A TONAL ANALYSIS OF THE FIRST STRING QUARTET, OPUS 37, BY KAROL SYMANOWSKI

By

PAUL CADRIN

M.A., McGill University, 1979

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY in THE FACULTY OF GRADUATE STUDIES (Department of Music)

We accept this thesis/ as conforming to the/ required standard

THE UNIVERSITY OF BRITISH COLUMBIA

December 1985

© Paul Cadrin, 1985
In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.
ABSTRACT

In 1917, at the peak of the most productive period of his creative life, the Polish composer Karol Szymanowski (1882-1937) undertook his First String Quartet in C, opus 37. Of the four movements originally planned, three were published in 1925. These three movements reflect important directions in the evolution of the composer's style: from a youthful fervor toward German late romanticism (First Movement), through Szymanowski's discovery of French impressionism (Second Movement), to his most daring experiment with polytonality (Third Movement).

The complexity of this work, particularly of its tonal-harmonic language, raises questions which this dissertation proposes to answer. In order to do this, a three-tiered approach is used. At a first level, the surface of the work in all its details is represented as a network of lines according to stated criteria of continuity. At a second level, the structurally decisive outer-voices are extracted and the verticalities providing the harmonic framework for linear motions identified. Finally, at a third level, the tonal-harmonic structure is represented through multilevelled Roman numeral designations, on the one hand; and, on the other, broad directions of motion encompassing major sections and entire movements are portrayed in outer-voice frameworks. Following a discussion of these methodological stages, each movement is analyzed in detail.
A summary of significant principles of polytonality introduces a discussion of Szymanowski's application of these in the Third Movement. As a broad commentary on the composer's style and technique in the First Quartet, the final chapter examines particular procedures manifest in all three movements. Voice-leading graphs for the entire Quartet are appended.

Dr. Wallace Berry / Research Supervisor
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF GRAPHS IN APPENDIX</td>
<td>vi</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Karol Szymanowski: His Life and the Evolution of his Style to the Time</td>
<td>2</td>
</tr>
<tr>
<td>of the First Quartet</td>
<td></td>
</tr>
<tr>
<td>Evolution of the First Quartet before its Publication</td>
<td>5</td>
</tr>
<tr>
<td>Notes</td>
<td>8</td>
</tr>
<tr>
<td>CHAPTER I - METHODOLOGY</td>
<td>10</td>
</tr>
<tr>
<td>Focusing on Voice-Leading</td>
<td>14</td>
</tr>
<tr>
<td>Focusing on Outer-Voice Preponderance and Chordal Structures</td>
<td>22</td>
</tr>
<tr>
<td>Focusing on Tonal-Harmonic Structure and Outer-Voice Framework</td>
<td>26</td>
</tr>
<tr>
<td>Sample Analysis</td>
<td>32</td>
</tr>
<tr>
<td>Notes</td>
<td>44</td>
</tr>
<tr>
<td>CHAPTER II - ANALYSIS OF THE FIRST MOVEMENT</td>
<td>46</td>
</tr>
<tr>
<td>The Introduction</td>
<td>46</td>
</tr>
<tr>
<td>The Exposition</td>
<td>60</td>
</tr>
<tr>
<td>The Development</td>
<td>79</td>
</tr>
<tr>
<td>The Recapitulation and Coda</td>
<td>89</td>
</tr>
<tr>
<td>Tonal-Harmonic Structure and Formal Design</td>
<td>100</td>
</tr>
<tr>
<td>Notes</td>
<td>106</td>
</tr>
<tr>
<td>List Item</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>First Movement, measures 1 to 18.1</td>
</tr>
<tr>
<td>2</td>
<td>First Movement, measures 18 to 35.1</td>
</tr>
<tr>
<td>3</td>
<td>First Movement, measures 35 to 44.1</td>
</tr>
<tr>
<td>4</td>
<td>First Movement, measures 44 to 53.1</td>
</tr>
<tr>
<td>5</td>
<td>First Movement, measures 53 to 63.1</td>
</tr>
<tr>
<td>6</td>
<td>First Movement, measures 63 to 73.1</td>
</tr>
<tr>
<td>7</td>
<td>First Movement, measures 73 to 118.1</td>
</tr>
<tr>
<td>8</td>
<td>First Movement, measures 118 to 159.1</td>
</tr>
<tr>
<td>9</td>
<td>First Movement, measures 159 to 182</td>
</tr>
<tr>
<td>10</td>
<td>Second Movement, measures 1 to 10.1</td>
</tr>
<tr>
<td>11</td>
<td>Second Movement, measures 10 to 22</td>
</tr>
<tr>
<td>12</td>
<td>Second Movement, measures 23 to 40</td>
</tr>
<tr>
<td>13</td>
<td>Second Movement, measures 41 to 85</td>
</tr>
<tr>
<td>14</td>
<td>Third Movement, measures 8 to 20.1</td>
</tr>
<tr>
<td>15</td>
<td>Third Movement, measures 20 to 44.1</td>
</tr>
<tr>
<td>16</td>
<td>Third Movement, measures 44 to 67</td>
</tr>
<tr>
<td>17</td>
<td>Third Movement, measures 68 to 186.1</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

It is a most pleasant duty for me to acknowledge the help received from my principal advisor, Dr. Wallace Berry, and from Dr. William E. Benjamin, a member of my supervisory committee. If this research is brought to fruition, it is largely due to their efficiency in providing appropriate guidance. The staff of the Music Library, directed by Mr. Hans Burndorfer, has been helpful in all kinds of ways. Consultation of sources in the Polish language was possible thanks to the assistance of Mrs. Lidia Kostkiewicz, Mrs. Jadwiga Keats, and Mr. Leszek M. Karpinski. The final typescript was done rapidly and expertly by Jeeva Jonahs.

For permission to use copyrighted material, my thanks are due to European-American Music Distributors Corporation, North American agents for the Universal Edition. The Université Laval has provided financial assistance to this project. The burden of alleviating the disruptions caused by my prolonged absence from this institution has been generously carried by Mr. Pierre Thibault, Director of the École de musique, and by many colleagues.

The precious contribution of my wife Christiane in matters secretarial and editorial was only one of countless ways, tangible and intangible, through which she showed her unrelenting support and unflagging confidence in my work. We are both deeply indebted to our children for their patience and understanding.
INTRODUCTION

The First String Quartet, op. 37, in C by Karol Szymanowski was initially greeted with official and critical acclaim. In 1922, it won the composer the first prize in a competition organized by the Department of Public Education and Family Affairs of the recently liberated Polish State. In 1925, its first performance outside Poland, in a concert of the Internationale Gesellschaft für neue Musik organized by Arnold Schoenberg, triggered "a hurricane of applause." It was considered to be the climax of an evening where new works by Egon Wellesz, Karol Rathaus, and Alfredo Casella were also featured.

To a large extent, the fate of the Quartet was that of the music of Szymanowski. In his lifetime, he achieved truly international stature. From the premiere of his Third Symphony under Albert Coates, in London (1921), to the "unqualified success" of his ballet Harnasie in Paris (1936), Szymanowski remained the unchallenged representative of Polish music on the European scene.

Following his death in 1937, however, he seemed to be remembered outside Poland only as a composer of music for the violin. His First Concerto, op. 35, and "La Fontaine d'Aréthuse", op. 30, no. 1, were acknowledged as belonging to the virtuoso violinist's repertoire but little else was ever performed publicly, let alone recorded. In 1982, celebrations marking the hundredth anniversary of his birth have spurred interest in his music, an interest which has materialized in a number of

*Notes for the Introduction begin on p. 8.
fine recordings. In particular, two excellent performances of composer's two String Quartets are now available.\textsuperscript{5}

The Quartets stand at different turning points in the life of the composer. For that reason, they are undoubtedly deserving of attention from anybody who wishes to understand the evolution of his style. On the other hand, a knowledge of the outlines of this evolution offers valuable insights to the analyst concerned with the description and interpretation of the experiential effect of the works.

\textbf{Karol Szymanowski: His Life and the Evolution of his Style to the Time of the First Quartet}

Karol Szymanowski was born and raised in a prosperous area of Ukraine where the bucolic serenity of the countryside was in sharp contrast to the social and political tensions among its inhabitants. Although the country was under Russian domination, his father's family belonged to a fiercely patriotic Polish gentry established there since 1778. His mother's family, von Taube, had been admitted into the Polish nobility as early as 1572. Although Polish, French, and German were spoken at home, Russian had to be learnt in school. Together with their nationalist allegiance, Anna and Stanisław Szymanowski bequeathed to their five children their profound artistic dispositions. Musical, literary, and theatrical undertakings were encouraged, first at home, and, later, in that unparalleled music school run by their distant relative, Gustav Neuhaus (1853-1937), in Elisavetgrad. This excellent pedagogue nurtured his pupils in the best of the German traditions, both musical and philosophical, while
opening their minds to whatever glimmers of the current music scene reached their somewhat isolated town.

Very early Karol came in contact with the music of Scriabin, in which he heard a reincarnation of the spirit of Chopin. But the deepest impression he received during those years was of Wagner's operas, soon to be followed by the enthusiastic discovery of those of Richard Strauss. As a student of Zawirski and Noskowski in Warsaw, from 1901 to 1904, he was introduced to the contrapuntal intricacies of Max Reger. If the influence of German late romanticism proved to become oppressive around 1913, there is no question that it shaped his thinking in this initial creative period. This period culminated in 1909-1911 in two works which drew the attention not only of Polish musical circles, but also that of Vienna, Berlin, and London, thanks to the promotional zeal of the conductor Grzegorz Fitelberg and the pianist Artur Rubinstein: the Second Symphony, op. 19, and the Second Piano Sonata, op. 21.

Already in 1912, while working on the one-act opera Hagith, avowedly patterned after Salome, Szymanowski had felt the urge to break the shackles of German influence and to develop an international language of authentic Polish lineage. A trip to Paris in 1914 had a decisive effect on this orientation. Although he knew the music of Debussy and Ravel beforehand, he had not yet understood that theirs was a language of international stature that owed little to the German tradition. More decisive yet was his meeting with Stravinsky. Here was a composer whose music could appeal to European audiences while speaking with an unmistakable Russian accent.

After a brief stay in London, Szymanowski traveled back to Tymoszówka, the family estate, just in time to escape the outbreak of the war.
Isolated in Ukraine for most of the following five years, he completed no less than sixteen works of striking originality (most of them before 1917). To mention but the most important: (1) for violin and piano, Nocturne and Tarentella, op. 28, and Mythes, op. 30; (2) for solo piano, Masques, op. 34, and the Third Sonata, op. 36; (3) for orchestra, the Third Symphony, op. 27, and the First Violin Concerto, op. 35; and (4) the First Quartet, op. 37.

The sheer size of this output commands attention. Equally striking, however, is the fact that, although he worked on many pieces simultaneously, each is stamped with a distinctive individuality which is the hallmark of the truly mature artist. The influences observed to this point may all be felt in varying degrees, but they are now subsumed in the composer's unique creative personality.

Chronologically, the First Quartet stands at a major turning point of the war years, in fact, at the eve of the most disruptive single event in the life of the composer. In 1917, Tymoszówka, "le palais enchanté," was razed in the October Revolution. After spending two years in Elisavetgrad, in the most trying conditions, the family finally decided to leave Ukraine for the free State of Poland. The two compositions on which Szymanowski was working at the time of the Revolution, the Quartet and the cantata Agave, op. 38, were never to be completed as planned. The cantata remained incomplete and in manuscript, while the initial plan of the Quartet, which called for four movements, was abandoned. The three movements already completed were later revised for publication. What the original plan was and how it was modified is a matter of interest in the present study.
Evolution of the First Quartet before its Publication

According to Michałowski, who based his conclusions on indications found in the correspondence, the original plan was to include a scherzo between the initial Allegro and the slow movement, and a fugue as a finale. The Scherzo as a second movement is a feature common to all the quartets which may have been a direct inspiration to Szymanowski, namely, those of Reger, Debussy, and Ravel. The fugal finale certainly carries with it extensive historical credentials, but Reger is likely to be the composer most directly influential on Szymanowski's choice of that form, as he certainly was in the choice of a theme and variations for the originally projected Third Movement.

In its published form, the First Quartet features a rather elaborate slow Introduction followed by an allegro in sonata form for the First Movement, and a theme—marked In modo d'una canzone—and variations for the Second Movement. It is not unlikely that the Third Movement, marked Scherzando alla burlesca, was meant to come in second position, and was revised to accommodate elements of the fugal structure originally planned for the finale.

Upon superficial examination, certain aspects of the Quartet strike one as strangely anachronistic when compared with the earlier Third Symphony and the First Violin Concerto. No indication of tonality had appeared in the title of a composition since the Second Piano Sonata in A major, op. 21 (1911), and the Quartet was to be the last work of the entire oeuvre to carry such an indication. As noted by Alistair Wightman:
The progressive disruption of tonality, a process well under way in the earlier war-time works, seems to have been arrested in the first of the Quartets.\textsuperscript{10}

The influence of German romanticism is felt in the language and structure of the First Movement (there are even covert references to \textit{Tristan}; see Examples 2.17 and 2.23). Similarly, the straightforward tonal character of the Canzone, in E major, is unique in all the works of Szymanowski after the choruses of the opera \textit{Hagith}, op. 25 (1913). On the other hand, the variations of the Second Movement move progressively toward an impressionist style which appears in full bloom in the Third Variation.

The last movement, with its four simultaneous key signatures, is not Szymanowski's first venture into the world of polytonality, but it is without doubt his most radical: in no other work does he attempt to superimpose more than two "keys,"\textsuperscript{11} nor for more than a few measures at a time. Although intimations of bitonality were to be found in the music of Richard Strauss, the technique really flourished in Parisian circles during and after the war, particularly under the influence of Stravinsky. In this context, the last movement strikes one as a kind of manifesto. Both the chromatic counterpoint of Reger and the static harmony of Ravel are left behind. Szymanowski resolutely joins the French-Russian avant-garde for which a more appropriate term than "neo-classicism" is still to be found.

These cursory observations leave one with the distinct impression that the work is, in a sense, "autobiographical." Szymanowski seldom wrote works of "absolute" music of extended scope. Even such compositions as the Concert Overture, op. 12, the Second Symphony in Bb major, op. 19, and the
First Violin Concerto, op. 35, are more or less explicitly programmatic, and the Third Symphony, op. 27, is, like Stravinsky's later (and curiously similar) Symphony of Psalms, a setting for voices and orchestra. In the First Quartet, one finds ground for thinking that, when he was not composing under the spell of a poem, a libretto, or an exquisite landscape, Szymanowski was tracking his personal reactions to the challenges of the musical world surrounding him. This may be an answer to the question raised in the following statement, by Jim Samson:

The co-existence of tonally affirmative and tonally evasive works in the middle-period music suggests that Szymanowski did not regard tonal dissolution as a major problem demanding a "final" solution, but was prepared to allow the harmonic language of each work to be determined by particular expressive requirements, often dictated by text or program.12

If the tonal structure was shaped by expressive requirements in programmatic or vocal works, what shaped it in compositions of "absolute" music? In the case of the Quartet, at least, the answer may very well be found in the successive phases of the composer's stylistic evolution. In more than one way, this is music "about music."

The present analytical undertaking is more than justified by this consideration. If the First Quartet traces, in a sense, a retrospective of the composer's development, it becomes a key to major aspects of Szymanowski's creative activity of the war years, summarized in the Quartet's three movements. Indeed, its multifarious content is a challenge to the analyst, a challenge holding the promise of a bountiful harvest of rewarding insights.
NOTES


3 These are the words used by the music critic Juliusz Wolfsohn (Muzyka, 1925, no. 3, p. 128). They are quoted in an explanatory note to a letter from Emil Hertzka, founder and director of Universal Edition, to the composer. Hertzka's words are also worth quoting:

"Gestern hat die Uraufführung Ihres Quartetts hier durch das 'Wiener Streichquartett' stattgefunden und einen ausgezeichneten Erfolg gehabt. . .

"Es wird Sie interessieren, dass wir einige Tage vor der Aufführung die Kritiker und eine Reihe von prominenten Wiener Musikern zu einer Generalprobe des Werkes in die Räume der Universal Edition gebeten haben, wo Ihr Werk ebenfalls vor einem Parkett von Sachverständigen volle Anerkennung gefunden hat."
(Emil Hertzka to Karol Szymanowski, 19 March 1925.)

"Yesterday took place the premiere of your Quartet by the Vienna String Quartet and it was a remarkable success. . .

You will be interested to know that, a few days before the performance, we invited a number of prominent Viennese musicians and critics to a dress rehearsal of the work in the offices of Universal Edition. Your work was likewise highly praised by this discriminating audience." (Translation mine.)


5 These recordings are: by the Varsovia Quartet, Pavane ADW 7118; and by the Pro Arte Quartet, Laurel Records LR 123.

6 For an attempt at establishing a chronology of composition, see Samson, The Music of Szymanowski, pp. 77-83.
These are the words used by the poet (and cousin of Szymanowski) Jarosław Iwaszkiewicz to describe Timoszówka in his book Spotkania z Szymanowskim [Meetings with Szymanowski] (Cracow, 1947). Quoted in Samson, ibid., p. 25.


Michałowski, Karol Szymanowski, p. 137.


The meaning of this word in the present context is explained on p. 174, note 9.

CHAPTER I

METHODOLOGY

As is the case with a significant portion of the analytical activity taking place in North America today, the present research borrows heavily from the Schenkerian tradition. Its departures from the teachings of Heinrich Schenker are however substantial. The choice of a repertoire which lies outside the period from which and for which Schenker evolved his theory accounts for some of the more superficial disparities. Deeper ones are accountable to this writer's personal understanding of pitch stratification and of its representation in analytical graphs. In this short expository chapter on methodology, only the broadest outlines of this approach are sketched. The multifarious situations offered by the music of Szymanowski will be the real testing ground of its validity.

The three layers of the writer's analyses are not to be equated with foreground, middleground, and background as conceived in orthodox Schenkerian theory. Level -A- focuses on voice-leading, level -B- on interpreted chord formation and progressions, and level -C- on tonal structure of phrases as well as of broader spans of the piece. In a sense, level -A- thus reflects a view of pitch organization inspired by counterpoint, level -B- looks more like a figured-bass realization, while level -C- distills from the previous two harmonic functions of broader significance. Of course, this identification of harmonic functions goes hand in hand with the identification of chord prolongations.
Each of the three levels is stratified within itself; that is, each embodies at least two different types of pitch functions. To represent on a given system pitches belonging to different strata is not just a convenient way of reducing the number of staves needed to chart the analysis; it is methodologically unavoidable at all but an ultimate background level. If a system were to contain nothing but pitches belonging to the same hierarchical level, there would be no way of reaching beyond to layers of deeper significance. In William Benjamin's apt formulation:

\[\ldots \text{there is no level in a Schenkerian analysis which is meaningful independently of a still-higher level, no level which is irreducible, unless it be a level which expresses no motion at all.}^{1}\]

To understand a system as a cross-section of the piece displaying pitches of identical function would be a caricature. It is both more accurate and more fruitful to understand a particular level as containing pitches that share comparable interrelations. A comparison with elementary counterpoint may help clarify this point. In the system of species, pitches are classified strictly according to durations. However, in any given species, one finds pitches of not only identical duration but also pitches of identical melodic-harmonic function. Accented dissonant passing tones and accented dissonant neighbouring tones, for example, are not to be found anywhere but in a part in third species and on the third quarter of a measure. Thus a contrapuntal species groups pitches of identical duration

---

*Notes for this chapter begin on p. 44.*
and of similar function; that is, pitches that contribute to the structure of the piece in a comparable way.

While it is probably unrealistic to expect the method used here to yield unequivocal results, this writer believes that it has the objectivity and flexibility needed to account satisfactorily for the voice-leading characteristics of the Quartet: certain techniques will indeed be found to belong almost exclusively to the surface of the composition, while others will be found to permeate its deeper structural levels.

At each level, therefore, the task at hand is that of defining in terms that are as fully formalized as possible the nature of the relationships characteristic of that level. Defining relationships raises the constant threat of circular thinking: this pitch is a member of the structure because it belongs to a chord; these pitches form a chord because they belong to the structure as expressed in terms of durational emphasis, metric placement, etc. Traditional techniques of conceiving pitch organization such as counterpoint, figured bass, and harmony circumvent this trap by having recourse to concepts of consonance and dissonance. Indeed, most cases in the repertoire of the common-practice period are well accounted for by this distinction: consonances are normally presumed to belong to a deeper structural level than surrounding dissonances. There are situations however where this criterion proves to be insufficient. These cases point to possible avenues for the analysis of the more complex cases found in the music of Szymanowski.

The ornamented suspension in Example 1.1 may be analyzed in two different ways: the eighth-note $b^1$ (at the asterisk)$^2$ can be considered as
Example 1.1

an anticipation decorated with a lower neighbour $a^1$, or it may be understood as an accented consonant passing tone between the suspension itself and a lower neighbour to its resolution. In both cases, only the following half-note $b^1$ is considered to be an adequate resolution for the suspension despite the fact that both $B$s are equally consonant. In reaching this conclusion, metric position is of crucial import.

Thus, even in the realm of elementary counterpoint, the degree of consonance is not the only criterion used to judge structural function. Needless to say the analysis of the music of Szymanowski calls for frequent contextual assessments of this nature, where metrical and registral position must be taken into account. In Example 1.2, the $e^3$ is certainly more consonant than the following $d^3$. Melodic shape and rhythmic configuration however counteract the effect of consonance and turn this pitch into an upper appoggiatura, an impression reinforced by the motion of $g^1$ to $a^1$ in the viola, on the second beat. The chord of the ninth (see box in Example 1.2) thus appears to play the kind of structural role traditionally associated with consonant triads. That a chord of this
configuration should play a structural role in this repertoire is in agreement with conventional theoretical wisdom. It is this writer's belief, however, that the emphasis put on elements such as rhythm, meter, articulation, texture, and dynamics as conditioning in a vital way the projection and perception of tonal-harmonic structures is without precedent in the study of the music of Szymanowski.

**Focusing on Voice-Leading**

Level -A- appears as the most uncompromisingly concrete. Every detail of rhythm, registral disposition, phrasing, and articulation is taken into account in the assessment of the role played by each pitch. This level
rests on two axioms; namely, that there are no unaccountable pitches in the score, and that all lines are considered as potentially contributing in an equal degree to the tonal-harmonic structure. These axioms are now explored in fuller detail.

According to the first axiom, each pitch is heard as logically related to another pitch sounded previously or simultaneously. "Logically", here, is to be understood, first and foremost, as implying either common tone or step-motion. To quote William Benjamin once more:

... I take it as axiomatic for tonal music that to function importantly in a linear sense is to participate in a continuity of step-motion.

In situations where common-tone or step-motion is lacking, logical continuity may be found in larger intervals of the classes 0, 1, and 2. All such leaps can be interpreted as the **octave transfer** of a common tone or step-motion (Example 1.3: Quártet 1:29-30). Supportive contextual factors play a decisive role in making those continuities audible: octave transfers, for example, are frequently underscored by the repetition of a motive at that particular interval (Example 1.4).

Example 1.3: Specimen of octave transfer (first violin, 1:29-30)
Example 1.4: Motivic underscoring of octave transfer (viola, 1:26)

Register-specific intervals of a third are also recorded as linear continuities under certain circumstances: (1) as part of the skipped passing tone subdividing an interval of a fourth (Example 1.5a); (2) within a cambiata or expanded neighbouring tone figure (Examples 1.5b and c). In deciding whether a leap of a third is to be interpreted as a motion

Example 1.5a: Skipped passing tone

Example 1.5b: Cambiata

Example 1.5c: Expanded neighbouring tone
to another line or as one of the above ornaments, proximity is the crucial factor: the solution chosen is always the one that comes closest to the ideal of step-motion continuity. Example 1.6 shows how two similar contrived situations give rise to very different interpretations in application of this principle. Whether it be octave transfers or leaps of a third, in both cases there is a strong theoretical tradition in support of their assessment as expansions of the basic axiom of common-tone/step-motion.

Example 1.6

A new line can be said to have been generated only if the operations mentioned above fail to account for every pitch in the score. Such a new line may be initiated by bifurcation from a preexisting and concurrent line (Example 1.7a), or by octave duplication of a pitch belonging to another, concurrent line (Example 1.7b). Thus any given pitch may spawn more than one subsequent pitch. It is an indication of the relative complexity of
Example 1.7a: Bifurcation (1:44-46)

Example 1.7b: Octave duplication (1:62-63)

the texture of the Quartet (and of its harmonic vocabulary) that, beyond the beginning of each movement, new lines always emerge from pitches belonging to preexisting and concurrent lines by virtue of the operations of bifurcation or octave duplication.

Similarly, except for the end of a movement, a line is always terminated through fusion with another line. The decision as to which of two converging lines "disappears" and which is allowed to continue rests on indications provided by the context. In particular, the line most recently generated is interpreted as absorbed by the preexisting one in keeping with its relatively local significance. Example 1.8a is an excerpt from the First Movement where the second violin appears to be involved in a dialogue with the viola. Despite the rhythmic and melodic independence of the parts, linear analysis (Example 1.8b) shows the second violin to be a commentary, so to speak, on the other part, outlining a motion from A to
B. At m. 54.1, this subsidiary line merges with the prevailing continuity in the viola.

Example 1.8a: Quartet No. 1, 1:53-54

Example 1.8b: Voice-leading interpretation

A special case must be made here for the technique of arpeggiation. A look at the voice-leading graph of the upper lines of 1:24-27 (Example 1.9)

Example 1.9: Voice-leading graph of 1:24-27
discloses the double nature of this technique. On the one hand, the activity of a line is transferred to another register, here from \( g^1 \) to \( g^3 \). On the other hand, each of the intervening degrees potentially initiates a linear motion evolving in its own right. Strictly speaking, however, these subsidiary lines are not generated by the arpeggiation as such but by the axiomatic operations described above: common-tone, step-motion, octave duplication, or bifurcation. Thus, in Example 1.9, \( b_b^1 \) at m. 24.1 is a common-tone held over from m. 22.1; \( e_b^2 \) at m. 24.4, \( g^2 \) at m. 25.1, \( b_b^2 \) at m. 25.2, and \( e_b^3 \) at m. 26 are all octave duplications. To use the expression "octave duplications" may seem a pedantic way of stating that these are chord tones. Since no reference is made to chords at this level, on the one hand, and since, on the other, there are instances in the Quartet of arpeggiations in which chord tones are avoided and therefore call for a different assessment (see, for example, the cello line in 1:31.4), such a circuitous formulation seems preferable in the context of the present analytical approach.

The second axiom on which level -A- rests basically implies that no hierarchical distinction is posited between inner and outer voices,\(^7\) the latter presumably enjoying some kind of prevalence over the former. At this level, the migration of lines from inner to outer position (or vice-versa), in application of the principles of continuity deduced from the first axiom, is without effect on their hierarchical status. As described above in the analysis of Example 1.8, a line is considered subsidiary only with respect to its extent as a line, and not because of its registral position or the tonal-harmonic significance of its component
pitches. As was the case with the first axiom, this axiom is also an extrapolation of principles fundamental to traditional counterpoint; namely, that register is not a factor in ranking voices and that, at any given moment in a composition, the ranking of voices is primarily a function of relative duration (hence the system of species) rather than of distance from some potential chordal root: whatever voice it appears in, a whole note is referential for all the notes in shorter durations in concurrent voices regardless of its function in the prevailing harmony.

To a certain extent, these two axioms may seem to be musically counterintuitive: discontinuities (rests, changes of registers, entries of new lines) may appear underestimated in application of the first, while the significance of outer-voice prominence and harmonic function, two elements essential to music theory since the eighteenth century, is blatantly challenged by the second. Paradoxically, these axioms allow the first level to represent music in its most concrete dimension: as existing in time. This first step of the analytical process can be viewed as an application of the principle so aptly formulated by Edward T. Cone:

Music, as it moves through time, must make its formal relationships clear from moment to moment.  

Without adopting the naive view that, in counterpoint, chords appear as a fortuitous result of linear motions, one can thus claim significant methodological advantages in focusing on these motions in the initial stage of a multi-leveled analytical approach. The only form of grouping, here, is horizontal: each pitch is seen to be connected to temporally
contiguous pitches. Any additional form of grouping, whether it be along formal-motivic, textural, or tonal-harmonic lines, involves the application of a process of abstraction to this initial, concrete level. In agreement with the basic commitment of this study, formal and textural components will be considered only insofar as they contribute to the tonal-harmonic structure of the piece.9

Focusing on Outer-Voice Preponderance and Chordal Structures

Moving from level -A- to level -B- involves a double grouping process: the outer voices are regarded as relatively preponderant factors of continuity and the network of lines is partitioned into vertical chordal structures.

At the first level, lines moved from outer to inner positions in keeping with the principles of continuity established for that level. At level -B-, these lines coalesce into voices, and a hierarchical differentiation appears between outer and inner voices. This differentiation process cannot result from a mechanical separation of pitches lying at registral extremes from those in between. The nature of the activity taking place in the different strands is critical to this assessment. While a bass sounding above an inner part is a rare occurrence, there is no lack of evidence in favour of a distinction between uppermost sounding pitch and upper member of the inferred outer-voice framework.

C.P.E. Bach himself draws a clear line between the concepts of "upper part" ("Oberstimme") and that of "principal part" ("Hauptstimme").10 His
is a practical distinction between the upper pitches of the accompaniment and the accompanied melody. The transfer of this practical distinction to the realm of analytical theory calls for a more thorough definition. A higher degree of rhythmic and melodic activity cannot of itself distinguish a line as "principal". Indeed, a predominant melody in note values longer than those of its accompanying parts is certainly not an unusual occurrence.

A negative definition is probably the best approximation possible here: the "principal upper line" is that line which is not primarily heard as a projection of the rhythmic and harmonic characteristics of the bass.\textsuperscript{11} This definition takes the counterpart of the role assigned to the inner parts by C.P.E. Bach.

In the case of poor and awkward compositions in which there is often no clear middle voice at all, owing to the ineptness of the bass (out of which middle parts should flow) \ldots \textsuperscript{12} (Italics mine.)

 Concurrently with the identification of outer voices, level -B- distills a chordal structure from the initial level. This involves a dual operation of chord identification and ranking. Chord identification is achieved through the elimination of pitch-class duplications, octave transfers, short connecting motions, passing and neighbouring motions, and arpeggiations of local\textsuperscript{13} significance. Furthermore, the chords thus extracted are stratified into chords of structure and chords of ornamentation, represented respectively by "white" and "black" noteheads.

