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In addition, numerous University of Oklahoma officials were instrumental in providing assistance for the journal from the beginning. Dr. Allan Ross, Director of the School of Music, has been our greatest ally as he guided us through fund-raising efforts and provided endorsement from the School of Music. Dr. Nat Eek, Dean of the College of Fine Arts, and Dr. Kenneth Hoving, Dean of the Graduate College, have also provided funding for necessary expenses and graduate assistants. The University of Oklahoma Foundation, through its Director, Mr. Ron Burton, has given essential support for initial equipment acquisition and staff compensation. The work and skill of George Dotson, Coordinator of Graphic Design at University of Oklahoma Publications, is also gratefully acknowledged for the cover design of the journal. To all of these contributors, we convey our sincere thanks. Each has been truly vital to the development of this project.

Finally, from the inception of this endeavor to the sustaining of its existence, the most important guiding force continues to be the influence of Dr. Gail Boyd de Stwolinski and the professional distinction and personal integrity she exemplifies.

THE GAIL BOYD DE STWOLINSKI CENTER FOR MUSIC THEORY PEDAGOGY

The Gail Boyd de Stwolinski Center for Music Theory Pedagogy was established in 1985 at the University of Oklahoma to provide a national clearinghouse for the collection and dissemination of information concerning the teaching and learning of music theory. In addition, the Center was established to honor Dr. Gail Boyd de Stwolinski for the professional contributions of her 38-year teaching career and, especially, to perpetuate her intense commitment to excellence in teaching. As presently conceived, the activities of the Center will:

1. continue research in music theory as it relates to the training of musicians; this research will focus on studies utilizing materials from music literature and on procedures applicable to the classroom.
2. develop seminars in various aspects of theory pedagogy featuring participation of eminent scholars.
3. focus national attention on the importance of the "master classroom teacher/scholar" and support institutional and professional rewards for demonstrated excellence in scholarship related to music theory teaching.
4. encourage specialized training for those embarking on careers primarily involving theory teaching and its related research.
5. provide philosophical direction and financial support for the *Journal of Music Theory Pedagogy* as a forum for ideas concerning practical and speculative pedagogical issues.

The fundamental purpose of the Gail Boyd de Stwolinski Center, then, is to foster the genuine contributions of hundreds of outstanding teachers of music theory. In short, it is our desire to identify and elevate "what is good" about our profession—and in so doing, improve it.

James H. Faulconer
Alice M. Lanning

Editorial

TRENDS AND ISSUES IN MUSIC THEORY TEACHING

Two parallel (and sometimes blended) streams of interest in music theory, on the one hand, and in its teaching, on the other, have been gradually expanding for several decades now. The inception of music theory as an academic specialty, with its own sense of identity and self awareness, can be seen in the early issues of the *Journal of Music Theory* (1957): its earnest striving for definition and purpose; its persevering to clarify boundaries and to seek legitimacy. Several years earlier the "modern era" of theory pedagogy commenced with the "Literature and Materials" program created by William Schuman at Juilliard in the late 1940s and early 1950s.¹ Schuman's vision was to shift attention away from part-writing exercises and common-practice harmony (the mainstays of earlier decades) toward music literature itself and toward a wider range of historical styles and compositional issues as the core of undergraduate theoretical training. This curricular revolution at Juilliard—really an ongoing experiment individualized by particular teachers—eventually generated ripples of influence at other schools and intermingled with additional undercurrents that were soon to emerge.

These undercurrents took at least two directions during the early and middle 1960s. One general and long-term series of events involved (and evolved) the Contemporary Music Project² which included composers and music educators; and the other, more specifically related to college-level theory, culminated in the publication (1966) of the *Materials and Structure of Music* textbooks conceived at Indiana University. The "M & S" books were especially notable, for their time, because they stressed single-line melodic analysis, an extremely wide range of musical examples, and the exploitation of conceptual frameworks not bound by conventional stylistic categories. These two ventures (perhaps they were adventures as well) of CMP and M & S were among the direct antecedents of the Comprehensive Musicianship movement³ which gathered momentum during the late 60s and early 70s and whose pre-eminence is now somewhat diminished, perhaps, but whose influence and legacy continue to linger today.

During the 1970s additional trends materialized—some in

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pedagogy but more concerning the growing self-confidence of the profession as a whole—which advanced the maturation of music theory as a discipline in its own right.⁴ The foremost development was the formation of the Society for Music Theory (1977) which has generated, during the past decade, new respect and esteem for our field as an intellectual domain of value and integrity.

In the 1980s the continuing ascendance of music theory in the world of scholarship, research, and creativity has spun off renewed concern and curiosity about pedagogical matters. The proliferation of new textbooks and materials (can anyone keep up anymore?); programmed instruction and its more sophisticated offshoot, the computer-assisted revolution; advancements in cognitive psychology, perceptual research, learning theories, and artificial intelligence; the explosion of scholarly journals in history and analysis; increasing awareness of the benefits, risks, tradeoffs, and diversity of competing pedagogical methodologies; the permeation into undergraduate teaching of sophisticated analytical systems (e.g., structural reductions, set theory); the expansion of graduate theory courses, programs, and degrees (although, sadly, not jobs); the increasing frequency of pedagogical presentations and papers at regional theory societies and, sometimes, national meetings; experimentation, revision, tinkering, and fine tuning of curricula and course syllabi; and, finally, the publication of two new, and complementary, theory pedagogy textbooks⁵ all continue to spur a national interest in issues related to the teaching and learning of music theory.

One measure of the longevity and substantiality of theory pedagogy as an identifiable branch within our larger discipline is that it has sustained its existence and influence far and long enough to have experienced fads, backlashes, and cycles. The pendulum has swung now from isolated harmony and ear-training courses to total packages of integration in all shapes and sizes and back again to individualized focus on specialized and specific topics at some schools. One current mark of a more conservative and back-to-basics mood in the 80s is that Bach chorales are now in style again as teaching material. The status of some fashions, however, would be difficult to document; it depends on what circles one travels in, and even more importantly on one's whole lifetime of accumulated teaching experience and training (i.e., the particular mind set or filtering system through which one makes judgements). Consider, for example, all the possible answers and reactions to the question, "Are computers now *in* or *out* for teaching music theory?"

One fact seems indisputable, though: theory teachers are hungry for information about teaching, goals, content, testing, music,

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curriculum, approaches, research, philosophies, classroom dynamics (rapport; motivation), and dozens of other aspects of a vigorously evolving field. Many, I think, are also eager to contribute their knowledge, advice, experience, enjoyment—even frustrations—about teaching to their colleagues. It is out of such a cumulative background of pent-up interests and needs that the idea for the *Journal of Music Theory Pedagogy* was born.

The timing is opportune, then, for a major new national journal that will a) provide an outlet for existing scholarship and research; and b) encourage the collegial sharing of ideas about teaching music theory. Since no current journal is devoted exclusively to theory pedagogy, by concentrating just on issues directly and specifically related to the problems and solutions of teaching and learning music theory, this publication should be viewed as a complement rather than as competition to the many distinguished theory journals already in existence.

