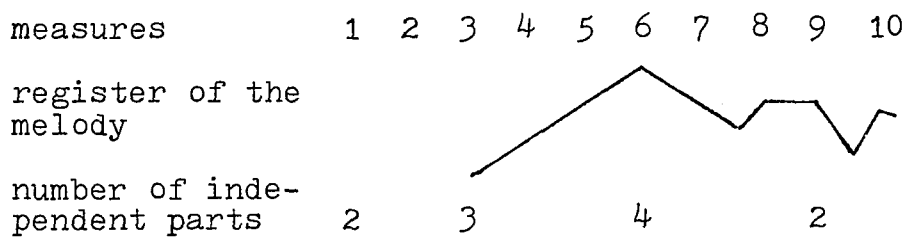
In the string quartet textural changes play an important role in defining the form by determining growth and decline in phrases and in movements. These musical expansions and withdrawals are shaped by changes in intensity and by the interplay of such major aspects of texture as density, rhythm, register and timbre.

The sense of growth and decline in a phrase is evident in mm. 1-10 of the first movement. See Example 3-1.

Example 3-1. Baird, String Quartet, 1st movement, mm. 1-11.



Measures 1-10 are characterized by interdependence of two instrumental lines at the beginning, by considerable independence of lines in the middle, and by a slight increase of interdependence at the very end. The register and the structure of the melody complement the textural process. The expansion of the register in mm. 3-6 correlates with the increase in the number of independent parts. The subsequent drop and stabilization of the register coincides with the reduction in the number of independent parts. The following diagram illustrates the structural process in mm. 1-10:

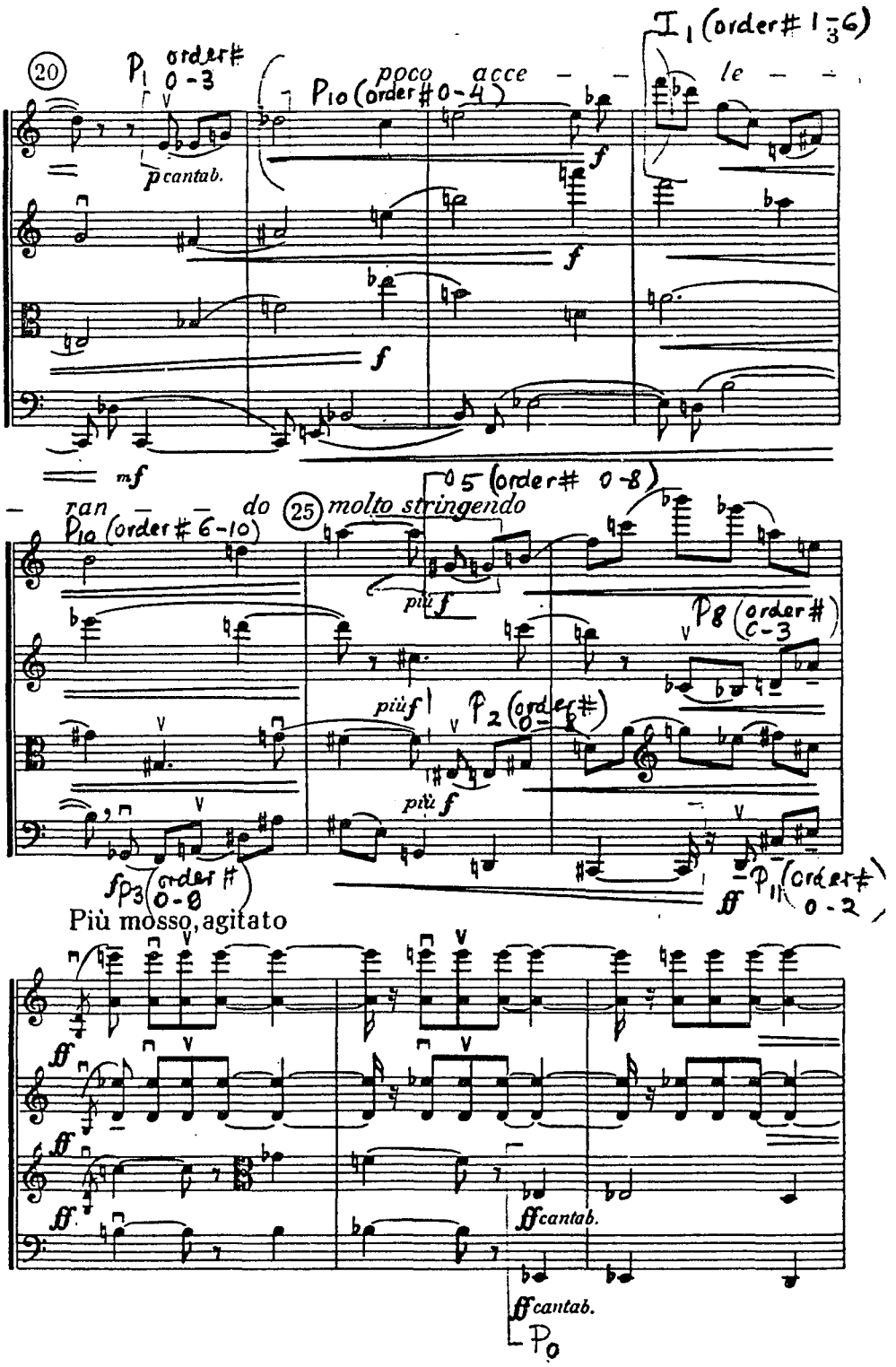


At the opening of the quartet the thematic statement is associated with a relatively uncomplicated texture consisting of a melody (vn. 1), countermelody (vn. 2) and the accompaniment (vla, vc.). All four voices present melodic material based on the original form of the set. Although the two melodies resulting from the statement of the set are endowed with different melodic contour, rhythm, and slightly changed dynamics, they are nevertheless similar. The two remaining instrumental parts state the set in two-note formations. The dyads are stated vertically in the viola, and horizontally in the cello. In mm. 1-2 textural density is low.

There are four sounding components, but only two real components since the two instruments present the same two pitch-classes. The total range is only a semitone. The rhythm is sparse and the dynamic level is ppp, con sordino. The only element that produces relative intensity is the appearance of two simultaneous pitches a minor second apart. The homogeneity of timbre slightly increases the severity of dissonance. The entrance of the first violin in m. 3 brings a gradual diversification and increased linear independence. The musical space is substantially expanded, and the higher dynamic level (<mp) increases the sense of separateness between the first violin part and the two lower parts. The entrance of the second violin in m. 6 brings further changes in density and results in maximal linear independence in mm. 6-8. The relatively high density that occurs in these three measures coincides with larger intervals in the two lower instrumental parts which attenuate the severity of dissonance. In m. 9 (second and third beat), and at the beginning of m. 10, there is a gradual sense of decline in the phrase because of lesser density. The texture is stabilized and the two measures function as an internal cadence.

Traditionally, in tonal music developmental sections imply more polyphony than thematic statements. This is evident in mm. 20-26 of the first movement of the quartet. See Example 3-2.

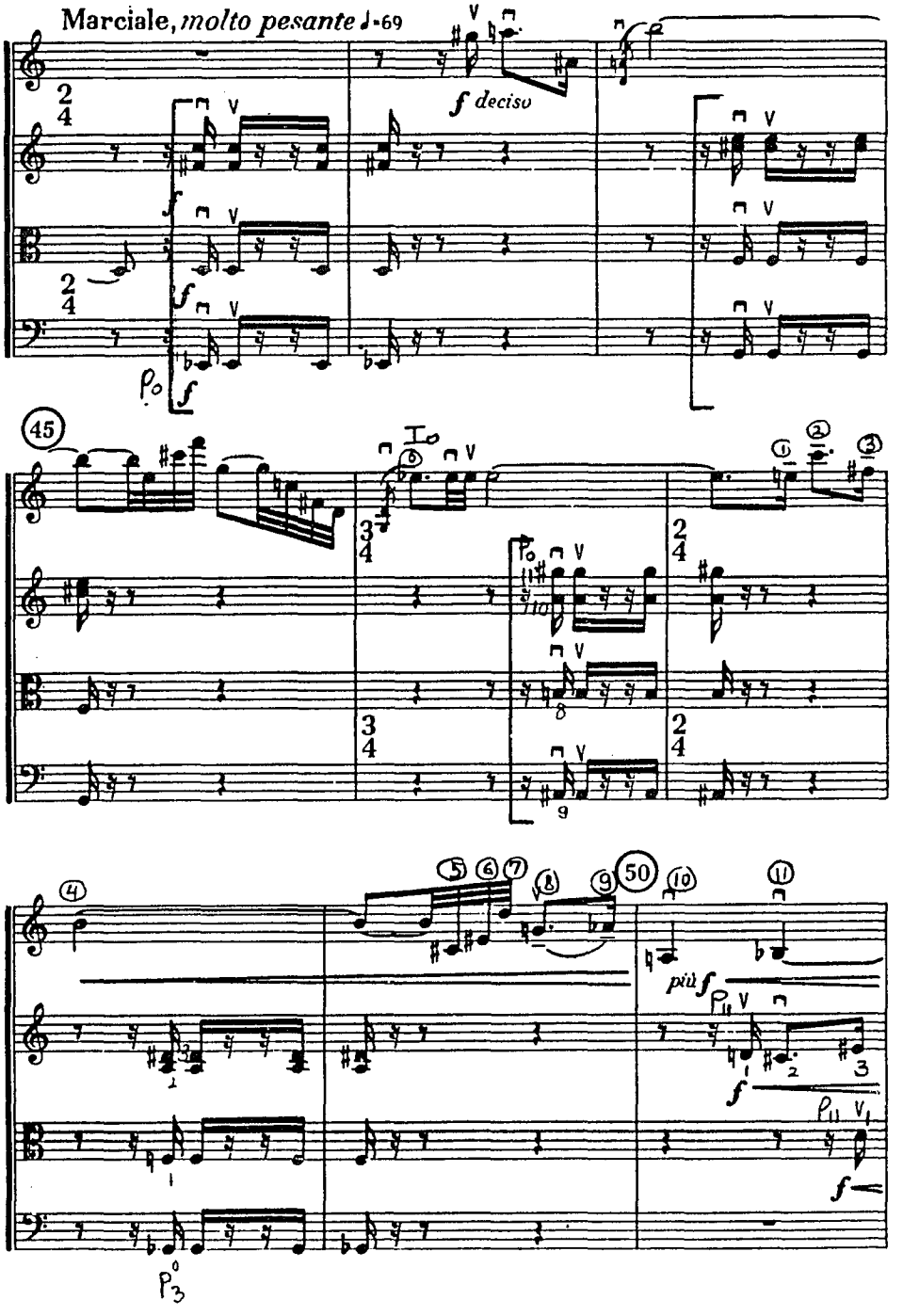
Example 3-2. Baird, String Quartet, 1st movement, mm. 20-29.



In example 3-2 the instrumental lines become more and more independent, the density increases in terms of the number of components and in terms of the distance of imitation. The time interval of imitation of a major melodic motive derived from the set becomes progressively shorter, and that increases textural intensity. The stretto in mm. 24-26 further increases the sense of progression toward greater textural intensity. The range is gradually expanded and rhythmic values generally become shorter. The dynamic level steadily increases until it reaches ff in m. 26. In m. 27 the textural intensity starts to gradually recede in preparation for the emergence of the original melody in m. 28. The textural recession is evident in the return to textural homogeneity in the two upper parts, and in the two lower parts. The repetition of pitches in the two violins, and thus the return of the same harmonic context, further underlines the decline of textural intensity.

In the string quartet the textural contrasts are essential in the delineation of the form. The middle section of the first movement (mm. 42-80) resembles an "accompanied recitative". It is predominantly homophonic, with occasional very short polyphonic passages, in contrast to decidedly polyphonic outer sections. See Example 3-3.

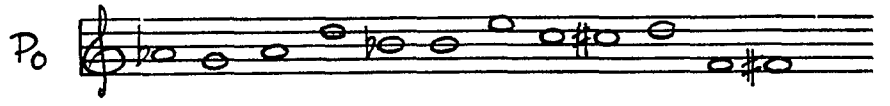
Example 3-3. Baird, String Quartet, 1st movement, mm. 42-50.