Here again, a negative definition appears useful: the
"non-structural" (therefore ornamental) chord is likely to be more dissonant than the chord to which it moves (or, rarely, the chord from which it comes), it may have been preceded by a chord sharing the same root; its total duration is equal to, or shorter than that of the chord toward which it points; its connection with that chord may involve IC 1 or 2 motions in one or both outer voices; etc. In all cases, assessing such functions calls into play a convergence of factors which, taken separately, may seem inconclusive. Beyond such criteria of local significance, the position of the chord within the phrase plays a critical role here: it is difficult to imagine a chord as ornamental if it occurs at a point of phrase punctuation. In the words of Wallace Berry:

Cadential events are invariably of fundamental, essential function at some level . . . A predominant preoccupation of harmonic analysis is thus the analysis of cadence . . .

Perfect major and minor triads, even if they are in root position, are not a priori assumed to carry deeper structural significance. In m. 11 of the Introduction (Example 1.10), a root position B minor triad is heard on

Example 1.10: Quartet No. 1, 1:10-11
the second half of the second beat. On the first half of the beat, e\textsuperscript{3} in the first violin creates a dissonant clash with the octave F\# in the viola and d\textsuperscript{1} in the second violin. The structural superiority of f\textsuperscript{3} \textsubscript{g} over e\textsuperscript{3} and the ensuing sense of resolution on the second half of the beat are unmistakably a function of the triad heard at that point. However, the consonant character of this chord is in no way indicative of a deeper structural significance with respect to surrounding, more dissonant harmonies. Indeed, in the analysis of this passage, this chord is considered as a passing element (see below, p. 57). In the luxuriant harmonic vocabulary of Szymanowski, consonant triads of this kind are likely to sound incomplete and transitional while four- and five-note chords assume deeper structural functions.

At the beginning of the retransition in the First Movement of the Quartet (Example 1.11), analysis of the harmony depends upon which member

Example 1.11: Quartet No. 1, 1:103-106

© Copyright 1925 by Universal Edition A.G., Wien
Copyright renewed
All rights reserved
Used by permission of European American Music Distributors Corporation, sole Canadian agent for Universal Edition
of the chord is identified as root. The position of the chord as a major
punctuation in the formal structure rules out the possibility of its being
ornamental. Conventional harmonic analysis may lack the conceptual
framework to account for such sonorities in their own right. It is the
purpose of level -C- to suggest a solution to this problem, however
provisional.\textsuperscript{16}

In more than one way, this middle level is the one which probably best
approximates the experience of a listener not yet thoroughly familiar with
the work, the other two levels showing refinements of the listening
strategy, the first in the direction of the surface, the third in the
direction of the background. Thus the unity of each phrase appears to be
based on a "middleground" view where predominant outer voices are
identifiable, inner voices appearing primarily as components of those
verticalities on which the understanding of the tonal-harmonic orientation
of the work rests.

\textbf{Focusing on Tonal-Harmonic Structure
and Outer-Voice Framework}

At level -C-, chords previously identified as structurally primary are
seen to coalesce into patterns involving broader segments of the piece. If
the temporal frame for units of level -B- was tentatively defined as
extending from the beat to the measure (see p. 45, note 13), the
referential unit of level -C- normally coincides with the phrase.\textsuperscript{17}
Tonal-harmonic content can be thought of as "that part of a piece that can
be described without reference to octave placement."\textsuperscript{18} This principle is
visually reflected in the renotation of the chords identified at level -B- on a single staff at level -C-, profiles of individual voices being omitted.

The real interest of this third level comes through not so much in this notational convenience as in the underlying Roman numeral analysis. Szymanowski is the inheritor of the harmonic vocabulary and tonal syntax of Richard Strauss, Max Reger, and Alexander Scriabin. "Irregular" resolutions and enharmonic reinterpretations are bound to be frequent, as are sonorities implying multiple tonal affinities. In order to account for tonal-harmonic motions in such a highly fluctuant context, one needs a flexible analytical system capable of recording rapid changes as well as ambivalent situations. The multiplication of layers of chord symbols pertaining to different "tonics" reflects the intuition that, in this music, centricity is best viewed as resulting from a convergence of tonal implications rather than from a single, unequivocal referential system.

A solid line framing a series of symbols (Example 1.12) visually emphasizes that analysis which is deemed to prevail in a given phrase or segment of phrase; a dashed line similarly frames those symbols whose significance is also contextually plausible. Unframed sets of symbols are used for weakly represented key centers, while the total absence of Roman numerals in a given segment is to be interpreted as denoting the virtual impossibility of hearing the tonal-harmonic motions in that key. Thus, a hierarchy of tonal interpretations, however fluctuant, emerges from level -C-. Two kinds of symbols found at this level are in need of an explanation: (1) an arrow connecting two Roman numerals draws attention to a root motion by descending fifth; and (2) Roman numerals in small capitals denote chords
whose root belongs to the natural minor scale (lowered third, sixth, and seventh degrees).

Example 1.12: Voice-leading graph, level -C-, 2:26-32

\[ B \quad F_\# F_\# \quad [v_1 \quad V_{0\cdot V} \quad V_{0\cdot V} \quad V_{0\cdot V}] \]
\[ C\# \quad \quad \quad N \quad V \quad V_{0\cdot V} \quad V_{0\cdot V} \]
\[ A \quad I \quad \quad \quad [V \quad V_{0\cdot V} \quad V \quad V_{0\cdot V}] \]
\[ D \quad V \quad V_{0\cdot V} \quad V \quad V_{0\cdot V} \]

One crucial question must be answered as to the analytical process applied to this level: is the evaluation of tonal-harmonic distance based on any verifiable scale and if so, how does the graph reflect this? In answer to this question, one may consider as axiomatic the tonal orientation of certain sonorities. For example, a "perfect major with minor seventh" sonority, whichever inversion or spacing it may appear in, a priori suggests a dominant function. Depending on the context, this function is interpreted as having primary or secondary status. Understanding it as a German sixth is also possible, again, depending on the context.

Thus, in the absence of countervailing contextual factors, the line
representing the key in which such a chord functions as a primary dominant is highlighted with a solid frame, a dashed line frames its interpretation as a secondary dominant, and its analysis as a German sixth is either not framed or does not appear at all.

However, few sonorities lend themselves to such an "absolute" ranking. In particular, only a few of the chords based on the notes of the whole-tone scale have conventionally recognized statuses: the augmented fifth chord, which tends to sound "dominant"; the French sixth chord, certainly one of the most strongly characterized sounds of common-practice harmony; and the Italian sixth doubling as a dominant seventh without fifth. In all three instances, registral disposition is highly influential in identifying tonal function. Particularly in the case of the augmented fifth and French sixth chords, the choice of the root (and inversion) is conditioned by which member of the chord is heard in the bass. In view of the relatively high number of whole-tone sonorities heard in the Quartet, and the high number of other chords not unequivocally identifiable in terms of traditional tonal theory, the stratification process of level -C- is bound to depend largely on contextual factors such as: (1) voice-leading in general, but particularly that of the outer-voices; (2) registral distribution and spacing, particularly with respect to the lowest voice; and (3) rhythmic, dynamic, and textural emphasis and/or isolation. Even when all these elements are taken into consideration, the final verdict as to the exact tonal-harmonic significance of a chord or series of chords is apt to be undecided or equivocal. This may be viewed as characteristic of the tonal-harmonic language of the Quartet.
The only criterion applied consistently to the spatial distribution of "keys" in the multi-layered Roman numeral analysis is the relative direction of fluctuation with respect to the ultimate tonal center (C in the case of the outer movements; E and D in the successive sections of the Second Movement). Thus, key centers located on the flat/minor side of C (e.g., Eb, F, Ab, Bb) appear below the C line, and key centers located on the sharp/major side appear above (e.g., D, E, A, B). The ambivalence of this classification is a reflection of the variety of situations: fifth and third relationships between successive tonal centers are frequent while relationships of a second or a tritone (in direct succession) are not entirely avoided.

While the strategy described above is not to be equated with polytonality, Szymanowski's experiments with the latter invite comparisons between the concurrent applicability of two or more different Roman numeral analyses and the simultaneous use of four different key signatures in the last movement of the Quartet. The analysis of this movement offers an opportunity to assess one in terms of the other and to clarify their relative significance.

The discussion of level -C- also includes a representation of the outer-voice framework (Example 1.13). This framework is an excerpt of the outer-voices of level -B-, of which only the points of cadential and/or registral emphasis (climaxes) are retained. The connections between those points are further emphasized by being transposed in order to appear in the most conjunct relation possible. Although this operation may look like an attempt at extracting an Ursatz, the underlying assumptions differ
substantially from those of an orthodox Schenkerian analysis:

1. there is no preconceived pattern guiding the choice as to which
   notes belong to that framework and which don't; as described
   above, the single axiom is that of the "shortest route," linear
   proximity (including root motions by fifth and fourth in the bass,
   representative of harmonic proximity);

2. as a consequence of this first axiom, the prevalence of descending
   motions over ascending ones is not considered axiomatic; indeed,
   one of the intuitive bases of this analysis is that ascending
   motions are bound to prevail in progressive, initiating portions
   of the music, while descending ones are more likely to coincide
   with recessive, cadential portions, both being equally essential
   in their own right;

3. as a further outcome of the first axiom, no superior hierarchical
   status is granted a priori to the notes of the tonic triad, or to
those of the diatonic scale in the inferred key (C for the two outer movements, for example); vertically, there is no priority of perfect consonances over imperfect ones; no attempt is made at relative dissonance evaluation.

Thus the outer-voice framework accounts in the most faithful way possible for the broad directions imparted to the music by the succession of cadences and culmination points. In doing so, it is guided not by any preconceived scheme but by the axioms listed above. In more than one way, it represents an extrapolation of the outer-voices of level -B-, parallel to and coordinated with the extrapolation of the harmonic content into the tonal structures of level -C-.

Sample Analysis

In order to demonstrate the approach described in the preceding paragraphs, an excerpt from the First Movement is analyzed here in full detail. Measures 49 to 53.1, the second phrase of the second subject group, have been chosen for this purpose, a choice motivated by the intricacies of voice-leading and of tonal-harmonic structures found in this segment. Instances of most of the techniques found in the Quartet are to be observed in this segment (Example 1.14).

Assuming the reader not to be thoroughly familiar with the work and in accord with what is said above (see p. 26) about the middleground character of initial approaches to an unknown composition, this analysis begins with outlining broad features of the segment. While the discussion of methodology above follows a logical procedure, this analysis, at least in its inception, adopts a preliminary perceptual approach.
The most obvious single continuity in this segment is that of the bass descending chromatically from ab to cfej (mm. 49.2 to 51.3, Example 1.15). The rest of the activity in the bass (mm. 51.4-52.4) is apt to be understood as an elaborate ornamentation of an octave transfer c| to c¹ (mm. 51.3-52.3), preparing a half-step motion to b| at m. 53.2.
Example 1.15: Bass motion, 1:49.2-51.3

By contrast with this straightforward bass motion entrusted to the cello, the upper line emerges from the intricacies of the two violin parts (Example 1.16). Already, at this very incipient stage of the analysis, the first-violin leap up to $a^3$ (m. 51.2) appears as an inner voice crossing-over of a very provisional nature.

Example 1.16: Upper line, 1:49.1-53.4

Through the dense web of chromatic motions woven by all four instruments, a few transparent tonal-harmonic events emerge: a D major triad at m. 49.1-.2; an A major triad subsuming the whole of m. 51.1-.2; and finally a $D_2^4$ chord at m. 52.3, soon to be transformed by chromatic motions whose significance can only be adduced from the ensuing resolution (mm. 53.2 ff.). No attempt is made at this point to interpret the tonal significance of these events but they may be expected to play a vital role.
in clarifying the structure of the segment, either by virtue of their metric position (this applies particularly well to the first two), their duration, or their tonal-harmonic clarity.

With this initial sketch of the segment in mind, it is now possible to scrutinize the contents of level -A- (Example 1.17). The initial skip from F# to a♭ in the cello (m. 49.1) is subdivided by d♭, itself decorated with an incomplete neighbour c♭.

Example 1.17: Voice-leading graph, level -A-, 1:49-53.1

The choice between c♭ and d♭ is made in application of the principle of triadic prevalence at the local level (see above, p 25). While it is easy to predict that the descent from a♭ to c♭ will involve passing motions, the attribution of structural or ornamental status to each member of the scale must take into account contextual factors such as the relationship with the other voices and rhythmic-metric placement.

First and second violins are involved in an exchange of imitations. Motive B1 in the first violin (Example 1.18) carries out a descent from d♭
to c\textsuperscript{3} before leaping down to d\textsuperscript{2}. Its imitation by the second violin descends to b\textsubscript{1}, retaining the leap to d\textsubscript{1}. Despite obvious similarities, the two cells are analyzed in different ways. While the leap to d\textsuperscript{2} in the first violin is easily understood as outlining an octave transfer d\textsuperscript{3} to d\textsuperscript{2}, the assessment of the leap to d\textsubscript{1} in the second violin must take into account the viola part: this d\textsubscript{1} resolves the d\textsuperscript{1}\# / e\textsubscript{b}\textsuperscript{1} heard in the previous beat (Example 1.19). The d\textsuperscript{2} of the first violin (m. 49.4) can be understood as a prolongation of the same pitch heard in the second violin at the beginning of the measure. Through motivic imitation, however, the

Example 1.19: Second violin and viola, 1:49-50.1
second violin here outlines a motion in parallel octaves with the first violin (D–C♯), an interesting instance of the kind of semi-independent linear doubling described above (see p. 18).

The viola leaves d♯₁ (m. 49.3), ascending to b♭₁ (m. 50.2). This involves a chromatic ascent from f♯₁ to b♭₁. Within this ascent, a¹ stands out as the most likely factor of chordal affiliation, an assessment made in full awareness of the fact that the following b♭₁ is locally more consonant. The rhythmic-metric configuration of this line, reinforced by the motion to d♯₁/e♭₁ in the second violin at m. 50.2, imparts the first b♭₁ with the distinctive character of an anticipation. While the second violin d♯₁ may appear initially as a return to the pitch of the viola (m. 49.3), it turns out to be subsumed as a passing note in a broader motion to e₁ (m. 50.3).

On the last beat of m. 50, the second violin initiates a pattern of ascending arpeggiations imitated, in turn, by the first violin (m. 51.1) and viola (m. 51.2, Example 1.20). The first of these arpeggiations

Example 1.20: Chain of arpeggiations, mm. 50.4–51.3

![Example 1.20](https://example.com/1.20.png)

© Copyright 1925 by Universal Edition A.G., Wien
Copyright renewed
All rights reserved
Used by permission of European American Music Distributors Corporation, sole Canadian agent for Universal Edition

carries out an exchange between the upper line and one of the inner lines. The e₁ in the second violin is "carried" two octaves higher, becoming the
upper line at this point, while the c\(^1\) of the first violin is transferred to the viola an octave below (Example 1.21). Attention is drawn here to

Example 1.21: Voice-leading interpretation of arpeggiation
mm. 50.4-51.3

\[\text{Example image}\]

the migration of lines from outer to inner positions, and vice-versa.
While this is not a normal consequence of voice exchange in orthodox Schenkerian theory, it is a logical outcome of the strict concept of lines applied to this level (see above, p. 15). There is no need for the exchange to "undo" itself later, since level -A- is concerned essentially with local linear motions. At level -B-, the axiomatic prevalence of outer voices will normally absorb such migrations.

The ascending arpeggiation in the first violin (m. 51.1-.2) calls for a slightly different explanation. No exchange appears at this point and the transfer of a\(^1\) to a\(^3\) doesn't generate any significant linear activity in the higher register beyond the neighbour motion to g\(^3\)\(\#\) (m. 51.3). As
already mentioned, this $a^3$ is not assessed as belonging to the upper line
but simply to an octave duplication of an inner line, the upper line here
being provided by the second violin in its descent to $c^3_\#$. Roles are
exchanged between the two violins at m. 51.3: the first violin resolves
the second violin $c^3_\#$ on $d^3$ while the second violin picks up the $a^3$ of the
first violin, albeit an octave below, and brings this voice down
chromatically to $f^2_\#$ (m. 52.1). Meanwhile, the viola has arpeggiated an
ascent from $e_b$ (cello) to $e^1$. The primary function of this motion seems to be
the generation of a new pitch line in that register, duplicating the
upper line an octave below. Meanwhile, the $e_b$ which initiated the
arpeggiation carries on the descending passing motion in which it was
already involved. Therefore, the three arpeggiations found at mm. 50.4–
51.2 affect the structure in three different ways: in the first case
(second violin), there is an actual exchange through which an inner line
moves to an outer-line position; the first violin arpeggiation also
involves such an exchange, from the inner-line $a^1$ (m. 51.1) to the upper-
line $d^1$ (m. 51.4), but the intervening ascent to $a^3$ (m. 51.2–3) must be
understood as a prolongation of the inner-line $A$ rather than as initiating
a new upper line; and the arpeggiation in the viola belongs to a third
category since it connects pitches belonging to two different lines ($e_b$ in
the cello, m. 51.1, and $e^2$ in the viola, m. 51.3), each of these two lines
maintaining its autonomy beyond the arpeggiation.

Beginning with m. 51.4, it is the cello's turn to get involved in an
ascending arpeggiation which spans two octaves, from $C$ to $c^1$ (Example
1.22). There is no question as to the structural role played by $C$ here.
Example 1.22: Arpeggiation in cello, 1:51.4-52.3

While they all contribute to the passing motion, the intervening pitches are not all of equivalent weight: A and f# emerge as belonging to a deeper structural level by virtue both of their degree of consonance and of their metric position. In the case of A, metric position is crucial to this identification. In the case of Bb, both factors are negatively applicable. In the case of f#, the harmonic context of D-F#-A established at the beginning of the measure points to its reinterpretation as E#. Finally, metric position and linear-harmonic context rule in favour of c1 against b. Although a G-major 6-chord is touched upon here, it is so fleeting as to merit only passing mention.

The arrival of the cello on c1 heralds a moment of harmonic stability (coinciding with a poco rallentendo, calando indication) preparing the cadence point at m. 53.1. The descent from a1 to f1 in the viola completes the return to its home register of a line which had been allowed to ascend up to a3. The change of register is motivically emphasized (Example 1.23 and above, p. 15). The approach to the cadence uses a technique which recurs at similar points in the movement (see p. 49): an ascending chromatic scale in the upper voice, usually emphasized by parallel octave duplication. In this case, it is accompanied by contrary motion in the
viola ($f^1_g - f/e^1_g - d^1_g$) and a sustained sixth $c^1-a^1$. Measure 53 opens with the octave $E^#$, which turns out to be an accented dissonant passing tone to $F^#$ when the other instruments enter on the second beat. While the resolution of this $E^#$ is delayed to the third beat in the second violin and to the fourth in the first, its significance as a passing tone is never really modified by the ongoing motions of the other lines.

Before proceeding with the study of subsequent, deeper levels, an important issue must be addressed concerning the nature and significance of the foregoing analysis. While continuities established by conjunct motions are rarely problematic, those involving leaps are often open to multiple interpretations. But to give three different interpretations of the same phenomenon, namely the arpeggiation (mm. 50.4-51.2), may seem like pushing analytical logic beyond reasonable cognition and credibility. The answer to this is two-pronged. On the one hand, this first level probably approximates a kind of knowledge accessible only to performers and analysts thoroughly familiar with the work. On the other hand, the three different readings of the arpeggiation do not reflect three different listening strategies, but an attempt at understanding the different ways in which
these events contribute to the flow of musical ideas. Had all three arpeggiations followed the pattern established by the first (octave transfer and linear exchange), the contents of the first violin and viola parts at mm. 51-52 would have sounded in higher registers and likely have been distributed in a different way. This is the case at mm. 70-72 of the same movement: ascending octave transfers affect the voices in the same way, producing a unique passage of shimmering sonorities (see below, p. 74), totally different from the one analyzed above.

A reading of the second and third layers (Example 1.24) shows how the passing sonorities led by the bass are framed by two inversions of a $D-\flat-A-(C)$ chord (mm. 49.1 and 51.4). The second of these pivotal chords is preceded by its dominant in first inversion. At this level, "white"
noteheads have been used to depict this dominant \( \text{on } A \) in order to emphasize its importance both as a preparation for the following and as a point of arrival of the passing motion. At the third, deeper level, however, it is shown as subordinated to the prolongation of the chord of D, essentially because of its weaker position within the phrase.

A double beam is needed to account for the bass in order to show the descending line as a passing motion between \( \text{atj} \) in an inner voice (m. 49.1) and the seventh \( \text{cfc|} \) in the bass (m. 51.4). Meanwhile, the soprano outlines a double-neighbour motion circling D \( (C \text{ and E}) \), followed by a chromatic ascent to \( \text{F#} \) at the cadence. This motion is a fragment of a long-range series of climactic points forming the outer-voice framework of the subordinate group. This framework is examined in due course (see p. 73).
NOTES


2Register-specific pitches are identified in the following way: C-B belong to the lowest octave on the cello; c-b, to the lowest octave on the viola; c¹–b¹, the octave beginning on middle C; and so on. Underscored capital letters are used to indicate pitch-classes (PCs), i.e., members of the chromatic scale not assigned to a specific register or appearing in more than one register simultaneously.

3References to the score are to be read in the following way: 1:63-73.1 means "First Movement, measure 63 to the first beat of measure 73."

4This term is to be understood in the strict sense, as defined by Wallace Berry:

"... the term line refers to any textural component in which horizontal relation and configuration can plausibly be traced as a logical continuity—an identifiable stratum in the texture at some given level. The term voice will normally denote a line having distinct relative independence." (Wallace Berry, Structural Functions in Music [Englewood Cliffs, N.J.: Prentice-Hall, 1976], p. 192n.)

5Benjamin, "Models of Underlying Tonal Structure," p. 46.

6"An interval class (IC) includes any given interval within the octave together with its inversion (complement) and all compound extensions (expansions by one or more octaves) of the given interval or its inversion." (Berry, Structural Functions, p. 193n.)

7See note 4 above as to the formal use of this term.


9The following definition of texture, by Wallace Berry, suggests that interesting conclusions in that area of analysis may be found in a study of level -A-:

"Texture is conceived as that element of musical structure shaped (determined, conditioned) by the voice or number of voices and other components projecting the musical materials in the sounding medium, and ... by the interrelations and interactions among them." (Berry, Structural Functions, p. 191.)
This definition doesn't account for homorhythmic bass-soprano interdependence. Since this situation never arises in the Quartet, only passing mention is made here of a possible solution to this problem. When two parts are in homorhythmic relationship involving oblique motions (as is so often the case in keyboard writing and in chorales), the resulting homophony is only apparent, repeated notes being subdivisions of longer values. In those probably rare cases where fully homophonic writing between bass and soprano is maintained for a significant period of time (e.g., for a complete phrase), the basic polarity conducive of functional stratification rests entirely on registral disposition.

Although a strict definition of what should be considered "local" is probably impossible in view of the broad variety of situations found in a work as complex as the Quartet, it seems intuitively satisfactory to think of the beat and the measure as the lower and upper limits within which the use of the term "local" is valid. Only under particular circumstances will an event shorter than the beat or longer than the prevailing metric unit be considered as "local."

In response to Wallace Berry's warning that the "question of relative dissonance severity (intensity) is . . . highly complex and agreement is difficult concerning any proposed scale for intervals and chords" (Structural Functions, p. 109), one may say that no attempt is made here at establishing such a scale and assessments are always made on a contextual basis in which relative dissonance is a component of variable significance.

This fragment is given here for purposes of illustration. A fuller discussion is found on p. 87.

Schoenberg's definition of the term "phrase," in all its vagueness, is probably as useful as any:

". . . a kind of musical molecule consisting of a number of integrated musical events, possessing a certain completeness, and well adapted to combination with other similar units . . . Its ending suggests a form of punctuation such as a comma."

CHAPTER II

ANALYSIS OF THE FIRST MOVEMENT

The Introduction

The Introduction (mm. 1-17) consists of a period (mm. 1-13.2) and a transition leading to the Allegro (mm. 13.3-17.4). Two phrases (mm. 1-8.1 and 8.2-13.2) in complementary relationship (the second is, broadly speaking, a retrograde variation of the first) form the initial period.

Two components of the first violin, in mm. 1-4, can be singled out as having motivic import: the conjunct descent $g^3-f^3-e^3$ (Example 2.1, Example 2.1: First violin, 1:2-4.1

Example 2.1: First violin, 1:2-4.1

motive M) and the “skipped passing tone” figure (motive N). The latter is a diatonic variant of a motive frequently used by Szymanowski (notably in the Third Piano Sonata), and possibly taken over from Scriabin, according to Samson.1* Example 2.2 shows the extent of the influence of motive N, and of its permutations, on the first violin part in the Introduction.

*Notes for this chapter begin on p. 106.
Aspects of Voice-Leading

Whether it is looked at from the point of view of voice-leading or from that of tonal-harmonic significance, the conjunct parallel motion of major triads which opens the Quartet can be seen to embody elements of deep structural significance. Parallel motion plays a decisive role in the Quartet, particularly in underscoring the approach to culmination points. Parallel motions involving triads are thus found in mm. 87.3–96 in an extensive preparation for the apex of the movement (m. 97.1). A similar gesture is found in the Third Movement (mm. 50–67.1, and the reprise, mm. 222–239). The recourse to parallel perfect fifths in the lowest parts is a well recorded trait of the style of Szymanowski. It certainly contributes to the harmonic stability of the passages thus supported while not necessarily clarifying their tonal implications.

The broad contours of the first thirteen measures appear as two wedges interlocked at their thin ends (m. 8.2) (see voice-leading graph, Appendix p. 224). While level -A- reflects the surface in all its details, an
interesting, if different vision of the voice-leading is obtained if one attempts to follow motion (including leaps of a third) in a single direction. The resulting continuities are represented in Example 2.3.

Example 2.3: Homodirectional linear continuities, mm. 1–13

Thus the descent initiated on g₃ by the first violin (line A) can be followed through two and a half octaves to the c₁ in the viola at m. 13 (a doubling of the cello two octaves above), while the ascent beginning on c₁ (line B) in the viola at m. 2 pursues its course to the c₄ of the first
violin in m. 13. Following the same general direction as line B, the lower of the two parts sounded by the viola at m. 2, beginning with $e^\#$, rises steadily until it merges with line A on the $d^1$ of m. 10.2 (line C). Its contribution is particularly noticeable at mm. 6-8, where it is the lowest sounding voice.

While the other voices follow the general pattern established by these three lines, they are not restricted to mere octave doubling (as is the case in the first three measures). Instead, they develop a modicum of linear independence, reverting to their initial, subsidiary function at m. 12. Thus all the pitches sounded in the initial chord (m. 2) generate distinct strands of the polyphonic fabric. The increase in the number of melodically and rhythmically autonomous voices coincides with, in fact contributes to, an intensification of activity. The reverse process underscores the approach to a point of subsidence, the cadential motion of m. 12, leading to the harmonic plateau of mm. 13-16.1.

A voice-leading device recurring through the movement may be observed for the first time at mm. 7-8 (Example 2.4), in the second violin: a

Example 2.4: Second violin, 1:7.2-8.1

![Example 2.4: Second violin, 1:7.2-8.1](image)

© Copyright 1925 by Universal Edition A.G., Wien
Copyright renewed
All rights reserved
Used by permission of European American Music Distributors Corporation, sole Canadian agent for Universal Edition

chromatic ascent leads to a cadential point. While there are exceptions (for example, 1:42-44), these ornaments are normally of strictly local
significance: after the cadence, the line resumes its motion at the point it had reached prior to the chromatic ascent.

Another voice-leading device present in the Introduction and frequently found elsewhere is to be pointed out here: the representation of a trill as a linear motion. At m. 6, the viola trills e\textsubscript{1}\# with f\textsubscript{1}\#. Although the principal note, as written in the score is e\textsubscript{1}\#, examination of the context shows that both these pitches belong to the continuation of the ascent initiated by the c\textsuperscript{1} of the second violin (Example 2.3, line B). Thus there is no inconsistency in writing, in the voice-leading graph (Appendix, p. 224), an ascent from e\textsubscript{1}\# to g\textsubscript{1}\# through f\textsubscript{1}\#. Similarly, the lower neighbour b\textsubscript{2}\textsubscript{b} at m. 13, is gradually transformed from its purely ornamental role to that of fifth of the Eb-major triad at m. 18, the initial chord of the Allegro. In this case, the score accurately reflects the transformation since b\textsubscript{b}, trilled with c\textsuperscript{1}, appears as the principal note at m. 16.2, at the exact point where the motion from C to C\# in the cello threatens the possibility of hearing c\textsuperscript{1} as the chord tone and b\textsubscript{b} as a lower neighbour. This mutation in the role of b\textsubscript{b} had been well prepared, particularly by the incomplete neighbour motions of m. 14 (b\textsubscript{b}-c\textsubscript{2} and b\textsubscript{b}-c\textsuperscript{1}). The use of this technique does not facilitate the task of the analyst, since the harmonic implications of both the principal note and the trill must always be considered, an approach perfectly consistent with a harmonic system saturated with multiple-meaning sonorities.
Tonal-Harmonic Structure

The initial three-chord progression (measures 1 to 5)

The curtain rises on a simple C-major triad, an opening quite unlike anything else written by Szymanowski at the time of the Quartet. If the listener is induced by this gesture into expecting some form of conventional triadic tonality, his hopes are soon to be thwarted by the unfolding of the movement. This initial statement, of itself, is pregnant with implications with regard to the textural space in which the piece evolves (see below, p. 55), but its tonal significance is apparent only in its relationships with ensuing events. That this first chord moves upward, in strict parallel motion, through a D-major, to an E-major triad calls for an unconventional definition of the interrelations between consonance, parallel motion, and harmonic functions.

The diatonic archetype for a juxtaposition of two perfect major triads a step apart is to be found in a motion from a subdominant to a dominant triad in a major tonality. If this motion is pursued one step further, the chord of arrival is a submediant altered to function as a V of II. This interpretation points to G major as the key center for the opening of the Quartet.

Given the two forms of the melodic minor scale, an understanding in A minor is also plausible: a chord of the third degree using the descending or natural form of the scale is followed with chords of the subdominant and dominant, both using the ascending form of the scale. The validity of this approach is confirmed by occurrences of the same, or similar progressions in later works of Szymanowski, where the tonal context excludes any other interpretation: the 4th movement of the Stabat Mater, op. 53 (Example
2.5); the final cadence of the Veni Creator, op. 57 (Example 2.6); and an intermediate cadence in the Mazurka, op. 50, no. 8, where the alteration of the subdominant emphasizes the A-minor orientation (Example 2.7).