We envision an extremely eclectic and extensive array of potential topics for this publication that will help, over a period of time, to reveal more fully the breadth and limits of this specialty. A long-term series of articles (spread out over several issues) on curriculum design at specific schools (beginning, we hope, in the second issue) and a special topics forum on teaching Aural Skills for the third issue (Spring 88) are just two of many areas that will be highlighted in the future. Submissions are encouraged for additional subjects as well: the goals and purpose of music theory; computer-assisted instruction; analyses of standard teaching literature (either whole pieces or groups of examples that illustrate a particular concept or approach); evaluation and grading procedures (the crafting of theory examinations is virtually unknown as a topic of serious discussion; instead, faculty members typically construct their tests almost instinctively); theories of perception, psychology, and learning; reviews of textbooks and other monographs and materials related to teaching; bibliographies; comparative teaching techniques and course outlines for specific classes (fundamentals, harmony, counterpoint, form, orchestration, composition, ear training, keyboard, advanced graduate seminars, analytical systems, etc.); group dynamics (teacher/student interaction, discussion and lecture styles); conceptual approaches (writing exercises, critical thinking skills); and reports on pedagogy dissertations and theses.

A wide variety of formats for articles will be accepted: controlled empirical, behavioral, and statistical studies; fully documented scholarly investigations and research; well-supported speculative hypotheses; short, practical teaching tips; multiple viewpoints on controversial subjects; and interdisciplinary approaches.

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We hope to stimulate more people to contribute to (and draw from) the accumulating fund of knowledge about which methodologies, technologies, orientations, perspectives, attitudes, curricula, biases, and old-wives tales work—and under which conditions. Two specially important uses for the journal include: a) providing aid for the many non-specialist theory teachers (over 4500 are now listed in the latest CMS directory); and b) providing resource readings for the growing number of graduate theory pedagogy courses.

We are especially looking forward to the inevitable evolution that any such new project undergoes during its beginning stages of development. Defining the mission and standards of an emerging field such as theory pedagogy will be a joint enterprise involving not just the leadership and direction the journal provides but the response from our readership as well—their comments and contributions. Shaping and refining the scope, format, and image of the journal to fit the concerns of our fellow teachers will be among our highest priorities. And achieving a level of quality and sensitivity in teaching that matches the excellence of the richest intellectual attainments in music theory itself is a challenge that all of us can collectively aspire to.

High achievement in *doing* music theory—creating stimulating ideas, concepts, and interpretations; seeking explanations; and seeing relationships—is, of course, something to be proud of. We hope, in a modest, yet tangible, way that this new journal will promote the notion that accomplishment in *teaching* theory well—reaching students' ears, minds, and hearts; intensifying a love for and aesthetic response to music; sharing knowledge in a way that helps to communicate what it means to be human; and making a positive artistic difference in someone's life—ought to be important, too. Because it is.

Michael R. Rogers, for the Editors
University of Oklahoma

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NOTES

¹See William Schuman, "On Teaching the Literature and Materials of Music," *Musical Quarterly* (April 1948):155-68; William Schuman, *The Juilliard Report* (Norton, 1953); and William Bergsma, "L & M Revisited," *Juilliard Review* (Fall 1955): 29-36.

²See "Contemporary Music Project," *Music Educators Journal* (March 1968): 41-72 and (May 1973): 33-48.

³See David Willoughby, *Comprehensive Musicianship and Undergraduate Music Curricula, CMP⁶* (MENC, 1971); see also *CMP²* (1965) and *CMP⁵* (1971).

⁴See "Music Theory: The Art, the Profession, and the Future," *College Music Symposium* (Spring 1977): 135-162.

⁵See Michael R. Rogers, *Teaching Approaches in Music Theory: An Overview of Pedagogical Philosophies* (Southern Illinois University Press, 1984); and John D. White, *Guidelines for College Teaching of Music Theory* (Scarecrow Press, 1981). For older books, see also Karl Eschman, *Teaching Music Theory* (Schirmer, 1965) and especially Howard Murphy, *Teaching Musicianship* (Coleman-Ross, 1950).

In Memoriam

RICHARD PIERRE ("PETE") DELONE (JUNE 19, 1928—MARCH 17, 1984)

ALLEN WINOLD

The opportunity to write about Pete DeLone as a teacher in this inaugural issue of the *Journal of Music Theory Pedagogy* is a welcome challenge. It is welcome because Pete was always a strong advocate for such a publication and he would have rejoiced at its inception. It is a challenge because his legacy as a teacher was not a rigidly structured system of pedagogy, but rather a set of principles and attitudes that are not easy to elucidate in an objective manner.

In *Music: Patterns and Style* (Addison-Wesley, 1971), in many ways his most characteristic book, Pete DeLone stated one of the guiding principles for his teaching: "a sympathetic understanding of music (on any level) must come from active involvement with music, rather than passive acceptance of it" (p. viii). For students in his classes, active involvement meant performing great music rather than merely listening to it, writing meaningful musical passages rather than slavishly following a set of rules, and exploring their own ideas about music rather than docilely accepting theoretical dogmas.

For Pete himself, active involvement meant rigorous preparation of classes and organization of the work of his teaching assistants, intensive exploration of his own research interests in fields as diverse as the ballades of Machaut and the piano works of Debussy, and dedicated supervision of the research efforts of his own students in their theses and dissertations. Beyond this, active involvement in music meant that throughout his life Pete continued to compose an astounding number of beautiful works for all genres and to be active as a jazz pianist. His compositions not only deserve performance, but also the kind of careful study that he lavished on the works of others.

One of the most important, and at the same time surprising, principles of his teaching career at Indiana University was the importance of preparation. His classes always seemed fresh and spontaneous—as if they were being improvised on the spot—but Pete

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never "winged" a class. Even if he were presenting major scales to a beginning freshman class for the hundredth time, he would still have a carefully prepared set of notes. He never pontificated on the importance of preparation; he simply did it, and in so doing he constantly found fresh examples and worked new insights into the presentation of even the most commonplace of topics.

Another important principle of his teaching was emphasis on the totality of musical experience. This manifested itself in his preference for treating a complete musical work rather than a brief excerpt, and in his interest in considering the musical work in terms of the socio-cultural context in which it appeared and in comparison to other works from the same period, genre, or form. He would even delight in exploring the common ground between a Brahms symphony and a pop tune, or between texture in music and texture in painting, and the broad range of his own knowledge and interests always made such explorations vivid and valid.

The emphasis on the total *Gestalt* of a work did not mean that he neglected the kind of work on small details so necessary in helping students achieve mastery of aural and written materials. Pete loved to work on the "nitty-gritty" whether it was in writing counterpoint, sightsinging a complex rhythm, or learning to hear difficult intervals and chords. In working on these materials, however, he preferred to create special exercises, rather than to cannibalize a musical masterwork. His compositional skills allowed him to invent exercises rapidly and effectively, and he could keep the interest level high even when students were dealing with routine drills.