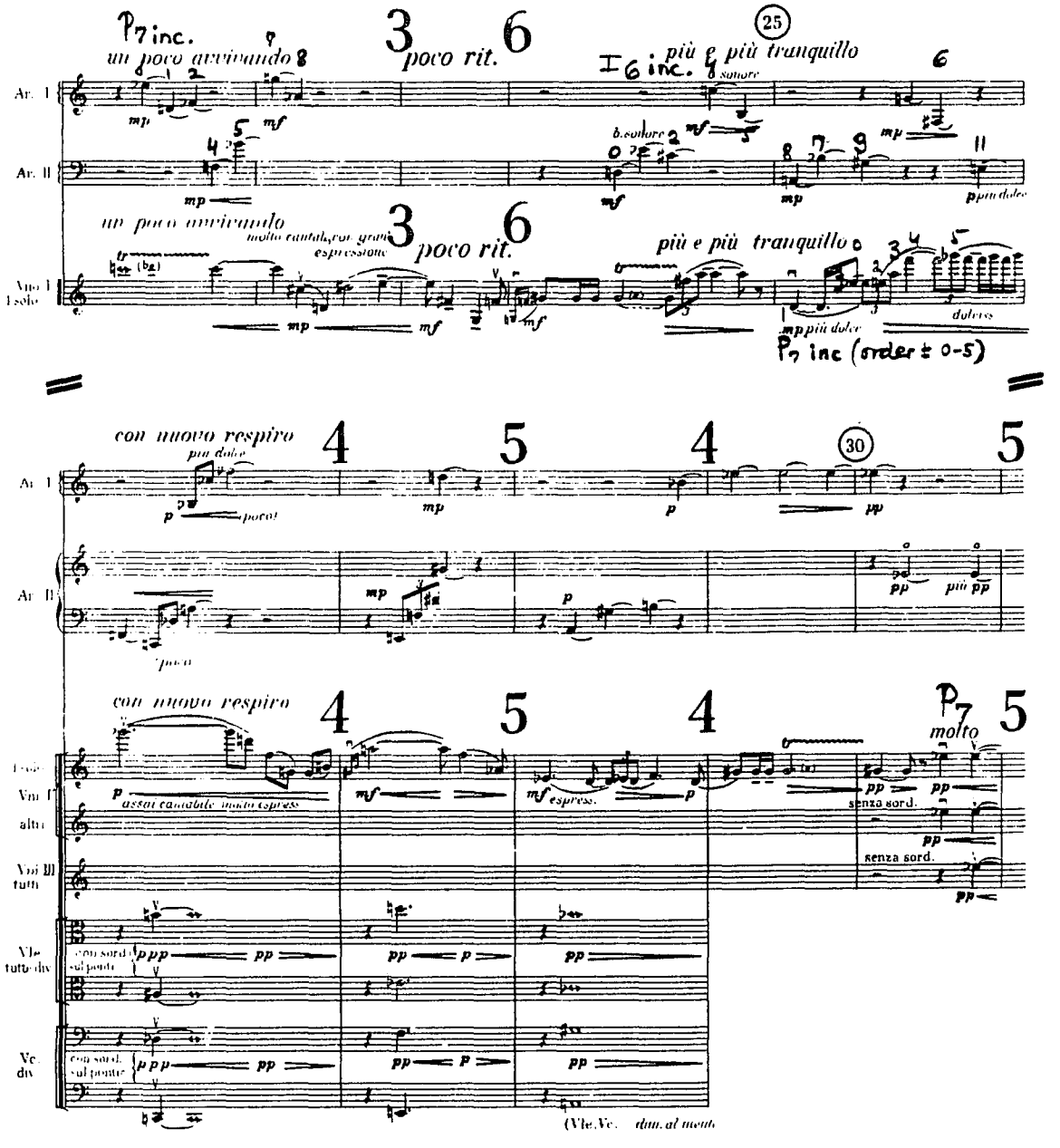


In this section only the upper voice is relatively independent. The other three display a high degree of interdependence. The upper voice uses many rhythmic values and is relatively dense while the other voices are sparse and, in most cases, homorhythmically related. The short polyphonic passages in all four voices are conspicuous because the changes in relative independence and interdependence among the voices is essential in the shaping of structure.

In the Four Essays (1958) Baird exploits a range of polyphonic and homophonic textures. Just as in the string quartet, in the first essay the serial structure correlates with texture. In the quartet, polyphonic sections that are based on the set tend to emphasize original statements of the set. Homophonic sections, especially in the first movement, focus on retrograde and inverted statements in the melody. In the Four Essays, polyphonic sections tend to use relatively strict serial technique but in homophonic sections the melodic material usually is either free, or only loosely based on the set. This procedure is apparent in the first essay. In the homophonic sections of this essay the melodic material is either unrelated to the set or only loosely based, or related, to the set. Infrequent appearances of incomplete set-forms are usually further transformed by elimination of pitch-classes and by changes in the order of pitch-classes. See Example 3-4.

Example 3-4. Baird, First Essay, mm. 21-30 and the set at P0.

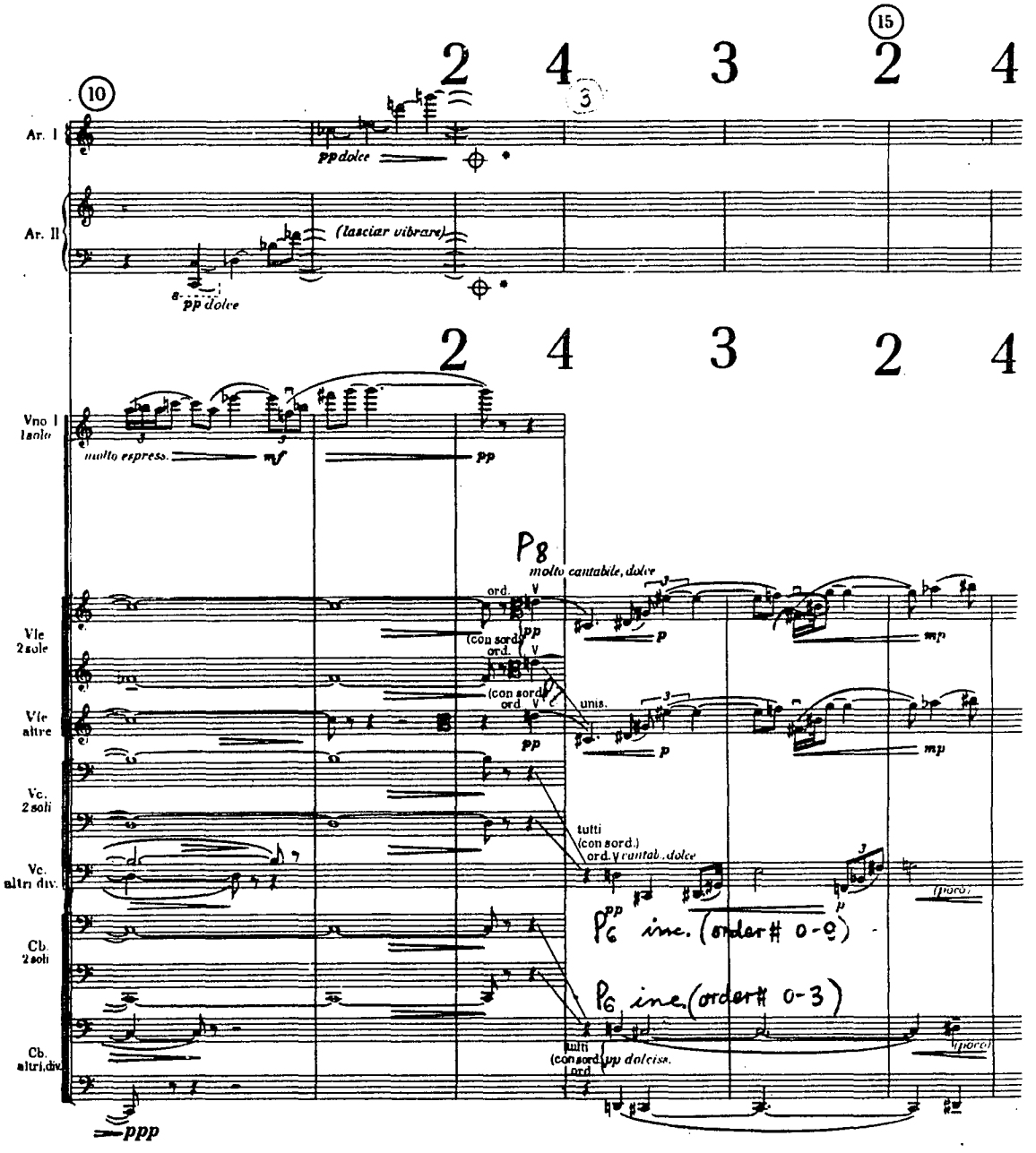




In polyphonic sections the melodic material is in most cases derived from the set. Two or more transpositions of the set often occur simultaneously and the presentations of the set-forms are more complete, with fewer pitches changed or missing. Still, complete presentations of the set without alterations in ordering are relatively rare.

In the first essay Baird uses a range of polyphonic textures. In mm. 12-20 the cellos (tutti) and the double basses introduce the same transposition of the set (P6). Both the cellos and the double basses present an incomplete set (order # 0-9 in the cellos, order # 0-3 in the double basses). The presentation of the set starts simultaneously in both instrumental groups and then proceeds independently, with the double basses moving in much slower rhythmic values. This technique results in a characteristic texture that is basically polyphonic but displays a high degree of interlinear dependence. See Example 3-5.

Example 3-5. Baird, First Essay, mm. 10-20.

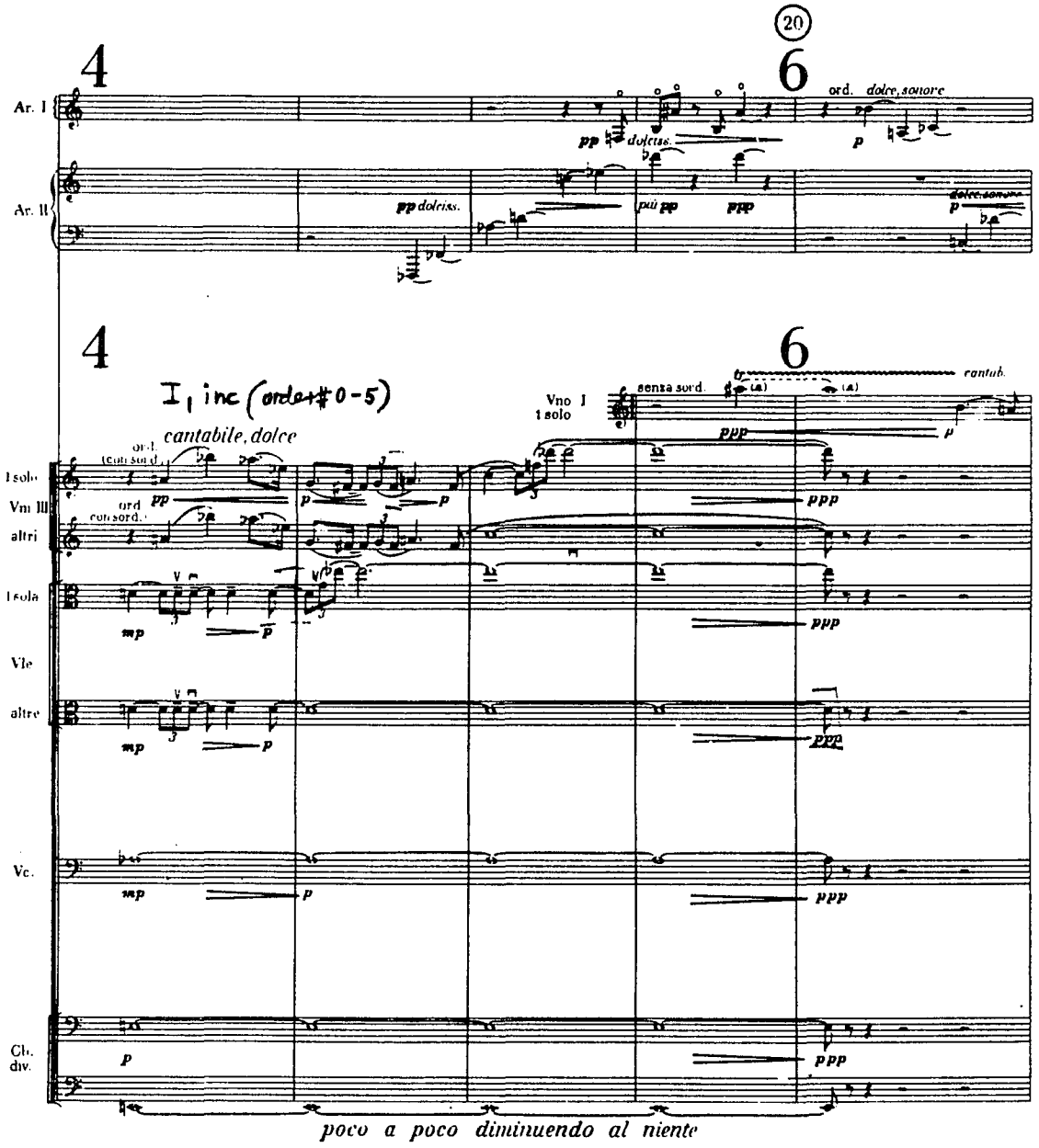


* znak stosowany w partiach perkusji, harfy i fortepianu oznacza żądanie natychmiastowego stłumienia brzmienia instrumentu

In the parts for percussion, harp and piano indicates immediate damping of the sound

bedeutet für das Schlagzeug, die Harfe und das Klavier unmittelbares Abdämpfen des Klanges

Example 3-5, cont.



The process that occurs in mm. 12-20 resembles a variational process. It is mirrored by the overall form of the first essay which resembles theme and variations. In the first essay textural progressions and recessions are the basic techniques in the delineation of form.