Example 2.5: Stabat Mater, op. 53, Fourth Movement, mm. 11-13

N.B. In Ab

Example 2.6: Veni Creator, op. 57, mm. 144-145

Copyright 1928 by Universal Edition
Copyright renewed 1956
All rights reserved
Used by permission of European American Music Distributors Corporation, sole Canadian agent for Universal Edition

Copyright 1975 by PWM, Kraków, Poland
Used by permission
Example 2.7: Mazurka, op. 50, no. 8, mm. 27-29

N.B. $e^1_\# = f^1$ (m. 28)

Level -C- of the voice-leading graph (see Appendix, p. 224) suggests a third approach to this progression: a motion from the sixth degree to the tonic in E minor, using the natural form of the scale for the sixth and seventh degrees and adding a tierce de Picardie to the tonic chord. Seen from this angle, this harmonic triptych shares enough of the properties of the archetypal subdominant-dominant-tonic progression to be considered as a valid substitute for it. While the substitution of the subdominant by the submediant is fairly common, particularly in a minor mode, the use of the chord of the natural seventh degree in lieu of the dominant is a noticeable departure from conventional usage. It is justifiable on the very same ground as other, easily recognized substitutions, namely that the two chords share two pitches. In this case, the fifth $F^\#$ and the seventh $A$ of the dominant become the third and fifth of the subtonic triad.

The analogy between the prototype IV-V-I and the progression under scrutiny applies not only to each of the chords taken individually, but
also to the relationships discernible between them. Specifically, the three triads exhaust the PC content of the scale (including in this case two forms of the mediant), a property which is frequently given in justification for the tonal strength of the IV–V–I progression. The first two chords are a step apart and have no pitches in common, a superstrong progression in Schoenberg's classification. While the ensuing motion to the E-major triad may seem to put this interpretation in jeopardy, it creates a relationship of an ascending third between the first and last triads. This is a "descending" progression according to Schoenberg. Root motions involving a descent of a fourth, such as IV–I, are also classified as "descending". In both cases, Schoenberg's word of caution concerning "descending" progressions has been heeded: "'Descending' progressions . . . are better used in combination of three chords which . . . result in a strong progression . . . ." Example 2.8 summarizes the above in a graphic form.

Example 2.8: Comparison of opening three-chord progression with axiomatic IV–V–I progression

\[
\begin{align*}
\text{IV} & \quad \text{superstrong} \quad \rightarrow \quad \text{V} & \quad \text{strong} \quad \rightarrow \quad \text{I} \\
\text{VI} & \quad \text{superstrong} \quad \rightarrow \quad \text{VII} & \quad \text{superstrong} \quad \rightarrow \quad \text{I}^\# \\
\end{align*}
\]

"descending"
Confirmation of the validity of this last interpretation is found within the confines of the Quartet, specifically in the Canzone which opens the Second Movement, mm. 3-4, where the same progression appears in an unequivocal E-major/minor context (see below for the analysis of this passage, p. 112).

None of the three readings of the initial progression made so far points to C, the alleged key center of the Quartet. If C assumes a significant role, here, it is more by virtue of its temporal position: it is the Ur-chord from which the piece is generated. Moreover, the other two chords are included in the texture-space defined by the initial C-major chord. The retrograde imitation of this initial chord progression at mm. 12-13 expands this space to five octaves (C to c♯), the space within which the Quartet evolves, with rare but significant exceptions. This process of textural definition of structural functions is vividly carried on in the Introduction.

On a broader level, a tonal-scalar link may be sought between the threefold progression and the Introduction. An eight-note scale may be extracted from this statement: C, D, E, F♯, G, G♯, A, B, a Lydian scale on C with an extra chromatic degree (G♯/Ab). Its dominant G is thus flanked with "leading-tones" on both sides. In the unfolding of this pitch-collection at mm. 2-3, its WT0-related components are registrally and texturally emphasized. Analysis of the Introduction (see below) shows this whole-tone scale to be a potent factor of homogeneity.
Measures 6 to 18

In keeping with the double-wedge shape described above (p. 48), a point of maximum compression is reached at m. 8.2. The relationships between this point and the outer flanks of the Introduction are best described in terms of textural-harmonic density. While the cadential point of m. 8.1 cannot be said to be the point of highest dissonance, if only because there is no objective scale by which evaluations may be gauged, there is no question that the textural compression of m. 6 coincides with a relative increase in harmonic density. Consonant triadic harmonies are reintroduced at m. 12 concurrently with a resumption of the broadly spaced texture of m. 5. The relatively dissonant segment (mm. 6-11) prominently features WT$^0$ sonorities. In Example 2.9, the pitches of each of the two

Example 2.9: Whole-tone sonorities, 1:6-11
whole-tone scales are showed as $\sigma(\text{WT}^0)$ or as $\sigma(\text{WT}^1)$. The asterisks draw attention to chords formed exclusively of pitches belonging to a single whole-tone scale. On the other hand, the B-minor consonant triad at m. 11.2 appears to be passing between the two "inversions" of the whole-tone chord that frame it. Its consonant character is not in itself sufficient evidence of deeper tonal-harmonic significance. If the two chords of m. 10.2 and m. 11.3 are permutations of the same pitch-collection, their contextual assessment discloses a radical shift in tonal orientation. The first is easily understandable as a French sixth in E, and indeed it resolves normally to the passing B triad, although the latter carries a minor third. The second (m. 11.3) resolves by descending fifth to Eb major, introducing the flat-side regions for the first time in the piece. Full credit for the transformation must be given to the contrapuntal technique of voice-exchange as well as to the emphatic way with which the motion to Eb is realized.

The remarkable opening three-chord progression is stated in a retrograde form at mm. 12-13, an Eb-major triad substituting for the E-major triad (Example 2.10). Obviously, tonal orientations different from those of mm. 1-5 are suggested by this retrograde version, but diatonic archetypes may again be invoked in support of a tonal-functional interpretation. The descending half-step root motion between the first two perfect major chords suggests a submediant to dominant progression in G minor. Subsequent motion to a C-major triad weakens this assumption.
Example 2.10: Quartet No. 1, 1:12-13

Not only is the V to IV root-position progression atypical but the fact that both chords are perfect major triads implies a descent \( G-F#-E \) along the ascending melodic minor scale, also an atypical motion.

An interpretation in C minor is also worth exploring. It calls for a motion from the mediant to the tonic with tierce de Picardie through an altered chord of the second degree. This altered chord cannot be properly considered as a secondary dominant for the same reasons that made the V to IV progression in G unlikely.

Because they deal with the progression without reference to the context, none of the above analyses grants Eb major the structural significance that, in fact, it carries in the course of the movement. The initial chord of the progression, at m. 12.2, is tonicized by the preceding harmony, the first occurrence of an unambiguous V-I motion in the piece. Similarly, passing motions in the transition (mm. 16-17) lead to an Eb-major triad at the beginning of the Allegro (m. 18.1). While Eb major
must be added to the list of tonics inferrable in consideration of the
tonal structure of the piece, the three-chord progression at mm. 12-13 does
not in itself evoke a clear orientation in that direction.  
If an introduction is to end on a pedal tone, as is often the case,
the dominant is undoubtedly the most likely choice for this role. One
could almost go so far as to say that any degree but the tonic degree would
be predicted: however, this is exactly the degree chosen by Szymanowski
here. Once more, this degree is robbed of any unambiguous tonic
connotation by the melodic insistence on $B_b$. Thus the Introduction does
lead to a dominant-seventh sonority, but in a "wrong" key. The suggestion
that the movement may begin in $F$ is not fulfilled, nor is the more remote
possibility of transforming this dominant seventh into a German sixth in $E$
so much as hinted at. As mentioned above, a chromatic motion of the bass
simply leads back to the $E_b$-major triad with which the Exposition begins.

Outer-Voice Framework

Patterns set forth in an introduction are expected to anticipate
essential aspects of the ensuing movement or piece. Such is the case with
the outer-voice framework of the Introduction (Example 2.11). Two basic

Example 2.11: Outer-voice framework of Introduction

\[ \begin{array}{cccccccccc}
2 & 3 & 6 & 7 & 8 & 9 & 10 & 12 & 13 & 17
\end{array} \]
arpeggiations are interwoven: C major (minor at m. 12) and E major. The opposition between the major and minor sides of C is central to the tonal structure of the First Movement; E major is the key in which the Second Movement begins; and the opposition between C major and E major is the only significant tonal contrast perceived in the Third Movement. Thus the outer-voice framework of the Introduction appears to be related organically, so to speak, with the tonal structure of the Quartet. Further relationships between the Introduction and subsequent movements are explored in due course.

The Exposition

The First Subject Group

The first subject group (mm. 18-35.1) is subdivided in two successive phrases forming a period (mm. 18-26 and 27-35.1). It is followed with a transition (mm. 35.2-44.1), itself divided motivically, texturally, and harmonically into an episode and a closing phrase leading into the second subject group.

Taken as a whole, the melodic contour of the upper voice in the first subject group (mm. 18-35.1) belongs to a species identified by Samson as possibly inherited from Scriabin. He describes it as "ascending leaps followed by a drooping chromatic descent." This principal upper voice sets forth two motives which are intimately related (Example 2.12). Nevertheless, it seems preferable to consider them as distinct in view of the divergent influences they exert on melodic shape. Motive Al with its leap of a fourth and strictly diatonic character, belongs to the antecedent
Example 2.12: Motives A1 and A2 of first subject group

A1

A2

Example

(8va)

(c) Copyright 1925 by Universal Edition A.G., Wien
Copyright renewed
All rights reserved
Used by permission of European American Music Distributors
Corporation, sole Canadian agent for Universal Edition

(mm. 18.1-26.4) while the descending chromatic conjunct motion of motive A2
is identified with the consequent (mm. 27.1-35.1). If both groups are
unified texturally by pedal tones and uninterrupted tremolandi, in every
other respect they are contrasted. Activity in the consequent is much more
intense than in the antecedent: it moves in higher registers (note the
ascending arpeggiations yielding changes of registers from m. 24 on); the
lower voices are more active, particularly the bass; the tonal-harmonic
structure is both more dissonant and more fluid (see voice-leading graph,
Appendix, p. 225). Each of these points is worth exploring in greater
detail.

A closer look at mm. 24-27 (see voice-leading graph quoted in Example
1.9) discloses the double nature of the technique of arpeggiation (see
above, p. 19). On the one hand, the activity of a particular voice appears
to be transferred to another register, here two octaves above that of the
previous phrase. On the other hand, each of the intervening degrees
initiates a linear motion evolving in its own right. Thus the arpeggiation
functions in a double capacity: as passing motion between events happening
in widely separated registers, bringing them together in a single principal outer voice continuum, and as generator of subsidiary lines filling, so to speak, the space opened up by this gesture, and therefore intensifying the textural density.

Changes of register in a given line can usually be traced by the imitation of a motive characterizing that line. Thus, at m. 26, the transfer of the two lines merging on g₃ in the viola is clearly underscored by the imitation of the motive an octave above (see Example 1.4).

A radical change of character in the bass line is concurrent with the changes of register described above (Example 2.13). While the antecedent

Example 2.13: Contour of bass line, mm. 18-35.1

favours a relatively slow-moving bass sustaining root position chords belonging to a single diatonic scale (the progression I-VI₇-V₇ of V in Eb major is outlined), the consequent is supported by a more active bass line generating both root-position and inverted chords not compatible with a single diatonic frame of reference, as observed in the voice-leading graph. Clearly, chromatic voice-leading prevails over root motion by fifth. The different characters of the motives used, the register
transfers resulting from arpeggiations, and the change of pace in the bass are progressive factors counterbalanced by one prominently recessive element: the descending direction of motive A2, the "drooping chromatic line." At a deeper level of structure, however, the outer voices combine in delineating a striking ascending framework responsible for the large-scale direction of the section (Example 2.14).

Example 2.14: Outer-voice framework, mm. 18-35.1

The cadential chord at m. 35.1 can be construed as a dominant seventh in second inversion implying a resolution to Eb (with a c\textsuperscript{#3} as an unresolved appoggiatura to d\textsuperscript{3}), but also as forming a group of appoggiaturas to an F-rooted chord, the latter possibility arising from the preparatory French sixth in m. 34.4. Only its resolution can determine whether F or Bb must be considered as the proper root of the chord (Example 2.15). Locally, the first interpretation prevails: the following statement begins with an affirmation of Bb in the bass and the resolution of c\textsuperscript{#3} to d\textsuperscript{#} (albeit three octaves below!). Looking ahead, however, it may be seen that the following
Example 2.15: Potential resolutions of cadential chord at m. 35.1

The Transition

The first segment of the transition, earlier described as an episode (see p. 60), combines motive N as found in m. 8 (see above, Example 2.1) with the ascending chromatic cadential motive (see above, p. 49) and a pedal on Bb. It can probably best be described, harmonically, as a string of \(^6_3\) chords, ascending in slightly distorted parallel motion. Tonally its purpose is to move from the cadential chord on Bb (see above) back to a dominant seventh on F. As was the case at m. 35.1, this cadential chord is in second inversion, the following phrase opening with the root position of the same harmony. The generally ascending direction of this sequential passage, counteracted only by the Bb pedal, reverses the general linear direction of mm. 33-35.1. Harmonically, it moves from Bb (mm. 35.1-37.1), to Eb (m. 37.2), to C (m. 37.4), to F (m. 38.1), thus retracing...
the path of the principal group (from Eb in m. 18) and momentarily halting the counterclockwise motion of mm. 24–35 around the circle of fifths.15

The second phrase of the transition combines motives A1 and A2 over descending chromatic lines and a pedal on F. In using the motivic material of the first subject group, it doubles as a closing phrase for that group (Example 2.16). The exact point at which the transition ends is

Example 2.16: Formal analysis of first subject group and transition

<table>
<thead>
<tr>
<th>Period</th>
<th>Transition</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm. 18-35.1</td>
<td>mm. 35.2-44.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Consequent</th>
<th>Episode</th>
<th>Closing Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm. 18-27.1</td>
<td>mm. 27.2-35.1</td>
<td>mm. 35.2-38.1</td>
<td>mm. 38.2-44.1</td>
</tr>
</tbody>
</table>

Motives: A1 A2 N A1 & A2

problematic. Motivic ideas from both groups overlap to the point that there is disagreement among authors as to the exact point where the second subject group begins. Arthur Willner sees this happening at m. 42.1, while Alistair Wightman puts it at m. 44.1.16

Superficially, m. 42.1 does appear as a noticeable turning point: it is preceded with a rallentando and marked poco meno mosso, tranquillo; a new dynamic indication (p dolce) appears in all the parts and the descending motion in triplets of sixteenth notes typical of motive B1 (see below, Example 2.19) is played by the second violin. Yet, there is no
clear harmonic punctuation at this point. The bass persists in its pedal on F, albeit now supportive of an unstable B instead of C. The first violin interrupts its descent (mm. 38.2-42.1) to call upon a figure which had already been identified with cadential preparation (see above, p. 49): the ascending chromatic scale. By contrast with the ambiguous situation of m. 42.1, m. 44.1 presents a strong harmonic delineation, not only because it is followed with a root position chord on E, but because of the very isolation of the octave A#. Similar isolation of single PCs for purposes of emphasis may be observed in the Introduction (m. 12.1), in the second subject group (mm. 53.1, 57.1, and 58.1), and within the Second and Third Movements. In this case, the emphasis put on A# stresses a change of tonal orientation that takes place in mm. 42-43 and that can be followed in the voice-leading graph (Appendix, p. 226); had the Eb orientation of the first subject group been maintained, this A# would more properly be reinterpreted as Bb resolving the secondary dominant on F (mm. 38-40). The fact that this is virtually inconceivable substantiates the change of tonal-harmonic orientation to A, the tonal center of the second subject group. In moving from one area to the other, the secondary dominant on F is transformed into an augmented sixth in A, a transformation possibly inspired by a famous paradigm: the "Tristan" chord (Example 2.17).

A summary notation of the broad outer-voice pattern of the transition reveals a continuation of the motion observed in the first subject group (see above, Example 2.14), as well as the tonal-harmonic shift described above (Example 2.18).
Example 2.17: Comparison between mm. 42-44.1 and the opening of the Prelude to Tristan und Isolde by R. Wagner

Example 2.18: Outer-voice framework, mm. 35.1-44.1
The Second Subject Group

The motivic content of the second subject group (mm. 44–63.1) is less sharply defined than that of the first. Triplets of sixteenth notes and descending chromatic scales permeate the entire section. While these appear at m. 42 in a form labelled motive B1 (Example 2.19), less characteristic manifestations of this proto-motivic material are found in every part. A secondary idea (motive B2) also appears under various guises, evolving into an intensely lyrical gesture of the first violin at m. 54 (Example 2.20).

Formally, this second subject group is subdivided into four phrases of which the last is an almost literal reprise of the first. While both
motives B1 and B2 appear in all four phrases, their relative prominence varies from phrase to phrase allowing for the following formal analysis:

1. "B1" mm. 44.2-49.1
2. "Blv" Development of B1 mm. 49.1-53.1
3. "B2" mm. 53.2-58.1
4. "Blr" Reprise of "B1" mm. 58.2-63.1

Thus, in the second subject group as in the first, a tripartite ("ABA") grouping of motivic material emerges from a fourfold phrase division. In the second subject group, a development on B1 ("Blv") is heard instead of an episode, as in the first subject group.

Turning to features of voice-leading in this second subject group, one observes the appearance of a technique already identified in the first subject group (see above, Example 1.4): the motivic underscoring of an octave transfer (Example 2.21). This group is no exception to the rule that, frequently, the outer voices embody more than one strand of the contrapuntal fabric. Witness the descent from d3 to e2 at m. 44 (Example 2.22), which fulfills multiple voice-leading purposes:
Example 2.22: Excerpt from voice-leading graph, mm. 44-47

on the one hand, the resolution $b^2$ of the $a^2_b$ suspended from the previous section is reached through an embellishing motion leaping to $d^3$; on the other hand, this $d^3$ belongs to a longer-reaching line going to $f^3_b$ in the next measure, while the interposed, "passing", $E$ is heard an octave below. Similarly, at m. 47, the leap up to $c^4$ adds a further step to the $a^2_b$-b$^2$ motion of m. 44 while acting as an upper embellishing motion to $g^3_b/a^3_b$ of the other contrapuntal strand.\cite{19}

Conversely, some of the activity of the inner voices from m. 45 to 49.1 (see voice-leading graph, Appendix, p. 227) is understandable as a bifurcation from the $f^1_#$ of mm. 44-45.1, one line descending to $d^2$ in m. 47 by way of the $c^2_b$-b$^1$ motion in m. 46, while the $f^1_#$ held in the other line is resolved down to $e^1$ at m. 46.2. This last strand merges with the $d^1$ at m. 47.1. Thus the two lines generated by the $f^1_#$ at m. 45.1 eventually reach $D$ at m. 47.1, but an octave apart. From there on, embellished octave transfers (see p. 15) create a double neighbouring motion, reaching
e_b^3 in the upper part and c_b^1 in the lower (m. 48.1 and 48.3), both returning to D at m. 49.1. Thus the simple harmonic progression of mm. 44-48 is decorated with intense surface activity in all the upper voices.

Tonal-harmonic features include the fifth F-c, which is already prominent in the first subject group (mm. 27-28.1) and in the transition (mm. 38-40). From secondary dominant in Eb, it is here transformed into a flat sixth degree in A, or, more accurately (since it carries a seventh in m. 48), into a dominant of the Neapolitan degree. Resolving this dominant would no doubt imperil the recently established orientation to A/a. Indeed, such a resolution is carefully avoided and replaced with chromatic contrary motion of the outer voices (m. 49.1) maintaining the orientation to A major (m. 51.1) by way of its fourth degree D (m. 49.1). Just as the approach to the second subject group is found to be based on a famous prototype (see Example 2.17), the progression of mm. 44-49 is also related to another Tristan passage (Example 2.23). Whether the composer was aware

Example 2.23: Conceivable prototype for mm. 44-49: Wagner, Prelude to Tristan und Isolde, mm. 16-18
of these relationships is a moot point. They certainly testify to the extent of the influence of this Prelude on the musical thought of the early twentieth century.

The two middle statement ("Blv" and "B2") are unified, across important rhythmic and textural differences, by a single descending bass motion, from a (m. 49.2) to an implied B, realized as b (m. 53.2), to f (m. 57.2) and back to E (m. 58.2) for the reprise of "Bl" (see Example 1.15). The turning point (m. 58.1) between segments "Blv" and "B2" rests on a secondary dominant in A, V of V. This point is approached in a way similar to m. 44.1 (see above, p. 66): the texture is momentarily reduced to a single pitch-class, a lower chromatic appoggiatura to the fifth of the following chord. In both cases, this kind of focusing underscores an enharmonic reinterpretation: as Bb is transformed into A#, F from m. 48 is turned into E#. Thus the bass-root fifth relationship between the two events (E at m. 44.2; B at m. 53.2) is also projected on the upper voices.

When phrase "Bl" is repeated (mm. 58-63.1), the significance of F as flat sixth degree in A is unequivocal since there has been no allusion since m. 48 to a potential return to Eb or Bb as tonal centers. The connection with the following phrase is all the more unexpected: F is retained in the bass, reinterpreted as a fifth degree of a Bb triad in 6/4 position. Since a thorough understanding of this event is crucial to the formal analysis of the movement, it is carefully examined in the following section of this chapter (see p. 77).

A reading of the deep structural pattern drawn by the outer voices (Example 2.24) once more reveals the prevalence, in the upper register, of
Example 2.24: Outer-voice framework of second subject group, mm. 44.1-63.1

\[
\begin{align*}
\text{Example 2.24: Outer-voice framework of second subject group, mm. 44.1-63.1} \\
\end{align*}
\]

a broad ascending motion outlining an octave transfer whose extremities (B-C) coincide with the two statements of Bl. The descending motion of the bass is understood as originating from an inner voice a (m. 49.1) returning to E for the reprise, therefore embellishing the neighbouring motion E-F-F♯-E (mm. 44-58).

The Closing Group

As seen above, the presence of F in the cello links this section with the preceding. The first violin contributes to this sense of continuity between the two sections with its triple octave D expanding the rhythmic-melodic idea of "Bl". The remaining two instruments, however, contrast sharply with this double prolongation of second subject group
material by reintroducing the main idea of the first subject group together with its chromatic counterpoint. The entire section is characterized by this superimposition of material from both subject groups. A sense of intensification prevails, leading to a culmination point at mm. 71-72. Techniques of ornamentation are put to good use in underscoring this intensification: arpeggiando in the first violin, picked up by the second violin and cello at mm. 66-68; tremolando in the cello, carried on by the viola at mm. 67-69 and the cello at m. 70; trill in the cello at m. 69, all of which are supported by a steady crescendo leading to a forte at the beginning of m. 69. The decrescendo at m. 70 (in all instruments but the cello) may seem to run against the overall thrust. It is compensated for by a combination of harmonics, flautando, and sul tasto, producing a striking textural contrast.

These ornamental devices reinforce a progression imbedded in the very structure of the piece (see Appendix, p. 229). The first subject group motive is repeated sequentially, starting on d₁ (m. 63.2), e₂ (m. 66.2), e₃ (m. 69.2) and b₃ (m. 70.2), the last two statements overlapping in stretto, a process of unmistakable intensifying effect. Meanwhile, the accompanying lines are undergoing registral expansion, particularly through the descending motion of the cello. Based on this motion, the section is articulated in two segments: mm. 63.1-70 and 71.1-73.1 (Example 2.25). The first segment comprises a broad descent from F (m. 63.1) to C (m. 69) through D (mm. 66.1-68.3). In the second segment, the descent starts from the fifth above the preceding point of arrival (m. 70.1) transferred in the middle register to f₁ (m. 71.1) and descending in eighth notes to b₃ (m. 72.4).
Example 2.25: Outline of bass motion, mm. 63-72.4

The ensuing motion to $a_\flat$ (m. 73.1) is dealt with in connection with the analysis of the cadence (see below). Thus the descending motion of mm. 71-72 fulfills a double purpose: it acts as a process of intensification rhythmically and registrally, but because it is an inner-voice motion (beginning on G above C in m. 70), it momentarily retards the progress from C to Bb (m. 72.4).

The cadential gesture at m. 73.1 implies a reinterpretation of the preceding chord from $I_4^6$ in Eb (a return to the key center of the first subject group) to an incomplete (and altered: Eb instead of E) German sixth in E. It thus produces the combined effects of a half cadence in E and of a deceptive cadence in Eb (if the root B is reinterpreted as Cb). Although such a powerful effect is consistent with the prevailing tonal-harmonic procedures, its particular structural impact should not be underestimated. Eb and A have been identified as the two broad tonal regions in which the first and second subject groups respectively evolve (see above, p. 64 and 66). The submediant $F$ which closes the second
subject group is used to reenter the Eb area (mm. 63-72.4), where the first subject group motive reappears. The abrupt return to the A area (B as V of V) at m. 73.1 reverts this orientation and announces the general direction taken by the following section.

Measures 63.1 to 73.1 have been diversely interpreted as the beginning of the Development (Wightman and Willner) or the end of the Exposition (Samson).21 While none of these authors adduces evidence in support of his opinion, a careful analysis should be useful in clarifying this point.

The controversy probably stems as much from differing concepts of what is a sonata-allegro development as it does from the contents of this particular movement. If the term "development" is taken in the broad sense of "treatment of musical materials to convey a sense of expansion . . . or exploration,"22 its application cannot be restricted to a particular section of the movement.23 The sixty-three measures of the Quartet analyzed so far already display several instances of this kind of development (see, for example, section "Biv", mm. 49.1-53.1). In a more restricted sense, when used to designate the middle-section of a sonata-allegro form, other criteria must be adduced, first and foremost the segmentation of the movement by way of cadences.

The evaluation of cadential events must be consistent with the stylistic context. In a style where cadences are weakly defined and articulations between phrases deliberately blurred through harmonic-motivic overlap, ambiguity in the identification of punctuating events is to be expected. Such is not the case in the Quartet so far: cadences are always
clearly articulated texturally, motivically, and harmonically. Thus the
Introduction comes to an unambiguous close on C at m. 13.1; the end of the
first subject group at m. 35.1 is just as unequivocal. Therefore, one
has every reason to expect an obvious punctuation to mark the end of the
Exposition or, to put it more circumspectly, given a choice between two
points apt to fulfill this function (namely, mm. 63.1 and 73.1), it is
stylistically consistent to choose the one that is most clearly
punctuative, motivically, texturally, and harmonically. Based on this
criterion, the punctuation at m. 73.1 outweighs that of m. 63.1: it is
harmonically cadential, as the analysis above shows, and it is followed by
a pronounced change of pace, of texture, and of motivic and rhythmic
material.

Comparatively, m. 63.1 appears to be only weakly cadential. The use
of a $\text{ VI}_4$ sonority at a cadential point is not unusual in this Quartet (see
mm. 35.1 and 38.1) but, in all other cases, the following phrase begins
with the root position chord, confirming the relatively consonant and
stable character of the $\text{ IV}_6$. In this case, both the bass and soprano are
stationary, respectively on F and D (expanded over three octaves) until
m. 65.4, at which point they both move to Eb in contrary motion. Meanwhile
the inner voices descend chromatically to b$b$ (2nd violin, m. 65.2) and Ab
(viola, m. 65.1), transforming the Bb triad into a dominant seventh still
in second inversion. Harmonically speaking, mm. 63.1-65.3 function as a
prolongation of the chord at m. 63.1.

From the points of view of texture as well as of rhythmic activity,
elements of continuity overshadow factors of division, particularly the
continuing arpeggiando pattern in triplets of sixteenth notes in the first violin. The only significant aspect which could plead in favour of m. 63.1 as being the end of the Exposition is the reappearance of motive Al. This reappearance, however, is perfectly compatible with the function of a codetta to the Exposition, particularly in a style in which the exact repetition of the Exposition is avoided. Motivically, measures 63 to 73.1 function both as a condensed restatement of the most characteristic components of the two subject groups and as a codetta, the latter character resulting from the combination of procedures of intensification described above. Interestingly enough, the highest pitch reached here (d⁴, second violin, m. 71.1) recurs only twice in the course of the movement (and is never exceeded): at m. 157.2, two measures before the close of the Reexposition; and at m. 179.1, three measures before the end. It thus appears to be uniquely associated with closing gestures.

An examination of the outer-voice framework (Example 2.26) shows the ascending motion of the upper voice almost coming to a halt while the

Example 2.26: Outer-voice framework of mm. 63.1-73.1
direction of the lower voice is clearly reversed. Both these changes play a significant role in delineating this segment as a closing group.

Indeed, one would be tempted to formulate the hypothesis that the combination of surface intensification with tonal-harmonic quasi-static or recessive motions is characteristic of closing sections. Only the study of a broadly diversified repertoire could substantiate such a claim.

The Development

The development section of the movement . . . is really in the nature of an independent episode, functioning as a kind of scherzo for the work. It employs accompaniment patterns derived from the exposition but makes little use of the first or second subject material until the approach of the recapitulation.

Clearly, Szymanowski shares Schoenberg's view of the development: "Varied as the specific cases may be, the formal purpose of this section is, as with other contrasting middle sections, to provide a RELATED CONTRAST." A striking contrast of texture and of rhythmic activity is indeed indicated at the outset of this section, by the marking subito scherzando alla burlesca, as well as by the syncopations, staccatos, and two-against-three polyrhythms. The intense activity prevailing in the initial, rhythmic phase (mm. 73-96) builds up to a culmination point (m. 97.1) giving way to the second, lyric phase (mm. 97-102). A retransition (mm. 103-117) leads back to the Recapitulation. A voice-leading graph of the Development is found on p. 230. The predominance of imitations and sequences generates a highly repetitive, and comparatively unrevealing picture at level -A-. Attention is therefore focused on the middleground and tonal-harmonic
background. At level -C-, lack of space needed to account for tonal fluctuation over such an extended segment (46 measures) made a change of key imperative at m. 97. The A-major line leaves the way to a D-major/minor line at that point.

The Rhythmic Phase

Two different sets of ascending sequences subdivide this phase in two segments: mm. 73-82 and 83-96. While both segments are characterized by intense imitations of terse motives in all the parts, as well as by ascending sequential patterns, they are strongly contrasted in their intervallic content. The first features two principal motives: a short chromatic motion and a leap of a minor third (Example 2.27).

Example 2.27: Principal motives of rhythmic phase, m. 73.

The second segment (mm. 83-96) is firmly grounded on a repeated C in the cello, and progressively moves from chromatic to diatonic scalar motives on successively higher degrees (see below). This progressive transformation of motives is comparable to the transformations undergone by motive B2 in the second subject group (see Example 2.19).

Examination of the voice-leading of the first segment discloses an initial statement moving from the dominant of E (m. 73.1) to a diminished
seventh on E (m. 78.1). The sequential motion between these two points clearly prolongs the motion from D♯ to E, ascending from the inner voice e¹, attained through a transfer of register at m. 73.4 (Example 2.28).

Example 2.28: Upper-voice motion, mm. 73.1-78.1

\[ \text{Example 2.28: Upper-voice motion, mm. 73.1-78.1} \]

The approach to the culmination point of m. 78.1 involves the kind of ascending chromaticism already observed in analogous situations (see above, Example 2.5). Here, both first and second violin partake of this motion, in parallel thirds. From this point on (m. 78.2), a second ascending sequence is generated by a descent to an inner voice, returning to e³ at m. 80.2 but carrying on to a⁴ at m. 82.1. This new culmination point is again approached by an ascending chromatic motion, this time in parallel octaves. A third ascending sequence begins at m. 82.2, only to be abruptly interrupted and replaced by the second segment of the rhythmic phase.