Pete had a marvelous sense of pacing in the individual class and in the work of an entire semester. His pace was usually quite rapid, but he always knew when to slow down or change the subject. He never talked down to a class, but rather addressed it on the highest possible level. However, students who could not keep up with the material in class always knew they could go to him outside of class for special help.

He was able to maintain an effective balance between tradition and innovation. He insisted on a thorough mastery of common-practice harmonic, melodic, and contrapuntal aspects in writing, analysis, and performance. At the same time, he was eager to introduce students to the delights of earlier music and twentieth-century music. A master of the traditional instructional formats from the large lecture to the small seminar, he was at the same time eager to explore pedagogical innovations. He was in the forefront of those calling for an integration of the separate areas of music theory, and was among the first to make effective use of taped materials in a systematic way. He supported explorations of the use of computers in music instruction, always

PETE DELONE

insisting, however, that this not be done at the expense of musical or human values.

Pete's sense of humor was legendary, but what students and even his assistants did not always realize was how effectively and subtly he would use humor for pedagogical purpose. Years after being in one of his classes students would remember a humorous remark, but what was more important, they would remember the theoretical principle associated with the remark. Yet for all the humorous moments, Pete was not shy about making his students confront serious issues of art and life.

Some of the general principles that guided his analytical work were derived from Paul Hindemith, in particular the importance of the step progression in creating melodic unity, and the two-voice framework in creating contrapuntal cohesiveness. This influence was natural because he studied composition and advanced theory with Bernhard Heiden, himself a student of Hindemith. His outlook on harmony was conditioned somewhat by his experience as a jazz musician, but his harmonic palette as a composer and his harmonic understanding as an analyst were broad and sensitive.

One principle that he mentioned frequently in textbooks and in his lectures was the importance of *inner* hearing in writing, analysis, ear training, and sightsinging. Students were admonished to try to hear how their writing sounded, rather than merely checking it for picky part-writing errors. They were encouraged to hear a passage in their inner ear and describe it meaningfully, rather than mechanically affixing a set of labels to it. They were instructed to have a clear mental recording of a passage before trying to write it down, and they were reminded of the absolute necessity of hearing a passage in their inner ear before attempting to sing it.

He was remarkably flexible and undogmatic about such matters as particular techniques for sightsinging and dictation. His own rigorous training in fixed "do" (European) solfege with René Longy made him sympathetic to the time-honored value of this system. However, he was just as comfortable working with moveable-"do" solfege or numbers, and indeed he generally recommended that students sing on neutral or "scat" syllables. It was the final musical result that counted more than the particular technique used in arriving at this result.

He was equally flexible and open-minded when it came to the research interests of his students. The diversity of topics covered by students who wrote dissertations, theses, and papers under his guidance was incredible. The common traits they shared were the qualities that distinguished his own research and writing: enthusiasm for the subject, elegance in expression, and avoidance of obfuscation.

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We could continue to examine the principles and techniques of Pete's teaching and still not come close to understanding the unbelievable impact he had on his students. To fully understand this we must consider, instead, his qualities as a human being, and of these none was more significant than the caring attitude he had for each student. He had the rare ability of making each student believe he was special. In classes of 10 or 200 he always got to know the students as individuals, and made each student aware of his concern for their personal growth as well as their musical development.

Buoyed by the strength he drew from his family, his religion, and his own inner resources, Pete was an indomitable optimist who managed to imbue his students with this same positive attitude. Students wrote more effectively, sight sang more accurately, and analyzed music with more insight when they were working under his influence. And this influence did not end in the classroom. In a remarkable volume of letters written to Pete's wife, Joanne, after his death, countless students reported how his influence on their lives continued long after their formal teacher-student relationship ended and touched aspects of their lives far beyond the narrow boundaries of subject matter.

It would be relatively easy to follow some of Pete DeLone's teaching techniques. They are lucidly set forth in textbooks such as *Materials and Structure of Music* (1966); *Introduction to Ear Training* (1967); *Music: Patterns and Style* (1971); *Music Reading: An Ensemble Approach* (1971); *Aspects of Twentieth-Century Music* (1975); *The Comprehensive Study of Music* (1976); and *Literature and Materials for Sight Singing* (1981). It would also be possible to put into practice some of his principles—indeed many theory teachers do emphasize such things as active involvement; conscientious preparation; balance between tradition and innovation; flexibility and discipline; and the other ideas that guided his teaching.

It is, however, in the area of human relations that he left his greatest legacy and challenge. Each time we are tempted to put off a student's request for help we can remember his ability to find time in the midst of even the busiest day to sit down with an individual student. Each time we are tempted to dismiss a student as untalented or unmotivated we can remember his faith in the ability of every student to reach what might seem at first like unattainable goals. In short, each time we are tempted to think that we are college professors teaching music theory we can remember that we are, or at least should be, concerned human beings helping other human beings to realize their fullest potential. This was the lesson that Pete DeLone never forgot.

UNIVERSITY OF WISCONSIN ANALYSIS COMPETITION

The following three articles are the prize-winning papers from the University of Wisconsin/Madison Analysis Competition conducted in 1985 and adjudicated by an independent panel of nationally respected theory specialists. Contestants were instructed to submit a teaching analysis of a tonal composition suitable for classroom presentation at the level of *sophomore* theory. [It is assumed that readers will consult a complete score of each composition under discussion.]

Grateful acknowledgement is extended to Dr. Bruce Benward, Director of the Competition, for his permission to publish these papers in this journal.

First Prize

CONNECTIONS IN MODULATION

JOSEPH P. SWAIN

The traditional theory of modulation is founded on the pivot chord. To change from one key to another, a chord that belongs in the harmony of both keys is used to make a connection between them. Because this pivot chord can be interpreted in both keys, it smooths the transition from the first key to the second.

Despite the elegance of this theory, the pivot chord, taken by itself, does not seem enough to explain modulations and their wonderful effects. Modulations are among the most important harmonic events a tonal piece will contain, and are also among the largest. One may last many measures, and the music might require as long as a full minute to establish the second key firmly. How can we point to a single chord as the explanation of such modulations?

We could expand the idea of the pivot chord and think of pivot progressions or simply transitional passages, which are longer harmonic phrases, or even groups of phrases, that can be interpreted in both keys. This still seems insufficient, however, because modulations in Mozart, Beethoven, and Schubert are among the most striking moments of their music—and not despite the change of key but because of it. Explaining these effects by pointing out chords or progressions that are harmonically ambiguous is not enough, because harmonic ambiguity is easy to achieve, and there is no reason to consider it intrinsically beautiful.

On the other hand, the pivot-chord technique contains the very important notion of a connection between the keys involved in the modulation. One of the most basic intuitions we have about music is that it is a continuous process. When there is a change of key in a piece, composers have generally tried to maintain this sense of continuity, even though an important change in the music is occurring, so that the music doesn't have the sense of starting over whenever the key changes. This is why the idea of a pivot chord is attractive; since it can be interpreted in both keys at once, it explains how the tonal center of the

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music can change without causing any gross interruption in the continuity.