Timbre, one of four major components of texture (rhythm, density, register, and timbre) must be discussed in greater detail with regard to Four Essays because of its importance as a major structural force in the work as a whole. Also, the intricate relationship between timbre and pitch structure that occurs in the second and third essay helps to provide a directional impulse within these essays.

In the Four Essays the instrumentation of every essay calls for a characteristic ensemble. For example, the instrumentation of the first essay includes two harps and the string section which is treated soloistically, with the frequent use of solo parts (up to six) in one or more instrumental group. In many sections of the work the instruments play divisi. The woodwinds, brass and percussion are absent from the first essay. Within the string choir, the instrumentation varies from one section to the next, with changes of instrumentation coinciding with major divisions. Measures 19-30, for example, focus on the timbre of the violin solo and the harp while mm. 30-37 emphasize the string ensemble with several instruments playing in each instrumental section.

In the second essay timbre also functions as a very important element. The exclusive appearances of certain transpositions of the set relate directly to the specific instrumental ensemble. For example, passages that focus solely on the flute, clarinet in A and bassoon exploit either P0 and R0 or P10 and R10. Other instrumental groups in the second essay use a combination of these set-forms with other set-forms, or different set-forms (presented complete or incomplete), or melodic material that is either loosely based on the set or entirely free. For instance, in mm. 40-45 the instrumental ensemble consisting of the string choir and percussion presents an incomplete set at P10 in the violins (order # 0-9) and a complete set at P1 in the cellos.

In the third essay the instrumentation is intricately related to the pitch structure. Various instrumental parts use specific techniques as the source of their melodic material. In mm. 1-35, for example, the brass instruments utilize strict twelve-tone technique. The xylophone uses both the strict presentation of the set (mm. 27-32) and transformations of the set that include the reversal of the order of two pitch-classes and the elimination and subsequent addition of pitch-classes. In the first piano part the set functions as the ordering of the twelve pitch-classes and as the source collection of pitch-classes that undergo

transformations similar to those in the xylophone part. The second piano part alternates free passages with passages where the set functions as the source collection of pitch-classes. A detailed discussion of this technique appears in chapter II of this dissertation (see Example 2-10, page 18).

The instrumentation also helps to delineate the form of the movement. For example, the contrasting section in the third essay (mm. 40-63) uses only percussion and two pianos. In addition, the change from the polyphonic texture in mm. 1-39 to the quasi-homophonic texture in this section reinforces the formal divisions in the third essay.

New Approach to Texture

In the early works Baird employs a wide range of contrapuntal and homophonic textures. Textural changes correlate with dynamics, tempo, rhythm and presentation of themes. In Exhortation, texture and timbre acquire greater significance as primary structural elements, occasionally replacing harmony, rhythm, or tempo changes to become factors delineating the form of the work along with melody, dynamics and articulation.

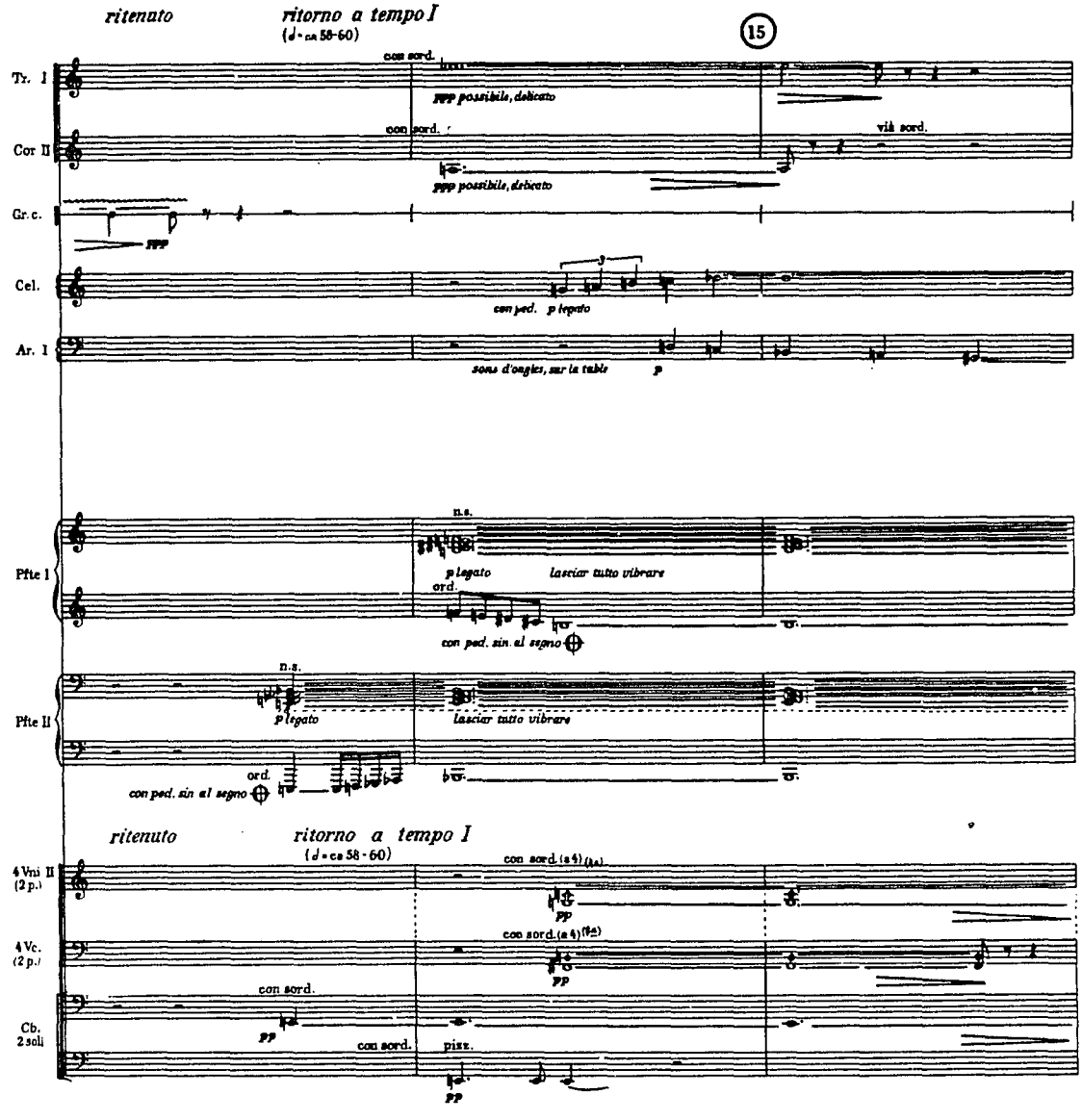
In Exhortation, the composer uses many types of texture but they fall within a relatively narrow range. The texture can rarely be described as either clearly polyphonic or homophonic. Rather, it is oriented to a greater

or lesser extent toward one of these textures. The function of texture in Exhortation varies. In many passages, texture, along with other musical elements, plays an important role in thematic differentiation. In other passages, however, texture replaces the traditional idea of melodic-rhythmic theme and its subsequent transformations and functions thematically.

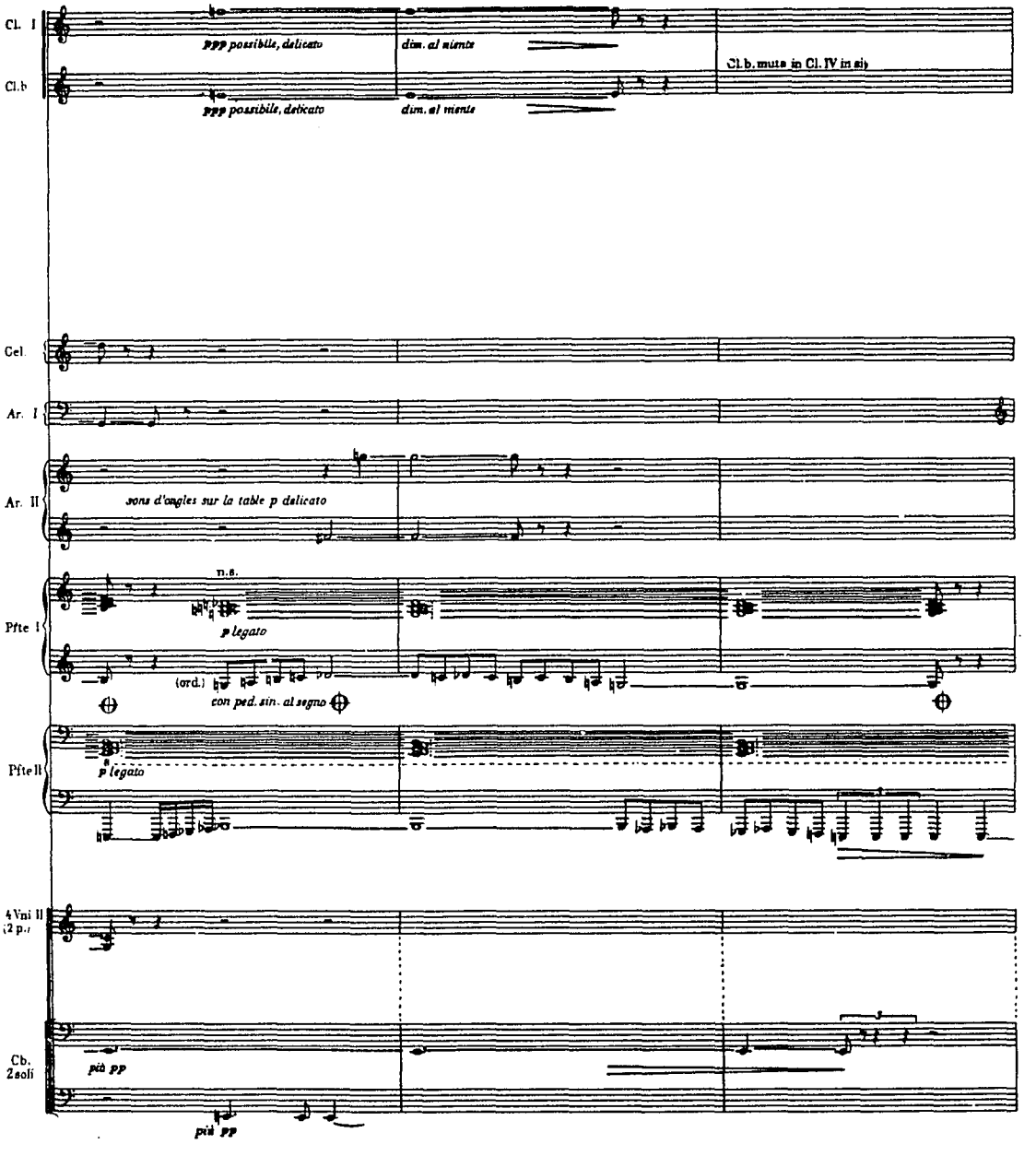
The relations of texture with other musical elements are compensatory. Sections that are active in harmonic content require reduced textural variety. Textural diversity (a term comprising activity, density and complexity, all referring to intensity of texture) requires compensation through increased linear homogeneity.

Measures 13-22 of Exhortation are an example of relative textural diversity, especially with regard to three components of texture: density, register, and timbre. The musical growths and declines are primarily shaped by changes in density and by interaction of above-mentioned components of texture. See Example 3-6.