The change of register in the bass at m. 75.3 may seem to delineate a motion of deeper significance. In other contexts, similar displacements are interpreted as reactivating a line left incomplete earlier (see, for
example, Introduction, m. 12; second subject group, m. 58). No such reactivation can be associated with this change of register, however, and it is nothing more than an embellishing motion to the f# established at m. 75.2, possibly as a way of "amplifying" the bass symmetrically with the ascending transfer of register in the soprano. When the bass returns to the upper octave at m. 76.3, it initiates a motion from c (m. 76.4) to C# (m. 82.1, Example 2.29). The deeper structural significance of this motion, clearly delineated motivically, metrically, and harmonically (see voice-leading graph, p. 230), retrospectively confirms the subsidiary character of the change of register at mm. 75.3-76.2.

The voice-leading graph testifies to the prevalence, in this first segment, of dominant-seventh and diminished-seventh sonorities, the latter obviously connected with the pervasive minor-third motive mentioned above. These sonorities are subsumed in a broad root motion from a V of V (m. 73.1) to the tonic in A (m. 82.1), the intervening diminished seventh on E substituting for the dominant (m. 78.1).
The second segment of the rhythmic phase is entirely set up over a pedal of C. Pitches heard over this pedal belong to two distinct families: pitches affiliated with a single diatonic scale, giving rise to consonant triads, and pitches affiliated with chromatic passing motions. The two kinds of materials are clearly separated and their tonal-harmonic significance is likewise distinguishable. Chromatic passing motions (e.g., the lower line of the viola, m. 83; the second violin, m. 85) are purely local phenomena and do not affect the tonal-harmonic content except as "filling in". On the other hand, the diatonic degrees (to which category most of the pitches belong) influence the tonal orientation of the segment in which they appear such that any change in the quality of a degree significantly affects the direction of the segment. Examples of such changes are: motion from C to C# heralded in the first violin, m. 85; motion from C to C# in the second violin m. 86; motion from A to A# in the viola, m. 86. Thus sharp degrees are successively secured. This ascending trend is reverted at points of punctuation: at m. 89.1, D# returns to D#, and A# to A#. The ascending trend, however, is immediately resumed. In fact, it goes further in reaching for new degrees: B# (viola, m. 89.3) and E# (first violin, m. 90.2). The prevailing ascending direction of this segment thus appears to result not only from dynamic, textural, and registral factors, but from tonal-harmonic ones as well.

The extensive ascending sequence built on the pedal on C emphasizes successive degrees of W/\hat{0}: C, D, E, F# (Example 2.30). Given the centrality of this event in the Development as well as in the piece, there is every reason to understand this phrase as a condensed motion from the
Example 2.30: Triads emerging from linear motions, mm. 83-97

key center of the movement to the tonality farthest removed. Thus, the parallel motion from C to E which opened the Introduction is resumed and carried one step further.

The root motion by fifths which characterized the first segment of this rhythmic phase is not pursued in the second segment. On the contrary, the segment begins with an abrupt change of direction, from an A-major triad in first inversion to a C-major triad (mm. 82-83), a change of direction emphasized by concurrent changes in texture, timbre, and dynamics. The resolution of the dominant thirteenth at m. 97.1 is a clue to the significance of this reorientation. It is examined below in the context of the lyric phase of the Development.

The Lyric Phase

The lyric phase (mm. 97-102) introduces a new melodic motive which can be seen to resemble the initial motive of the Introduction (Example 2.31). This motive is repeated sequentially, a third down (mm. 100-102), accompanied by chromatic descending scale patterns in the inner voices, a familiar component of statements of motive A1 (see mm. 18-20.2, and 38.2-41.3).
Example 2.31: Principal motive of lyric phase (1st violin, mm. 97-100.1) compared with 1:1-3

Instead of root motion to $F$ suggested by the dominant sonority of m. 96, an ascending half-step motion to $C#/Db$ in the bass supportive of a $6_4$ sonority imposes a reinterpretation of the chord on C as an altered dominant of the dominant in $F#$ (Example 2.32). This shift in tonal direction, coinciding with radical changes of texture, mode of articulation, and surface rhythmic activity, underlines the culmination point of the Development, indeed of the movement as a whole. Measure 97.1 is the fulcrum on which the formal-rhetorical balance of the movement rests. The lyric phase expanding this moment into a full apotheosis is
reminiscent of a recurring feature of the music of Szymanowski, described by Samson:

As so often in earlier impressionist cycles, the tension which has been built up is released by means of an impassioned 'Romantic' version of the main theme, with the harmonic language stirring echoes of German late-Romanticism.

If any sense of arrival is achieved in this passage, it is certainly not through tonally closed harmonic motions. The $\frac{6}{4}$ does not resolve to a $\frac{5}{3}$ but rather moves to another $\frac{6}{4}$ on $A$ supportive of a sequential repetition of mm. 97-99. The progression from $C$ to $F#$ (mm. 83-97) thus may be interpreted as a tonal parenthesis within the prolongation of $A$ (m. 82 and m. 101). The punctuation at m. 103 apparently deprives this prolongation of $A$ of its natural resolution to $D$. Indeed, the $W^0$ sonority on $Bb$ appearing at this point sounds very much like a deceptive cadence in $D$ minor. The significance of this event with respect to the retransition is examined in due course. Provisionally, attention is drawn to the fact that the broad $A$-major tonal direction for the Development implied in the above analysis is consistent with the tonal orientations heralded in the Exposition, particularly in the second subject group (see p. 66).

The Retransition

This segment has much in common with the closing phrase of the Exposition (mm. 63-73.1): descending scale in the bass, ascending sequences in the upper voice, intensifying ornamental devices in the inner voices (arpeggiando, tremolando), not to mention the reappearance of
motives A1 and A2 from the first subject group. Furthermore, both segments are introduced by an ambivalent cadence in which rhythmic activity and tonal-harmonic function stress continuity of motion as much as, if not more than, punctuation of the preceding statement.

A single linear motion of the bass, from d\textsuperscript{1} to B\textsubscript{b} unifies the section. This bass descends regularly at the rate of one note per bar, with the exception of a two-bar plateau on f\# at mm. 112-113. This assessment implies that both pitches of the initial d\textsuperscript{1}-c\textsuperscript{1} trill (mm. 101-106) are included in the line, a technique which has already been noticed in the analysis of the Introduction (see above, p. 50). As mentioned above, the WT\textsuperscript{0} sonority on B\textsubscript{b} (mm. 103-106) suggests as one of its possible interpretations a sixth degree in D minor. While this contextual assessment cannot be disproved, neither should the tonal ambiguity of this crucial moment of the Development be minimized. Indeed, the dominant of D established at m. 101 is not fully resolved before the end of the retransition (m. 117), where it is approached by way of an augmented sixth, a powerful dominant preparation.

This section features a technique which could be called "framing": the third B\textsubscript{b}-d on which it opens reappears exactly in the same guise at the beginning of the Recapitulation (m. 118.1). The intervening scalar motion is clearly an octave transfer from b\textsubscript{b} to B\textsubscript{b}. Imbedded in this descending scale is a motion from d\textsuperscript{1} to d\textsubscript{b} thanks to which this PC progressively emerges as the prevalent root.

The outer-voice framework of the Development (Example 2.33) reveals a remarkably consistent pattern of two interlocking ascending motions in the
Example 2.33: Outer-voice framework of Development
upper voices supported by an ascending motion in the bass, itself followed by a neighbour-note pedal (BB#) preparing the culmination point of m. 97. From there on, the upper voice follows a slowly descending general direction allowing for ascending motions in the inner voices, while the bass once more features a double neighbouring motion around Bb and D (mm. 103-118), this time expanded into a scalar gesture spanning a tenth.

The Recapitulation and Coda

Formally, the Recapitulation appears to follow a tripartite plan similar to those of the Exposition and Development (Example 2.34).

Example 2.34: Comparison of the structures of major subdivisions

<table>
<thead>
<tr>
<th>Exposition:</th>
<th>Motives:</th>
<th>First subject group</th>
<th>Second subject group</th>
<th>Closing group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Al and A2</td>
<td>B1 and B2</td>
<td>Al and B1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Development:</th>
<th>Motives:</th>
<th>Rhythmic phase</th>
<th>Lyric phase</th>
<th>Retransition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New motives</td>
<td>New motives</td>
<td>Al and A2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recapitulation:</th>
<th>Motives:</th>
<th>First subject group</th>
<th>Second subject group</th>
<th>Closing group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Al and A2</td>
<td>B1 and B2</td>
<td>Al and B1</td>
</tr>
</tbody>
</table>

The Recapitulation of the Two Subject Groups

Although he does not fail to mention that its initial thirteen measures are transposed with respect to their statement in the Exposition (mm. 18-30 and 118-130), Samson speaks of a "surprisingly literal recapitulation."31 Two other movements from the two string quartets include extensive reprises: the last movement of this Quartet and the first of the second. In both cases, the reprises are more extensive and
more literal than the one deemed "surprisingly literal" by Samson.\textsuperscript{32}

Beyond the obvious changes of key and register caused by the transposition, the tonal structure is modified substantially by what may seem to be, upon superficial examination, a minor change. The initial chord at m. 18.1 (Example 2.35 and voice-leading graph, p. 231) was

Example 2.35: Comparison of m. 18 with m. 118

\begin{figure}
\centering
\includegraphics[width=0.5\textwidth]{example2.35.png}
\caption{Comparison of m. 18 with m. 118}
\end{figure}
analyzed as a root position triad on Eb not only because of the brief $b_b$ in the first violin, soon displaced by the $c^1$ in the second violin, but because this chord appears as the point of arrival of passing motions from C (mm. 14-16) to Eb in the cello. In this context, $c^1$ in the second violin (m. 18) was understood as a neighbouring tone to $b_b$ rather than as a return to a potential root. An exact transposition up a fifth would have called for an $f^1$ in the first violin at m. 118.1, producing a Bb major triad. However, $g^1$ is heard instead and, indeed, the previous measure, with its emphasis on a $V_7$ on $D$, prepares a resolution to $G$ just as clearly as the passing motion at mm. 16-17 pointed to Eb. Thus, from a harmonic point of view, the Recapitulation does not begin a fifth above the Exposition but a major third above. The descent to G at m. 124 is to the root of the chord prolonged since m. 118. The use of G minor, rather than major, carries a double implication: it allows for an exact transposition of the C minor of the Exposition and it avoids any dominant suggestion which would point to $C$ at m. 127 as to a tonic; moreover, it reestablishes an orientation to the flat-side of C. Indeed, throughout the Recapitulation, this flat-side assumes a prominence clearly counterbalancing the sharp-side direction taken in the Development.

Starting with m. 131, the transposition is abandoned and the Recapitulation is exact to m. 153, with the exception of the elision of mm. 49-52. This raises two sets of questions:

1. How is the link effected between the transposed segment and the untransposed one? Is the effect one of interruption, or is there a sense in which logical continuation may be heard between the two phrases?
2. What reasons may be adduced for the elision of mm. 49 to 52? How is the tonal plan affected by this change?

In seeking answers to the first set of questions, one observes that, as the turning point of m. 131 is approached, modifications are progressively introduced. While most of these changes affect only surface ornamentation, some prove significant enough to impose an interpretation different from that which would result from a mere transposition (Example 2.36 and voice-leading graph, p. 231). What may appear as a minor detail

Example 2.36: Comparison of mm. 27-31 with mm. 127-131
turns out to be a pivotal event of the tonal structure: the single F in the cello part at m. 131.1 is the resolution of the preceding dominant-sounding harmony on C (m. 127). Textural and rhythmic factors are pressed into service in order to focus on this otherwise elusive instant: modification of dynamics from m. 126 to m. 130, the sustained crescendo of the Exposition being replaced by a rapid decrescendo to ppp-pp; recourse to harmonics accompanied flautando and sul ponticello, a combination of sonorities previously associated with the approach to other significant turning points (see mm. 71-72, and 82); finally, poco sostenuto, at m. 130. When the F is attacked in the cello, all the other instruments are silent (an exact reprise would have called for the second violin and viola to begin playing on the first beat), again a device of emphasis used earlier (see mm. 53.1, 57.1, 58.1, and 69.1, and note 17 on p. 107). Not only does this F resolve the preceding dominant on C, but it also paves the way to the cadence on Bb at m. 135.1. Thus a tonal-harmonic connection between the transposed and untransposed parts of the Recapitulation of the first subject group is indeed secured.

In seeking reasons for the elision of mm. 49-52, one must recall that this segment has been characterized as a short development of the second subject group. Its omission in the Recapitulation may be justified by the aims pursued in this section which are, in a sense, antithetical to those of the Exposition. The effect desired at this point is not one of growth but of stabilization. In this perspective, there is no need to go over every element of the Exposition. Indeed, those segments which, in the Exposition, are characterized by a sense of intensification and
development, are those that are most likely to be omitted. The elision of mm. 49-52 thus appears justified from a formal-rhetorical point of view.

As for the tonal plan of the section, mm. 49-53.1 are seen to prolong a dominant-seventh sonority rooted on $D$ (see voice-leading graph p. 227). Their omission thus brings the dominant seventh on $F$ at m. 148 in direct contact with the dominant seventh on $B$ at m. 149, a connection calling for a reinterpretation of the $B$ chord as a German sixth in Eb, where $F$ is a secondary dominant. This implication is not carried any further in the following measures.

With the exception of an interchange of parts between cello and viola, mm. 149 to 153 repeat mm. 53 to 57 exactly. As in mm. 127-130, however, preparation for an important change of direction is made palpable by modifications of dynamics and tempo. Here again a decrescendo to pianissimo dolcissimo replaces the crescendo (in the first violin) of mm. 56-57. The sempre rallentendo is further emphasized by the indication molto allargando at m. 154. Harmonically, this last measure is not a reprise of the Exposition but a pivot similar to that of m. 130 analyzed above (see p. 93). Its highly ambiguous tonal-harmonic content underscores this role perfectly (see voice-leading graph, Appendix, p. 231).

A four-measure phrase ends this Recapitulation of the second subject group. While the first two measures present motive $B_1$ in canonic imitation, first at a third below, then at a sixth, the last two form a slightly varied reprise of mm. 47-48 (and 61-62) transposed a step above. For the first time in the piece, the dominant of $C$ is unequivocally established. Nothing is spared to emphasize the paroxysmal nature of these
measures: a tempo, forte e deciso, then poco accelerando, crescendo to fortissimo, with stress marks on every note, and parallel octaves in all three upper instruments at m. 157, underlining the extremely high register reached here (d⁴ in the first violin). This fortissimo statement therefore has all the characteristics of a climactic event.³³

A resolution of the dominant to the tonic at m. 159.1 would be conventionally logical but little in keeping with the kinds of progression the listener has come to expect in the movement. Indeed, the motion of the bass up a semitone is perfectly consistent with patterns used in similar circumstances (see, for example, mm. 97.1 and 103.1). The study of the formal significance of this cadence belongs to the analysis of the closing group which it initiates (see below).

A comparison of the outer-voice framework of the Recapitulation with that of the Exposition (Example 2.37) shows the extent of the influence of the changes described above. The upper voice ascent from Eb to A (Exposition) is replaced with a step-wise motion G to A prolonged through an extensive neighbouring elaboration. In spite of the omission of mm. 49-52 in the Recapitulation, the second subject group sees the soprano continue its ascent to B (m. 158), the modifications of mm. 153-158 making up for the missing steps. Noticeably, C, which should have been the goal of this motion at m. 159.1, is omitted altogether from the harmony at this point.
Example 2.37: Outer-voice framework of Recapitulation and Exposition compared.
Modifications in the bass line are equally substantial. These modifications significantly affect the tonal structure of the movement. The two subject groups of the Exposition have been understood earlier (see above, pp. 64 and 66) as resting on two different "sides" of C, each of these two sides being represented by a different key center: Eb for the minor-flat side, and A (mainly through its dominant E) for the major-sharp side. Between the two, F played a pivotal role, as secondary dominant in Eb and as sixth degree in A. In the Recapitulation, the transposition of the beginning of the first subject group and the modified ending to the second subject group are both centered on G. Part of the tonal-harmonic contrast found in the Exposition is preserved in the shift from G minor to G major, allowing for the dominant of C finally to emerge. In short, the Recapitulation carries out a broad neighbouring motion from G to E and back to G, passing through F in both instances. This neighbouring motion fulfills one of the basic requirements for this section in a conventional sonata-allegro form: tonal stability, as opposed to tonal contrast in the Exposition.

The Closing Group

The avoidance of a tonic resolution at m. 159.1 leaves room for a further working out of both motives, A1 and B1. In fact, the tonic pitch itself is even missing from this cadence, the W70 sonority at that point being reminiscent of parallel moments earlier in the movement, particularly of the link between the lyric phase and the retransition (m. 103.1). This group neatly subdivides into two phrases of eight measures each (mm. 159.2
to 168.1, 168.1 to 175.1). In the first phrase, the head of motive A1 appears in a tight sequence of overlapping imitations, the outer voices moving in contrary motion.\textsuperscript{34} The voice-leading graph (Appendix, p. 232) reveals how a sequence of root motions centering on Ab emerges from this context, a clear pattern not unlike those heard in the two parallel closing sections (mm. 63-73.1 and 103-118.1). At m. 167, Ab is reinterpreted as a dominant, to be resolved on the first beat of m. 168, on Db, the Neapolitan degree of the prevailing key, appearing in its most recognizable guise: first inversion.

The second phrase of this closing group features material from the second subject group. A sequence of chords whose roots ascend in minor thirds from Db to Eb (mm. 168-171) is followed with a prolongation of the Eb chord resolving the last step of the sequence (mm. 172.1-174.1). This Eb is itself transformed into a dominant of Ab. Thus, the cycle is completed and the entire closing group appears as an embellishing motion to this dominant seventh on Ab/G#. The reinterpretation of this chord as a German sixth in C allows for its resolution to G at m. 175.1. Because the triad supported by this G is a $6_4$\textsuperscript{a}, however, it functions ambivalently as a potential dominant approach, on a local level, and as a tonic resolution of the structural dominant left unresolved by the deceptive cadence of m. 159.1. Indeed, Szymanowski dispenses with the conventional resolution of $6_4$ to $5_3$ and moves directly to another $6_4$ on the tonic, a $6_4$ which does resolve to a root position chord at m. 177.

The perfectly consonant G-major triad which comes as the third step of the sequence from Db to Eb (m. 170) may sound odd in the midst of the
dominant-seventh sonorities prevailing here. The use of an "incomplete" chord (that is, incomplete with regard to contextual norms) may be a way of stressing its passing function while avoiding any suggestion of its broader structural role as dominant in the key of C. A similar use of a perfect triad as a passing chord was noticed in the Introduction (see m. 11.2 and above, p. 57).

The combination of ascending lines and ornamentation of increasing density with crescendo molto (from subito pianissimo) at mm. 172.2-175.1 harks back to similar gestures heard earlier in the movement: the bridge between the two subject groups (mm. 35.2-38.1), mm. 80-82.1, and mm. 83-97.1 of the Development.

The Coda

Given the extensive closing group analyzed above, there is little need for an elaborate Coda. Indeed, it is remarkably short: eight measures outlining a motion from tonic to subdominant, and back to tonic, certainly the most predictable tonal orientation for this section. A sequence of statements of the head of motive A1 over a tonic pedal culminates on a dominant ninth of the subdominant, followed by emphatic but predictable motions to the subdominant and tonic. While the second measure (m. 176) shows an inclination toward the sharp side (E-major triad over the tonic pedal), m. 178 definitely shifts the tonal balance to the flat side (Eb triad), all this in the most agitated tempo and at the loudest dynamic level possible (note the last chord: sfff possibile!).

The outer-voice framework of the closing group and Coda discloses how
the arrival to the final tonic is delayed by neighbouring motions prolonging the augmented sixth of m. 159 (Example 2.38).

**Tonal-Harmonic Structure and Formal Design**

Although interest was primarily focused on individual segments as separate entities, ideas about the broad formal design and unity of the movement were implicit in the analyses made to this point. In this final section, the movement as a whole is considered, particularly with the aim of examining relationships between tonal-harmonic structure and formal-motivic organization.

Passing mention was made of a basic pattern of antithesis permeating the tonal plan of the movement. This antithesis rests on a triple opposition: opposition between Eb and A as tonal centers located at equal distance from C; opposition between the subdominant and dominant sides of C (counterclockwise and clockwise motion around the circle of fifths); and finally, opposition between C major and C minor, emphasized by the fact that A is usually represented by its dominant E, set in vivid contrast with Eb and related tonal regions. This oppositional design becomes manifest as early as the Introduction. While a C-major triad frames the principal period of this section (m. 2 and 13), this degree does not immediately emerge as a tonal center. The key centers of E and A predominate until m. 11.2, where a rapid shift to Eb takes place. The emphatic way in which this Eb is tonicized compensates for its brevity. As the analysis above has disclosed, C is only one of a number of plausible tonal interpretations for the ensuing progression at mm. 12-13.

The first subject group is tonally unified around Eb, expressed mostly
Example 2.38: Outer-voice framework of final closing group and Coda
through its secondary dominant F and dominant Bb. The transition from the
Eb region to the E-A region of the second subject group rests on the
reinterpretation of F as sixth degree of A minor, allowing for an augmented
sixth to dominant motion (mm. 43-44). Because of the exact repetition of
its first phrase (mm. 58-62), the second subject group is enclosed within a
broad V-VI motion in A minor. Between these two pillars, an emphasis on D
major (mm. 49-51) and B major (m. 53) punctuates the beginning of each of
the two intervening segments, interpreted in context as motions to IV and V
of V in A.

While the second subject group is introduced by a motion from F to E
(mm. 43-44) and closes with a motion from E to F (mm. 60-63.1), the
Exposition as a whole begins with a motion from Eb to F, through C
(mm. 18-27) and closes with a motion from F (m. 63.1) to Eb (m. 72) through
C (m. 69). Such a tonally circular structure is more akin to that of a
first section in a sonata-rondo than to the Exposition of a sonata-allegro
form. In a sense, a reprise of the Exposition would be plausible after m.
72 of the closing group. The cadence to a dominant seventh rooted on B/Cb,
at m. 73.1, implies a radical departure from this orientation. It opens
the door to the Development.

The two subdivisions of the initial, rhythmic phase of the Development
are strongly contrasted not only by the fact that the second (mm. 83-96)
rests on a pedal of C, but also by the nature of their tonal-harmonic
content. The first segment (mm. 73-82) features ascending motions of
diminished-seventh and dominant-seventh chords. The minor second and the
minor third are prevalent intervals both in the motivic content of
individual lines and in the pattern of root motions. By contrast, the
second segment (mm. 83-96) sets forth scalar motions and triads in which the major second and the major third predominate. In more than one way, the contrast between the two sections is comparable to the contrast traditionally associated with the juxtaposition of a statement in minor followed by a statement in major.

As mentioned earlier (see p. 84), the root progression by fifths (B, E, A) of mm. 73-82 is not pursued in the second segment, which features root motions ascending by major seconds over a pedal of C. The resolution of this pedal to an F#-major triad in position completes this motion, and initiates a descending sequence which leads back to A as a dominant of D at m. 101. From that point on, root motions by fifth are resumed, ultimately ending well into the Recapitulation: D (prolonged and clarified in the descending scale of mm. 105-117); G minor (mm 118-126); C major (m. 127); F major (m. 131); Bb major (m. 135); Eb major (m. 137).

The dynamic and textural culmination point of the movement (m. 97.1) thus appears within a motion parenthetical to this harmonic pattern encompassing the Development and the first half of the Recapitulation. On the other hand, F# does not appear anywhere else in the movement in a significant structural position, lending this culmination point a unique harmonic impact. Interestingly enough, the Recapitulation begins when the sequence of descending fifths reaches G, the dominant of the key center of the movement. In order to maintain the basic dialectical pattern described above between the flat/minor/subdominant side of C in the first subject and the sharp/major/dominant side in the second subject group, G minor is used at this point.
Because the second subject group is restated untransposed, it halts the series of descending-fifth root motions, focusing on E (as V of A), as in the Exposition. The conclusion of the second subject group merely slips back to G, first minor, than major (mm. 157-158), introducing the dominant of C in its full capacity for the first time in the piece.

Of the many questions raised by the tonal structure of this movement, that of the significance of the tonal plan of the Recapitulation is probably the most pressing. That the Recapitulation does not begin in the tonic key (or in the same key as the Exposition, for that matter) is not unusual. There is no lack of examples in the literature of recapitulations beginning in the key of the dominant and returning to the tonic in the course of the first subject group. On the other hand, recapitulations where the second subject group is not transposed are certainly more of a rarity. The combination of both anomalies—first subject group transposed; second subject group not transposed—is probably unique to this Quartet.

Were the second subject group exposed in the tonic key to start with, the very idea of calling this a sonata-form movement would be incongruous. The aural experience of the piece, confirmed by its analysis, suggests that the requirements of tonal opposition in an exposition are indeed fulfilled but through other means than the conventional tonic-dominant or tonic-median contrasts, as seen above. The persistence of this tonal conflict in the Recapitulation calls for a reevaluation of the influence of C as tonic.

In keeping with the Austro-German tradition of the times, Szymanowski's concept of sonata form is strongly tripartite. There is
little vestige left of its binary origin. This strong leaning toward an "ABA" pattern coincides with a greater reliance on thematic content to characterize each component. The Development thus stands out as an almost entirely autonomous section with little motivic relationship to the Exposition until the retransition. The "related contrast" (Schoenberg's term) called for in this section relies not so much on contrast of key and/or mode, as on contrasts of tempo, texture, and rhythmic-motivic patterns. While, in keeping with conventions, it uses a variety of intensifying devices of which rising sequences are the most powerful, this Development prominently features a tonic pedal in its center. Had the tonic the same stabilizing influence it has in works representative of the tonal tradition, this pedal would be most unsuitable. The tonality of C is only weakly defined at the end of the Introduction; it plays virtually no role in the Exposition; and it is clearly established only in the Coda. Emphasizing it in the Development therefore carries little risk of tonal stagnation. A further consequence of this formal concept is the complete integration of the Introduction and Coda in the tonal structure of the piece. Without them, it is unlikely that C would be felt as tonal center of the movement.
NOTES


2 Ibid., p. 97.

3 In closing this piece on the dominant, Szymanowski probably tried to recapture some of the modal flavour of the gregorian hymn on the same text. For a full discussion of the "tonal" implications of this hypomixolydian melody, see Berry, Structural Functions, pp. 121-122.


5 Ibid.

6 Ibid., p. 8.

7 Texture-space in its broadest acceptation is defined by Wallace Berry as "the overall field or ambitus in which events take place" (Structural Functions, p. 191).

8 $WT^0$ designates the whole-tone collection which includes pitch-class $C$; the other is indicated by the abbreviation $WT^1$.

9 See p. 45, note 14, for a fuller discussion of this question.

10 No attempt is made here at applying Schoenberg's classification of root progressions. There is no equivalent tonal-functional progression, except IV-VI-I (or I-III-V), certainly not a well established archetype.

11 This term is to be understood as defined by Schoenberg: "Episodes interrupt the normal flow of a section. . . They often introduce small phrases, strangely foreign to the previously used motive-forms . . ." (Schoenberg, Fundamentals, p. 155).

12 Samson, The Music of Szymanowski, p. 108. See his Example 23(1) for a comparison of melodic lines from various works by Szymanowski (the First Quartet is not quoted, however) with a theme from The Poem of Ecstasy by Scriabin.

13 Motive Al is accompanied by a chromatic line (second violin) embellishing the prevailing diatonic degrees. These, with the chromatic embellishing motions in the bass, do not affect the prevailing diatonic character of motive Al.
The dialectical concept of progressive and recessive motions is borrowed from Wallace Berry in *Structural Functions*. See in particular the Introduction, pp. 7-13.

Beyond this tonal-harmonic function, the episode also anticipates motivically, rhythmically, and texturally the first part of the Development (see below, p. 79).


The "resolutive", "quasi-tonic" character of such single tones has been well described by Wallace Berry, *Structural Functions*, p. 104.

The reader will have recognized this as the phrase chosen for the sample analysis of chapter I, pp. 32-43.

This c⁴ (m. 47.1) is a stylistic anomaly. In keeping with the Wagnerian influence already noticed in other dimensions of this music, culminating points of this type have previously been approached by way of an appoggiatura (see g⁵ at m. 27.2 to f⁵; b³ at m. 31.2). Indeed, here, the rhythmic and melodic contours of the appoggiatura are kept but functions are reversed: c⁴ is the chord tone, and b³ a passing tone.

"The closer the imitation (the smaller the time interval), the more intense is the 'competition'; it is reasonable to assume, and experience confirms, that the awareness of explicit motivic affinity put 'out of joint' by temporal discrepancy must be heightened by a relatively small margin of distance. This is the basis for the use by composers ... of stretto, ... as part of the expression of intensity toward which textural structure, with other element structures, progresses." (Berry, *Structural Functions*, p. 217).

Wightman, "The Music of Karol Szymanowski", p. 97; Willner, Notes to the Philharmonia Edition of the Quartet (without pagination); Samson does not describe it specifically in these terms, but he puts the beginning of the Development at m. 73.1 (The Music of Szymanowski, p. 128), implying that, in his view, mm. 63-73.1 are still part of the Exposition.


The ambiguity of this term is the basis of Schoenberg's preference for the term "elaboration" to designate the middle portion of a sonata-allegro form. See Schoenberg, *Fundamentals*, p. 151, note 1; p. 200, note; and p. 206.

Admittedly, the emergence of the second subject group does allow for some uncertainty, as described above (see pp. 65-66).

26 Schoenberg, *Fundamentals*, p. 201 (capitals in the text).

27 The short episode of mm. 35–38.1 may be understood as a forerunner of this passage. There too, marcato articulation, repeated notes, and a generally agitated atmosphere created a sharp contrast with the preceding phrase.

28 The descending motion $A^\# - A_b$ is anticipated in the viola, m. 88.3.

29 This dominant thirteenth is curiously related to the "Mystic chord" of Scriabin: both are $W^0$ collections plus one added PC. In the case of the Mystic chord, $A$ is added, while, here, $G$ is the "foreign" note.


31 Ibid., p. 128.

32 In the Third Movement of the First Quartet, 63 measures are repeated without the slightest alteration, representing 24.2% of the total length of the movement. In the First Movement of the Second Quartet, 22 measures are repeated, 22.5% of the movement. In the case examined here, only 23 measures out of 182 are repeated exactly (12.5%). If the transposed measures are included, the proportion increases to 20%, still inferior to that of the other two cases.

33 The return of this $d^4$, sforzando fortissimo, at m. 179.1 does not invalidate this statement since, at that point, it has become a dissonant ninth above the firmly established tonic. In a sense, it is "suspended" from m. 157, to be resolved implicitly by the final tonic triad at m. 182.