This idea of connection doesn't have to be limited to the pivot chord, nor to ambiguous passages. In the best modulations, other aspects of the music associated with the change of key can be used by the composer to create an intricate set of connections between the first key and the second. These connections are what must be studied to appreciate modulations in depth. Such modulations need not be complex or chromatic; they can be quite straightforward. As an example, take the second movement of Beethoven's Piano Sonata, Op. 14, no. 1. It is short, simple in form (A B A), and relatively easy to play. Yet, the modulations have an abundance of connections that help to make them the most memorable moments of the piece.

Beethoven begins this movement with the most conventional of phrase structures, the antecedent-consequent phrase. The first phrase of eight measures (the antecedent) presents a melodic idea with the underlying harmony moving from I to V by the end. The consequent phrase (mm. 9-16) begins in just the same way, moved up one octave, except that it ends with an authentic cadence (V-I). By this time, the tonic key of E minor is firmly established in the listener's ear (see Figure 1).

There is nothing extraordinary about the chords or harmonic functions in these phrases. All the chords, even the chromatic ones, act as we would expect. When the melody is considered in conjunction with the harmony, however, there are several observations to be made. First, Beethoven defines his principal motive right away by repeating it in the second measure. Moreover, while the motive remains exactly the same, the chord beneath it changes from E minor (i) to C major (VI), so that the motive is reinterpreted in a different harmony.

Second, the first important melodic motion, the leap from E up to G, is emphasized by Beethoven in several ways. The most obvious one is that he writes a *sforzando* dynamic marking at that place. He also introduces the first dissonant chromatic harmony of the movement, and this is quite striking after the easy triads of the opening measures. Both of these procedures underline the G in the top voice, and since this note continues as a suspension into the next measure (reinforced one octave below), it gains further weight. Evidently, Beethoven wants this motion from E to G to be noticed.

These characteristics are repeated in the consequent phrase, which ends with a strong cadence in E minor. Then there is a surprise (see Figure 2). Clearly there has been a modulation to C major. But this modulation, although perfectly clear to the ear, is puzzling for the

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analyst. Where is the transition chord, the pivot? And why go to C major from E minor, rather than to the more closely related and more conventional G major?

Figure 1. (mm. 1-16)

Figure 1 shows a musical score for measures 1-16, marked *Allegretto*. The score is in E minor (one sharp, F#). The harmonic analysis below the staff indicates the following progression:

- Measure 1: $e: i$
- Measure 2: VI
- Measure 3: V_9/V
- Measure 4: $V_6^0/3$
- Measure 5: i^6
- Measure 6: V_4^6
- Measure 7: i
- Measure 8: V^6
- Measure 9: i
- Measure 10: V
- Measure 11: i
- Measure 12: VI
- Measure 13: $(etc.)$
- Measure 14: i^6_4
- Measure 15: V
- Measure 16: i

Figure 2. (mm. 17-24)

Figure 2 shows a musical score for measures 17-24, in C major (no sharps or flats). The harmonic analysis below the staff indicates the following progression:

- Measure 17: $C: I$
- Measure 18: V
- Measure 19: ii
- Measure 20: V^6
- Measure 21: I
- Measure 22: V
- Measure 23: V/V
- Measure 24: V

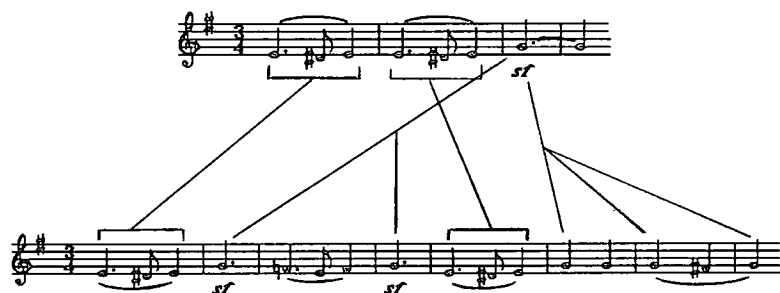
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As for a pivot, it is not too difficult to find one. The E-minor chord of measure 16 could be interpreted as *i* in E and *iii* in C; or, the C-major chord of measure 17 could be chosen as *VI* in E and *I* in C. While these possibilities seem reasonable on the page, however, neither makes much sense to the ear. It is very difficult to hear the first chord in C major at all, since it is a cadential chord, and it is the cadence, perhaps more than any other gesture in music, that defines the sense of key for listeners. Now this cadence is followed by two beats of rest, and this length of silence makes the next chord sound like something separate from the previous phrase. The mind is ready to interpret this chord in a new key, and so it is difficult to hear it as *VI* in E minor, although a dual interpretation is possible—much more so than for the other pivot.

The absence of an audible pivot chord is what makes this change of key so sudden and surprising. Yet, it doesn't sound wrong; on the contrary, it is a most effective gesture. Where are the connections? Why does this modulation surprise us in one way, and yet sound perfectly placed and prepared in another?

Beethoven has certainly provided musical connections of superb imagination, but to find them we must look beyond pivot chords to the material of the music itself. If you listen to the melody that is harmonized in C major, you should notice that Beethoven continues to use his principal motive, the same one that began the movement and is so closely associated with the key of E minor. Yet the connection is much stronger than that. All of the important melodic ideas of the beginning have been reworked in the key of C major. You can see from Figure 3 how close the correspondence is between the two melodies. Not only is the principal motive used as the foundation of both, we also have the important leap from E to G, emphasized by a *sforzando* in both cases.

Figure 3. Comparison of mm. 1-4 with 17-24



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It is essential to realize that Beethoven has not simply transposed his original melody into the key of C; anyone can do that. What he has done is to reinterpret the melody in a new key, while retaining important original pitches and significant aspects of melodic shape, even though the tonal center has changed. This reinterpretation has accounted even for small details. The D-sharp contained in the principal motive is heard as a diatonic neighbor note in the original key of E minor, and then as a chromatic neighbor note in the new key. Both interpretations work equally well.

This reinterpretation is the main connection between the keys of E minor and C major. This is why the modulation at measure 17 sounds surprising and abrupt, but so appropriate at the same time. Incidentally, this particular connection between keys has little to do with harmonic ambiguity. There is no sense, while we are hearing these melodies, each in its own key, that the key is undefined or unstable. Beethoven uses strong tonal chords, and there is never any doubt about what the tonic note is. Yet, as clearly as we hear the melody in E minor at the beginning, so do we hear it in C major in measure 17.

A detail of this melodic connection reveals why Beethoven chose C major as his contrasting key for this section of the movement, rather than the relative major. In the first two measures of the movement, the principal motive is played twice, as we observed, but the second time it is reinterpreted with a different harmony. The first chord is E minor and the second C major. In a sense, Beethoven has already shown us here how the modulation will work; the role of the principal motive as a connection between the keys of E minor and C major has been foreshadowed at the outset.