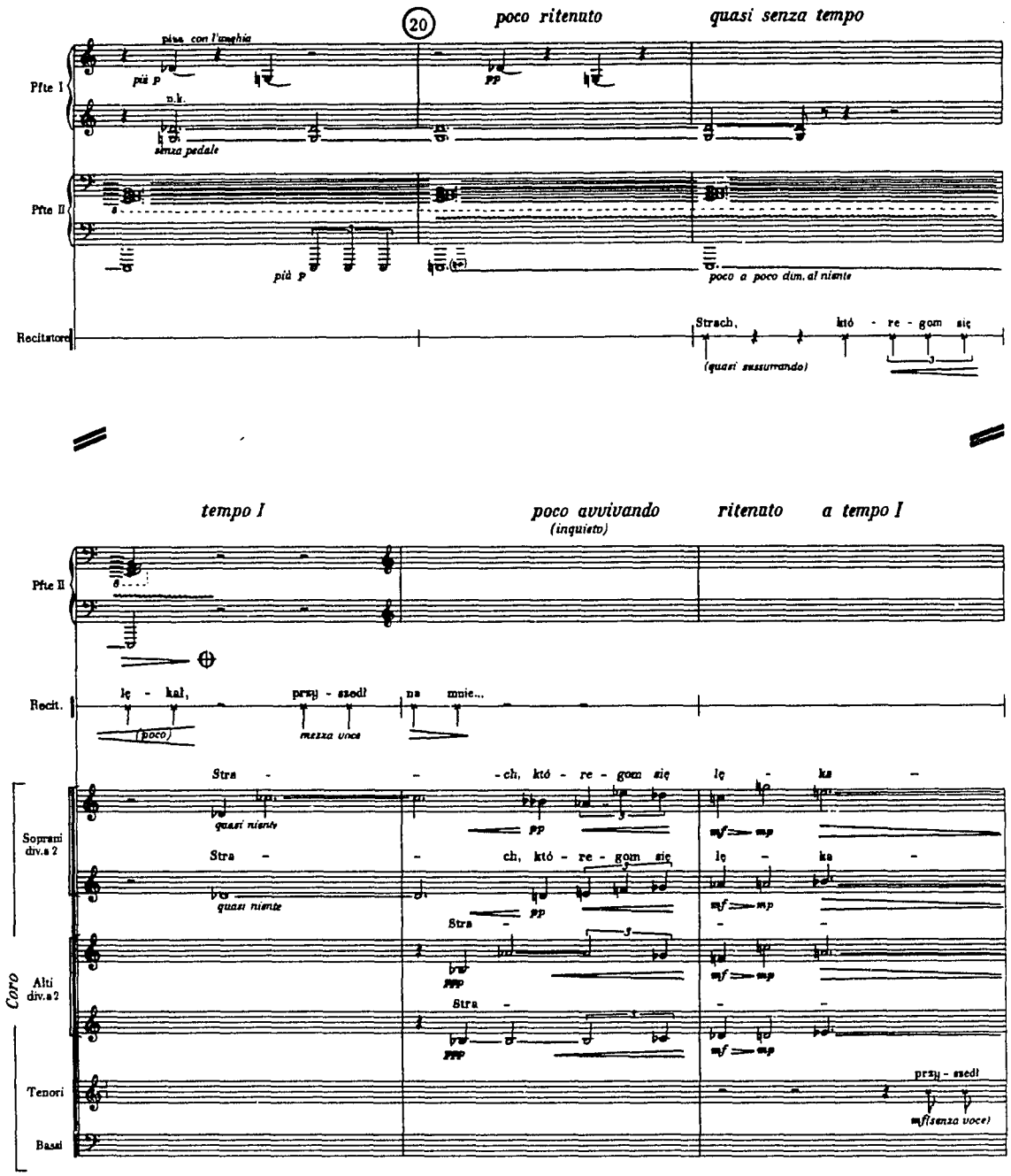
Example 3-6. Baird, Exhortation, mm. 13-24.



Example 3-6, cont.



Example 3-6, cont.



In example 3-6 timbre and density are especially active in the delineation of musical space and in the projection of the effect of spacial compression and decompression (the proximity of musical space tends to be exaggerated by the use of identical or similar timbres). The textural diversity is compensated by soft dynamics, and by very limited harmonic activity. The texture is moved within narrow harmonic space by the devices of rhythm and ornamentation of a clearly defined melodic pattern. This pattern functions as a melodic motive. It is characteristic because of its spacing involving a succession of whole and half steps. The motive appears in various registers, excluding very high register. The second piano part in mm. 13-22, for example, uses very low register. This causes a certain ambiguity in the pitch content because of the richness of overtones. The low register increases the density and thus contributes to the sense of growth and decline in the two piano parts.

The most clearly polyphonic sections in Exhortation occur in mm. 59-71 and 101-107. Both use imitation which is a main feature of many polyphonic styles, and is often regarded as the ultimate manifestation of interlinear independence. In Exhortation, there are fluctuations in intensity caused primarily by the changes in the distance of imitation.

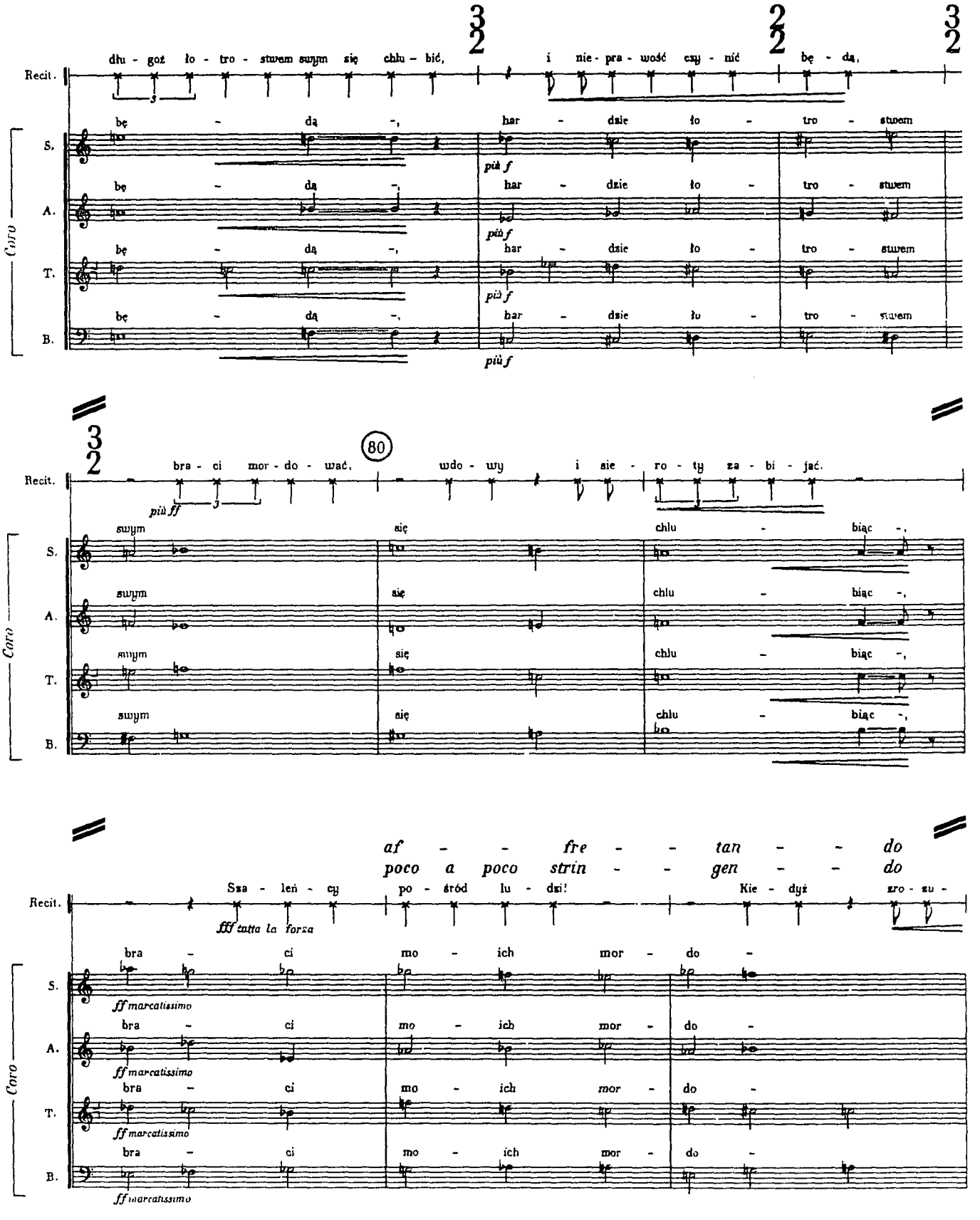
In mm. 59-71 the texture is not very active. The distance of imitation, a major factor in textural intensity, falls into four clearly defined patterns:

(♩) 3 4 11 3 4 11 3 4 2 9 3 4 4

It is apparent that there is considerable variation in textural intensity on a micro-level but a recurrence of a similar pattern of textural intensity on a macro-level. There is an increase in activity at the beginning of the third group where there are four, and not three entrances during the same time-span and a slight textural recession, in comparison to the previous statement, in the last group. Therefore, there is only a limited sense of general textural progression.

Measures 72-84 of Exhortation utilize chordal texture. The voices are in most cases presented in a chorale style. See Example 3-7.

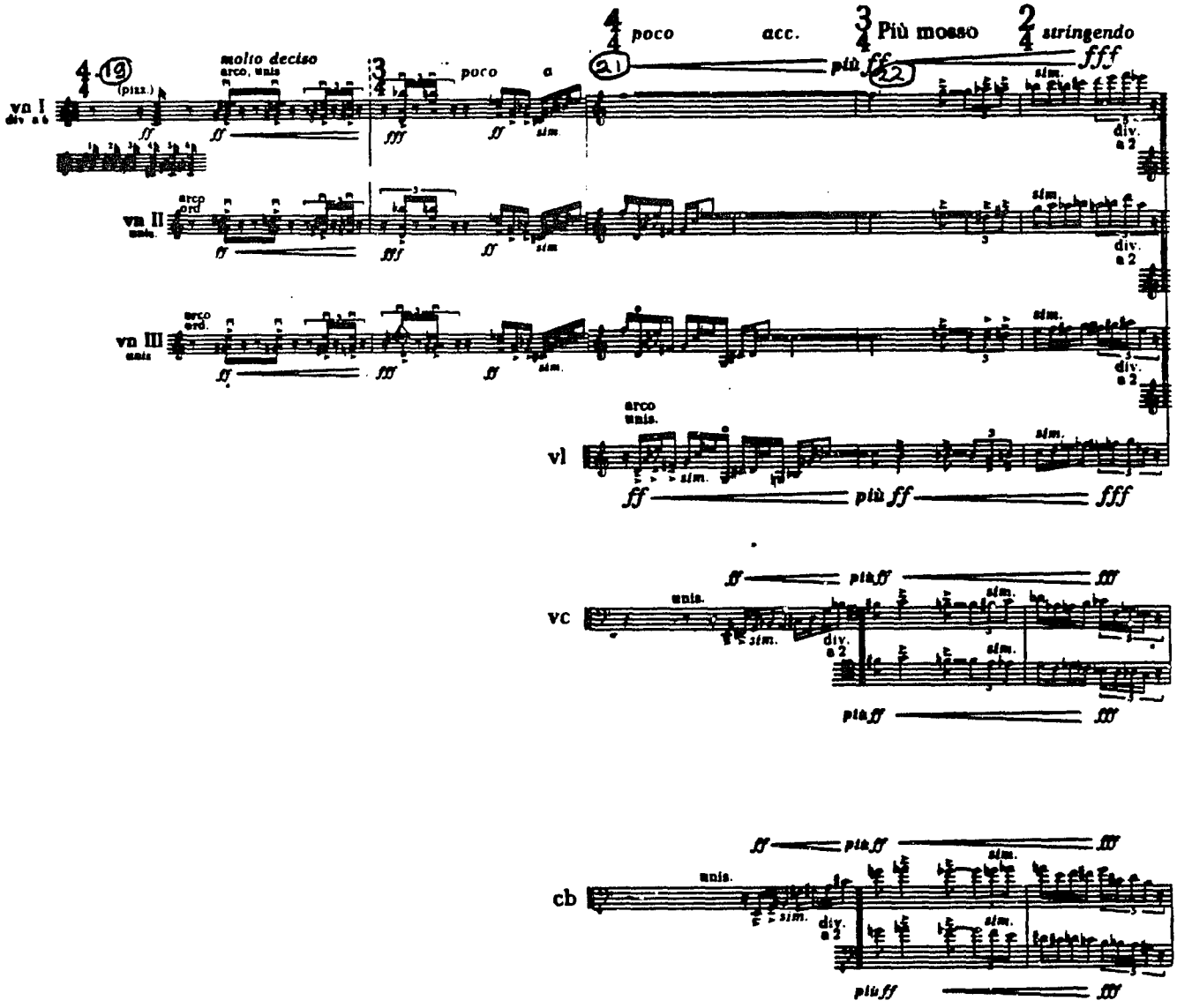
Example 3-7. Baird, Exhortation, mm. 76-84.



In Elegeia (1973), texture becomes a primary element in the shaping of form and replaces the traditional concept of a melodic and rhythmic theme and its transformations. Textural activity, the growths and declines of texture, is essential in ordering of form in terms of interplay of tension and relaxation, an accumulation or disbursment of energy. Textural activity and diversity in Elegeia is compensated by relative stasis in tonal-harmonic context.

In Elegeia, just as in Exhortation, texture can rarely be identified as either polyphonic or homophonic. Instead, there are many types of texture exhibiting varying degrees of interlinear independence: from relatively independent lines to those that essentially ornament, or elaborate, other instrumental lines. The type of relationship that involves parallel contour with minor alterations in interval structure results in heterophony. See Example 3-8.