34 The change of register in the bass at m. 163 is unavoidable.

35 "... the minimum change in the recapitulation is the transposition of the subordinate group to the tonic region." (Schoenberg, *Fundamentals*, p. 209).

36 Schoenberg's theories of form, as exposed in his *Fundamentals*, faithfully represent this tradition.
In more than one way, the middle movement is transitional: it begins in an unequivocal E major to end on an ambivalent sonority poised over the fifth D-A, in a meter, a tempo, and a key signature different from those of the beginning. One author describes it as a theme and variations, and, indeed, this seems to be the formal pattern underlying the composer's approach. Szymanowski's interpretation of this pattern, however, proves to be just as personal as his interpretation of sonata form in the First Movement.

Three different indications of meter, key, and tempo are used in the Second Movement: (1) 3/4, four sharps, Andantino semplice, in mm. 1-22; (2) 6/8, one flat, Adagio dolcissimo, in mm. 23-40; and (3) 3/8, no sharps or flats, Lento assai, in mm. 41-85. Based on this evidence, some authors have considered the movement to be in three sections. It is this writer's opinion that another major articulation occurs at m. 10, yielding a fourfold structure. It is imperative to state now the fundamental reasons in favour of this hypothesis.

The perfect authentic cadence at m. 10.1 is a decisive punctuation, indeed, the most obvious event of its kind in the entire Quartet. If mm. 1-22 were to form a unified section, it would be most unusual to emphasize with such a powerful punctuation what would be an intermediate cadence.

*Notes for this chapter begin on p. 135.
This punctuation is followed with a significant change of character. While mm. 1-10 can be described as an accompanied melody, interrupted by a fleeting imitative passage at mm. 5-6, mm. 10-22 are entirely occupied with stretto-like sequences to which all four instruments contribute on an equal basis. These imitative sequences exhibit an ABA structural pattern (mm. 21-22 are a varied reprise of mm. 11-12) which is also found to govern the following two sections (mm. 23-40 and 41-85), but is not found in the initial phrase (mm. 1-10). Thus, mm. 10-22 are structurally parallel to the following two sections and likely to have formally equivalent status.

Given the obvious change of character that takes place in m. 10, the initial tempo indication, Andantino semplice, in modo d'una canzone, can hardly be said to apply to mm. 10-22. The indication L'istesso tempo provided by the composer at m. 10 is difficult to understand if not meant to suggest, inadequately perhaps, that a new section begins at that point in the same tempo (andantino semplice) as the preceding phrase but NOT in modo d'una canzone.

The evidence gathered above should be sufficient to support the view according to which there is a major structural articulation at m. 10. The movement thus appears to be made of a theme (the Canzone, mm. 1-10.1), and three variations. In view of the change of time signature from 6/8 to 3/8 at m. 41, two measures of Variation 3 are equivalent to one of Variation 2. The length of the successive sections thus appears to increase progressively: Canzone, 10 measures; Variation 1, 13 measures; Variation 2, 18 measures; and Variation 3, 22 1/2 measures. A formal analysis of the movement based on the hypothesis discussed above is outlined in Example 3.1.
Example 3.1: Formal outline of Second Movement

<table>
<thead>
<tr>
<th>Canzone</th>
<th>4 sharps (E)</th>
<th>3/4</th>
<th>Andantino semplice</th>
<th>1 - 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation 1</td>
<td>4 sharps (E)</td>
<td>3/4</td>
<td>L'istesso tempo</td>
<td>10 - 12 &quot;A1&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13 - 19 &quot;A2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 - 22 &quot;Alv&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>23 - 25 Transition 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation 2</td>
<td>1 flat (F/d?)</td>
<td>6/8</td>
<td>Adagio dolcissimo</td>
<td>26 - 30 &quot;B1&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>31 - 35 &quot;B2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36 - 40 &quot;Blv&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41 - 46 Transition 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>47 - 55 &quot;C1&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variation 3</td>
<td>No signature (C/a?)</td>
<td>3/8</td>
<td>Lento assai</td>
<td>56 - 74 &quot;C2&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75 - 83 &quot;Clv&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>84 - 85 Codetta</td>
</tr>
</tbody>
</table>

While the Introduction to the Quartet and the Canzone tread similar paths (see Example 3.2 and related commentary), a deeper connection between the initial three-chord progression C major-D major-E major (Introduction,
mm. 2-3) and the structure of the Second Movement is hinted at by the changes of key signatures. E major rules over the Canzone and Variation 1. If Variation 2 turned out to be in D minor (one flat) and Variation 3 in C major (no key signature), the movement as a whole would be a large-scale retrograde of the initial ascent from C major to E major. The quotation of this progression in mm. 3-4.1 of the Canzone would thus carry deeper implications than that of a parenthetical evocation. Such an interpretation is not obvious, however, since neither Variation 2 nor Variation 3 is tonally unambiguous. In fact, their tonal structures are vague enough as to have elicited the following comment by Samson: "Later sections touch on various tonal regions without lingering in any." He goes on to admit, however, that:

D minor is suggested in a second paragraph and this in turn leads to a slow, impressionistically coloured closing section whose blend of Gb major and C major recalls the slow movement of the Third Piano Sonata.

Only a careful examination of the tonal-harmonic structure of the movement is apt to provide conclusive evidence in support of or against this hypothesis.

The Canzone

As mentioned above, many elements of the Canzone invite a comparison with the Introduction. Not only is the initial three-chord progression quoted in mm. 3-4.1, but the upper-voice melodic elements of the two passages show a marked resemblance in their respective contours (Example 3.2). The parallel between the N and z motives in this example
Example 3.2: Comparison of melodic contours of Introduction and Canzone

a. 1:1-4

[Music notation]

b. 2:1-3

[Music notation]

is made all the more striking by the fact that in both cases this element coincides with the ascending progression already mentioned, although not in a consistent metric position. Furthermore, both melodies build up to a climax underlined by remarkably similar gestures (Example 3.3): a melodic ascent, underscored by a crescendo in all the parts and contrary motion in the bass, leads to a texturally isolated and sustained pitch marked $f$ dolce; the three lower instruments reenter with a strictly homophonic succession of three chords ending on a decrescendo.

A detailed voice-leading graph of the Canzone is found in the Appendix (p. 233). The intricacies of voice-leading are sorted out at level -A- in a manner which is now familiar to the reader. At the surface, the impression of tonal-harmonic clarity results from the prevalence of consonant chords and root motions by fifth. A further reduction of level -B- yielding a Schenkerian Ursatz emerges as a distinct possibility (Example 3.4). Without overworking the importance of this possibility,
Example 3.3: Comparison of mm. 11-13 of Introduction with mm. 6-7 of 2nd Movement
Example 3.4: Background structure of Canzone

there is no doubt that it reinforces the intuition that this segment of the Quartet belongs to a different stylistic family.

Variation 1

Variation 1 (mm. 10.1-22) features stretto-like imitations of motives borrowed from the melody of the Canzone, ornamenting a sequential harmonic structure. A first series of statements on motive x' (Example 3.5) builds up to a melodic-dynamic-textural climactic point at m. 16, followed by a second series, this time on motive y, starting in the lowest register to
ascend to a varied repeat of the initial measures of the variation (mm. 20-22). Some elements of the harmonic structure of the Canzone seem to influence the contour of the bass line (see Example 3.7 and related commentary). Beyond the fact that the principal motive of this phrase is a variation of motive x, the two melodies approach their apexes in similar ways (Example 3.6).

Example 3.6: Comparison of first violin lines, mm. 5-6 and 15-16

The chordal implications of motive y are thoroughly carried out in the second phrase (mm. 16.3-22), where diminished-seventh and dominant-seventh sonorities predominate. Together with the imitative entries and the ascending harmonic sequence, this predominance marks this phrase as a kind of development of the short sequences heard in the middle of the Canzone (mm. 5.2-6.2). It also evokes moments of the First Movement, specifically the beginning of the Development (mm. 73-78.1).

If the term "variation" is appropriate here, it is not in the sense that the melody or the bass of the Canzone functions as a cantus firmus to this section, but rather in the borrowing of motivic material, of fragments
of outer-voice contours, and of the tonal orientation of the Canzone, an
approach characteristic of twentieth-century "free" variations.

A voice-leading graph of this variation is found on p. 234. For the
same reasons as in the Development of the First Movement (p. 79), level -A-
is dispensed with and attention is focused on the middleground and
tonal-harmonic background. At level -B-, the importance of sequential
imitations is reflected in the fact that the upper principal line is
fragmented. A neighbouring motion around B is identifiable, however,
beginning with b² at m. 11.2, culminating on a³_b at m. 16.1, and returning
to b² at m. 19.2. A motion to a² by way of g²_f (m.22) secures a link with
the beginning of the following variation.

Initially, the bass appears as a prolongation of an octave descent
from B to BB, including an unavoidable octave transfer at m. 14.
Harmonically, this descending scale, beginning with the fifth of the tonic
chord at m. 10.1, supports a sequence of dominant-seventh sonorities
descending in thirds from F. The return to E at m. 20.3 involves an ascent
by whole steps: C♯ (m. 16.3), D♯ (m. 18.1), E♯ (m. 19.2), followed by a
circling motion around E by way of D (m. 20.2). Interestingly enough, the
ascending progression suggests a 4/4 metric framework. The harmonies
involved are diminished sevenths ascending in parallel motion. The bass
contour of this variation is not without some noticeable similarities to
that of the Canzone (Example 3.7): the initial descending motion, which
stopped on C in the Canzone but goes on to reach BBb (represented as Bb) in
the variation; the ascent from C♯, comparable to m. 7 of the Canzone; and
the arrival on E (m. 7 and m. 20.3) followed by a cadential formula, here an open cadence leading the way to the following variation. Finally, the two sections are also related by the importance granted to strict parallel motion of chords, although root position triads and dominant-seventh chords are here less common in that role than first inversions and diminished sevenths.

Variation 2

Variations 2 and 3 rank among Szymanowski's most personal inspirations. They belong to the same stylistic universe as the Mythes,
op. 30, for violin and piano, of which Samson writes:

His particular genius ... lay in the creation of sensitively drawn, chromatically flexible melodic lines and in the development of suitably refined harmonic and textural backcloths.5

Although rhythmic-metric structures are only marginally considered in this study, passing mention must be made of the remarkable metric fluctuation which takes place in the beginning of Variation 2. The time signature changes at m. 23 but the new meter (6/8) and tempo are not made palpable immediately. After 1 1/2 measures of a metrically indeterminate double pedal (C#-a²), the reentry of motive x' in the first violin (mm. 24.2-26.1) evokes a continuation of the preceding 3/4 signature ("off-beat" by one eighth note; Example 3.8), an impression confirmed by

Example 3.8: Renotation of 1st violin, mm. 24-26.1

the following statement of motive x' in the viola. At m. 28, the viola introduces a sequential pattern also in 3/4 but in agreement with the notated bar-lines (Example 3.9). The consequent metric ambiguity is far from clarified by the other voices. Indeed, another pattern emerges from the combined motions of the two violins and cello at m. 29-30.2 (Example 3.10), a pattern in 4/4.
In short, the 6/8 time signature is not heard to have any definite influence before m. 31, while implications of 4/4 are gradually shaken by dislocations. Textural components heighten the impression of vacillation, particularly the open sonority with which the variation begins (C#-a\(^2\)), and the protracted dominant pedal (A) which unifies this segment (mm. 23-30.2), with its disconcerting resolution to g# (a phenomenon of tonal-harmonic structure studied below).
After a short middle segment of relative metric clarity (mm. 31-35), the varied repeat of the initial statement does not immediately elicit the same feeling of uncertainty. The clear downbeat in both violins at m. 37 and the distinct 6/8 character of the second violin (clearly required by changes of bowing and marcato accentuations) prevent any obscuring of the 6/8 impulse. Furthermore, the texture always remains relatively full. However, the exact restatement of mm. 28-30 at mm. 38-40 does summon an impression of progressive metric dislocation.

The section is recognizable as a variation of the Canzone not only through the presence of motives $x'$ and $y$, but also because of the contour of the bass (descending conjunct motion from $a\flat$ to $d\natural$, return to $a\natural$ by leaps) and the typical way in which the climactic moment is defined (compare Example 3.11 with Example 3.3 and related commentary).

Example 3.11: 2nd Variation, mm. 33-35.1

© Copyright 1925 by Universal Edition A.G., Wien
Copyright renewed
All rights reserved
Used by permission of European American Music Distributors Corporation, sole Canadian agent for Universal Edition
A secondary figure in the accompaniment of the Canzone may also be interpreted as the model for a countermelody of this variation (Example 3.12): the analogy between the two patterns readily comes through if the last four notes of the former are transposed down an octave.

Example 3.12: 2nd violin, mm. 2-3 and mm. 27-28

The variation is unified tonally by the conspicuous presence of a pedal on A in thirteen of its eighteen measures. The motion away from this pedal is made all the more momentous by the fact that, while its interpretation as a dominant pedal in D is hardly questionable, it resolves by moving down a semitone, in a German-sixth type of resolution, to G#, the latter part of a dominant-seventh chord. The reference to C# implied by this motion is maintained through mm. 31-32 so that, in order to introduce the D-major ninth chord at m. 33, the dominant of C# in m. 32 (in second inversion) must be, in its turn, treated as a dominant of the dominant in F# resolving to a German sixth, as can be read in the voice-leading graph (Appendix, p. 235). In view of the prevalence of WT^0 patterns elsewhere in the Quartet, it is interesting to note that the roots of the chord succession of mm. 30.2-33 belong to that scale: G#-F#-E#-D.
The final return to the dominant of D is mediated by a motion through B major (mm. 34.2-35.2).

The tonality of D which was posited at the beginning of this analysis as a working assumption thus appears to govern the outer parts of the variation (mm. 23-30.1 and 36-40.1) while the middle segment is better understood in C# and B. Only once does a chord on D appear in root position (m. 33), and then, within a context of C# in which it functions as a German sixth in the key of the subdominant. The harmonic vocabulary used in this variation is remarkably consistent: chords of the seventh (dominant seventh, diminished seventh, minor seventh) enjoy an unchallenged preeminence.

Variation 3

This last variation is so difficult to relate to the Canzone that one is justified in looking elsewhere for a prototype. Indeed, careful analysis reveals subtle but unmistakable references to the Introduction. Before exploring these, however, motivic, voice-leading and tonal-harmonic features of this variation must be examined in detail.

If it retains textural aspects of Variation 2, particularly the static character of the harmony resulting from extended pedal tones sustaining melodies exploring progressively higher registers, Variation 3 is otherwise strongly contrasting. Not only is the time signature changed to 3/8 and the tempo further slowed to Lento assai, but the rhythmic patterns of both melody and accompaniment are designed to enhance the meter throughout, as opposed to the floating metric organization of the preceding variation.
Without exception, changes of harmony occur on the first beats of measures. Both the principal melody and its counterpoint (beginning at m. 57) clarify the meter with a regularly undulating line (Example 3.13). Indeed, the only noticeable threat to metric clarity occurs in the

Example 3.13: Principal melody, first violin, mm. 47-56

The use of the hemiola (here a 3/4 grouping of two measures in 3/8) at cadential points, however, can hardly be considered an instance of metric dislocation.

Example 3.14: Countermelody, second violin, mm. 52-56
By far the most intriguing element in the composition of this passage is the dichotomy felt, at certain moments, between the tonal orientation of the melodic lines and that of the concurrent harmonies. Since the last movement is explicitly polytonal in its intentions, could it be, here, that Szymanowski is already moving in that direction, confirming the transitional character of this movement?

A careful scrutiny reveals that the kind of dichotomy felt in this variation is not to be equated with the systematic use of different key signatures, although it is plausible that Szymanowski meant this passage to anticipate, to a certain extent, the following movement. In order to make this point, the tonal-harmonic structure of the accompaniment is analyzed separately from that of the melodic lines.

This last variation begins on an inversion of the same harmony on which the previous one ended: a dominant seventh on C#/Ab (a ninth is added in the viola at m. 47). From m. 50.1 to 52, this chord is gradually transformed into a D-major triad in root position, a transformation deserving of closer examination (Example 3.15).

Example 3.15:
At m. 50.1, $c^1$ descends to $c^1_b$, a motion whose significance is enhanced by its simultaneous occurrence in the melody and the accompaniment. This motion triggers a chain reaction of suspension-like "displacements": the $b^b_b$ resolves to $a_b$ at m. 50.3; this $a_b$ calls for the displacement of $g_b$ to $f^d$, which indeed occurs on the following beat (m. 51.1); finally, the $f^d$ causes the upper voice $e^1_b$ to descend to $d^1$ on the last beat of the measure. The chain reaction is interrupted at this point, implying that the verticalities of mm. 50-51.2 were all preparatory to this chord, a diminished seventh over a suspended Eb in the bass. The entire process appears as an extrapolation of the progression shown in Example 3.16, where the pedal in the bass successively functions as third, fifth, and seventh of the chord.

Example 3.16: Suggested prototype for mm. 50-51.2

Although they move away from the tonality of D established in the preceding variation, mm. 40.2-51 turn out to play a transitional role in the tonal structure. Motion to the remote region of Ab is absorbed, so to speak, in a root motion of deeper structural significance: V-I in D.

Following a four-bar plateau on D, harmonic motion is resumed by a descent to C at m. 56.1. The bass $c^b$ at that point is evanescent, however, and the harmony prevailing over mm. 56-59 is a dominant sonority in third
inversion with augmented fifth: $F\#-A\#-C-x-E$. At m. 60.1, this sonority is resolved to a root position $V_9$ on $C$.

There is a striking similarity between the progression of mm. 56-70 and the initial progression of the variation. In both cases the interval of root motion is a tritone; in both cases, the first chord is in inversion, the second in root position. Thus a descending sequential pattern may be perceived as underlying mm. 47-70 despite significant differences of surface ornamentation: the root motion $Ab-D$ is imitated a step down, $F\#-C$.

A $V_2$ in Ab, reinterpreted as a diminished third chord (augmented sixth in root position) in G, links the middle segment with the return of the initial phrase on D at m. 74. From that point on, the harmonies of the accompaniment are lightened, and the texture is illuminated by a redistribution of material over a much broader register. Lightening of the accompaniment goes hand in hand with the appearance of a new countermelody which turns out to be formed of ornamented arpeggiations of the pitches omitted in the accompaniment, thus implying essentially the same harmonic structure.

The return of the initial phrase of the variation (m. 74) involves more than a mere reprise. As noted earlier, D is reestablished from the very beginning, turning the Ab chord at m. 75 into one of neighbouring function, as opposed to its role as a passing chord at m. 47. Interestingly, the passing dominant-seventh sonority at mm. 71-73 appears to be resolved in both of its potential functions: as a diminished third chord (root position German sixth), it resolves to D at m. 74; as dominant seventh, it resolves to Ab at m. 75 (Example 3.17). The implied tonal
Example 3.17: Double resolution of passing chord, mm. 71-75

<table>
<thead>
<tr>
<th>71</th>
<th>74</th>
<th>71</th>
<th>75</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Gb</td>
<td>V7</td>
<td>Ab</td>
</tr>
<tr>
<td>Gb</td>
<td>F#</td>
<td>V</td>
<td>V</td>
</tr>
</tbody>
</table>

bifurcation does find a resolution in the opening of the following movement with an emphatic F# to G motion: the V7 on Ab (mm. 71-73) thus appears as a German sixth (Gb reinterpreted as F#), the dominant seventh on D as a secondary dominant, both pointing to G as to a dominant of C, the unequivocal center of the final movement.

The tonal orientation of the melodic lines follows a course different from that of the accompaniment when heard in isolation. In the first segment, the first violin melody sounds in Ab major (mm. 47-49) turning to minor (including the use of natural sixth and seventh degrees, mm. 50.1-55; see Example 3.13). The countermelody introduced at m. 52 (2nd violin, mm. 53-56) reinforces this Ab-minor orientation (see Example 3.14).

In the four-measure transitional passage which follows (mm. 56.2-59), the two melodies (first violin and viola) favour an F#-major tonal orientation admitting of some chromaticism in the last two measures of the viola. In measures 60-71.1, the scale of F major is made prominent. The unique emphasis on G#/Ab (g# at m. 68 is the highest point in the Quartet) does not imply an inflection to F minor: this pitch is clearly a chromatic appoggiatura resolving to Bb by way of A. After a three-measure chromatic
transition (mm. 71.2-73), the melodic material of the first segment returns, carrying the Ab major/minor implications described above.

Six different situations are created by the combination of accompaniment and melody:

1. mm. 47-51: both melody and harmony belong to Ab major/minor, although the harmony starts evolving toward D at m. 50;

2. mm. 52-55: upper-voice melodies carry on with the Ab orientation while the accompaniment is a clear D major triad;

3. mm. 56-59: the preceding Ab in the melodies is "resolved" down to Gb/F#, thus converging with the accompanying harmony;

4. mm. 60-70: both melodic material and accompaniment clearly project F major through its dominant C;

5. mm. 71-73: upper-voice melodies progressively become saturated with chromaticism while the harmony of the accompaniment is ambivalently poised between G and Ab;

6. mm. 74-85: the situation of 2 above is resumed, but is resolved to G in the beginning of the following movement.

The kind of superimposition of tonal orientation apt to be interpreted as bitonality appears clearly in the segments numbered 2 and 6 above.

There is no tonal conflict in segments 1, 3, and 4, while segment 5 is tonally fluctuant in both of its components such that no unequivocal tonal unity or dichotomy is identifiable in it. In both instances where a real duality of orientations appears, it resolves most naturally in the beginning of the following segment: to F# at m. 56; to G in the beginning of the Third Movement (as dominant of C).
A systematic discussion of polytonality is central to the following chapter. Attention is simply drawn here to the difference between the expanded suspensions of the Second Movement and the superimposition of different key signatures in the last movement. The suspended tonality of Ab heard here is part and parcel of the uncommon broadening of tempo producing a feeling of quasi-stasis. In a context where chords are stretched over four measures and more (in a very slow tempo), the suspension of a chord or of a melodic pattern projecting a harmony different from that of the accompaniment takes on the implications of transient tonal bifurcation. But resolutions are carefully defined here (and, in the case of mm. 52-55, the preparation too), and C emerges clearly at the opening of the Third Movement as the unquestioned goal.

At the outset of this paragraph, reference was made to possible links between the Introduction and Variation 3. Such relationships can indeed be found at various levels. Both sections are marked \textit{lento assai} in a ternary time signature (Introduction: 3/4; Variation: 3/8). Both are followed by a movement in rapid tempo with which they are structurally connected (Introduction: \textit{allegro moderato}; Variation: \textit{vivace} and \textit{vivace ma non troppo}). Both feature sustained harmonies in a relatively low range.

More specifically, the contours and pitch content of mm. 12-17 of the Introduction seem to influence the shaping of the last variation (Example 3.18). As the example reveals, each section opens with a texturally isolated pitch. The contour of the bass lines is remarkably similar, as is the harmonic content of the upper voices. From this last point of view, the least equivocal moments of the variation (mm. 52-55, 60-70, and 80-85)
Example 3.18: Parallel between Introduction and Variation 3

a. Introduction, mm. 12-18

\[
\begin{array}{c}
\text{Single pitch} \\
\text{Melodic climax (c\#)} \\
\text{Allegro}
\end{array}
\]

12 13-15 16 17 18

b. Variation 3, mm. 46-85

\[
\begin{array}{c}
\text{Single pitch} \\
\text{Melodic climax (g\#)} \\
\text{Vivace}
\end{array}
\]

46 47-50 52-55 60-70 71-73 82-85

are those in which it reproduces most accurately the pitch content of the Introduction, intervening harmonies being analyzed as neighbouring, passing, or resulting from suspensions.

Motivic analogies between the two sections compared are to be found: (1) in the descending third (motive M of the Introduction; Example 3.19a); and (2) in the "skipped passing tone" figure (motive N of the Introduction; Example 3.19b). Trivial as it may seem, the fact that the melodic climax of both sections occurs within the same harmony should not be entirely overlooked (c\#\textsuperscript{6} at 1:13; g\#\textsuperscript{6} at 2:68) in view of the influence of this event on the upper-voice contour. Thus Variation 3 appears to be more closely related to a segment of the Introduction than to the Canzone to which one turns first in searching for a source "theme".\textsuperscript{7}
Example 3.19: Influence of motives from the Introduction on Variation 3

a. Motive M (Second violin, 2:75-76)

\[
\begin{align*}
  &\text{M} \\
  &\text{M}
\end{align*}
\]

b. Motive N (First violin, 2:47-49)

\[
\begin{align*}
  &\text{N} \\
  &\text{N}
\end{align*}
\]

Outer-Voice Framework and Tonal-Harmonic Structure

From the study of the outer-voice framework, a tonal plan emerges, linking all four sections as well as connecting the movement as a whole with its two neighbours (Example 3.20). Early in this analysis (p. 112), an hypothesis was formulated pertaining to a possible retrograde relationship between the tonal plan of this movement and the initial three-chord progression of the Introduction. This hypothesis was based exclusively on a superficial criterion: the various key signatures used. Complete scrutiny of the tonal-harmonic structure reveals that, indeed, this retrograde motion exists but not exactly as the key signatures imply: the Canzone and Variation 1 arpeggiate an E-major triad, but D major is reached only in Variation 3, the middle variation arpeggiating its
Example 3.20: Outer-voice framework of Second Movement
dominant A. C major appears as a lower neighbour to D in Variation 3, but it is not firmly established as a tonal center before the outset of the Third Movement. This may explain the notational peculiarities of the transition between the two movements (3:1-7): of those seven measures, only three beats contain pitches and two of the silent measures are crowned with fermatas. Study of the tonal plan suggests that this system plays a structural role equivalent to Variation 2 in its entirety: it is a prolongation of the dominant of C, within a motion from D to C, just as Variation 2 prolonged A between E and D. Although the composer has chosen to merely hint at this prolongation of G, rather than to develop it through an explicit statement, he has been very careful in notating it in a way that would leave no doubt as to its structural weight. Thus, the retrograde elaboration of the initial three-chord progression is enriched with dominant-related root motions completing a segment of the circle of fifths: E-A-D-G-C.
NOTES

1 Joanna Bruzdowicz-Tittel, Notes to the recording of the two Quartets of Szymanowski by the Varsovia String Quartet, Pavane Records, ADW 7118.


4 This particular variant of motive x (see Example 3.2) is given a separate label in view of the significant role it plays in this and the following variation.


6 Samson speaks of D minor (ibid., p. 128, quoted on p. 112). The F♯ appears only within chromatic passing motions (mm. 28.1, 29.2, and 38.1), while the F♯ is present everywhere. Admittedly, the latter is frequently associated with C♭ in a V7 of IV sonority. Nevertheless, D major seems a more plausible choice here.

7 From these analogies between the Introduction and Variation 3, one may be tempted to look for parallels between mm. 1-11 of the Introduction and mm. 1-46 of the Second Movement, such that the entire movement would appear to be a large-scale variation of the Introduction. Beyond the fact that the three-chord progression of 1:2-3 is quoted in 2:3-4, however, there is little to support such an hypothesis.
At the outset of an analysis of the Third Movement, the basic principles of polytonality and their application in this movement must be scrutinized. The examination of voice-leading techniques and tonal-harmonic structures will pave the way to an objective assessment of the significance of polytonality as well as to a fuller understanding of the formal organization of the movement.

**Polytonality**

"In a sense, the concept of different yet simultaneous tonalities is self-contradictory."¹ This statement by Eric Salzman probably is a reflection of the opinion of a majority of today's theorists with respect to polytonality. This technique had its heyday in the first quarter of the century, when it was used more or less systematically by a surprisingly large number of composers of the most diverse persuasions, from Milhaud and Stravinsky to Bartók, Ravel, Strauss, Koechlin, Roussel, Casella, de Falla, Schoenberg, and Szymanowski. In spite of enthusiastic interest in polytonality at the time, it never seemed to generate a well-defined theoretical system open to verification and pedagogical applications.

In a most extensive survey of the repertoire of polytonal music,² Charles Koechlin quotes three different works by Szymanowski, all dating

---

¹Notes for this chapter begin on p. 174.
from the period of the First Quartet: *Mythes*, op. 30, for violin and piano (1915); *Shéhérazade*, op. 34, no. 1, for piano (1916); and *Tantris le bouffon*, op. 34, no. 2, for piano (1916). It may be assumed that Koechlin was unaware of the First Quartet. He would surely have been all too happy to quote a work where the simultaneous use of four different key signatures affirms in the most explicit way the composer's polytonal intentions.

Koechlin draws a distinction between harmonic polytonality, on the one hand, and polyphonic or contrapuntal polytonality, on the other; the former corresponds to superimposed chords open to interpretation in two (or more) different keys, the latter, to superimposed melodic lines defining contrasting tonal centers. Although he doesn't mention it, a third situation arises when a melodic line is supported by a harmonic accompaniment suggestive of a different key center. Historical justification for the first two types is found in well-established techniques: harmonic polytonality is an expansion of the concept of pedal, and the contrapuntal variety can be viewed as an expansion of dissonant ornaments, particularly of the accented type (suspending, passing notes, etc.).

According to Vincent Persichetti, in order to be perceived as such, polytonality requires well-defined, strongly contrasting strata: dissimilar timbres, wide registral dispositions, unequivocal tonal orientation of each of the components taken separately, distantly related key centers, contrasting rhythmic and metric organization. To insist exclusively on contrast, however, raises the danger of creating static planes in which development is virtually impossible. Music composed along those lines is
likely to rely exclusively on juxtaposition of phrases and sections for its formal organization. It is perfectly plausible, however, that the aims pursued by the composers named above were not substantially different from those of traditional contrapuntal writing, namely, the creation of lines that strike a balance between independence and coordination, lines that have points of convergence as well as points of divergence, the points of convergence presumably acting as referential at one level or another. Specifically, in keeping with the thrust of the present study, the emergence of tonal-harmonic centers of reference, as distinct from, but correlated with, textural, timbral, and metric-rhythmic ones, must be examined. In fact, such an investigation is strongly warranted by the aural experience of the music.

A first attempt in that direction consists in considering those verticalities that are actually projected by the music itself, and in relating them to structures whose tonal implications are conventionally appreciable. Indeed, a chord such as that identified by the arrow in Example 4.1 is found in the polytonal context of the Third Movement. From

Example 4.1: Quartet no. 1, 3:20
a polytonal point of view, it combines the third degree of C in the cello, the second and fourth degrees of Eb in the viola, and the fourth degree of F# in the second violin with the fourth degree of A in the first. It is hard to imagine a context in which these four different "functions" would be perceived independently, obliterating the trivial identification of this group as a dominant-ninth in A (or an augmented sixth in Ab). The possibility of convergences of this kind in a polytonal context is given passing recognition by Koechlin.