Notice that this melodic connection is not so pervasive as to destroy any distinction between the keys, as often occurs in Romantic music. The passage in C is not heard as a subsidiary progression or prolongation of E minor, but rather as an important tonal center in its own right. Beethoven is careful to include the chord of d minor (ii in C) early in his progression (m. 19). This is one chord in C that has little to do with the key of E minor, since it contains F-natural and D-natural, both unlikely tones in the context of E; and when we hear this chord, we are sure that the key has really changed. This is perhaps why the arrival of that chord is a particularly poignant moment.

Beethoven's use of a secondary dominant in measure 23 strengthens the following dominant harmony and with it our sense of the key of C. There is one thing left to do for the key of C major to have commensurate status with the home key of E minor: articulate it with a firm cadence, as was done with the first key. As Figure 4 shows,

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however, this does not happen. Although this phrase begins as if answering the previous phrase, the Italian-sixth chord in measure 30 returns the music to E minor with a half cadence in that key. This modulation is quite smooth and the use of a pivot-chord analysis in measure 29 would be quite appropriate, since that C chord, now in the middle of a phrase, can be heard as a submediant to the B-major dominant as well as its own tonic. However, Beethoven loses no opportunity to make the connection stronger than a simple harmonic pivot. The principal motive, harmonized with a C-major chord, is once again the bridge between the two keys—now reversed. Just as that motivic-harmonic combination functioned as the connection from E minor to C major, so now does it provide an effortless transition back from C to E minor.

Figure 4. (mm. 24-40)

The musical score for Figure 4, measures 24-40, is presented in three systems. The first system (measures 24-29) shows a progression of chords: C: (measure 24), I (measure 25), V (measure 26), ii (measure 27), V6 (measure 28), and e: VI (measure 29). The second system (measures 30-35) begins with It6 (measure 30) and continues with V (measure 31). The third system (measures 36-40) continues the harmonic progression. Dynamic markings include *sf* (sforzando) in measures 26, 28, and 34, and *p* (piano) in measures 29, 31, and 35. The score is in 3/4 time and E minor.

The Italian-sixth chord, too, is chosen for stronger reasons than harmonic convenience. Because it has a C in the bass, the connection between the two keys is continued, but the presence of A-sharp in the

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middle voice removes any doubt that the music is returning to E minor. Not once does A-sharp appear in the C-major passage (mm. 17-29), but it is quite prominent in the E-minor music, since it was the root of that important diminished-seventh chord introduced in measure three.

Having made an explicit contrast of keys that is so important to the classical style, Beethoven's purpose now is to bring the first section to a close in the home tonic. As we can easily hear, the next phrase after the half cadence is the antecedent phrase used in the beginning. We would expect the consequent phrase next, perhaps, but Beethoven is always sensitive to the proportions of his harmonic statements. The consequent phrase that he used before was satisfactory in establishing the key of E minor for the first time, but it won't be strong enough to end the first big section. Its conclusive properties need to be strengthened.

If that is the case, the next phrase seems to begin rather oddly. The principal motive is there, but the texture is thinned, with both hands in octaves, so that there is no longer a full E-minor triad (see Figure 5). The following C chord is also incompletely spelled. The next chord (m. 43) is a complete surprise, an incomplete minor seventh which highlights a high C, and whose D-natural and F-natural recall that special D-minor chord of measure 19. Is this another modulation to C?

Figure 5. (mm. 40-51)

The musical score for Figure 5 consists of two systems of music, measures 40-51. The key signature is one sharp (F#) and the time signature is 3/4. The first system (measures 40-45) shows a melody in the right hand and octaves in the left hand. The harmonic labels below the staff are: e: i, VI, ?, V⁶_{4/3} /iv, iv, and (etc.). The second system (measures 46-51) continues the melody and octaves. The harmonic labels below the staff are: iv, i⁶₄, V, and i. Dynamics include 'cresc.' and 'sf'.

This is a good example of the harmonic meaning of a passage becoming clear only after it has gone by, clarified by subsequent events. Here, the high C, while perhaps recalling the previous modulation,

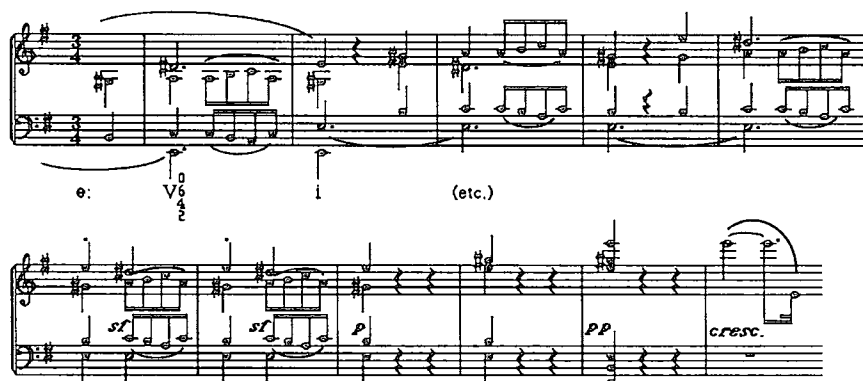
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acts like a suspension in the next measure, and the mysterious seventh is revealed as a diminished seventh moving to an A-minor resolution (m. 45). This progression is repeated twice, and then it moves on to a very emphatic authentic cadence in E minor (mm. 48-51).

Now we can see what has happened. Beethoven has indeed strengthened the conclusive aspects by lengthening the phrase, and prolonging, or stretching out, its important chords, namely iv (A minor), V (B major), and i (E minor). The prolongation of iv is like a minuscule modulation to A minor; that is why the diminished-seventh G-sharp-B-D-F is introduced, acting as a temporary dominant. That is also why the texture is thinned at the beginning of the phrase. Beethoven undermines the E-minor beginning in order to prolong the A-minor chord. In particular he removes all the Gs, which of course discourage any perception of A. The mysterious minor seventh in measure 43 does in fact recall measure 19, but also functions as iv in A minor.

Beethoven makes the conclusion even stronger by prolonging the final tonic chord. Notice in Figure 6 that the bass note never moves from the note E. Meanwhile, within this long bass tonic pedal, there are little cadences made by the inner voices. Notice that these do not employ the progression V-I, but instead use a diminished seventh, perhaps because that chord contains a C-natural, another reminder of the important structural relationship the pitches E and C have for this movement.

Figure 6. (mm. 51-62)



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Now that the first part of this ternary movement has concluded firmly in E, it should be no surprise that Beethoven chooses the key of C major for the middle section. Finally, this alternative tonal center to E has achieved the structural status that was so carefully prepared, but unrealized, in the first section. In retrospect, we can see how Beethoven gradually increased the importance of this pitch. At first, it was simply an alternative chord (m. 2); then, a contrasting key, but one without a firm cadence (mm. 17-29); and finally, a tonality governing a section in its own right. In this way, the cumulative contrasts between the two keys do not seem forced, but grow out of the music itself.

Figure 7. (mm. 63-100)

Maggiore

C: I V⁶₅ I V ? I V⁶₅ I

I V VI V⁶ IV⁶ V⁶/vi vi ii⁶
G: ii vii⁰⁶ I

V⁷ I

p cresc. *decresc.*

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Figure 7. con't.