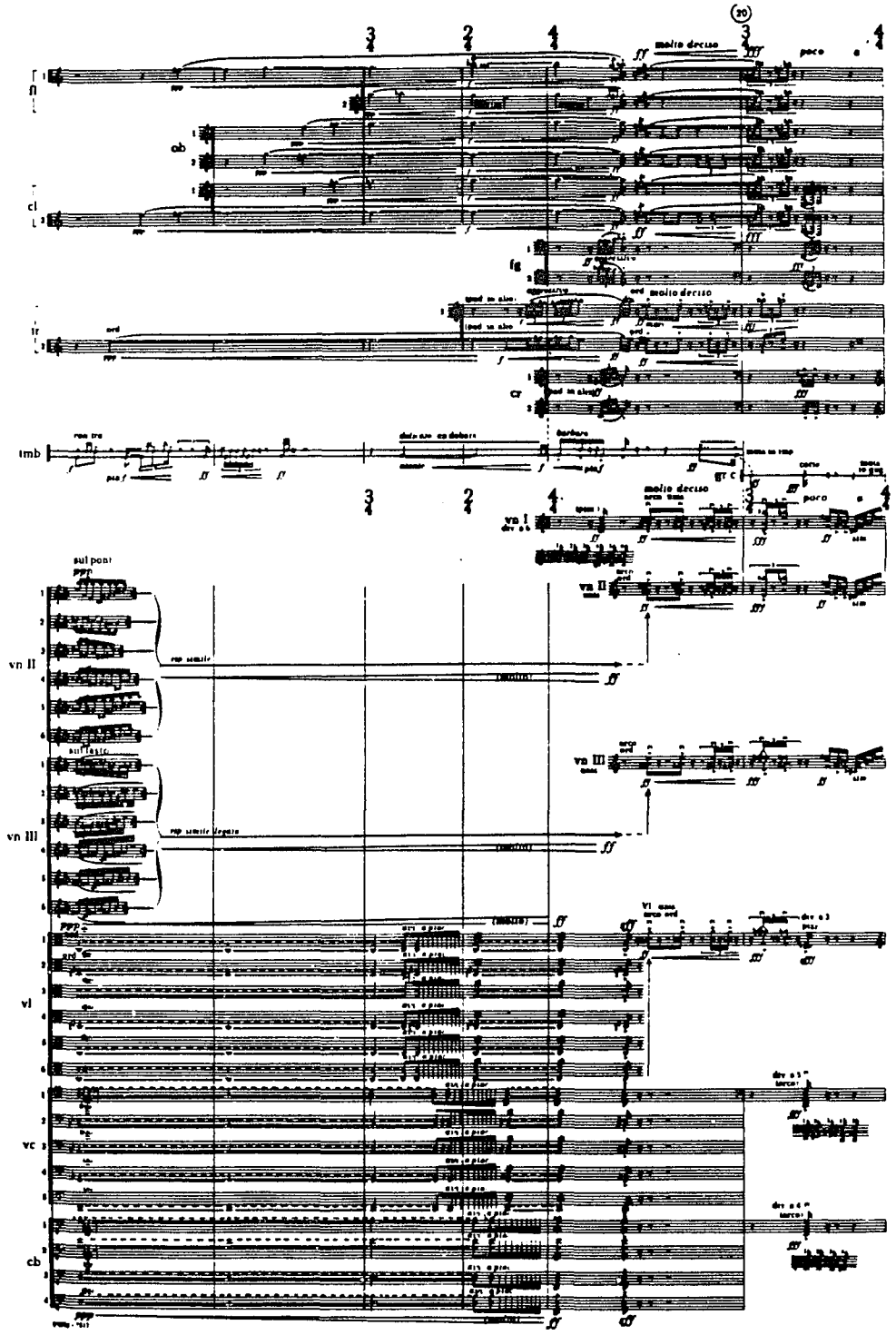
Example 3-8. Baird, Elegeia, mm. 19-20 of the first, second and third violin part, and mm. 21-22 of the string choir.



In example 3-8 the string instruments start together, in unison, on the third beat of m. 20. In the following measure one instrument after another stops on a selected pitch and sustains it for several beats. The remaining instruments continue the melodic line until m. 22 where the three violin parts and the violas acquire their own melodic material. Even then, all the parts move mainly in parallel motion and the rhythm is identical. The cellos and the double basses, playing divisi, join the upper strings with a different melodic passage. The rhythm in all four parts is virtually identical and the instruments play in parallel motion. Only two lines present original material. The other two double them at an interval of a minor second.

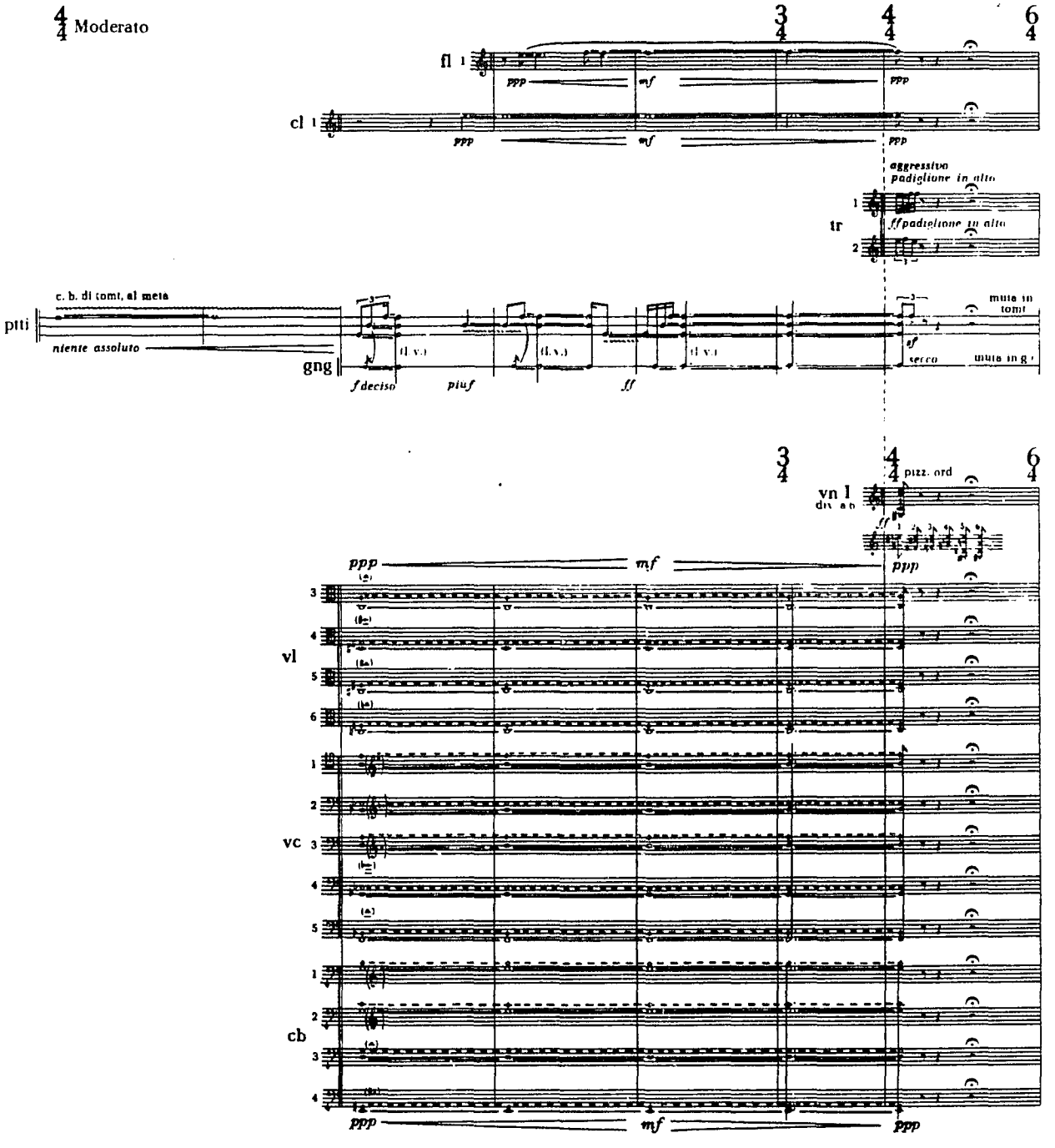
In order to compensate for the lack of substantial activity in the pitch structure in Elegeia, the texture is often layered in several groups, each of which or some of which focus on a specific timbre and vary with regard to the density of events. This results in a series of subtextures in a polytextural complex. The interaction between the subtextures is contrapuntal. The subtextures are contrasted to a varying degree by the selective use of timbre, articulation, dynamics, rhythm, density of events, and the use of repetition and nonrepetition. See Example 3-9.

Example 3-9. Baird, Elegeia, mm. 15-20.

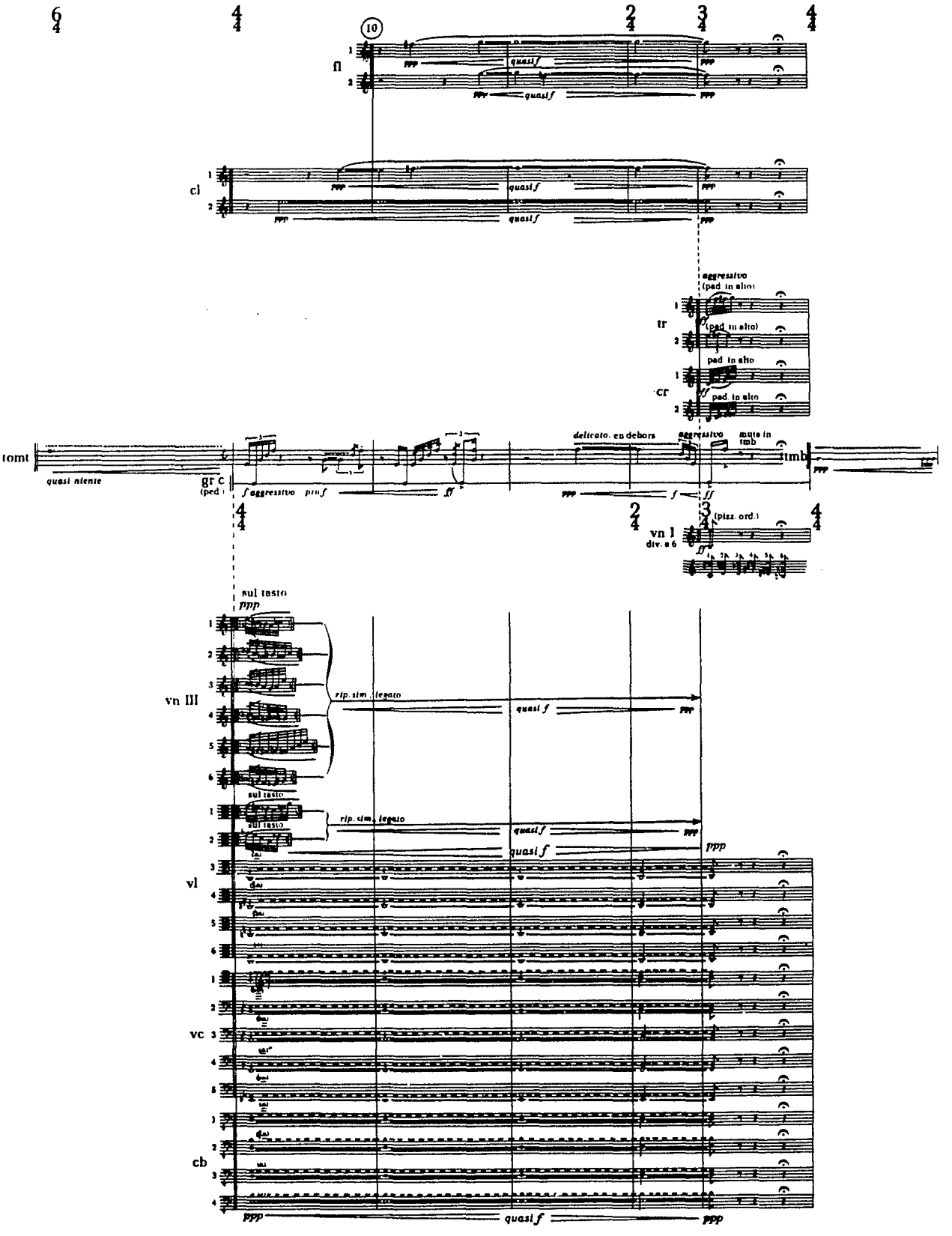


In Elegeia, the timbre functions as a major structural element. The importance of timbre is clearly evident in the opening measures of this work. See Example 3-10.

Example 3-10. Baird, Elegeia, mm. 1-14.