As for the large number of examples of contrapuntal polytonality, it may be that, on strong beats (as is the case in conventional counterpoint) analysis may reveal the presence of "multiple perfect triads" . . . , i.e., superimposed perfect triads; it may even be that the reference points correspond to traditional harmonies . . . .4 (Emphasis mine)

Therefore, polytonality appears as "an art far more subtle than that of accompanying in D a melody in C (as is assumed by simple-minded and amateurish people)." 5

All too often, polytonality has been used "when a touch of grotesque humour was intended," 6 a trend which may have contributed to its dismissal as of limited expressive potentialities. Szymanowski clearly intended the last movement to evoke a playful character. 7 An attempt at explaining why polytonality may be well-suited to this type of expression is made at the end of this chapter.

Polytonality in the Third Movement:
General Observations

In trying to account for his personal experience of tonality in this movement, Samson turns to the amount of overlap between the four scales:
With scalar forms based on C, Eb, F#, and A constantly in play there can be no possibility of any aural 'split' between tonal regions (each note of the chromatic scale is 'leaked' through the four scales and the diminished seventh F-Ab-B-D is leaked twice).

Although the above statement is not without ambiguities, it seems to allude to the fact that the superimposition of any three of the four scales involved yields three of the four PCs D, F, Ab, and B as common tones. Samson is certainly not suggesting that, because of these recurrences, these four PCs emerge as defining a common tonal center for the four lines, the diminished-seventh chord being particularly ill-suited for that purpose. Nevertheless, certain conclusions on the nature and effects of polytonality in the Third Movement can be reached through examination of the various key signatures used, of the presence (or absence) of accidentals, and of registral distribution of the scales implied by the key signatures.

Three different arrays of "keys" are used in the movement. Example 4.2 lists them by their signatures. Array y obviously transposes array x a

<table>
<thead>
<tr>
<th>Arrays</th>
<th>x</th>
<th>y</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures</td>
<td>8-143</td>
<td>144-177</td>
<td>178-188</td>
</tr>
<tr>
<td></td>
<td>189-260</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Violin</td>
<td>3 sharps</td>
<td>5 sharps</td>
<td>1 sharp</td>
</tr>
<tr>
<td>Second Violin</td>
<td>6 sharps</td>
<td>4 flats</td>
<td>4 flats</td>
</tr>
<tr>
<td>Viola</td>
<td>3 flats</td>
<td>1 flat</td>
<td>4 sharps</td>
</tr>
<tr>
<td>Cello</td>
<td>None</td>
<td>2 sharps</td>
<td>None</td>
</tr>
</tbody>
</table>

Example 4.2: Key signatures used in the Third Movement
whole step up. Array z does not display any kind of inner regularity comparable to the minor-third spacing of arrays x and y and its effectiveness is open to question. For most of the eleven measures to which it applies, the second violin is restricted to a pedal point on B♭, forming a minor seventh over the C-major triad arpeggiated by the cello. When the second violin ultimately descends the scale of Ab major (mm. 183-185), the potential effect of that scale is absorbed in the descending passing motions of all three upper instruments (Example 4.3).

Example 4.3: Voice-leading graph of mm. 183-186, level -A-

Any assessment of the tonal-harmonic implications of the different key signatures must take into account the presence or absence of accidentals in the course of the movement. Undoubtedly, the insertion of accidentals is capable of undermining the polytonal effect implied by the key signatures.
Accidentals are remarkably rare in this movement, and many of them do not affect the prevailing "key" significantly. Example 4.4 lists all instances of accidentals in the movement, with a summary interpretation of their significance. A discussion of the more perplexing cases follows.

In cases 6 and 7, the alterations are without effect on the tonal-harmonic structure. In the second of these, the range of the second violin is simply extended down to f#. Case 10 can be explained by the fact that the change of key signature notated at m. 144 in effect takes place at m. 138, together with the change of tempo and character. In two cases (2 and 3) the accidental is so fleeting as to be without effect on the tonal-harmonic structure (these altered pitches do not even appear on the voice-leading graph, Appendix p. 238).

In cases 1, 5, 9, 11, and 14, a part momentarily abandons its "key" to adopt that of another part, without any reciprocal change to "fill the gap." Significantly, without exception, these changes are made in favour of the lowest part; the cello in cases 1, 5, 9, and 14, the viola in case 11.

Cases 8 and 13 coincide with the preparation of "modulations"; that is, they immediately precede changes of key signatures. The accidentals, however, are all understandable as chromatic passing or neighbouring motions within the prevalent "key." The texture is thus enriched chromatically without any actual change of tonal-harmonic direction. If chromatic intensification in preparation for changes of key signatures is an established technique of polytonal writing, no mention is made of it in the sources consulted.12
### Example 4.4: Accidentals found in the Third Movement

<table>
<thead>
<tr>
<th>Reference No.</th>
<th>Measures&lt;sup&gt;10&lt;/sup&gt;</th>
<th>Part</th>
<th>Pitch or PC</th>
<th>Summary Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8</td>
<td>I &amp; II</td>
<td>C</td>
<td>Doubling of cello</td>
</tr>
<tr>
<td>2.</td>
<td>31.3</td>
<td>I</td>
<td>b&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Neighbour note</td>
</tr>
<tr>
<td>3.</td>
<td>32.2</td>
<td>I</td>
<td>c&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Passing note</td>
</tr>
<tr>
<td>4.</td>
<td>35-38</td>
<td>All parts</td>
<td>e&lt;sub&gt;1&lt;/sub&gt; a&lt;sub&gt;2&lt;/sub&gt; g&lt;sub&gt;1&lt;/sub&gt; f# d&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Tonal-harmonic implications (see text)</td>
</tr>
<tr>
<td>5.</td>
<td>40.2, 42.3</td>
<td>II</td>
<td>g&lt;sup&gt;4&lt;/sup&gt; d&lt;sub&gt;1&lt;/sub&gt; e&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Extension of cello</td>
</tr>
<tr>
<td>6.</td>
<td>65-67.1</td>
<td>Vla</td>
<td>F#</td>
<td>Exchange with II</td>
</tr>
<tr>
<td>7.</td>
<td>121-122</td>
<td>Vla &amp; II</td>
<td>c&lt;sub&gt;2&lt;/sub&gt; b&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Exchange of parts</td>
</tr>
<tr>
<td>8.</td>
<td>127.3-137</td>
<td>All parts</td>
<td>12 accidentals</td>
<td>Preparation for &quot;modulation&quot; (see text)</td>
</tr>
<tr>
<td>9.</td>
<td>139-141</td>
<td>Vla</td>
<td>a# b# f# e#</td>
<td>Doubling of cello</td>
</tr>
<tr>
<td>10.</td>
<td>140-143</td>
<td>Cello</td>
<td>f#</td>
<td>Consistent with forthcoming change of key signatures</td>
</tr>
<tr>
<td>11.</td>
<td>157.1</td>
<td>Cello</td>
<td>f&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Completes viola (F-major triad)</td>
</tr>
<tr>
<td>12.</td>
<td>185.1</td>
<td>I</td>
<td>f&lt;sup&gt;2&lt;/sup&gt;</td>
<td>In all likelihood, a misprint&lt;sup&gt;11&lt;/sup&gt;</td>
</tr>
<tr>
<td>13.</td>
<td>187-189.1</td>
<td>All parts</td>
<td>6 accidentals</td>
<td>&quot;Modulation&quot; back to initial key signatures</td>
</tr>
<tr>
<td>14.</td>
<td>259-160</td>
<td>I, II, Vla</td>
<td>C, E, G</td>
<td>Cadence in C major (extension of cello)</td>
</tr>
</tbody>
</table>
The five alterations classified under 4 are most likely explained by the desire to obtain specific verticalities fulfilling clear harmonic functions, as a reading of the voice-leading graph reveals (Examples 4.5 and 4.17). This is, therefore, the only case where a common tonal-harmonic

Example 4.5: Voice-leading graph of mm. 35-39, level -A-

N.B. Arrows point to pitches obtained through accidentals

direction other than that of the bass (it runs the course of a C-major scale in this segment) motivates the chromatic adjustment of individual parts.

From this investigation of the use of accidentals, two conclusions may be drawn: (1) in most cases, accidentals are without any durable effect on the tonal-harmonic structure of the segment in which they appear; and (2) when they do have such an effect, in all but one case (mm. 35-38), the upper voices yield to the tonal orientation of the bass. From this last conclusion, one may infer that, in this movement as in every piece of tonal
music of the common-practice period, the bass plays a key role in defining the tonal-harmonic orientation of the upper voices. This invites an examination of the registral distribution of "keys."

Example 4.6 records the lowest occurrence of each of the twelve PCs in the sections falling under array x (mm. 8-143 and 189-260), exclusive of those passages where accidentals are used and which have already been discussed. The first octave (C-B), the domain of the cello, uses the pitches of the scale of C major. The second octave (c-b) introduces e_b, a_b, and b_b, the so-called "modal" degrees likely to create an impression of C minor when occurring in the context of C defined by the lowest octave.\(^\text{13}\) If one adds that the movement begins with a unison C (m. 8), ends with a perfect cadence in C major (mm. 259-260), and that 92 of its 260 measures rest over a pedal of C in the cello (mm. 59-76, 91-137, 178-186, and 231-248), it should become obvious that the orientation of the bass toward C major/minor exerts a "centripetal" influence over the upper parts. The viola part is particularly susceptible to this powerful attraction, not only because it introduces modal degrees to C but also...
because its register overlaps and complements that of the cello. In the section under array y (mm. 144-177), the orientation to D major/minor is just as unequivocal. The short passage where array z is in force (mm. 178-188) has already been discussed (see above, p. 141). Suffice it to recall that, there again, C plays a decisive role in the bass.

The detailed examination of the movement (see voice-leading graphs, Appendix, pp. 237-240) shows that tonal orientations other than that of C (or D in mm. 144-177) are found in the course of the movement, but the pitch content of the bass makes it unlikely that these will be more than transitional events subservient to C.

If this preponderant orientation can be said to exert decisive influence on the viola, it cannot be invoked against the possibility of bitonality or, even, tritonality arising from the activity of the two violin parts. Presumably, an examination of these two parts along the same line would demonstrate that F# major/minor (Ab in mm. 144-177) is the prevalent key center. To conclude that bitonality at the interval of a tritone (C-F#) is projected in this movement would not only be premature, it would also imply a symmetry in the way outer voices achieve prominence which is highly questionable. As mentioned in chapter I (see above, p. 22), the function of the lowest pitches in outlining the prevalent bass is rarely problematic while the identification of a predominating upper voice often is. Doubtless, registral isolation is not the only factor at work here, and only a systematic analysis of the movement will allow for the extraction of the upper voice as well as of the outer-voice framework. The rest of this chapter is for the most part devoted to this task. This
analysis takes into account the conclusion reached so far, namely, that although the polytonal key signatures are seldom modified by alterations, the bass exerts a prevalent influence on the tonal-harmonic orientation of the movement. An impression of polytonality or, more specifically, bitonality between the bass and the prevalent upper voice is certainly possible, but only as a relatively superficial elaboration.

Motivic Material and Aspects of Voice-Leading

In order to introduce a consistent system of reference to the various sections of the movement, a formal outline is sketched here (Example 4.7). A fuller discussion of this structure concludes the chapter (see p. 166).

Example 4.7: Formal outline of Third Movement

- Transition from the Second Movement
  - Transition 1
  - Transition 2
  - M
  - A
  - Transition 1

Coda 250 - 260
Section A opens with a fugal exposition in which the two principal motives of the section (A1 and A2) appear in a subject-countersubject relationship (Example 4.8). Although it is closely related to motive A2, motive A3 is presented separately here in order to stress its similarity with motive A2 of the First Movement (see Example 2.12), a similarity which extends to its sequential repetition up a third (compare mm. 20-23 with 1:27-34). Section B is entirely based on one principal motive (Example 4.9), also presented in a fugal exposition followed with extensive imitative writing. Section M introduces a melody (Example 4.10) which does not undergo any development or imitative treatment. It is merely repeated with minor variations in different keys and with different accompaniments (mm. 152-157 and 178-183). By contrast, measures 158-171 reintroduce
statements of motive B (mm. 158-164) and Al (mm. 165-171) in imitative treatment.

Example 4.9: Motive B, First violin, mm. 77.3-82

Example 4.10: Motive M, First violin, mm. 146-151

Two other techniques characteristic of the fugue are found in the movement: phrase overlap and stretto. Phrase overlap, a well-known component of polyphonic writing, occurs in mm. 17, 43-44.1, 89-90.1, and 97-98.1: one part introduces a new statement of motive Al or B while the other parts are still in the process of bringing the preceding phrase to a halt (Example 4.11). In every case, the segment beginning at the point of overlap is a stretto. In only two cases are there stretti which don't overlap with the preceding phrase: mm. 23-28 and 165-168. In two instances, the word "stretto" is not used in a strict sense, which would normally imply an overlap of motivic material. In mm. 23-26 and 44-47,
there is no such overlap; only one part (soprano in the first case, bass in the second) carries on with motive A1 in its entirety, the other parts using only the head of the motive before dissolving into non-motivic figurations.

Since there are only three cases of melodic sequence in this movement (mm. 20–23.1, 35–38, and 127–137), it seems reasonable to conclude that stretti are meant to fulfill a structural role analogous to that played by sequences in the other two movements, namely, as a process of registral and textural intensification involving tonal–harmonic instability. This process of intensification is further enhanced, rhythmically, by the phrase overlap with which most stretti begin.

Beyond the fugal procedures of exposition, stretto, and phrase overlap, the prevailing style of writing is not fugal but consists of
various permutations of elemental "building blocks": pedal points, ostinati, scales, and the rare cases of sequence mentioned above.

Pedal points and ostinati are used in support of: (1) motivic statements (motive A3, mm. 20-23; motive A2, mm. 27-32; motive B, mm. 91-99, 118-126, and 158-163; motive M, mm. 146-157, and 172-183); (2) descending scales as recessive gestures (mm. 50-55, 127-137, 184-186); (3) ascending sequences and scale passages in preparation for a culmination point (mm. 55-58); and (4) a codetta functioning as a protracted punctuation (mm. 59-67). In only one instance is a pedal found in a voice other than the bass: the E in transition 1 (mm. 68-77). Similarly, there is only one case of an ostinato involving all four instruments: mm. 39-43, in which a chord succession of a cadential nature is repeated three times, the last time overlapping with the beginning of the following quasi-stretto passage quoted above (see Example 4.14).

Scales appear in a variety of situations, particularly in combination with pedal points or ostinati. Descending scales in the bass (therefore, scales of C major) are found at mm. 15.2-18, 34-39.1, and 46-49. In all three cases, the upper voices proceed in contrary motion, using sequential or quasi-stretto repetitions of the head of motive A1 (with the exception of mm. 15-18). An ascending scale in the bass appears only once, in mm. 24-26, but ascending stretti are often used in ornamentation of an underlying scalar motion. Such unfolding gestures are always underlined by indications of crescendo (and of accelerando at mm. 46-49) conducive of an unmistakable progressive effect. Descending scalar patterns in the upper voices, typically expanded into chords in parallel motion, are always used
over an ostinato or pedal point in the bass (mm. 50-54, 127-137, and 184-186). In this case, dynamics do not follow a consistent pattern.

Thus the movement appears to consist of a succession of permutations of basic elements such as stretti, pedal points, ostinati, scales, and sequences. This approach to structural organization is in part responsible for the redundancies of level -A- of the voice-leading, beyond the exposition. Therefore only levels -B- and -C- are shown in the graphs after m. 20. On the other hand, overlapping of phrases and of cadences (a technique described below) tends to link broad expanses of the movement. The large-scale continuities thus obtained play a more significant role in shaping the piece than the repetitive surface activity. The following paragraphs, dealing with tonal-harmonic structures, outer-voice frameworks, and form, are concerned with drawing as accurate a picture as possible of these patterns.

Tonal-Harmonic Structures

With the exception of the more relaxed B section, the movement proceeds at an unrelenting pace. This atmosphere of sustained unrest is a result not only of its tempo (vivace ma non troppo), but also of its formal and harmonic make-up. The stretti described above are certainly influential in achieving this effect. More widespread yet is the technique of cadence overlap.

By contrast with phrase overlap, cadence overlap is a homophonic procedure: a single chord acts both as a cadence point for the phrase preceding it and as a point of departure for the following phrase,
achieving an effect of continual motion. This occurs at mm. 11.1, 14.1, 17.1, 20.1, 27.1, 30.1, 50.1, and 172.1 (Example 4.12). Furthermore these cadences subdivide the section into phrase units three measures long, implying that a conventional four-measure pattern is truncated by the overlap.

Example 4.12: Measures 14-17, showing cadence overlap at m. 17

The harmonic vocabulary used for cadences (Example 4.13) is perfectly in keeping with the ambivalent role that most of them are called to fulfill, particularly in the case of overlaps, as described above. Dominant-related sonorities predominate, particularly dominant ninths of both species (natural and flat ninth). Chords belonging to the whole-tone family are also construed as altered dominants because of the critical interval of the tritone between the third (present or implied) and the seventh (always present) of the chord. These include the uncertain interpretation of the cadential chord of m. 67.1 as a dominant with raised
Example 4.13: Summary of cadential chords with assumed functional interpretation (see pp. 28-29)

<table>
<thead>
<tr>
<th>Mm.</th>
<th>14</th>
<th>20</th>
<th>23</th>
<th>27</th>
<th>30</th>
<th>33</th>
<th>40(42)</th>
<th>50</th>
<th>54</th>
<th>67</th>
</tr>
</thead>
</table>

\[
\begin{array}{c}
V^7 \quad V^9b \quad V^7 \quad V^7 \quad V^9 \quad V^9 \quad V^7 \quad V^9c \quad V^3 \quad V^9c^2 \\
90 \quad 97 \quad 110 \quad 116 \quad 137
\end{array}
\]

\[
\begin{array}{c}
F_b \quad V^7 \quad V^9b \quad V^9 \quad V^7 \\
151 \quad 157 \quad 162 \quad 172 \quad 186
\end{array}
\]

\[
\begin{array}{c}
V^9 \quad V^9 \quad 1^7 \quad 1^7 \quad V^9
\end{array}
\]

and lowered fifth. An alternate view would be to consider F# and G#/Ab as two unresolved neighbours to G. Similarly equivocal chord formations are found at the close of B (m. 137.1), as well as at intermediate cadences such as those found at m. 97.1 and 116.1.

The elaborate cadential gesture which closes the exposition of Section A (mm. 39-44) involves a chord progression spanning two measures, repeated twice, the last statement overlapping with the beginning of the ensuing
stretto. The broad motion IV-II-V in C is amplified through chromatic passing chords #IV (as part of IV-#IV-V) and bIII (as part of IV-bIII-II-V: Example 4.14). This cadential progression is underscored, not only by its

Example 4.14a: Mm. 39-44

Example 4.14b: Mm. 39-40
repetition, but also by the hemiola pattern which it implies, as indicated by brackets in Example 4.14a. The hemiola in cadential approaches, in triple meter, is a well recorded trait of earlier periods. Measures 39-44 suggest that it is not foreign to twentieth-century techniques.

While in mm. 39 and 41, the viola and second violin sound the "tonic" chord of the particular "key" in which they are written, the alterations in the second violin at mm. 40 and 42 testify to the fact that an overriding single tonal attraction is at work: C major, the key of the cello. An effect related to both deceptive and half-cadences is achieved in the way this event leads into the following stretto: the complete cadential progression is heard twice (half-cadence: mm. 39-42), but the third statement remains incomplete on V of VI in C (deceptive cadence: mm. 44-45).

Although the four major "keys" implied by the different key signatures of arrays x and y partition the octave into minor thirds, the diminished seventh chord is not the most prominent sonority heard in the movement. Measures 50-58 are probably the only ones where minor thirds, either superimposed or in immediate succession, play any significant role in shaping the texture (Example 4.15).

Example 4.15: Diminished triads in upper voices, mm. 50-58
If equal division of the octave has any prominence, it is under the form of the augmented fifth triad. In mm. 96-98 of Section B, nothing but augmented triads are heard. With the exception of brief neighbouring motions through g (mm. 93 and 97) and e\(_\flat\) (mm. 94 and 98), these measures make use exclusively of the degrees of WT. Otherwise, recurrent harmonic sonorities are the dominant seventh/German sixth, and the French sixth.

In passages where the four-voice basic texture is enriched by double stops and arpeggiation, dominant-ninth, -eleventh, and even -thirteenth sonorities enjoy a preeminence without precedent in the Quartet (see, for example, mm. 50-59). One may be inclined to look at such passages as to segments where polytonality is most likely to come through. A thirteenth chord, after all, is a superimposition of two different triads. Such is not the case, however, since in these segments the upper voices move in strict homophony, in parallel motion with each other, obliterating any possibility of hearing two or more strands outlining different key centers.

While cadences systematically occur on first beats (except for m. 39, see above, pp. 154-156), structural chords within phrases are frequently displaced to the last beat, particularly when the bass features a descending scale (see, for example, mm. 15, 16, 17, 35, 36, 37, and 38, and voice-leading graphs, pp. 237-238). Such rhythmic "shifts" contribute significantly to the prevailing restless atmosphere.\(^{15}\)

Two particular techniques stand out for their potential stylistic implications: the prevalence of "descending" progressions (e.g., V to V of V)\(^{16}\) and modal interchange based on the two forms of the sixth degree. As described by Schoenberg, "descending" progressions normally involve simple
interchange (V-V of V-V) or act as an intermediate phase between two chords forming an "ascending" progression. The descending-fifth root motions of mm. 35-37, 50-67, and 137-144 neither belong to an interchange, nor do they act as intermediate steps. The last two cases are particularly significant since they encompass the entire codetta to Section A and that of Section B (Example 4.16).

Example 4.16

\[
\begin{array}{c}
\text{IV} & \text{I} \\
50 & 54 & 55 & 65 \\
\text{I} & \text{V} & V_{of\text{V}} \\
137 & 138 & 142
\end{array}
\]

The simple procedure of interchanging the two forms of the sixth degree takes an uncommon importance when it involves the juxtaposition of both forms of the secondary dominant to the sixth degree. Measures 30-38 (Example 4.17) outline such a progression from V (mm. 30-32) to V of VI (m. 34) in A minor, to V of VI in A major (m. 37) to VI (m. 38) altered to become a V of II. Similarly, in the ensuing cadence, the orientation to B
Example 4.17: Voice-leading graph of mm. 30-39.1, levels -B- and -C-

(as V of V in A major) given by the preceding dominant on F# must yield to the broader orientation to C, a change in which the clash between G as VI of B minor and D# as V of VI in B major turns out to represent a motion from V to V of VI in C.

The elements summarized in the above paragraphs make clear the fact that a tonal-harmonic strategy different from that of the first two movements is at work here: juxtaposition or superposition of homogeneous
entities (e.g., pedal points, ostinati, sequences) producing sharp contrasts; overlapping of phrase segments bypassing cadences; metric displacement of structurally significant chords; prevalence of dominant sonorities, including ninth, eleventh, and thirteenth chords. In spite of what the key signatures may imply, polytonality does not emerge significantly at the tonal-harmonic level. Moreover, key signatures are seen to yield, occasionally, to the requirements of the bass, acknowledging the preeminence of this part in defining the tonal orientation of the movement.

The danger of tonal inertness created by the protracted pedal points in the bass\(^7\) is counteracted by the intense tonal activity of the upper voices, spreading over a broad range. Ample spacing creates transparency, particularly when parallel motions of sixths, sevenths, and tenths are used (see, for example, mm. 17, 20-22, 27-29, 46-67, and 93-101). On the other hand, this broad spacing combined with the application of four different key signatures generates countless instances of major sevenths and minor ninths (as well as major fourteenths, and minor sixteenths), occurring either vertically or diagonally (Example 4.18: m. 20), and relatively few relationships of a semitone (in the example, the succession \(d^2-d^2_#\) is the only one of the kind).

As the voice-leading graphs indicate (see Appendix, pp. 237-240), beyond the exposition (mm. 8-23.1), tonal motion is almost exclusively to degrees on the major-sharp side of C in Sections A and B, while Section M contains a passing inflection to F on the minor-flat side of D.
These ingredients combine to convey a resolutely "major" atmosphere. In contrast with the chromatic saturation of the First Movement, which often carried minor connotations through the prevalence of diminished sevenths, French sixths, Neapolitan relationships, etc., the tonality of this movement is suffused with what could be called "expanded diatonicism." This is probably the most palpable effect of the use of multiple key signatures.

**Outer-Voice Framework**

The outer-voice framework reflects the large scale continuity resulting from the repeated use of phrase overlap and cadence elision (Example 4.19). Section A appears as a single continuous tonal motion, a motion left incomplete in its first statement (mm. 8-76) but completed in the short coda (at mm. 254-260). An ascending arpeggiation of the dominant seventh on E in the upper voice coincides with a descending arpeggiation of
Example 4.19: Outer-voice framework of Sections A and B
the triad of C major (mm. 8-26). A neighbouring motion to D# in the bass coincides with motion to F# in the upper voice (mm. 27-30), with return to E in both parts (m. 33). F# is expanded into a prolongation of a dominant-seventh chord of B (mm. 38-41). Throughout these measures, the soprano holds on to the seventh E, which is carried over to m. 42 when the bass moves to G. The expanded cadence of mm. 42-44 is seen to focus on pitches of the G-major triad. Moreover, it functions in a double capacity: the harmony at that point is a dominant seventh in root position in which the upper-voice E is an added sixth, an anticipation of the third of the assumed resolution. This resolution is delayed to m. 67. The motion to F-A (m. 54) which is interpolated between m. 44 and m. 67 can be understood as an embellishing motion. Its most striking effect, however, is to create a IV-I final cadence, a descending progression, as described above (see p. 157). The unconventional character of this orientation is further enhanced by the chord of arrival, the final "I" (m. 67), with its double appoggiatura (see p. 153).

The large-scale effect of the polytonal technique can be observed in this outer-voice framework. The lower voice is restricted for the most part to an underlying arpeggiation of the C-major triad. Thus the exposition of Section A superimposes an arpeggiation of V7 in A to the arpeggiation of the C-major triad in the bass. With the exception of the suspension of the F#-major triad at m. 30, pitches foreign to the diatonic scale of C major receive consonant support (e.g., E supporting G#, F supporting G#/Ab). Thus, the apparent bitonality here becomes one more instance of the application of the consonant passing tone principle.
This principle continues through all levels of the middleground, creating more and more new levels which present new possibilities of prolongations for dissonant passing tones...

As a further consequence of the "bitonal" activity in this section, the upper voice is allowed to reach up to A (m. 54) in a broad embellishing motion ascending and descending through F# and G# (mm. 59-61). Because these two sharp degrees are used, the relationship to E is unequivocal. Were G used instead, A would be construed as an embellishing motion to the fifth degree of C, rather than to the third.

A prolongation of V7 in A, in the upper voices, over a pedal of C occupies most of Section B. The chromatic descending motions of the closing group (mm. 126-137) are subservient to a descent of broader proportions whose significance can only be assessed when Section M is also taken into consideration. This descent begins with a motion from E to C# (mm. 117-122), thereby also establishing a descending minor third pattern which becomes motivic in Section M (see mm. 146-151, 172-177, and 178-183). In exactly the same way as Section A avoids the resolution of Ab to C (see above), the closing group of Section B ends on an unresolved Ab in the upper voice (still over a pedal of C). Motion of the bass up to D (m. 146) allows for a consonant resolution to F#, bypassing again a motion to G. With the exception of its closing group (mm. 178-186), Section M rests on an arpeggiation embellishing D in the bass: D minor ascending, D major descending (Example 4.20). The upper voice, in turn, outlines a broad embellishing scalar motion focused on F#. The first part of that motion (to m. 164) thus appears to carry on the descending scale beginning
Example 4.20: Outer-voice framework of Section M
at m. 117 of Section B. The C–E dyad which has been prolonged since the beginning of the movement is moved one step up to D–F#, eventually reaching C–G at m. 178. Measures 178–183 turn out to be both the culminating point of the movement and its most consonant passage. The C of m. 178 resolves the G#/Ab, used persistently as a focal point since the beginning of the movement. In effect, the upper voice outlines a succession of key centers in ascending motion represented by their dominants: V of A (mm. 8–137), V of B (mm. 146–177), and V of C (mm. 178–186).

The return of Section A brings back the C–E outer-voice prolongation described above (see p. 163). The Coda, in its simplicity, allows for a final upper-voice descent to C through D. This motion does not undergo any of the elaborate prolongations found in other sections: g–d² at m. 254 is followed by a short inflection to V of V and a perfect cadence at mm. 259–260. That so much weight should rest on the open fifth of m. 254 may seem to be stretching the evidence to fit the theory. It is hard to explain otherwise the change in the first violin part at that point. Had m. 81 been repeated exactly, c² would have been heard instead of d². Moreover, it is certainly consistent with traditional theory to grant cadential pitches deep structural significance by virtue of formal position.¹⁹

**Formal Analysis**

The analysis of the first two movements has stressed the particular ways in which they reinterpret the basic tenets of sonata-allegro form in the first case, and of theme and variations in the second. The Third
Movement is still less conventional. It has been characterized by Alistair Wightman as "an uneasy fusion of sonata form with fugal technique." Questions left open by this cautious classification suggest that other avenues be explored.

The initial exposition of motive A1 (mm. 8-20.1) is so canonically regular that it seems anomalous in the context of a fugue: the four entries follow one another at an interval of three measures without any intervening codetta. The only asymmetry on which a grouping of entries may be based is afforded by the registral distribution of voices: a minor tenth separates alto from tenor, but tenor and bass, on the one hand, and soprano and alto, on the other, enter at a minor third interval. Beyond the expositions of Sections A and B, stretti and the concurrent phrase overlap are the only truly fugal elements found in the course of the movement. Some features may even be said to be antithetical to fugal procedures: the total number of parts occasionally exceeds four, and extensive segments are written in homophonic style (see mm. 50-54 for evidence of both).

While the fugue per se is not associated with any particular form or forms, this specimen certainly treads an unworn path. A first glance suggests an ABA scheme: mm. 17-79 are repeated exactly at mm. 189-251. Fugues in a tripartite form are not unusual, but fugues with an exact reprise are. Because the middle section begins with a fugal exposition on a distinct but related subject, one may be tempted to speak of a double fugue. This term proves to be inadequate since the two subjects are not treated in combination. Thus fugal techniques appear as components of a structure whose design does not belong to the traditions of the fugue.
Consideration of the sonata-allegro archetype is even more unsatisfactory. Although a first subject group (mm. 8-67) is followed with a transition (mm. 67-77), a second subject group in a contrasting mood (mm. 77-137), a development characterized by changes of "keys" (mm. 137-186), and a recapitulation of the first subject group, there is no recognizable trace of the tonal strategies vital to the form nor of a plausible substitution, as was the case in the First Movement. On the contrary, the first subject group begins and ends on C, the second subject group evolves over a pedal of C for its last forty-seven measures. The division which might otherwise be construed as the development essentially consists of a series of varied statements of a melody over an ostinato accompaniment. Despite changes of key signatures at m. 144 and m. 177, one cannot speak of modulation between or within phrases but rather of a juxtaposition of harmonically autonomous segments. Although the motivic material of Section M may seem somewhat related to the thematic content of Section A, there is no "working out" of the material as such. Finally, and this is probably the most radical departure from the conventions of sonata-allegro form, there is no recapitulation of the second subject group. It is merely hinted at, untransposed, in a diminutive episode taking the place of a closing group (mm. 250-260).