C: I V⁶ I

I vi⁶
e: iv⁶ i⁶ V

The transition consists of a single E, sustained (m. 62), and then the C chord is filled out beneath it to begin the section. We accept this without question as a real change of key, because we have heard the likes of it several times before. Now that Beethoven is composing a section in C major, he will want to make connections in reverse, reminding the listener of the key of E while in the context of C. We can hear several such reminders within the first repeated strain (see Figure 7).

First, the comparison of the first phrase of the new melody with that of the original shows a similar shape. Both begin on E, rise to an emphasized G, then fall back to E again (see Figure 8). If this new melody is heard, even subconsciously, as a reinterpretation of the original, the original key will be recalled, by association, with the melody.

Second, we should notice that the new melody is somewhat chromatic, containing several chromatic passing tones in measures 66 and 70. However, if we consider the keys of E minor and C major, there are two important notes that differentiate the former from the latter: F-sharp, which is the second degree of E minor and which is included in the key signature, and D-sharp, the leading tone. These are precisely the chromatic pitches that Beethoven introduces into his C-major melody. In one way they are heard as simple passing tones, but in another they are heard as another connection with the alternative key.

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Finally, the passage modulates to G major, a conventional goal for a section composed in C major, to be sure, but also one that reminds us of the important role of the pitch G, especially at the beginning of the piece. The modulation to G is quite straight-forward, but it is interesting to note that Beethoven uses a single secondary-dominant relationship in his transition passage (m. 74), the V of vi, another tiny reminder of E.

Figure 8. Comparison of mm. 1-4 with 63-71



Figure 9. (mm. 101-116)



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The middle section concludes with a transitional passage that prepares the return of the opening section. As we would expect, the transition is based upon the E-C relationship. The passing tone D-sharp is reiterated in the high register (m. 96); and the following E is harmonized by a C chord. This acts as a pivot chord and moves easily to V of E minor. This passage is heard again when the piece reaches the coda (see Figure 9). Here Beethoven wants to make a stark contrast between the two keys in a short span of time, in effect, summarizing the relationship that has been the foundation of the movement.

In this short, apparently simple, movement, Beethoven has shown that modulations are rather more complex events than single points of harmonic ambiguity. They can be implied and prepared by foregoing events in the music and recalled by subsequent ones. They can have connections with musical aspects that are not essentially harmonic, such as principal motives and themes, or rhythmic gestures. In the best music these various and intricate connections are superbly co-ordinated in moments of great beauty. In this way modulations, as large and important events in tonal pieces, can be appreciated as something more than mechanical manipulations of chords; they are, in fact, structural events of the highest art and imagination.

Second Prize

UNITY AND CONTRAST IN MOZART

LISA HANFORD

Movements in sonata form provide an interesting dilemma for analysis. On the one hand, we are fascinated by the tension created by the opposing tonal and thematic areas. The exposition generally consists of two contrasting tonal areas, one in the tonic key (the first-theme area), and the second in a new key (the second-theme area). The modulation away from the tonic key area and the arrival of the new key is a dramatic event that a composer often highlights with a new, and contrasting, theme. Thus, by giving the new key area a theme of its own, a composer actually intensifies the tonal tension and in this way divides the exposition into two very distinct units.

On the other hand, we feel that great works of art are unified, despite these apparent contrasts. David Epstein, writing in *Beyond Orpheus*, remarks:

How do we explain the musical as well as psychological feeling of unity sensed in the great works of Mozart, Haydn, Brahms, and Beethoven? Given for example, a sonata-form movement from the piano sonatas of Mozart, why can we not substitute in it themes from other of these sonatas, assuming congruence of tempo, key and meter ... ?¹

One might suggest that movements in sonata form are inherently unified because of the process of recapitulation, by which all of the material of the exposition, including and especially the second-theme area, appears in the tonic key in order to resolve the piece. But this unity only applies to the tonal contrast, for the recapitulation in the tonic presumably relieves only the tonal tension of the exposition (and development). What about the tension created by the two different themes? There is no thematic reconciliation in the recapitulation. Most music theorists agree with David Epstein that recapitulation is

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not necessary to unify thematic material, but that there are inherent similarities between the two themes which combine in a masterwork. In fact, the theorist Rudolph R  ti investigates this issue in his *The Thematic Process in Music*, and advocates the popular view when he writes:

... the different themes of one movement—in fact all its groups and parts—are in the last analysis also but variations of one identical thought . . . they (the first and second themes) are contrasting on the surface but identical in substance. In fact, it is this being 'different on the surface but alike in kernel' in which is centered the inner process of musical structure of the last centuries.²

Thus, herein lies the dilemma. For although we applaud the contrasts that make sonata form so exciting, we are not satisfied that that is all there is to it. While we accept that the form succeeds because of the tonal and thematic contrasts, we also believe that individual masterpieces succeed because of inherent unity. For this reason our analysis of movements in sonata form should include finding the unifying force that is hidden in contrasting material. And, it is precisely because of these clear-cut contrasts that the unity in beautiful pieces is especially noteworthy.

The first movement of Mozart's Piano Sonata in C Major, K. 545, is such a piece. This analysis will demonstrate that Mozart uses a very common compositional technique, the neighbor-note figure, to unify seemingly diverse textures in this sonata-form movement, and will uncover the various and often surprising ways in which Mozart weaves the figure into the fabric of this masterwork.

The analysis begins with the first theme, which, despite its four-measure length, includes the neighbor-note figure on many levels of structure. Mozart articulates the midpoint in measure 2 with the first example of the neighbor-note figure. In this case the figure comprises both the lower and upper neighbor notes of the tonic pitch. Figure 1 demonstrates this relationship and also the nomenclature I have adopted throughout. I will mark the neighbor notes as eighth notes in order to distinguish them from the pitches they embellish; the values have no rhythmic significance. Mozart uses the neighbor-note figure once again to conclude the phrase in measure 4, where 4 turns around 3.

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Figure 1.



Thus Mozart articulates the formal structure of the melodic line by means of the neighbor-note figure around 1 and 3; meanwhile he embellishes the third member of the tonic triad, 5, with its own neighbor figure, in a striking way. We see in Figure 2 that the first two measures of the theme consist of two fundamental figures, namely an arpeggiation of the tonic triad (a) and also the neighbor-note figure mentioned earlier (b). Because the source and the goal of all these motions is the tonic pitch, our attention is focused there, while 5, the climax of the triadic figure, stands alone on top of the texture. However, as soon as the consequent portion of the theme enters in measure 3, Mozart introduces the upper neighbor note to 5, and thereby re-opens the higher register by means of the familiar neighbor-note figure (see Figure 3). And then, as if to reinforce the long-range neighbor-note connection (for these pitches are not adjacent ones), Mozart bends the melodic line back to 5 before the descent to 3.

Figure 2.



Figure 3.