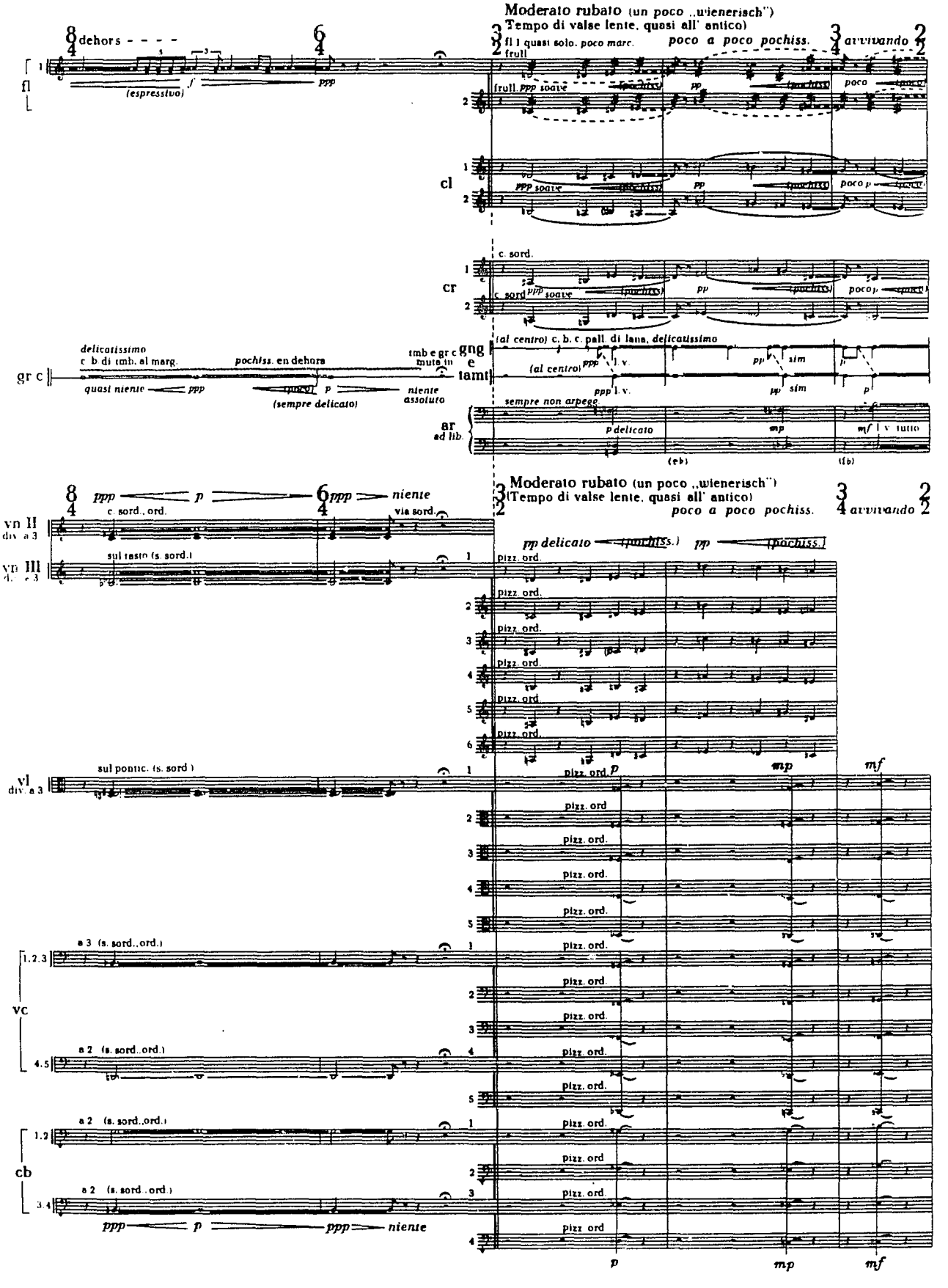
Example 3-10, cont.



Measures 1-13 can be subdivided into two phrases: mm. 1-7 and 8-13. The second phrase greatly resembles the first. The main difference involves the expanding role of the woodwinds which present and sustain more pitches, creating tone-clusters that move in the upward direction. The timbres of the woodwinds are constantly blended. The pitches are usually presented by two instruments but sustained by only one of them. The other instrument moves to another pitch. The simple gestures that occur in the woodwinds can be heard, in spite of relative complexity of events in the string section in mm. 1-13, because of the difference in timbre. The role of percussion instruments is to provide the sense of motion and structure and to clarify the length of the beat.

The important role of tone-clusters in the pitch structure of Elegeia has already been discussed in chapter II. From the point of view of texture, the tone clusters function in many capacities. For example, in mm. 53-54 the tone clusters in the second violins appear in a quasi-chordal structure with one or more instrumental parts doubling or ornamenting the melodic line. See Example 3-11.

Example 3-11. Baird, Elegeia, mm. 51-55.



In mm. 53-55 the tone clusters in the violas, cellos and double-basses are used as disruptive elements, contributing to the pacing of textural change. The density of tone clusters varies along with the instrumentation, articulation, and dynamics.

Chapter IV

FORM

Chapter IV deals with different types of form that appear in the four compositions that are discussed in this paper, and with the form as a result of pitch structure, and texture. In general, there is a sense of progression from forms that resemble stereotyped forms to through-composed forms that are guided by a sense of individual inner logic. The compositions selected for detailed discussion in this chapter include the first and the third movement of the String Quartet No. 1, First Essay, and Elegeia. Each work represents a different approach to the problem of form.

The more traditional approach to the problem of form is evident in the first movement of the String Quartet No. 1 (1957) which consists of three sections A B A' and their subdivisions. The outer sections and the middle section are contrasted in terms of character, tempo, dynamics, articulation, and texture. Sections A and A' are polyphonic, section B is homophonic. The principal tempo of the outer sections is Andante ♩ = 56, sempre poco rubato. The middle section is considerably faster, Marciale, molto pesante ♩ = 69. The formal divisions in the first movement are represented in Figure 1. See Figure 1.

Figure 1.

Measure numbers	Sections	Subdivisions	Comments
1-41	A		polyphonic texture
1-10		a	P0
10-27		b	various set-forms, excluding P0; considerable textural intensity
27-34		a'	return to P0
34-41		codetta	
42-80	B		homophonic texture
42-65		a	frequent appearances of retrograde forms of the set in the melody
65-80		gradual transition back to the opening	decreased textural intensity; the use of rhythmic motives derived from the preceding section
80-128	A'		polyphonic texture
80-93		a"	P2; restatement with slight alterations of the material presented in mm. 1-10
93-114		b'	variation of material stated in mm. 10-26
114-128		codetta	based on the transitional passage of section B, mm. 65-80

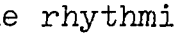
In the first section of the opening movement the formal divisions are a result of pitch structure and the interaction of expository and developmental processes. Measures 1-10 present the theme using the original form of the set exclusively. Changes of texture convey the sense of growth (mm. 1-7), stabilization (m. 8) and slight decline in the last two measures of subsection a. In the subsequent subsection b (mm. 10-27) the composer introduces various transpositions of the set but excludes the P0 statement of the set. As the subsection b progresses the sets frequently appear incomplete. In this subsection there is a general

sense of growth because of greater textural intensity. The contrapuntal processes become more apparent. For example, imitation in mm. 20-26 occurs at relatively close time intervals. In mm. 27-28 the texture becomes stabilized on a slightly lower level than in m. 25. This procedure lets tension drop a little in preparation for the return of the theme on the third beat of m. 28. The restatement of the theme coincides with the return of the original form of the set. The gradual textural recession that results from greater interdependence of parts coupled with more restricted harmonic activity, is evident in mm. 30-34. It prepares for the appearance of a codetta in mm. 34-41 which leads into the homophonic section B.

In the contrasting section B (mm. 42-80) the melody exploits primarily the retrograde and, occasionally, the inverted forms of the set while the accompaniment focuses mainly on the transposed, original statements. This section can be subdivided into two parts: subsection a (mm. 42-65), and subsection b (mm. 65-80) which functions as a gradual transition back to the return of the opening theme in m. 80.

Subsection a can be further subdivided into four homophonic phrases which are set apart by two appearances of very short, quasi-polyphonic passages which occur after the first and the second phrase. In this subsection, there is a general sense of progression and growth towards the

climax in mm. 62-63. In m. 64, a sudden drop in textural intensity and dynamics anticipates the transitional subsection b.

The quiet and delicate subsection b presents a clear contrast to the preceding subsection a. But it primarily exploits one rhythmic motive (), derived from subsection a. The dynamics vary from p to ppp, with one appearance of a sf in m. 74, accompanying the above-mentioned rhythmic motive, presented in diminution. A similar process occurs at the climax of subsection a in m. 63. The articulations in mm. 69-78, such as legatissimo senza vibrato, à punta d'arco, pizzicato sul ponticello, result in subtle changes in coloration. That further separates the transitional subsection b from the following section A'. The last four measures before the appearance of section A' (mm. 77-80) are used to gradually return to the articulation typical of the opening section (arco) through the transformation of pizzicato sul ponticello into pizzicato ordinario, and later to arco. The changes in articulation are combined with slower tempo, lower range and considerably lesser density. The return of the theme in m. 80 coincides with a change of tempo to Tempo I ♩ = 56.

Section A' is a varied restatement of section A. Measures 80-93 are equivalent to mm. 1-10. The major difference involves the substitution of P2 statement of the set for P0, and slight changes in orchestration, mainly the

reversal of first and second violin parts. Between the two violin parts there is a rhythmic displacement involving a delayed entrance of one part in relation to the other part. The delay is very short, one additional eighth-note rest, but the resulting counterpoint is visibly altered.

The following section b' (mm. 93-114) varies the material stated in mm. 10-26. The changes are relatively minor and involve meter and rhythm rather than melody. The comparison of the rhythm in subsections b (mm. 10-20) and b' (mm. 93-104) shows that Baird shapes their structure differently in order to convey two contrasting ideas: the expansion of the material in mm. 10-20 and the gradual contraction of the material in mm. 93-104. In the latter case, the lesser density in the accompanying voices (vla and vc.) requires more diverse and flexible rhythmic structure of the melody (vns 1 and 2). This permits an extension of this subsection (mm. 105-114) in order to accomodate a graceful ending.

The final measures of the first movement (mm. 114-128) function as a codetta that brings back the characteristic rhythmic motive of section B. The manner of presentation of this motive (ppp, à punta d'arco), combined with an overall decrease in tempo and a change of character in the entire codetta, reinforces the feeling of a decline and anticipates the end of the movement.

The third movement of the string quartet is cast in a form that resembles sonata form. The sonata form is extended by the addition of a two-part coda at the very end of the movement (mm. 189-300) which presents material derived from the first movement within development of previous sections. This reminiscence of the opening movement contributes to the sense of continuity within the quartet as a whole. See Figure 2.

Figure 2.

Measure numbers	Sections	Subdivisions	Comments
1-9	Intro.		the set at P1
10-55	A		Exposition / 1st theme
10-26		a	motive x
27-55		a'	development of a and transition to section B
56-90	B		Exposition / 2nd theme
56-77		a	contrasting character; new transformations of motive x
77-90		a'	
91-127	C		Development
128-152	A'		Recapitulation / 1st theme
		a"	motive x; this section is shorter than its equivalent, section A
153-188	B'		Recapitulation / 2nd theme
		a"	motive x, and segments of the set (order # 0-3)
189-300	Coda		
189-204		a	development of section A from the first movement; the set appears incomplete
205-300		a'	incorporation of 1st movement material within development of A, B and introduction; motive x further disintegrates; the set establishes itself as the major source of melodic material.

The form of the third movement is a direct result of the interplay of two sources of the pitch structure: motive x and the set. Motive x is the only source of melodic material in the main body of the movement, excluding the introduction which is based on the set. Later, it gradually loses its importance in favor of the set. The interplay of the set and motive x has a powerful effect on the form of the entire string quartet because of the combination of the pitch structure characteristic of the first movement (the set) with the pitch structure typical of the third movement (motive x). Within the two parts of the coda the initial domination of motive x over the set is gradually diminished until, in mm. 291-300, the motive finally disintegrates. At the same time, the importance of the set steadily increases:

The introduction to the third movement, Adagio molto tranquillo (♩ = 48) consists of mm. 1-9. The melody, presented by all four instruments in succession, from the lowest to the highest, results from the statement of the original set at P1. The manner of presentation of the set (dynamics, overall character) recalls the opening of the quartet.

Section A (mm. 10-55) functions as the first thematic group. It can be subdivided into two subsections

a and a'. The entire section A uses various transformations and transpositions of motive x. The techniques associated with these transformations have been discussed in chapter II of this paper.

Subsection a consists of 3 phrases (mm. 10-14, 15-17, 18-20) and a short transitional passage in mm. 21-26. In the first phrase the four instruments introduce motive x in octave doublings. The second phrase introduces more textural variety because of wider range and greater density in the top three voices (diminution and slight variation of motive x). In addition, the cello part presents motive x independently, using a different transpositional level, and different rhythm. In the third phrase textural intensity drops slightly because this phrase transposes the previous phrase a perfect fourth down. The only difference involves the octave transposition of the two last notes in the cello part. The following passage (mm. 21-26) is a transition to the subsection a'.

Subsection a' functions as the development of the material stated in subsection a, and as a transition to the contrasting section B. Because of its developmental context, subsection a' uses much more complex textural activity than subsection a. The register is greatly expanded, the density increases significantly and the textural rhythm (the timing and the rate of change of texture) is much faster. The pitch structure reflects these changes by incorporating

more distant derivatives of motive x. The dynamics varies from *f* to *fff*. The texture is most active in mm. 31-35. Later, very gradually, the texture becomes less diverse because of reduced independence of voices. But until m. 48 the textural intensity is kept on a similar level by the process of compensation. The reduced independence of voices is initially compensated by very high dynamic level (*fff*) and by greater density combined with repetitive harmonic or melodic patterns. Starting in m. 48, there is a distinct drop in textural intensity resulting from relatively narrow range, and lesser density. The texture becomes stabilized in m. 52 in preparation for the appearance of section B, *Molto tranquillo, ma sempre ben in tempo*.