In this writer's view, the form of this movement is best described as two nested ternary forms, in a manner which shares some points with the classical scherzo. This view will now be supported by a detailed examination of each section.
As mentioned already, the first thematic group closes with an emphatic cadence on the tonic (m. 67), a cadence which becomes the final gesture of the movement, save a short coda, when this section is repeated. The two basic ingredients of a da capo design are thus seen to be present: exact recapitulation of Section A and full close at the end of each of the two statements of that section. Accordingly, the middle section should provide a "related contrast," normally enhanced by a change of tonal orientation. In this case, the change is not so much from one key to another as it is from an intensely active section to a generally subdued one. This subdued character is the result of: (1) an extensive tonic pedal (mm. 91-137); (2) successive changes to slower tempi (poco meno, m. 77; poco meno, m. 104; rallentando, m. 126; and allargando, m. 133); (3) a generally soft dynamic level (p-pp) further restrained at mm. 110-116 (pp-ppp), and m. 133 (molto diminuendo); and (4) indications of character (grazioso, m. 79; espressivo, m. 98; delicatamente, m. 118; and dolcissimo, m. 127). According to this view, Section B ends not with the return of A at m. 189, but with the cadence at m. 137. This cadence is prepared through a clear process of "liquidation". The final chords of A and B are very similar (Example 4.21), the only difference between the two being the presence, in m. 137, of a Bb, giving the chord a characteristic dominant-seventh sound. It is as though the choice of the degree is less significant than the presence of a particular harmonic colour associated with specific formal purposes, a "tonic" colour to close Section A, and a "dominant" colour to close Section B.
Section B is followed with a strongly contrasted section (mm. 146-186) announced by a transition based on motive B (Example 4.9, above). It features a six-measure melody (see Example 4.10) over an ostinato accompaniment outlining a D-major triad (Phrase "M1", mm. 146-151). This melody is repeated a minor third down, the accompaniment, however, leaping up to F major (Phrase "M2", mm. 152-157). The following seven-measure phrase, presenting imitative counterpoint of motive B over an A-E double pedal (phrase "N1", mm. 158-164), leads to a stretto-like segment on motive A1 over a I-IV-V-I motion of the bass in D major (phrase "N2", mm. 165-171). Phrase "M1" is repeated exactly, followed with a new variation (Phrase "M3", mm. 178-183) resting on a dominant-seventh ostinato on C, and a short retransition (mm. 184-186) leads back to the recapitulation of Section A.25

Example 4.22 summarizes the foregoing description of the contrasting section. Its tripartite pattern comes through vividly. With the exception
of the final move to C, the tonality of D prevails.

Example 4.22: Formal outline of Section M (mm. 146-183)

<table>
<thead>
<tr>
<th>Tonal plan in D/d</th>
<th>Motives</th>
<th>Tonal plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introduction</td>
<td>142 - 145</td>
</tr>
<tr>
<td></td>
<td>Exposition</td>
<td>146 - 151</td>
</tr>
<tr>
<td></td>
<td>(&quot;M&quot;)</td>
<td>152 - 157</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>158 - 164</td>
</tr>
<tr>
<td></td>
<td>Contrasting group (&quot;N&quot;)</td>
<td>165 - 172</td>
</tr>
<tr>
<td></td>
<td>Reprise (&quot;Mv&quot;)</td>
<td>172 - 177</td>
</tr>
<tr>
<td></td>
<td>Codetta</td>
<td>178 - 183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>184 - 187</td>
</tr>
</tbody>
</table>

This nesting of two tripartite forms is strongly reminiscent of the scherzo-trio combination. Other features of the movement are indigenous to the scherzo: (1) the character (Scherzando alla burlesca); (2) the tempo (vivace ma non troppo); (3) the 3/4 meter; and (4) intense rhythmic activity in Sections A and M. There is, however, a significant difference in the formal organization: the classical scherzo is a compound ternary form. It is likely that Szymanowski curtailed the repetitions that the form normally entails because of the volume of redundancies already present, particularly in the form of stretti and sequences. To state Section A four times and Section B twice would have made the movement disproportionately repetitive. The trio thus appears to be inserted between Section B and the return of A. Example 4.23 summarizes the formal analysis of the Third Movement.
Example 4.23: Formal analysis of Third Movement

Transition from Second Movement

<table>
<thead>
<tr>
<th>Group</th>
<th>First</th>
<th>Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposition</td>
<td>8 - 19 A1</td>
<td>20 - 23 A2</td>
</tr>
<tr>
<td>Codetta</td>
<td>23 - 26 Stretto on A1</td>
<td>27 - 33 A3</td>
</tr>
<tr>
<td>Closing</td>
<td>33 - 39 Antecedent on A3</td>
<td>39 - 44 Consequent on A1</td>
</tr>
<tr>
<td>Group</td>
<td>44 - 50 Antecedent (stretto)</td>
<td>50 - 54 Consequent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>55 - 58 Antecedent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59 - 67 Consequent</td>
</tr>
</tbody>
</table>

Transition 1

<table>
<thead>
<tr>
<th>Group</th>
<th>First</th>
<th>Second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposition</td>
<td>78 - 90 B</td>
<td>90 - 102 Stretto on B</td>
</tr>
<tr>
<td>B</td>
<td>102 - 109 Antecedent</td>
<td>110 - 117 Consequent</td>
</tr>
<tr>
<td>Closing</td>
<td>118 - 126 Antecedent</td>
<td>127 - 137 Consequent</td>
</tr>
</tbody>
</table>

Transition 2

<table>
<thead>
<tr>
<th>Group</th>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposition</td>
<td>142 - 145</td>
</tr>
<tr>
<td>M</td>
<td>146 - 151 M (&quot;M1&quot;)</td>
</tr>
<tr>
<td></td>
<td>152 - 157 Variation on M (&quot;M2&quot;)</td>
</tr>
<tr>
<td></td>
<td>158 - 164 on B (&quot;N1&quot;)</td>
</tr>
<tr>
<td>M</td>
<td>165 - 172 Retransition on A1 and B</td>
</tr>
<tr>
<td></td>
<td>172 - 177 M (&quot;M1&quot;)</td>
</tr>
<tr>
<td>Reprise (varied) (&quot;M&quot;)</td>
<td>178 - 183 Variation on M (&quot;M3&quot;)</td>
</tr>
<tr>
<td>Codetta</td>
<td>184 - 187</td>
</tr>
<tr>
<td>A</td>
<td>187 - 188 Stretto on A1</td>
</tr>
<tr>
<td>Reprise of &quot;A&quot; and of Transition 1 (Condensed from mm. 8 - 16)</td>
<td>189 - 249 Reprise of mm. 17 - 77</td>
</tr>
<tr>
<td>Coda</td>
<td>250 - 260 on B</td>
</tr>
</tbody>
</table>
Conclusion

The playful character of the Third Movement is antipodal with respect to the dramatically conceived First Movement. While this contrast undeniably results from a convergence of factors, a comparison of tonal-harmonic contents is apt to shed some light on the correlation between polytonality and the expression of humour noted by Rudolf Reti.26

Extended segments of the First Movement have been seen to favour the minor/flat-side of C. The importance of modal borrowings, however, also extends to segments in major: for example, the flat sixth degree plays a prominent role within the A-major context of mm. 44–63.1. The frequency of similar borrowings goes hand in hand with the repeated use of segments of the chromatic scale in support of entire phrases (for example, mm. 49–58 or 73–82). By contrast, the Third Movement is suffused with diatonic, major sonorities, from its motivic material to its outer-voice framework. The only significant intrusion of chromaticism is in approaches to “modulations” (mm. 126–137 and 198–188). The “hyper-diatonic” atmosphere thus created is certainly congenial to the expression of exuberance. If this conclusion proved to be true of other polytonal works, it could very well explain the perplexing correlation observed between polytonality and humour.
NOTES


4 "Quant aux exemples très nombreux de polytonalité par contrepoints, il se peut que sur les temps forts (comme pour le contrepoint ordinaire) l'analyse retrouve des points de repère au moyen des 'accords parfaits multiples'...; parfois même les points de repère seraient analysables en harmonies usuelles..." (Koechlin, "Evolution de l'harmonie", 1:752). (Translation mine.)

5 La polytonalité "est un art autrement plus subtil que de se borner (comme le supposent les primaires et les amateurs) à l'accompagnement, en Ré, d'une mélodie en Do..." (Koechlin, *Traité de l'harmonie*, 2:265). (Translation mine.)


7 The combination of fugal writing (although not necessarily polytonal) with a light-hearted character is frequently found in final movements of his works. See, for example, the last movements of the Variations on a Folk-Tune, op. 10 (Mit Humor-poco buffo); of the Second Piano Sonata, op. 21 (poco scherzando e capricioso); and of the Third Piano Sonata, op. 36 (Scherzando e buffo).


9 At this stage, words such as key and modulation can only be used informally. Expressions such as "the key of C major" mean little more than "the pitch-class collection A, B, C, D, E, F, G." Similarly, "modulation" simply implies a change of key signature without implication for tonal functionality in such a change. This informal use is always indicated by double quotation marks.

10 Since mm. 189-251 are an exact repeat of mm. 17-79, and mm. 172-177 a repeat of mm. 146-151 (in both cases, with only minor changes in the first measure), reference to the reprise is only given when relevant to the discussion.
Since no convincing musical justification could be found for this f♯, this writer is inclined to think that it is a misprint.


In only one instance does the cello cross over the viola (mm. 27-29). In all three recordings available to this writer, the e♭ in the viola is inaudible. Presumably, it is missing in the parts.

The significance of hemiola in cadential approaches (in triple meter) in music of earlier periods is well described in a recent article by Edward T. Cone, "Musical Form and Musical Performance Reconsidered," Music Theory Spectrum, vol. 7 (1985), pp. 150-156.

The change of meter, from 3/4 to 4/4, notated at m. 45, really extends to m. 54, as revealed by accentuation marks and slurs. The contrametric bass motive at mm. 50-54 does not succeed in overruling the 4/4 meter of the upper voices.

Schoenberg, Structural Functions, pp. 7-8.

37% of the total duration of Sections A, B, and "M3" (arrays x and z) rest on a pedal of C, while a pedal of D is heard through 44% of that portion of Section M under array y.


On this question, see also chapter 2, p. 24.


For a rare example of this procedure, see the fugue in J.S. Bach, Prelude, Fugue, and Allegro in Eb major, BWV 998. The middle section of this fugue, however, is a non-fugal episode in a contrasting vein, which is not the case in the Quartet.

The increasing use of passing chromaticism in the approach to the change of key does not in itself constitute preparation for modulation.

"The contrasting middle section . . . is devoted almost exclusively to the working out of the rich variety of thematic material 'exposed' in the first division." (Schoenberg, Fundamentals, p. 200.)
This process is defined in Schoenberg, *Fundamentals*, p. 58. Further descriptions are found on pp. 152-153. Schoenberg's characterization of the end of this process applies particularly well to mm. 127-137: "The end of the liquidation is generally marked by a combination of repose and suspense . . . the retarding effect of a pedal point is appropriate." Ibid., p. 153.

The stretto at mm. 187-188 is obviously a condensed evocation of mm. 8-16 of the exposition.

See p. 139 and note 6, above.
CHAPTER V

SIGNIFICANT ELEMENTS OF
THE LANGUAGE OF THE FIRST QUARTET

This chapter seeks to answer questions about general techniques common to all three movements, therefore indicating basic premises of the style of Szymanowski in this work. These questions are grouped under five headings running a course parallel to the levels of analysis applied to the Quartet, from foreground to background: (1) outer-line contours; (2) relative complexity and formal function; (3) cadential harmonic techniques; (4) tonal system and formal structure; and (5) outer-voice frameworks.

Outer-Line Contours

Passing mention was made in chapter 2 (see p. 44, note 9) of the possibility of looking at the network of lines of level -A- as to a reflection of the textural properties of the Quartet. These properties of the texture are intimately connected with formal delineation. In the words of Wallace Berry:

Textural stasis, progression, recession, and variation are basic in the functional processes by which forms are shaped, and by which expressive functional events (climactic, cadential, introductory, expository, etc.) are projected.1*

An exhaustive study of texture must take into account a multiplicity of factors such as density and relative independence-interdependence of lines

*Notes for this chapter begin on p. 219.

177
with respect to direction, rhythm, and interval of motion. In the Quartet, however, the shape of texture-space as defined by the contour of outer lines seems to play a pivotal role in the association of texture with formal purposes, no other aspect taken in isolation showing the same regularity in that respect.

Insofar as it is a relatively detailed representation of the score, level -A- is admirably suited to the study of those outer-line contours. In view of the lack of a recognized terminology for contours, a classification is proposed here. Questions concerning the range of application and method of description of this classification must first be addressed.

Range of application

Although occasional reference is made to shorter or longer segments, this study is concerned primarily with the texture-shapes of phrases. The type of relationship between outer lines with regard to direction of motion tends to be constant within segments of this size, and to change markedly from phrase to phrase. Rarely are two successive phrases found to belong to the same type, confirming the validity of the parallelism established between these two dimensions of structure. On the other hand, repeated statements are not considered as distinct for the present purposes, even when the repetition includes a certain amount of variation, unless these variations significantly affect the outer-line profile of the statement (for example, compare 2:47-56 with the varied reprise at 2:74-85, where the contour of the soprano is totally transformed).
Method of Description

For the purposes of this classification, a line, called a contour line, is drawn between the register-specific pitch on which the phrase begins and that on which it ends in each of the outer voices. The lower of the two lines is, as conventionally, called the bass, and the higher, the soprano. The direction and shape of the resulting figure determines the category to which the phrase belongs.

In view of the oversimplification that such a rigid method may bring about, certain qualifications are introduced. When, at the beginning or the end of the phrase, there is a change of direction or a change of register which, if taken into consideration, would give a distorted image of the phrase contour as a whole, such a change is disregarded and the contour line is made to reflect the direction of motion prevailing through the phrase. Such local changes often result from overlapping with the surrounding statements or are meant to emphasize the cadence, and therefore do not belong to the core of the phrase.

On the other hand, if changes of direction taking place in the course of the phrase are such that to consider them as local deflections to a prevailing straight line would be musically counterintuitive, that phrase is classified in one of two categories described below under nos. 7 (periodic) or 8 (compound).

With regard to the directions that its combined contour lines may take, each phrase belongs to one of the following categories: (1) simple expansion; (2) simple contraction; (3) double expansion; (4) double contraction; (5) descending transient; (6) ascending transient;
(7) periodic; and (8) compound. Each of these is now defined in detail.

Classes of Outer-Line Contours

1. The contour lines of a phrase are said to follow a simple expansion pattern when the bass is horizontal, normally as a reflection of a pedal or ostinato, while the soprano ascends (Example 5.1a).

Example 5.1a: Simple expansion pattern

Of course, a pedal held in the soprano over a descending bass line would also qualify as a simple expansion, but this never occurs in the Quartet at the level of the phrase.4

2. A simple contraction pattern occurs when a horizontal line in the bass appears under a descending soprano (Example 5.1b).

Example 5.1b: Simple contraction pattern

Again, this term would also apply to a bass descending under a pedal in the soprano but this situation is never found to prevail over a complete phrase.5
3. A double expansion occurs when the outer lines move in contrary motion, ending the segment at an interval broader than the interval of inception (Example 5.1c).

Example 5.1c: Double expansion pattern

4. A double contraction occurs when the lines are in a contradirectional relationship, the final interval being smaller than the initial one (Example 5.1d).

Example 5.1d: Double contraction pattern

5. A descending transient pattern results from homodirectional descending motions of the contour lines, regardless of the size of initial and final intervals (Example 5.1e).

Example 5.1e: Descending transient pattern
6. Similarly, an *ascending transient* pattern is found in homodirectional ascending motions of the contour lines (Example 5.1f).

Example 5.1f: Ascending transient pattern

7. In application of the introductory qualifying statements above, a *periodic* pattern emerges when the phrase ends at essentially the same interval and in the same range in which it begins, meanwhile moving away from this interval. Of the innumerable patterns that such a description is apt to cover, only a limited number of subtypes are found in the quartet. These are:

7.1 the *simple periodic* pattern (Example 5.1g);

Example 5.1g: Simple periodic pattern
7.2 the **double periodic** pattern (Example 5.1h);

Example 5.1h: Double periodic pattern

7.3 the **oscillatory** patterns (Example 5.1i);

Example 5.1i: Oscillatory patterns

7.4 the **static** pattern (Example 5.1j), of which there is only one instance in the Quartet (2:23-26.1).

Example 5.1j: Static pattern

8. The final type, that of **compound** patterns, accommodates those situations which do not fall into any of the above categories. Of course, any phrase classified as such could be broken down into shorter components belonging to the above classes, but this would contradict the point of
analysis of contour relations generalized as at the level of the phrase. Of the unlimited number of patterns belonging to this class, one type of contour is frequent enough as to be worthy of separate classification: the *ascending-expanding* contour. An ascending transient beginning is transformed into a double expansion by a change of direction in the bass (Example 5.1k).

Example 5.1k: Ascending-expanding pattern

Outer-Line Contours in the Quartet

Lists of the phrases belonging to each of the above classes are now established with appropriate commentary and reference to the voice-leading graphs.

1. Examples of **simple expansions** are found in:
   a. 1: 88 - 97.1 (p. 230)
   b. 1: 175 - 179.1 (p. 232)
   c. 2: 61 - 69 (p. 236)
   d. 2: 81 - 85 (p. 236)

In view of the extensive use of bass pedals in the Quartet, the relative rarity of this pattern—its total absence from the Third Movement, in particular—must be regarded as stylistically significant. Cases a and b
belong to passages of increasing rhythmic activity and dynamic intensity
(the approach to the climax of the Development and the first phrase of the
Coda). In both cases, the upper voices are homorhythmically related and
sequential. Cases c and d, on the contrary, are without doubt the most
restrained in dynamic intensity in the Quartet: a decrease from double to
triple piano is called for and, in case d, perdendosi. In marked contrast
with the first two cases, these project a sense of suspended motion
particularly appropriate in case d, the end of the movement.

2. Within the broad variety of simple contractions, three subtypes
may be identified on the basis of aspects of texture other than the
outer-line contour: the recessive closing type; the intensive closing
type; and the antecedent type. A description of the criteria on which
these sub-categories are founded follows the lists of phrases belonging to
each class.

2.1 The recessive closing type is found in:

a. 1: 13 - 18 (p. 224)
b. 1: 38 - 43 (p. 226)
c. 2: 43 - 46 (p. 236)
d. 2: 74 - 80 (p. 236)
e. 3: 127 - 137 (p. 240)

In all phrases belonging to this subtype, the dynamic level is in the soft
range and a decrescendo called for, underscored, in all cases but a, by
a rallentando or a change to a slower tempo than that of the phrase
immediately preceding. Cases b and c are further related by the
heterorhythmic, homodirectional descending scales featured in the upper
voices. Case c, where a single line acts as a transition between
Variations 2 and 3, is included here by analogy of shape and function. The common tread linking these cases is their nature as internal cadences combining a sense of closure with the establishment of an "anticipatory 'atmosphere'". This is made particularly palpable in case b, the consequent phrase of the transition in the Exposition, where the second subject is anticipated in the inner voices of mm. 42-43. The anticipatory atmosphere is no less perceivable in the other cases, which are all followed by major formal articulations (case a, the beginning of the Allegro; case c, Variation 3; case d, the end of the movement; and case e, the contrasting Section M).

2.2 The intensive closing type is found in:

a. 3: 50 - 54 (p. 239)
b. 3: 59 - 67 (p. 239)
c. 3: 184 - 187 (p. 240)

Insofar as these are all consequent phrases in closing groups, they share a common purpose with those of type 2.1. The dynamic level prescribed, however, is at the other extreme of the scale: double and triple forte (cases a and b), and crescendo to sforzando fortissimo (case c). In all three cases, the upper voices move in strict homorhythmic relation, either in descending scales (cases a and c) or descending sequences (case b). In cases b and c, the bass is also homorhythmically related to the other voices. The punctuative character of these phrases is clear, but no anticipatory atmosphere is associated with them, although cases b and c are indeed followed with major formal articulations.
2.3 The antecedent type is found in:

a. 2: 53 - 56 (p. 236)
b. 3: 102 - 109 (p. 240)
c. 3: 118 - 126 (p. 240)

These are three instances of antecedent phrases exhibiting a simple contraction pattern. Dynamics remain soft, at a delicately animated level. A striking feature common to all three phrases is the concurrence of strongly differentiated harmonic content. In case a, the melody in the first violin outlines an Ab-minor triad over the D-major triad sustained in the lower voices (a situation discussed at length on p. 129). Case b ends with a Db-major triad in the upper voices clashing against the pedal C in the cello. Similarly, case c ends with a B-major triad, again clashing against the repeated C. The range of descent of the upper voice in cases b and c is very narrow (case b: a¹-g¹; case c: c³-b²), lending these two passages an almost static character subtly animated in the inner voices (compare with case 7.4).7

3. Example of double expansions are found in:

a. 1: 8 - 13 (p. 224)
b. 1: 18 - 26 (p. 225)
c. 1: 49 - 52 (p. 227)
d. 1: 63 - 69 (p. 229)
e. 1: 103 - 112 (p. 230)
f. 3: 33 - 39 (p. 238)

Without exception, all these phrases carry dynamic markings of crescendo, further underscored by indications of poco avvivando and/or più mosso in
Within this class, case a, the consequent phrase of the Introduction, is exceptional not only in that it is a consequent, but also in its mixture of arpeggio (mm. 8-10) and descending scale in the bass coinciding with the already carefully analyzed homorhythmic passage of mm. 11-13 (see p. 57). By contrast, all the other phrases listed are antecedents built over descending scales in the bass and featuring ascending sequences in the soprano. Various degrees of polyphonic complexity are found in this group, from the relatively simple situation of case b to the intricate multi-voiced texture of c, the segment chosen for the sample analysis of chapter 1. Cases d, e, and f form a noticeable subgroup: these are three antecedents belonging to major closing groups or transitions; the sequential succession of motivic statements is rhythmically periodic, as opposed to the rhythmic-metric freedom of the other segments quoted, which are all expository. Further instances of this formal-textural combination are found below, under type 8.1.

4. There are only four instances of double contraction:
   a. 1: 1 - 8.1 (p. 224)
   b. 1: 97 - 103.1 (p. 230)
   c. 2: 7 - 10.1 (p. 233)
   d. 2: 34 - 35 (p. 235)

These form by far the most consistent group found in this study. In view of the influence of motive M in the soprano of case b (see Example 2.31), on the one hand, and of the strong analogies at all levels found between cases a, c, and d, one could go so far as to say that the opening of the
Introduction is motivically related to the other three phrases. What is more striking, however, is that the pattern of double contraction is uniquely associated with this motive, including the lyrical descent in the soprano, the *sostenuto* ascending motion in the bass, and, in cases a, c, and d, in the inner voices as well. Although it displays a greater variety of inner-voice motions than the other members of the group, case b introduces the decrescendo, one further trait shared with cases c and d.

5. Six segments belong to the *ascending transient* group:

   a. 1: 35 - 38 (p. 226)
   b. 1: 73 - 78 (p. 230)
   c. 1: 78 - 82 (p. 230)
   d. 2: 5 - 6 (p. 233)
   e. 2: 17 - 22 (p. 234)
   f. 3: 55 - 58 (p. 239)

In all cases, the progressive character of the lines is underscored by a crescendo (later reverting to decrescendo in case e). Ascending sequences and/or stretti of remarkable regularity form the substance of these phrases, such that relatively complex polyphonic motions become clarified through strict repetitions. With the exception of case e (the consequent of Variation 1), they all are antecedents.

Case a is unique in more than one respect: it displays the only instance of an ascending scale in the soprano running through a complete phrase; this scale is accompanied by a pedal in an inner voice, and ascending sequences in the lower two instruments, also unique occurrences.
6. Five segments are found to belong to the descending transient group:

   a. 1: 53 - 58.1 (p. 228)
   b. 1: 70 - 72 (p. 229)
   c. 1: 112 - 118.1 (p. 230)
   d. 2: 30.2 - 33 (p. 235)
   e. 3: 78 - 102.1 (p. 240)

Of these, the last is really a group of six four-measure phrases forming the exposition of Section B. By its shape as well as by the general direction of its motivic material, it forms a mirror image of the exposition of A (see below, type 8.1d). The four other passages share the following features: descending scale in the bass, and a sostenuto lyrical character particularly evidenced in the soprano, which forms a descending sequence in all but case a. Indications of piano and pianissimo dolcissimo increasing to forte dolce in an anticipatory gesture appear in all but case c, which is marked fortissimo dolce ending in a decrescendo. Case d is the second part of the antecedent of Variation 2, while cases a, b, and c are all consequents.

7. The periodic type is evident in nine segments, of which three belong to:

   7.1 the simple periodic sub-type

   a. 1: 83 - 89.1 (p. 230)
   b. 2: 26.2 - 30.2 (p. 235)
   c. 3: 146 - 151 (p. 240)

In the first instance, the descending shape of the upper voice (mm. 85.2-88.1), coinciding with the uninterrupted crescendo and the
vigorous rhythmic articulation, brings this passage very close to the
texture of phrases such as 3:50-54 which are classified under "simple
contraction, intensive closing" type (see case 2.2a). Similarly, case b,
with its predominantly descending second half, shares many traits with the
recessive subtype of simple contractions (see case 2.1b), including the
decrescendo and poco allargando markings. Case c could be considered a
prototype of a fully periodic formula: ostinato arpeggiation and pedal
accompanying a self-contained melody. Repetitions of this pattern form the
bulk of Section M.

7.2 The double periodic subtype is found in two phrases:
   a. 1:  159 - 172.1 (p. 232)
   b. 2:  1 - 4    (p. 233)
Both could be broken down into a double expansion followed by a double
contraction, but in neither case is there a point of articulation which
would support such a segmentation. Case a, the antecedent of the closing
group to the Recapitulation, features sequences on the head of motive A1
and an uninterrupted crescendo, poco vivace, later becoming agitato poco,
all textural features which bring it close to the double expansion type
(compare with cases 3d and 3e), and, indeed, were the violin parts
transposed up an octave, at mm. 171-172.1, and the cello down an octave at
m. 172.1, this is exactly the shape it would take. The segment thus
modified sounds so convincing in context (when played on the piano) that
this writer is inclined to think that the composer has curtailed the ascent
in order to achieve a fullness of sonority which the instruments of the
string quartet would have had difficulty achieving had it been written the
other way.
7.3 All three examples of oscillatory patterns are found in the Third Movement:

a. 3: 39 - 44 (p. 238)

b. 3: 68 - 77 (p. 240)

c. 3: 110 - 117 (p. 240)

These are extensions of cadential gestures into complete phrases. Case a is the consequent of the codetta to the expository group of A, very similar in nature and function to the intensive closings of type 2; cases b and c are more akin to the recessive closings, including the diminuendo (and rallentando in case c), all factors conducive to the anticipatory atmosphere appropriate to these points in the movement.

7.4 The only instance of a fully static statement, 2:23-26.1 (p. 235), belongs to the transition between Variations 1 and 2. When associated with the following phrase (see 7.1b above), it perfectly fulfills its transitional role. It is not unlike case 7.3b, above, the delicate ornamentation of the pedals being more appropriate to the rarefied atmosphere of the Second Movement than the ostinati found in the Third Movement.

8. Of the eleven phrases classified as compound, six share a common shape which has been called ascending-expanding. These are:

a. 1: 172 - 175.1 (p. 232)

b. 1: 179 - 180.1 (p. 232)

c. 2: 10 - 16 (p. 234)

d. 3: 8 - 23 (p. 237)

e. 3: 44 - 49 (p. 239)

f. 3: 165 - 172 (p. 240)
These phrases are marked crescendo, or even crescendo molto, and they involve sequential ascents or stretti in the upper voices against a descending scale in the bass (in the later part of the phrase), all traits through which they are related to the double expansion type. They are put to a greater diversity of use than the latter, however: cases a and b are both consequents, respectively to the closing group of the Recapitulation and Coda, while cases c, d and e are antecedents and case f is an ambivalent retransition to the reprise of M.

Finally, five phrases do not fit any of the above categories and have little in common among themselves. These are:

a. 1: 27 - 35.1 (p. 225)
b. 1: 44 - 48  (p. 227)
c. 2: 47 - 52  (p. 236)
d. 2: 70 - 73  (p. 236)
e. 3: 24 - 34.1 (p. 238)

a. The consequent of the first subject group is a relatively complex segment where irregular sequences in contrary motion in the outer voices frame freely decorated sustained chords in the inner voices; elements of a descending transient type are perceivable in the second half (mm. 31-35.1), associating this fragment with other consequents (the consequent of B, for example, case 6a).

b. The antecedent of B, whose second part (mm. 47-48) is a simple contraction, undergoes transformations in the reprise (mm. 61-62) and the
Recapitulation (mm. 155-158) which underscore its affinities with the simple contraction: in the reprise, a decrescendo turns it into a recessive closing type (compare with 2.1a), while the fortissimo and accelerando markings of the Recapitulation are suggestive of an intensive closing type (compare with 2.1c).

c. The antecedent of Variation 3 shares features with the simple contraction type (particularly type 2.3) as well as with the descending transient group.

d. The passionato and crescendo indications of this transition generate a distinct impulse leading to the reprise of phrase A of Variation 3.

e. This sequential development of motive A3 is introduced by an ascending transient gesture and is accompanied with ostinato patterns forerunning the contrasting middle Section M.

From the above inventory, it seems reasonable to conclude that there are non-trivial correspondences between certain contours and specific formal situations. The unique association of the double contraction (type 4) with motive M and its variants is certainly the most striking. The numerous instances of double expansion (type 3) and of the closely related ascending-expanding pattern (type 8.1) are also very interesting. All but two of the thirteen phrases belonging to these two types are antecedents; the two exceptions are found in the final closing group and in the Coda of the First Movement. This invites the formulation of an hypothesis: in order to achieve the closing effect desired at the end of the movement (the peroration), formal functions of outer-line contours are
reversed; a contour most readily associated with progressive purposes is now used in a punctuative role.

A comparable transformation may be observed in the successive statements of phrase "B1" of the second subject group in the same movement. The two statements of this phrase in the Exposition belong to the same contour type, recessive closing (2.1), whose most interesting features have been described as a combination of a closing character with the establishment of an anticipatory atmosphere. In the Recapitulation, the last statement of this phrase is transformed to make it similar to an intensive closing type (2.2), a most appropriate way of emphasizing the approach to the end of the movement, where an anticipatory atmosphere is no longer desirable.