Thus we have seen how Mozart embellishes each member of the tonic triad with its own neighbor-note figure, and does so in a way that

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emphasizes important structural moments; he embellishes not only the breathing points of the phrase by means of the neighbor note, he also uses a neighbor-note figure to establish and embellish a climax and to bridge the two sections of the theme.

But this is not all, for when we turn our attention to the left-hand part that accompanies the melodic line, we find striking instances of the neighbor-note figure here as well. In order to understand the subtle way in which Mozart weaves the neighbor-note figure into the texture here, we can refer to the theoretical concept *compound melody*, which seeks to explain arpeggiated textures in which the individual tones in the chord progressions express certain melodic tendencies by connecting with the other chord tones to form horizontal lines. As Forte, among others, says, "If the individual melodic strands of an arpeggiation are developed in such a way that each has its own continuity and rhythmic activity the result is compound melody."³

Such is the case here; each of the arpeggiation figures consists of three different notes that we can connect, on the basis of registral and temporal placement, to form three horizontal lines. In Figure 4, I represent each arpeggio as a simultaneity, so that the three individual melodic strands become clear. Harmonic analysis of these chords reveals that Mozart chooses a very straightforward progression beneath the melody, but not a straightforward voicing. Instead of using simple root progressions, Mozart instead chooses certain inversions of V and of IV, so that each of the three voices above is built on the neighbor-note figure. The top voice doubles the highest melodic voice (see Figure 5) with the same 5-6-5 neighbor-note figure (a), the middle voice consists of a double neighbor-note motion around 3 (b), and the lowest voice, the bass line, expresses another neighbor-note motion around 1 (c). Thus, by choosing to use V4/3, IV6/4, and V6, Mozart succeeds in saturating the first theme with the neighbor-note figure.

Figure 4.



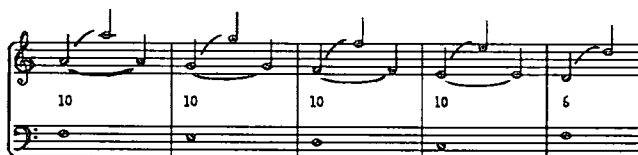
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Figure 5.



The transition section, which begins in measure 5, features a sequential pattern in which the right hand simply elaborates a descending stepwise line that travels from the climactic 6 (the neighbor note to 5) to 2 (the neighbor note to 1) in measure 9; the bass line articulates the melodic line in thirds beneath (see Figure 6). Once the melodic line reaches 2, however, Mozart discontinues the pattern. In measure 10, 6 returns in the melodic line, again supported by its tenth below, but this time that bass note, 4, takes on a special significance. Mozart at first transfers the F up into the melodic line by way of a voice exchange, as shown in Figure 7. The melodic line then continues back down to 2, and meanwhile 4 returns to the bass—this time, however, as sharp 4. With this F-sharp Mozart merely hints at the impending modulation; in fact the ambiguous nature of this modulation will prove to be especially interesting later on. But for now, let us focus on the neighbor-note figure that this F-sharp provides, for we see, by looking ahead to measure 11, that the entire bass line in measure 10 serves as a double neighbor note to G. The F-sharp merely intensifies the motion.

Figure 6.



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Figure 7.



More interesting still is the way that Mozart treats the cadential progression in measure 11. The measure can be divided in half, producing two identical figures, with one important difference: the first note of each figure is not the same. While a lesser composer might have repeated the first four notes in the second half of the measure, Mozart uses this opportunity to introduce the double neighbor-note figure in a very subtle way. This is not an arbitrary change of pattern for, because the two different notes are B and D (7 and 2), they circle around 1 exactly as they did in measure 2. Thus Mozart uses the same double neighbor-note figure to articulate both the first breathing place in the piece, and also the first large formal division between the first- and second-theme areas.

Mozart introduces the neighbor-note figure immediately in the second-theme area, using a C-sharp to intensify the new 5 in the dominant. However, then Mozart quickly introduces C-natural which pushes the bass line away from 5 to 3 in measure 14. At this point the second theme enters with striking correspondences with the first; the second theme also opens with arpeggiation of its tonic triad, and it also cadences with neighbor-note motion, this time around its 7.

The left-hand part of the second theme is even more interesting as it, too, is built upon the neighbor-note motive. Like the left hand in the first theme, this left-hand figure includes multiple melodic lines; in this case, too, 5 sits on top of the texture, while neighbor-note motion goes on below. In measure 15 we find a beautiful double neighbor-note motion which circles around 3 (see Figure 8).

Figure 8.



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Mozart follows this second theme with a variation of the transition section examined earlier. Here Mozart maintains the descending outer-voice parallel tenths, but this time he constructs the sequence so that lower neighbor notes embellish the tenths. In Figure 9a we see the figure as it appears literally in the score; Figure 9b shows the neighbor-note motion more clearly once the first tone in each measure is brought down an octave.

Figure 9.



In this way, the parallel tenths bring the melodic line from F-sharp, where the second theme leaves off, to A, where the closing theme begins in measure 22 (see Figure 10). We should not be surprised that the neighbor-note figure also structures this closing material, and in fact, this closing theme is very similar to both the first and second themes. As we have seen, A, the original climactic neighbor note in the first theme, and 2 in V, becomes the basis for this new theme which, like the two previous themes, features both arpeggiation and neighbor-note figures. Each note of the rising arpeggiation is embellished by its own lower neighbor note; we know that these are not passing tones because the D is inflected to become D-sharp. Thus, instead of (a), we find (b) (see Figure 11). Mozart emphasizes the high A, the goal of the triadic motion, with a double neighbor-note figure, which extends through half the measure. This A, along with its double neighbor-note elaboration, returns in measure 25 and falls to G (1) in measure 26. While we can agree that this is simply a straightforward cadential motion from 2 to 1, it is possible that Mozart uses these precise pitches

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in this register to refer back to the climactic neighbor-note motion that highlights the first theme. At any rate, Mozart then repeats the double neighbor-note figure, now embellishing 1, to end the exposition in measures 26-27, and 27-28 (see Figure 12). He also doubles the A-G figure below in the left-hand chords.

Figure 10.



Figure 11.



Figure 12.



One more detail of this closing section merits attention. Mozart arpeggiates the tones of the V6/4-5/3 progression in the left hand and recalls the compound melody of the opening measures along with its neighbor-note relationships. There are three voices here as well, as we see in Figure 13. Although these voice-leading connections are standard ones, they are not the only common ones possible. It is perhaps even more common for the seventh of V to result from passing, rather than neighbor-note motion, as pictured in Figure 14. Thus once again Mozart chooses to use neighbor-note relationships to structure each aspect of the texture.

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Figure 13.



Figure 14.



The development section begins with material from the very close of the exposition, first in G minor, and then in D minor. In measure 37, Mozart introduces a new sequential figure that leads into the recapitulation; and as we would expect by now, this passage is similar to the two sequential passages from the exposition in striking ways. Like both of the previous sequential passages, this developmental passage features descending outer voice tenths; like the sequence from the second-theme area, this one also features neighbor-note embellishment of these parallel tenths. As we see in 15a, these neighbor-note embellishments are partially disguised by registral placement, just as before. Figure 15b shows the relationships more clearly.