Section B functions as a contrasting second theme. Its pitch structure is also derived from motive x. Although both themes are derived from the same motive x, they function as contrasting themes because of their completely different character, articulation, dynamics, texture, and the use of different transformations of motive x.

Section B is subdivided into two subsections: a (mm. 56-77) and a' (mm. 77-90). The main difference between these two subsections involves articulation. Pizzicato effect present in the first subsection is virtually absent from the second. The pizzicato is eliminated in this subsection because of the subsequent appearance of *pizzicato sul ponticello* at the beginning of the development, section C (mm. 91-127).

The entire section B uses motive x in new transformations and transpositions. Virtually every note can be accounted for in terms of this motive. In subsection a the motive is presented staccato (arco or pizzicato), in eighth-notes, by one of the three upper parts. Motive x also appears in one or two remaining parts. It is usually incomplete, with the first two notes repeated, and it is presented in longer rhythmic values (quarter notes or half notes). The articulation, legato with constant slurring by two notes, changes motive x so completely that it is virtually unrecognizable.

In the subsection a' the level of textural intensity drops significantly. The density is very low. The predominant rhythmic values are quarter notes. The only exceptions are mm. 81 and 85 where the last three notes of motive x, frequently missing in the previous subsection because of incomplete statements, are emphasized by their presentation in sixteenth-notes in octave doublings.

Measure 90 marks the beginning of section C, the development. Textural changes evident at the beginning of this section include steady increase in density by the gradual addition of instrumental parts, and continuous expansion of the range. The dynamics increase from pp to f in the first seven measures of section C. The steady increase in textural activity, especially in density, is combined with constant transformations of motive x. The transformations that occur in this section are the most complex

and far-reaching in the entire movement. The rate of change of textural activity (textural rhythm) is very high. In mm. 118-127 different transformations and transpositions of motive x are stated by each of the four voices. Because the voices are homorhythmically related, this passage somewhat resembles a chorale. The textural activity is stabilized on a very high level in mm. 118-122 where a drop in density is compensated by very wide range and loud dynamics. Measures 123-127 mark a slight decline in intensity caused primarily by the reduction of the range.

Section A' begins with the return of the original material in m. 128. In comparison to the opening section, section A' is shorter, less developmental. The continuous use of dotted rhythm creates considerable tension. The level of textural activity remains steady until m. 146 where the dotted rhythm is eliminated in favor of the steady succession of quarter notes, or longer rhythmic values. The decline in density in mm. 146-152 is compensated by very high dynamic level, fff, followed by a crescendo in mm. 151-152. The initially smaller range is expanded until it is approximately the same as in the preceding mm. 140-145.

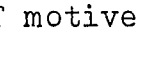
The transitional processes that take place in mm. 146-152 are similar to those in mm. 52-56. However, the comparison of both passages shows that the structure of the latter is different because of the long-range planning involving the accomodation of section B' and the first part of the coda, which is very similar in character. In mm. 52-56

there is a decline in dynamics but not in density. The following subsection a is also relatively dense, and the range is considerably expanded. The subsequent short subsection a' (mm. 77-90) compensates for the overall loss of its density by the appearance of two very short motives derived from motive x, and presented in sixteenth-notes. The motives are unexpected at this point and clearly anticipate development. This approach permits Baird to establish a contrasting section B and to set up the drastic change in the character of section C, without the loss of momentum necessary to balance the short length of section B. In comparison, in mm. 146-152 the composer also intends to slow down the motion in anticipation of the second theme but tries to sustain the dynamic level in order to compensate for the combined lengths of section B' and the subsequent first part of the coda, which is very similar in character.

Section B' is characterized by greater harmonic activity and by more dramatic contour of the melodic lines than section B. In the pitch structure of section B' Baird incorporates melodic motives derived from the segment of the set (order # 0-3) within the context of motive x. It is the first instance in the third movement where the elements derived from the set appear along the melodies based on motive x. Section B' functions as an important structural element in the quartet as a whole. It implies possible changes in the relative importance of motive x and the set.

The first part of the coda (188-204) presents incomplete set at P9. The incomplete set stresses two pitches, G and F♯, associated with the original statement of motive x. The second phrase combines the same pitches G and F♯ with the melody derived from the codetta of mm. 35-41 of the first movement.

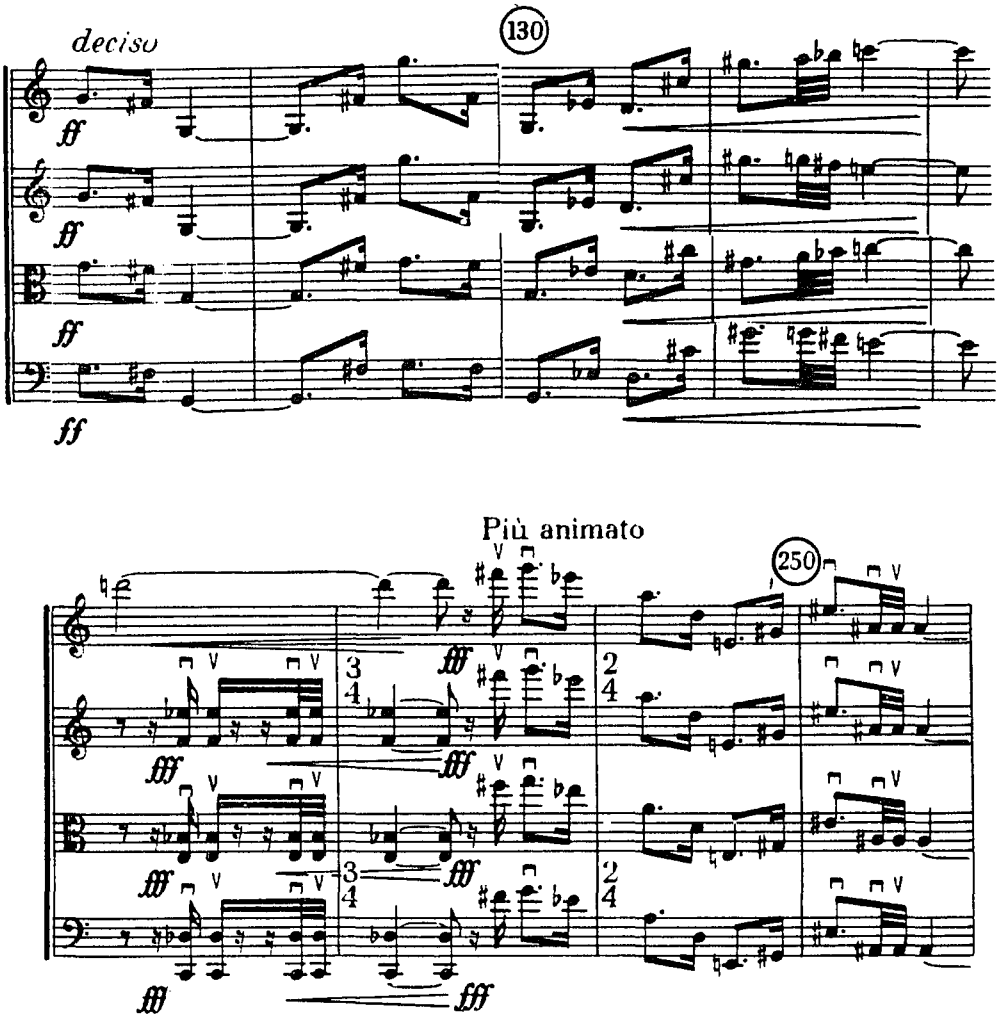
The second part of the coda incorporates first movement material within development of sections A and B, and introduction. It can be subdivided into three subsections a b'a'. The formal shape of this section of the coda resembles the first movement of the quartet in miniature, including the contrast between polyphonic outer parts and homophonic middle part.

The pitch structure in the entire subsection a utilizes the original form of the set. For the first time in the third movement, the cello part presents the complete set at P0 (mm. 206-214). The violin part, starting in m. 205, is based on P4 transposition of the set. The reason for the use of this transposition of the set is, again, to emphasize the pitch-classes G and F♯, the first two pitches of motive x at P0. The rhythm () also strongly suggests motive x. The element of ambiguity introduced at the very opening of this section regarding the relative roles of the set and motive x is essential as a determinant in the shaping of form.

In subsection b the melodic material is based on section B of the first movement. The most interesting

procedure from the structural point of view appears in mm. 248-256 where the pitch structure based on I3, and later on R4 incomplete form of the set, is combined with the characteristic rhythm typical of the recapitulation in mm. 128-131, and associated with motive x. This time the importance of motive x is further reduced. Motive x is no longer present but the rhythm strongly reminiscent of it is combined with the presentation of the set. See Example 4-1.

Example 4-1. Baird, String Quartet, 3rd movement, mm. 128-131 and mm. 247-250.



Measures 256-259 are based on the introduction to the third movement. This short passage starts with a segment of the set at P1 (order # 0-3), a transpositional level identical to that of mm. 1-9, but then abandons this transposition in favor of another four-note segment at P10.

The last subsection a' is entirely based on the set. The pitch-classes G and F# are once again emphasized at the very end of the work (mm. 291-300). This time, however, the rhythm is different and motive x seems to have finally disintegrated.

The form of the First Essay resembles theme and variations. The theme is stated in mm. 1-12. There are four variations (var. 1, mm. 13-20; var. 2, mm. 20-30; var. 3, mm. 31-37; var. 4, mm. 38-47) and a codetta (mm. 47 to the end). See Figure 3.

Figure 3.

Measure numbers	Sections	Subdivisions	Comments
1-12	theme		polyphonic texture
13-20	var. 1		polyphonic texture; greater interlinear dependence of voices
20-30	var. 2		homophonic texture
31-37	var. 3		polyphonic texture
38-47	var. 4		quasi polyphonic/homophonic texture
47-55	codetta		

The theme and each of its variations utilize different pitch structures, and textures. Texture in the first essay includes a range of polyphonic textures, and homophonic texture. The theme and variations are further differentiated by changes in the instrumental ensemble.

The theme uses polyphonic texture. The melody is initially presented by solo instruments starting with the violin I solo, and other three instruments joining in succession, one in each subsequent measure. The resulting counterpoint is based on a set that consists of twelve pitch-classes but repeats one pitch-class and omits another. This set and its ramifications are discussed in chapter I, pp. 15-16. The presentations of the sets are often incomplete. Two or more transpositions of the set often appear simultaneously. In m. 7 the density increases because of the inclusion of the remaining instruments which present a series of chords. Each of these chords emphasizes four subsequent pitch-classes of the chromatic scale. The effect of these "clusters" is softened by the use of different registers which attenuate the severity of dissonance. The density drops substantially in mm. 10-12 and the texture becomes stabilized in a quasi-cadence. The cadential feeling is emphasized by the appearance of a new instrumental color (two harps) in mm. 10-11.

In the first variation Baird uses characteristic texture that is primarily polyphonic but displays a high

degree of interlinear dependence. This technique involves the presentation of the same transposition of the incomplete set in the cellos (order # 0-9) and in the double-basses (order # 0-3). The presentation of the set starts simultaneously and then proceeds independently, with the double-basses moving in much slower rhythmic values. In the first variation the range is gradually expanded in the upward direction (). The density is the greatest at the beginning (mm. 12-16) where there are three independent, and relatively mobile parts. Starting with m. 17, the density drops substantially. The stabilization of texture at the cadential point in mm. 19-20 is, again, accompanied by the appearance of two harps.

In the contrasting, homophonic variation 2 Baird focuses on the timbre of violin solo and the harp. In this variation the composer uses melodic material that is either loosely based, or related to the set, or material that is totally unrelated to it. The three appearances of the set (all incomplete) are further transformed by elimination of pitch-classes and by changes in ordering. Variation 2 is characterized by flexibility of tempo and by slightly expanded range of dynamics (p<mf).

The following variation 3 returns to the polyphonic texture of the theme. The frequent doublings result in considerable interdependence of voices. The pitch-structure is derived from the set. The presentations of the set are

more complete than in the previous variations but still include incomplete statements, or sets with occasional alterations in ordering.

The fourth variation functions as the climax of the first essay. It is thrown into relief by a combination of factors including an extended ending of a previous variation, contributing to the sense of separation between them, a preparatory measure (senza tempo) with a dramatic crescendo from ppp to ff in the second violins and an equally dramatic decrescendo from ff to pp, in the six solo cello parts, in the following measure (m. 40). The pitch structure of this variation is derived from segments of the set (m. 40, vle and vc.: P4, order # 8-11), material that resembles modified and incomplete set, and material that is completely free. The overall character of this variation is that of a recitative. The texture varies between quasi-polyphonic and homophonic. The last three measures (mm. 45-47) are monophonic with the violas presenting a cantabile melody of considerable density and relatively large range. The emphasis on a single timbre and a single melodic line prepares for the final codetta in mm. 48-55, which consists of three presentations of the same melodic motive. The sense of closure is evident in the gradual reduction of the range combined with faster rhythmic values and thus with contraction of musical space devoted to that motive, and declining dynamics (mp, p, pp sotto voce).