Within the remaining types of contours, the constant association of ascending transient patterns with progressive moments, on the one hand, and of descending transient patterns with recessive moments, on the other, is worth noting. Finally, the disproportion in the frequency of simple expansions (type 1: 4 cases) as compared to simple contractions (type 2: 11 cases plus 8 related cases) in a work where pedals and ostinati in the bass are common should not go unnoticed in any attempt at defining stylistic norms for this Quartet.

Relative Complexity and Formal Function

While the association of certain contours with specific formal purposes, described above, is compatible with common practices, there is one type of correlation between texture and form which does not fall in
line with the expectations of the experienced listener: the correlation between relative simplicity of texture and expository gestures, on the one hand, and relative complexity and elaborative sections, on the other.

The procedure by which, in so many prototypical designs, formal delineation is one of relatively uncomplicated texture in thematic statement set against subsequent relatively diversified, sometimes intense, textural activity in developmental and variational processes, will be recalled by any experienced listener.9

Along with independence/interdependence of component lines based on direction and interval of motion on the one hand, and rhythm, on the other, criteria such as fluctuations in the number of lines and discontinuities within each line may be adduced as indicators of textural complexity. A passage where bifurcations and fusions affect the number of component lines will come through as more complex than a passage in which that number remains constant, all other factors being equal. Similarly, a passage where continuity must be sought across octave transfers and duplications will certainly sound more intricate than one in which all component lines are easily followed in the same register from beginning to end. These factors of relative complexity are all evident in the voice-leading graphs, where the omission of durations and of certain details of surface ornamentation, on the one hand, and the indication of linear continuities, on the other, throw these elements into sharp relief. Just a glance at the voice-leading graph of 1:44-46.1 (p. 227) as compared to that of 1:53-55.1 (p. 228) leaves no doubt as to which is more complex and why, something which does not come through readily upon reading the score since, for one
thing, the bass of 1:53-55.1 is split between the cello and the viola. Thus level -A- of the voice-leading graph is a useful indicator of textural complexity.

Based on the observation of such criteria, it is easy to perceive that the most complex passages in the First Movement are heard in the Introduction (mm. 1-18.1), the consequent of A (mm. 27-35.1), the second subject group (particularly the short elaboration at mm. 49-53.1), the lyric phase of the Development (mm. 97-103.1), and the antecedent of the final closing group (mm. 159-175.1). Similarly, the Canzone in the Second Movement displays far more "irregularities" than any of the subsequent variations. Nowhere in the Third Movement is the complexity of texture comparable to what is to be found in the exposition of Section A (mm. 8-23).

At the other end of a scale of relative complexity in tonal motions, one would likely find scales, ascending or descending at a regular pace. A simple pattern of this kind is never found in a pure state in the Quartet, but scales often appear as bass of sequential passages. Sequences and scales are congenial: a scalar passage or arpeggiation can be found to be the backbone of any sequence. If a rhythmically regular motion along a scale is perceived as simple, then sequences should share something of that simplicity. From another point of view, a sequence can be considered a relatively simple musical statement because, no matter how complex the model, repetition allows the ear to scan and elucidate its complexities. Sequential passages are seen to form the bulk of the Development of the First Movement, of Variation 1 in the Second Movement, and of the second
closing group of Section A in the Third. These are all instances of developmental and variational processes. Therefore it becomes apparent that Szymanowski makes no effort at following the archetype described by Wallace Berry in the quotation above: complexity of texture is often associated with thematic statements while relative simplicity frequently characterizes elaborative gestures.

**Cadential Harmonic Techniques**

Few of the punctuations found in the Quartet qualify as cadences by textbook standards. Since the purpose of the present study is to identify the norms effectively at work in the piece rather than to check the conformity of this composition with standard formulations, a broad definition of "cadence" is needed. For the purposes of this study, a cadence is any type of interruption created by rests or changes of texture and/or rhythmic flow. The interruption must affect all or most of the sounding parts, either simultaneously or in close succession, thereby admitting of such common musical devices as suspensions and phrase overlap. A further restriction must be added: the cadential interruption is introduced by an harmonic change, either a change of root or a change of chord over the same root. An accurate assessment of the harmonic circumstances of punctuation calls for an examination of both the sonority on which the segment ends and of the way in which it is approached.

With respect to the conventions of major/minor tonality, the following questions arise in connection with cadences identified in application of the above definition:
1. Cadences are conventionally known to feature consonant root position triads as points of arrival, a condition which is observed in only three instances in the Quartet (the final cadences of both the First and Third Movements, and the end of the Canzone). Is there any comparable rule to be inferred from the observation of the other cadences? For example, does the chord of arrival tend to be less dissonant than the chord of preparation? Do root position (albeit dissonant) chords prevail over inversions? Or, on the contrary, is the punctuation strictly a matter of changes in the texture and rhythmic flow, terminal harmonic formations showing no cadential function apart from that which they acquire by dint of their formal position?

2. Certain root motions are usually, if not exclusively, associated with cadences: root motions by fifths (ascending or descending); and root motions by ascending seconds (major or minor). Are there applications of these procedures in the Quartet?

An answer to these questions requires the unambiguous assessment of each chord as to root position or inversion, a task which is far from easy in certain cases. There is more than one cadence, for example, which proceeds from a chord analyzed as a V7 of the Neapolitan (a chord of the sixth degree in minor, with a minor seventh) to a V of V (Example 5.2). According to this interpretation, both chords are in root position. The first chord, however, may also be interpreted as a German sixth, in which case it is in first inversion. Motion to V of V is no indication that one interpretation should be preferred over the other. Although the second
chord is in root position (in both interpretations), the context could also suggest that the terms be reversed, the chord of preparation becoming a V of V, and the punctuative chord, a German sixth, therefore a first inversion. Prior to an evaluation of cadences, the implications of every plausible analysis must have been explored.

In a first step, a list of cadences is established together with contextually prevalent Roman numeral analyses. Two types of conclusions may be drawn from this data: (1) the relative frequency of root position chords as opposed to inversions; and (2) the relative frequency of consonant triads (whether root position or inversion). The possibility of establishing a scale of dissonance fluctuation has been dismissed earlier in this study (see p. 45, note 14). In the present case, the simple contrast between consonant triads and dissonant four- and five-note chords is used as an indicator of which trend seems to prevail within each movement.
Example 5.3 (see following page) lists the cadences found in the First Movement together with: (1) their Roman numeral interpretations; (2) symbols denoting root position (R) or inversion (I), and consonance (C) or dissonance (D); and (3) the interval of root motion. The latter calls for a word of explanation. Intervals of root motion are expressed as to the number of ascending semi-tones which they span, thus allowing for a distinction to be made between ascending major thirds (4) and descending major thirds (8), for example, but not between ascending major thirds and descending minor sixths (4 in both cases).

Example 5.4a is a compilation of the data found in the preceding example concerning root positions and inversions. From this compilation,

| Chord Position | | | |
|----------------|-------------------|
| R - R:         | 5                 |
| R - I:         | 8                 |
| I - R:         | 6                 |
| I - I:         | 6                 |
Example 5.3: Cadences in the First Movement

<table>
<thead>
<tr>
<th>Measures</th>
<th>Roman Numeral Analysis</th>
<th>Position</th>
<th>Consonance or Dissonance</th>
<th>Root Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>VII₇⁵b of V -- I₄</td>
<td>I - I</td>
<td>D - C</td>
<td>6</td>
</tr>
<tr>
<td>13</td>
<td>V of V -- I</td>
<td>R - R</td>
<td>C - C</td>
<td>10</td>
</tr>
<tr>
<td>27</td>
<td>II₇ -- V⁹</td>
<td>R - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>35</td>
<td>F₆ -- V⁴₃ of IV</td>
<td>I - I</td>
<td>D - D</td>
<td>10</td>
</tr>
<tr>
<td>38</td>
<td>V⁷₅# of V -- V⁴₃</td>
<td>R - I</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>44</td>
<td>F₆ -- V₇</td>
<td>I - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>49</td>
<td>V₇ -- V₆ of VI</td>
<td>R - I</td>
<td>D - C</td>
<td>9</td>
</tr>
<tr>
<td>53</td>
<td>V₂ -- V₅₂ of VI</td>
<td>I - R</td>
<td>D - D</td>
<td>9</td>
</tr>
<tr>
<td>58</td>
<td>G₆ -- V₇ of V</td>
<td>I - R</td>
<td>D - D</td>
<td>8</td>
</tr>
<tr>
<td>63</td>
<td>V₇ -- I₆₄</td>
<td>R - I</td>
<td>D - C</td>
<td>5</td>
</tr>
<tr>
<td>69</td>
<td>IV₂ -- V₅# of V</td>
<td>I - R</td>
<td>D - D</td>
<td>9</td>
</tr>
<tr>
<td>73</td>
<td>I -- V₂ of N</td>
<td>R - I</td>
<td>C - D</td>
<td>9</td>
</tr>
<tr>
<td>82</td>
<td>VII₆₄ of V -- V₆</td>
<td>I - I</td>
<td>D - C</td>
<td>1</td>
</tr>
<tr>
<td>97</td>
<td>V⁶₅ of V -- I₆₄</td>
<td>I - I</td>
<td>D - C</td>
<td>10</td>
</tr>
<tr>
<td>103</td>
<td>V₇ -- F₆</td>
<td>R - I</td>
<td>D - D</td>
<td>7</td>
</tr>
<tr>
<td>117</td>
<td>II₇⁵b -- V₇</td>
<td>R - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>127</td>
<td>II₇ -- V⁹</td>
<td>R - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>135</td>
<td>F₆ -- V⁴₃ of IV</td>
<td>I - I</td>
<td>D - D</td>
<td>10</td>
</tr>
<tr>
<td>138</td>
<td>V⁷₅# of V -- V⁴₃</td>
<td>R - I</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>144</td>
<td>F₆ -- V₇</td>
<td>I - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>149</td>
<td>G₆ -- V₇ of V</td>
<td>I - R</td>
<td>D - D</td>
<td>8</td>
</tr>
<tr>
<td>159</td>
<td>V -- F₆</td>
<td>R - I</td>
<td>C - D</td>
<td>7</td>
</tr>
<tr>
<td>172</td>
<td>V⁷₅# of V -- V₂</td>
<td>R - I</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>175</td>
<td>I₆₆ -- I₆₄</td>
<td>I - I</td>
<td>D - C</td>
<td>6</td>
</tr>
<tr>
<td>182</td>
<td>IV -- I</td>
<td>R - R</td>
<td>C - C</td>
<td>7</td>
</tr>
</tbody>
</table>
the following conclusion may be drawn: motion to a chord in root position does not seem to play any significant role in achieving cadential purposes in the First Movement. In fact, there are a few more instances of R-I motions (8) than the reverse (6).

Example 5.4b presents a similar compilation with respect to consonance and dissonance. As can be expected, C-C motions are rare and D-D motions clearly prevail. More significantly (for our purposes), there is a higher number of D-C cadences (6) than C-D (2). It is safe to infer from this indication that, in the First Movement, the relative degree of consonance seems to play a role in achieving cadential purposes.

Example 5.4b: Consonance/Dissonance

C - C: 2  
C - D: 2  
D - C: 6  
D - D: 15

Example 5.5 (see following page) lists cadences of the Second Movement together with their analysis in application of the symbols described above.
Example 5.5: Cadences in the Second Movement

<table>
<thead>
<tr>
<th>Measures</th>
<th>Roman Numeral Analysis</th>
<th>Position</th>
<th>Consonance or Dissonance</th>
<th>Root Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>IV - V</td>
<td>R - R</td>
<td>C - C</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>V₇ - I</td>
<td>R - R</td>
<td>D - C</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>V₇ᵇ of VI -- VII₆ of V</td>
<td>R - I</td>
<td>D - D</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>G₄/₃ -- I₆</td>
<td>I - I</td>
<td>D - C</td>
<td>6</td>
</tr>
<tr>
<td>30</td>
<td>N₄ᵇ -- V₇</td>
<td>I - R</td>
<td>C - D</td>
<td>6</td>
</tr>
<tr>
<td>33</td>
<td>V₄ᵇ of V -- G₆</td>
<td>I - I</td>
<td>D - D</td>
<td>4</td>
</tr>
<tr>
<td>35</td>
<td>V₇ᵇ of V -- V₂</td>
<td>R - I</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>40</td>
<td>N₄ᵇ -- V₇</td>
<td>I - R</td>
<td>C - D</td>
<td>6</td>
</tr>
<tr>
<td>52</td>
<td>VII₄ᵇ -- VI</td>
<td>I - R</td>
<td>D - C</td>
<td>9</td>
</tr>
<tr>
<td>56</td>
<td>V₇ᵇ of V -- V₇ᵇ of IV</td>
<td>R - R</td>
<td>D - D</td>
<td>10</td>
</tr>
<tr>
<td>60</td>
<td>G₆ -- V₇ᵇ of V</td>
<td>I - R</td>
<td>D - D</td>
<td>8</td>
</tr>
<tr>
<td>74</td>
<td>G₆ -- V₇</td>
<td>I - R</td>
<td>D - D</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>IV₃ᵇ -- V₇</td>
<td>I - R</td>
<td>D - D</td>
<td>2</td>
</tr>
</tbody>
</table>
Examples 5.6a and b present the data collected from this list. As opposed to the situation prevailing in the First Movement, I-R motions obviously predominate in this movement. On the other hand, the trend observed in the First Movement with respect to relative consonance does not receive confirmation from the data compiled in the Second.

Example 5.6

a. Chord Position

R - R: 3
R - I: 2
I - R: 6
I - I: 2

b. Consonance/Dissonance

C - C: 1
C - D: 2
D - C: 3
D - D: 7

The extensive pedals found in the Third Movement, particularly in Sections B and M, make the assessment of such factors as position and degree of dissonance particularly problematic: when is the pedal to be considered part of the chord and when is it not? Since there is no satisfactory systematic answer to this question, this study is restricted to cadences not involving the presence of a pedal. Example 5.7 lists these cadences, and Example 5.8 compiles the data collected from the list.
Example 5.7: Cadences in the Third Movement

<table>
<thead>
<tr>
<th>Measures</th>
<th>Roman Numeral Analysis</th>
<th>Position</th>
<th>Consonance or Dissonance</th>
<th>Root Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>(V_2) of IV -- (F_6)</td>
<td>I - I</td>
<td>D - D</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>(VII_3^4) of V -- (V_7) of IV</td>
<td>I - R</td>
<td>D - D</td>
<td>6</td>
</tr>
<tr>
<td>30</td>
<td>(V_7^9) -- (G_6^7)</td>
<td>R - I</td>
<td>D - D</td>
<td>11</td>
</tr>
<tr>
<td>33</td>
<td>(V_7^9) -- (V_7^9) of VI</td>
<td>R - R</td>
<td>D - D</td>
<td>8</td>
</tr>
<tr>
<td>40, 42</td>
<td>(V_7) of V -- (V_7)</td>
<td>R - R</td>
<td>D - D</td>
<td>5</td>
</tr>
<tr>
<td>44</td>
<td>(V_7) of V -- (V_7) of VI</td>
<td>R - R</td>
<td>D - D</td>
<td>1</td>
</tr>
<tr>
<td>50</td>
<td>(V_7^6) of IV -- (V_3^4)</td>
<td>I - I</td>
<td>D - D</td>
<td>7</td>
</tr>
<tr>
<td>67</td>
<td>(VII_2^2) of III -- (V_7^5) of IV</td>
<td>I - I</td>
<td>D - D</td>
<td>9</td>
</tr>
<tr>
<td>90</td>
<td>IV -- (V_7) of N</td>
<td>R - R</td>
<td>C - D</td>
<td>3</td>
</tr>
<tr>
<td>115</td>
<td>(V_7) of VI -- (F_6)</td>
<td>R - I</td>
<td>D - D</td>
<td>6</td>
</tr>
<tr>
<td>168</td>
<td>(VII_5^6) of V -- (I_4^6)</td>
<td>I - I</td>
<td>D - C</td>
<td>6</td>
</tr>
<tr>
<td>254</td>
<td>(VII_5^6) of V -- V</td>
<td>I - R</td>
<td>D - C</td>
<td>1</td>
</tr>
<tr>
<td>260</td>
<td>(V_3^4) -- I</td>
<td>I - R</td>
<td>D - C</td>
<td>5</td>
</tr>
</tbody>
</table>
Example 5.8

a. Chord Position

R - R: 4
R - I: 2
I - R: 3
I - I: 4

b. Consonance/Dissonance

C - C: 0
C - D: 1
D - C: 3
D - D: 9

The proportion of R-R and I-I is more in line with that found in the First Movement than in the Second. There is no clear prevalence of I-R or R-I. Despite the overwhelming superiority of D-D, the trend observed in the First Movement also emerges in the Third: D-C motions are preferred to C-D.

From the above investigation it appears that there is no single answer to the first question concerned with the role played by relative consonance and/or chord position in achieving cadential purposes: root position does not. The reverse holds true for the two outer movements.

In order to answer the second question about root motions in cadential progressions, a tabulation of intervals of root motion for each movement is presented in Example 5.9. Striking differences are revealed
Example 5.9: Cadential Root Motions

a. First Movement

<table>
<thead>
<tr>
<th>Interval</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

b. Second Movement

<table>
<thead>
<tr>
<th>Interval</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

c. Third Movement

<table>
<thead>
<tr>
<th>Interval</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
by these data, particularly between the First Movement and the other two. While root motion at interval 5 enjoys clear supremacy in the First Movement, it is superseded in the other two by root motion at interval 6. The difference between the movements comes through even more vividly if one adopts Schoenberg's classification in strong (intervals 5, 8, and 9), superstrong (intervals 1, 2, 10, and 11), and "descending" (intervals 3, 4, and 7). Although Schoenberg does not provide a category for root motions at interval 6, there is evidence that they could be included in the superstrong class: in a progression of this type, the two chords have no pitches in common ("all the tones of the first chord are conquered, i.e., eliminated entirely."11). Example 5.10 displays the data thus compiled.

Example 5.10: Cadential root motions classified according to Schoenberg's categories

<table>
<thead>
<tr>
<th></th>
<th>First Movement</th>
<th>Second Movement</th>
<th>Third Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>15</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Superstrong</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>&quot;Descending&quot;</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Although these figures reflect only cadential root motions, they certainly give concrete evidence in support of the intuitive perception that a significant change takes place after the First Movement with regard to harmonic techniques. Whereas strong progressions clearly prevail in the First Movement, they are superseded by superstrong progressions in the
following movements. "Descending" progressions maintain their subsidiary status throughout the Quartet. The conventions of traditional harmony appear to have been modified in the following ways in the Quartet:
(1) root motions by ascending fifth are relatively rare in all movements;
(2) root motions by descending fifth prevail in the First Movement but not in the other two; (3) root motions by ascending second play a significant role in the last two movements while in the First, they are dominated by root motions by descending second; (4) root motions by ascending third are seen to gain some prominence in the Second Movement but they are virtually nonexistent in the other two; and (5) root motions by descending third are well represented in all three movements.

The charts of cadences given in Examples 5.3, 5.5, and 5.7 bear witness to an unmistakable prominence given to sonorities of the dominant type, whether they be V or VII, not only in cadential position but in preparation for cadences as well. The prevalence of such sonorities is responsible for the frequency of "once-removed" Roman numeral analyses. If the ultimate destination of a progression is a dominant sonority, the penultimate chord is likely to be a dominant of the dominant, or an augmented sixth.

**Tonal System and Formal Structure**

Examination of cadences has shown that the Quartet expands on conventions of the common-practice period, projecting an original system of harmonic relationships. On a broader scale, the tonal coherence of the movements is also seen to depend on relationships which are extrapolations of common-practice tonal and formal designs.
The First Movement reinterprets the traditional sonata-form in more than one of its aspects. Tonality is established in the Introduction, rather than in the first subject group, and this is done by means of a pedal on the tonic underlying the close of this section and the link to the Allegro, at a point where a pedal on the dominant would conventionally be expected. A pedal on the tonic runs through a substantial portion of the Development, again in a formal position where motion away from the tonic is expected. The only perfectly conventional role which the tonic harmony is called to play is that of final cadence, including a preparation by dominant harmony (mm. 157-159) and a deceptive cadence allowing for a penultimate closing group to delay the motion to the tonic (mm. 159-175.1).

The tonal strategy replacing the conventional opposition between tonic (first subject group) and contrasting key (second subject group) has been discussed at length in the final section of chapter 2 (see p. 100), as were the unusual ways in which motivic material is redistributed in the Recapitulation. Earlier in this chapter, attention was drawn to the reversal of classical values with regard to density and texture, the Development showing greater simplicity of design than the expository segments, according to specific, stated criteria.

The Second Movement also reinterprets the patterns traditionally associated with its formal prototype, theme and variations. As explained in the beginning of chapter 3 (p. 109), the term "variation" is used in a very broad sense, here. None of the three sections is structured around the melody, the bass, or the harmonic framework of the Canzone. Each elaborates upon certain components of the Canzone treated as motives. The
three variations follow an ABA pattern which does not originate in the Canzone itself.

Movements in theme and variation form normally reaffirm in the final variation the tonality established in the theme, when intervening variations have modulated away from this initial key centre. In the Quartet, the change of tonality is part of a broader plan involving changes in the textural nature and harmonic language of the composition. While the initial Canzone and the First Variation are written in a style strongly reminiscent of similar movements in the works of Max Reger,¹² the last Variation is more readily associated with the works of Ravel.¹³ The observations recorded earlier in this chapter with regard to the predominance of root motions by fifth in the First Movement, and the transition to a predominance of root motions by second and tritone in the Second Movement, are further evidence of a mutation of language, as are intimations of bitonality achieved through extended multiple suspensions.

The validity of polytonal key signatures in the Third Movement as an explanatory basis of its tonal structure has been seriously questioned in this study. Their influence is not denied, but their effect is not one of four simultaneously audible keys.

Their influence is felt in the maintenance of distinct, registrally correlated diatonic fields generating a harmonic vocabulary and spacing unique to this movement. With respect to the norms of tonal organization applied in music since the Renaissance, the way in which C achieves prominence in this movement could almost be called "non-functional." There is little trace of a hierarchical tonal pattern from which such a
prominence would emerge naturally. Registral exposure in the bass and reiteration for extensive segments, particularly in closing sections, are the essential techniques used to achieve this end. The tonal harmonic activity observed in Section A is inflected almost exclusively to the sharp side of C, notably to E. The contrasting section M arpeggiates a D-minor triad but, within each of its phrases (with the exception of mm. 165-171), a "drone" prevents any harmonic characterization from taking place, even for purposes of punctuation. Contrast with the preceding movements is also a result of the prevalence of descending-fifth motions. Here again, Szymanowski displays a fascination with unconventional procedures.

**Outer-Voice Framework**

The particularities of each movement have been amply documented in the materials and procedures of harmony, in the motivic content, and in aspects of texture and rhythm. A study of outer-voice frameworks reveals further distinctions from which unique global structures emerge. In studying these frameworks, attention is focused not so much on the steps through which the lines proceed as on the characteristics of motion itself, particularly on direction both in absolute (ascending or descending) and relative (similar, parallel, contrary, oblique) terms. It is believed that such a study may account in a very vivid way for the dynamic processes responsible for large-scale coherence in the music.

The First Movement is unified around two broad motions (Example 5.11, pp. 215-216): (1) an ascending linear motion of the upper voice linking the
Introduction, the Exposition and the Development to the melodic climax (m. 97); and (2) a harmonic motion of descending fifths uniting mm. 73-137. At m. 137, the ascending linear motion briefly takes over. Both factors (linear motion of the upper voice, and harmonic progression of the lower voice) are at work in the closing group (mm. 159-174), but the final cadence relies entirely on root motion by fifth in both outer voices, an emphasis on harmonic motion which reverberates in the Coda in its move to the subdominant.

Within the general direction imparted by this combination of motions, certain details are deserving of emphasis. The "parallel octaves" of mm. 13-38, for example, call for some words of explanation. Since pitches belonging to the outer-voice framework are not meant to represent register-specific sonorities so much as relative motions of outer voices, one could go so far as to say that, in those measures, the framework is really reduced to a single continuity of pitch-class adjacencies. This kind of "monophony" never recurs over a comparable time-span in the Quartet. In particular, this "monophonic" passage is appreciably shortened by transposition and modifications in the Recapitulation (mm. 118-131).

Motion in parallel fifths at mm. 44-47 introduces a modicum of differentiation between the two voices. Subsequent contrary motion (mm. 49-58) results in a progression in differentiation. Although mm. 58-62 repeat mm. 44-48, the intervening segment lends this reprise a totally different meaning: the upper voice is now an octave above the preceding statement, implying that ascending motion is uninterrupted in the
Example 5.11a: Outer-voice framework of First Movement (Part I)
Example 5.11b: Outer-voice framework of First Movement (Part II)
middle segment (mm. 49-58); the lower voice returns to $E$ (m. 58) by way of a descent from an inner-voice $A$ (m. 49).

As a final remark to the study of the framework of the First Movement, one may note the prevalence of perfect consonances in the Exposition and Recapitulation, while imperfect consonances predominate in the Introduction, in both closing groups, and in the Development.

The Second Movement (see Example 3.20, p. 133) harmoniously combines continuity of linear motion in the upper voice with continuity of harmonic motion expressed in the lower voice by successive descending fifths. After an initial statement (the Canzone), where a descending linear motion in the upper voice is supported by neighbouring motions in the lower voice, the three variations are unified, across their formal boundaries, by the combined action of a long-range descending motion in the upper voice and of a succession of descending fifths in the lower voice, a combination of motions which is ultimately completed in the opening of the Third Movement. The significance of the outer-voice framework in bringing unity into a form characterized by the juxtaposition of superficially disconnected sections is well worth emphasizing.

The Third Movement (see Examples 4.19 and 4.20) is definitely more static than the first two with respect to lower-voice motion. Activity is largely reserved for the upper voice. The characteristic immobility of the bass is locally enhanced by the non-motivic material used through most of the movement. No prevalence of perfect or imperfect consonances has been found to be associated with a particular section, as was the case in the First Movement.
An initial ascent, proportionately much shorter than that observed in the First Movement, is followed by extensive descending motions interrupted by the long neighbouring elaboration of F#, forming Section M. Contrary motion of the bass in the latter section yields a pattern of outer-voice motions strongly reminiscent of the Introduction (1:1-13). The apparent lack of large-scale activity, as compared with the other two movements, is justified by the goals pursued in this movement: as opposed to the impassioned atmosphere of the First Movement, and the ecstatic character of the Second, the Third Movement is deliberately playful, at times bordering on the grotesque. This feeling is naturally reflected in the simplicity of the tonal-harmonic structure as well as of the outer-voice framework.
NOTES

1Berry, Structural Functions, p. 241.

2This list is borrowed from the systematic classification of textural values suggested by Wallace Berry, Structural Functions, pp. 191-195.

3See p. 106, note 7, for a definition of texture-space.

4The only instance of such a contour in a shorter segment is found in 3:68-70. Since the pattern is repeated to m. 76, however, the contour of the phrase as a whole belongs to the periodic category (type 7) described below.

5For an example in a shorter segment, see 1:16-18, the link between the Introduction and the Allegro.

6Berry, Structural Functions, p. 246.

7Three instances of simple contractions are unrelated to the categories described in this paragraph: a. 2:57-60 (p. 236); b. 3:138-145 (p. 240); c. 3:158-164 (p. 240). Case b, a single melodic line introducing Section M, is included in this type by analogy of shape and character (see also case 2.1c, above) with type 2.2. The other two instances do not show any significant regularity. As a final item in this inventory of simple contractions, one may note the prevalence of closing statements in this category: all of sub-types 2.1, 2.2, and 2.3 are closing groups or transitions (certainly a form of closure), as is case c above.

8The sequential underpinnings of case c are somewhat obscured by the surface activity, but come through in the double-neighbour figure in the soprano at level B of the voice-leading graph.

9Berry, Structural Functions, p. 240.

10Contextual indications notwithstanding, the initial interpretation (V of N to V of V) is more elegant since it suggests a "centripetal" leaning (toward V and I) as opposed to the "centrifugal" orientation of the second.

11Schoenberg, Structural Functions of Harmony, p. 7, note 2. It should be emphasized that, in establishing his classification, Schoenberg only takes into account pitches belonging to the triadic "core" of the chord, exclusive of sevenths and ninths. Similarly, he doesn't consider the possibility of an altered third or fifth.

12See, for example, the Second Movement of his Second Quartet, op 54, no.2; the Second Movement of his Quintet in C minor for piano and strings, op. 64; the Third Movement of his Third Quartet, op. 74; and the Third Movement of his Fourth Quartet, op. 109.
See, for example, the Third Movement of his Quartet in F, as well as many of his works for solo piano; textural and harmonic affinities between the Third Variation of the Szymanowski Quartet and mm. 51-53 of *Jeux d'eau* are particularly striking.
A. Sources


B. Others


APPENDIX

VOICE-LEADING GRAPHS
GRAPH 1

VOICE-LEADING GRAPH OF 1:1-18.1

224
GRAPH 2

VOICE-LEADING GRAPH OF 1:18-35.1

Cc III I IV
A♭ I VI \rightarrow Vof V
E♭ I \rightarrow Vof VI
B♭ IV \rightarrow Vof III(\sim V) \rightarrow F₆ I
GRAPH 3
VOICE-LEADING GRAPH OF 1:35-44.1
GRAPH 4

VOICE-LEADING GRAPH OF 1:44-53.1

G₆
A₇
E₆
V₆
V₆
V₆
V₆
V₆
V₆
GRAPH 5

VOICE-LEADING GRAPH OF 1:53–63.1
GRAPH 6
VOICE-LEADING GRAPH OF 1:63-73.1
GRAPH 7

VOICE-LEADING GRAPH OF 1:73-118.1
GRAPH 8

VOICE-LEADING GRAPH OF 1:118-159.1

B

C

F

Bb

A

VoFIV VI V

V

V

VoFIV

VoFIV

VoFIV

VoFIV

VoFIV

VoFIV

VoFIV
GRAPH 9

VOICE-LEADING GRAPH OF 1:159-182
GRAPH 10

VOICE-LEADING GRAPH OF 2:1-10:1
GRAPH 11
VOICE-LEADING GRAPH OF 2:10-22
VOICE-LEADING GRAPH OF 2:23-40

B
F♯₉
G₄
A
D

23-26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
GRAPH 13

VOICE-LEADING GRAPH OF 2:41-85
GRAPH 14

VOICE-LEADING GRAPH OF 3:8-20.1
GRAPH 15

VOICE-LEADING GRAPH OF 3:20-44.1
GRAPH 16
VOICE-LEADING GRAPH OF 3:44–67

C₄

A

E

Cc

E₄
VOICE-LEADING GRAPH OF 3:68-186.1

Graph 17

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92

93

94

95

96

97

98

99

100

101

102

103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

196

197

198

199

200

201

202

203

204

205

206

207

208

209

210