As demonstrated in the preceding discussion of Elegeia in chapters II and III, this work uses a non-traditional approach to the pitch-structure, and texture. Elegeia is a completely free, atonal work which utilizes clusters as a major structural element. In Elegeia, texture becomes a primary element in the shaping of form and replaces the traditional concept of melodic and rhythmic theme and its transformations. The changes in the pitch structure and in the role of texture are reflected in a different process involved in the delineation of the form.

Elegeia is not cast in a stereotyped form. Instead, it is guided by a sense of individual inner logic. This work can be divided into four sections A B C A'. See Figure 4.

Figure 4.

Measure numbers	Sections	Subdivisions	Comments
1-28	A		Emphasis on heterophony
1-13		a	
14-28		a'	timbre and density are the most active components of texture; contrapuntal interaction between blocks of sound
28-52	B		Blurred distinctions between textures
28-40		a	timbre is the most important component of texture; motive a
40-52		a'	variation of motive a
53-116	C		Motivic developments; heterophony and polyphony intertwined
53-80		a	motive b
81-97		a'	development of motive b
98-116		a"	distant derivatives of motive b; the only appearance of inverted motive b
116-132	A'		

The first section A (mm. 1-28) is characterized by steady increase and then stabilization of textural activity in mm. 1-25 and a sudden drop of that activity in mm. 27-28. In mm. 1-25, the most active components of texture are density and timbre. These elements, along with articulation and dynamics, function as primary elements in the process of shaping of form. In mm. 1-25, which register a consistent growth of tension, the drop in intensity of one element is compensated for by the increase in intensity of another element.

The first section can be subdivided into two subsections: a (mm. 1-13) and a' (mm. 14-28). The first subsection consists of two very similar phrases (mm. 1-7 and 8-13). The main difference between them involves the increase in density in the second phrase by the simultaneous introduction of eight constantly repeated melodic patterns in the third violins and in the third and fourth viola.

Subsection a' begins with a phrase that expands the material presented in the preceding subsection in terms of density, and overall length (mm. 14-19). The remaining part of subsection a' (mm. 19-28) consists of four phrases that function as contrasting blocks of sound. The contrast between these blocks is achieved primarily by changes in melodic material, texture, timbre and articulation.

The first block of sound (mm. 19-20) introduces heterophonic texture. The relationship that exists in these measures involves the appearance of parallel contour with

minor alterations in the melodic line. The articulation includes several accents and the presentation of the same melodic material staccato and legato in two separate instrumental groups.

The next block of sound further exploits heterophony. The instrumentation changes to string choir. The relationship in the upper strings involves parallel contour with minor alterations in interval structure. The lower strings present, or embellish, one melodic line in parallel seconds (with a few minor alterations). The interaction between these two groups is contrapuntal.

The following block of sound (mm. 24-26) greatly resembles the first, but the heterophonic texture becomes transformed into chordal texture. There is considerable drop in density, caused primarily by longer rhythmic values, slight decline in tempo, and heavy articulation. This decrease in textural intensity is compensated by two additional instrumental colors: two trumpets (mm. 24-26) and two horns (mm. 25-26). The final three measures function as another block of sound. The tension is drastically lowered by the decrease in dynamics, very low density and the return to the legato playing in mm. 26-28, in preparation for the appearance of the lyrical section B.

In section B (mm. 28-52) the most important component of texture is timbre. The textural activity is relatively low. This section can be subdivided into two subsections: a (mm. 28-39) and a' (mm. 40-52).

Subsection a consists of three contrasting phrases. The first phrase includes two very similar statements that function in a manner reminiscent of question and answer in tonal music. These statements are based on one characteristic melodic motive, henceforth referred to as motive a. The second phrase is a varied restatement of the first, a major second below, with minor but significant adjustments that contribute to the feeling of the overall decline in the phrase. These adjustments include the extension of the range downwards, the addition of an extra note in the clarinet part, and larger intervals in the downward direction. In mm. 28-32 the timbres of the woodwinds are constantly blended. Frequently, a pair of instruments presents two pitches which are immediately restated, and sustained by a pair of different instruments. In the following phrase the texture changes from a single statement in unison to quasi-heterophony in violins I and II, and in violins III, divisi. All the voices in the string choir (excluding the double-basses) are basically homorhythmically related. The increase in density in the second phrase is accompanied by a significant increase in dynamics. The second and the third phrase overlap in terms of texture. The third phrase is basically homophonic, leaning toward monophony, because the pitch structure (clusters) in the accompanying strings and harp is completely inert.

The subsection a' (mm. 40-52) begins with a melodic motive in the flute that greatly resembles subsection a. The flute is accompanied, in a chorale fashion, by two clarinets and two bassoons. The melodic motive a is followed by a varied restatement of the same motive a, moving upward, and contributing to the sense of growth. This is immediately countered by the return to the same pitch level and to the same rhythmic values in m. 42. The remaining phrase (mm. 48-52) centers on the pitch a'. The pitch structure changes very slowly and that creates a very definite feeling of the decline in this phrase.

The following section C (mm. 53-116) can be subdivided into three subsections a a' a". It is the only section in Elegeia that uses motivic development. Each subsection introduces a different transformation of the melodic motive b, first stated by the flutes in mm. 53-54. These motivic transformations are discussed in detail in chapter II of this paper.

In mm. 53-54 of subsection a the density is very high and the interdependence of the voices is also high. The resulting texture is a cross between heterophony and polyphony, an example of blurred distinctions between textures. Occasional contrary motion is offset by virtually identical rhythm in the flutes, clarinets, horns and violins III. The melodic material that appears in mm. 55-58 in the flutes is an immediate development of the melodic

motive b. The two melodic lines in the flutes are accompanied by similar or identical statements in the clarinets, bassoons, trumpets or horns. This relationship, involving parallel lines, is clearly heterophonic. The string choir presents clusters which contribute to greater overall density. In mm. 59-62 the texture suddenly changes. Three chords are sustained by the strings, ppp. This statement, disrupting the continuity, serves to throw into relief the following passage (mm. 63-74) which basically repeats the procedures typical of mm. 53-58. However, this passage is slightly expanded, the clusters accompanying the development of motive b are less dense, and the articulation changes from pizzicato to arco, ordinario. In this passage there is a definite sense of textural decline in terms of lesser density and smaller range. Further sense of decline in textural intensity is evident in the final phrase of subsection a, where the flute restates motive b in much longer rhythmic values.

In subsection a' motive b undergoes more extensive transformations. The first transformation occurs in the flute, oboe and trumpet in mm. 81-83. Other instruments either present an incomplete transformation of motive b, or another variant of it. Relative independence of parts in mm. 81-83 is superseded by extremely high density and dynamic level coupled with considerable interdependence of parts in the woodwinds and brass in mm. 84-86. The high activity is suddenly interrupted in m. 87 and the texture

is stabilized on a very low level. In mm. 90-97 the procedure is virtually identical to that of mm. 81-89. The pitch structure is somewhat changed. The new variant of motive b is more compact but still very similar to the variant that appeared in mm. 81-82.

In the final subsection a" (mm. 98-116), the texture is heterophonic. This subsection includes the most far-reaching transformations of motive b in the flute part, accompanied by incomplete statements of motive b, or statements that contain slight alterations in the pitch structure. At the very beginning of subsection a" (mm. 98-100) the dynamic level is very high but the density is lower. The statement of motive b that appears in mm. 98-99 is used, with minor alterations, in the following two phrases. It is presented by the string choir (mm. 100-102) in very long rhythmic values. The lyrical melody resulting from this statement of motive b is expanded in mm. 103-105. The gradual raise in the dynamic level and the expansion of the register is compensated by low density. Another drop in textural intensity is noticeable in mm. 106-116 where motive b appears in inversion. It is first presented in the string section, in heterophonic texture, with the flutes continuing the melody in a manner similar to mm. 103-105. Then it appears primarily in the trumpets, with the flutes and the first horn doubling and sustaining selected pitches.

In the last section A' the tension drops to a very low level. The range becomes progressively smaller and the dynamic level is very low. Motive b does not appear in its entirety, but the first two pitches of the inverted statement emerge in mm. 126-128. At this point the transformation of motive b is complete. It resembles the initial pitches in the flute and clarinet parts in mm. 4-6 which emphasize a semitone in a very similar fashion. Thus the semitone seems to be a skeletal form of motive b.

Chapter V

CONCLUSION

The analyses of Baird's String Quartet No. 1, Four Essays, Exhortation and Elegeia provide considerable insight regarding the continuous evolution of his compositional technique and style. These works were written over a span of sixteen years. They display many differences in the composers' approach to various compositional processes. This concluding chapter reviews his handling of musical elements and describes the most essential aspects of his compositional technique.

The musical elements that undergo the most drastic transformations in Baird's works include pitch, texture, and form. The string quartet is the most traditional of the four works that are discussed in this paper. Elegeia is the most innovative in terms of the function of texture and the pitch structure. The other compositions display varying degrees of dependency on twelve-tone technique and on traditional approach to texture, and form.

In the four works the pitch structure undergoes a gradual transformation from strict twelve-tone technique toward entirely free, atonal structures. Textural changes exhibit a gradual progression in Baird's style from the traditional toward a new handling of texture, from clearly

differentiated textures to blurred distinctions. The formal divisions in the early works resemble stereotyped forms. Later works exploit through-composed forms, governed by the sense of individual inner logic.

The pitch structure in the string quartet displays an interesting dualism. The first and second movements of the quartet are based on twelve-tone sets. The major part of the third movement is based on a characteristic melodic motive x. This last movement displays an interplay of motive x and the set, with the latter finally establishing itself as the major force in the quartet as a whole.

The twelve-tone set-forms undergo a series of transformations in the quartet, including the addition and the elimination of pitch-classes, the interpolation of pitch-classes, and the isolation of various segments of the set as melodic motives in a developmental fashion. In the second and third movements of the quartet, there is an increasing importance of motives as determinants of structure. Gradual transformations of a specific motive lead to a series of new motives, some of them only distant derivatives. The importance of motive x in the third movement has already been mentioned.

In the Four Essays, there often is a juxtaposition of passages based on the set and free passages or passages only loosely related to the set. Exhortation uses twelve-tone sets only incidentally, and Elegeia is based on entirely

free, atonal pitch structures with the frequent use of pitch-bands (clusters).

From the point of view of texture the string quartet is, again, the most traditional. The textures are in most cases clearly defined and the serial structure often correlates with the texture. Texture, along with other musical elements plays an important role in thematic differentiation in the quartet. In the Four Essays textural expansions and withdrawals are basic techniques in the delineation of form. The instrumentation is often related to the pitch structure. Various instrumental parts use specific serial and other pitch techniques as the source of their melodic structure. Also, the exclusive appearance of certain transpositions of the set relate directly to specific instrumental ensembles. In Exhortation, texture and timbre acquire greater significance as primary structural elements, occasionally replacing harmony, rhythm, or tempo changes to become factors delineating the form of the composition along with melody, dynamics and articulation. In Elegeia, the texture becomes a primary element in the shaping of form and replaces the traditional concept of melodic and rhythmic themes and their transformations. Textural activity, the growths and declines of texture are important in the ordering of form in terms of interplay of tension and relaxation. The emphasis on textural activity reflects a relative stasis in the tonal-harmonic activity.

In terms of form, in the four compositions under discussion there is a general sense of progression from forms that resemble stereotyped forms to through-composed forms governed by the sense of individual inner logic. In the string quartet the formal divisions are a result of pitch structure and the interaction of expository and developmental processes. The principles of nineteenth century cyclic form, such as those present in Brahms' Clarinet Quintet are clearly evident in the quartet and involve the restatement of first movement material within the development of third movement material. In the Four Essays the variational process is very important in the shaping of form. Also, the use of specific instrumental color and specific instrumental ensemble is essential in the process of the delineation of form. In Exhortation, the formal structure is governed by textural changes and changes of instrumentation. Elegeia is the most innovative composition with regard to form. It is a result of non traditional use of texture, and the changes in the pitch structure.

In spite of the use of such disparate compositional techniques, all four compositions by Tadeusz Baird are united by an extraordinary concern for expression, lyricism and drama. Other unifying elements include the frequent use of characteristic melodic and rhythmic motives that

subsequently undergo extensive transformations (variation or development), and the appearance of melodic lines that emphasize minor and major seconds. The composer is especially sensitive to orchestral color. All the works are characterized by brilliant orchestration and a concern for idiomatic writing. One of the more characteristic aspects of Baird's orchestration involves a juxtaposition or superposition of different blocks of sound, each of which centers around a specific type of texture and instrumental color.

The poetic quality and the richness of sound in Baird's music, combined with his sophisticated craftsmanship, result in very successful compositions not only from the technical, but also from the emotional point of view. Baird's continuous efforts to enrich his musical language by expanding his compositional technique and his ability to successfully combine the new and the old elements, point to a talented, complex, curious, and very discriminating musician.