Figure 15.



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Thus far we have seen how neighbor-note figures play a key role in the structure of both themes and sequential passages; a most interesting use of the neighbor-note relationships occurs in the recapitulation, where some unusual events are found.

When the first theme returns in measure 42, it does so in the subdominant key instead of in the tonic, where we expect it to be. Why would a composer begin the recapitulation in the subdominant? Actually, there is a practical reason for beginning in IV; a composer does not need to recompose any of the exposition in order to end in the tonic key, but can merely transpose the entire section up a fourth. That is, by beginning in IV, and modulating to I for the second-theme area, a composer can duplicate the progression from I to V from the exposition: I-V (Exposition) = IV - I (Recapitulation). When this happens, the recapitulation is more like the exposition in another crucial way; by beginning in IV a modulation is required to bring the piece back to I. This modulation is a crucial dramatic aspect of the exposition that is normally lacking in the recapitulation.

And yet, Mozart does not choose this convenient option. Instead he reintroduces measures 9-12 *literally* (not transposed!) in measures 54-57. Thus the end of the transition section in the recapitulation, because it is exactly the same as that in the exposition, points the piece into V instead of back to I.

Well, maybe it does and maybe it doesn't. We did not discuss the harmonic effect of this transition section in the exposition because we were concentrating on other matters, so we should return to that issue now. On further examination we find that the transition section does not lead us emphatically into the dominant. The usual signpost, the secondary dominant chord, never appears as clearly as might be expected. The only hint of a modulation is the F-sharp in the bass in measure 10, which serves as the neighbor note to G. But when that F-sharp appears we are unsure whether it functions as a secondary dominant, or merely as a chromatically inflected neighbor note; nothing else serves to confirm its role until the second theme itself appears. (It does seem appropriate, in light of the importance that the neighbor-note figure plays in the entire movement, that a neighbor note alone signals the modulation.)

That the harmonic outcome of the transition is ambiguous presents Mozart with an interesting opportunity in the recapitulation. Here, Mozart uses the very same passage to lead us, not into V, but back into I, so that the F-sharp now functions as an inflected neighbor note to 5. Once in the tonic, the remainder of the recapitulation is a transposition of the closing of the exposition with a few minor, but interesting, exceptions.

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Comparison of the two closing themes (measures 22+ and measures 67+) reveals that Mozart simplifies the texture by omitting the opening arpeggiation in the recapitulated version, and instead concentrates solely on 2 and its chromatic lower neighbor note. He then highlights 6 with its own chromatic neighbor note in measure 68. These tones, 2 and 6, which are the subject of neighbor-note elaboration here, are themselves important neighbor notes to 1 and 5 on a larger scale. Meanwhile, Mozart also changes the harmonization beneath 6, and chooses a diminished-seventh chord built on F-sharp to replace the II chord of the expository version. In this way, Mozart recalls the important neighbor-note role played by F-sharp one final time.

Now we return to the question of Mozart's irregular recapitulation. While we can only guess at his intentions here, I think it is proper to investigate his decision in terms of the procedures he demonstrates throughout, which means that we might expect to find an answer in the neighbor-note relationships. By returning to IV instead of to I, Mozart allows us to hear the first-theme material in IV, and thereby to make a large-scale connection between the first theme in I and the first theme in IV. Thus, Mozart emphasizes IV in this way. But why? Remember that IV plays an important role on a local level in the first theme itself; in fact, it is the neighbor-note chord that Mozart chooses to harmonize the climactic neighbor-note 6. By saying that IV is a neighbor-note chord, we emphasize the role that it plays in the first theme, for we remember that it appears in the 6/4 position there in order that the neighbor-note connections with I are very clear (see Figure 16).

Figure 16.



When Mozart begins the recapitulation in IV he makes the connection between I and IV on a grand scale, and thus effects the neighbor-note motion at this level of structure. And, when Mozart sets the first theme in IV he emphasizes three very important neighbor-note pitches. The first half of the phrase ends on F, the local tonic, which is the neighbor note to E (3) on the larger scale. The theme itself ends on A and we remember the important neighbor-note role that this

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pitch plays throughout. One other pitch is emphasized in this special setting of the theme: namely D, which embellishes C in measure 44. In this way Mozart highlights the large-scale neighbor-note motion from D to C (2 to 1) as the climactic motion in the theme. Clearly, transposition of the first theme into the subdominant is the only transposition that provides these correspondences.

And so, the neighbor-note figure unifies contrasting material in the first movement of Mozart's Piano Sonata in C Major, K. 545. We have seen how the first theme makes use of the neighbor-note figure in many ways: as a means of articulating phrase structure, as a means of achieving and elaborating a climax, and even within the setting of the accompanimental material. The neighbor note is essential to the transition section, for it is that figure that effects the modulation from I to V. The second and closing themes, like the first theme, feature neighbor notes that articulate phrase structure, climaxes, and also accompanimental material. We have seen that the development section consists primarily of a sequential passage which, like that in the second-theme area, is built on lower neighbor-note elaboration of descending, parallel tenths. The recapitulation makes use of the neighbor-note relationships in both the details, as well as on a large formal scale. We have seen how Mozart makes only a few changes at the note-to-note level in the recapitulation, and that all of these intensify neighbor-note relationships. And finally, we have discussed how Mozart produces a large-scale neighbor-note relationship by beginning the recapitulation section in the subdominant, rather than in the expected tonic.

All of this is striking evidence for the unifying role that the neighbor-note figure plays here. By analyzing a movement in terms of its common denominator, as we have done, we can focus on aspects of unity in sonata-form composition. And in so doing, we may begin to understand the delicate balance of unity and contrast that characterizes masterworks in this form.

UNITY AND CONTRAST IN MOZART

NOTES

¹David Epstein, *Beyond Orpheus: Studies in Musical Structure* (Cambridge: MIT Press, 1980), p. 1.

²Rudolph Réti, *The Thematic Process in Music* (New York: The Macmillan Co., 1951), p. 4.

³Allen Forte, *Tonal Harmony in Concept and Practice* (New York: Holt, Rinehart and Winston, 1979), p. 207.

Third Prize

OVERALL STRUCTURE AND DESIGN IN A VARIATION FORM

ANNE MARIE de ZEEUW

The final movement of Beethoven's Sonata in A major for violin and piano, Op. 30, No. 1, consists of a theme with six variations. The variation format of the movement invites a three-pronged analytical approach. First, we shall examine the theme itself. What features define its formal, harmonic, and melodic structures? Is it a completely self-contained entity, or are there open elements left to be resolved in the subsequent variations? Second, we shall investigate the relationship of each variation to the parent theme. What musical elements remain constant, and which ones change? Finally, we shall consider the set of variations as a whole. How do the relationships among the variations, and the order in which the variations are arranged, contribute to the design, direction, and drama of the movement?

THEME

The formal design of the theme (Figure 1) is straightforward: a double period with repetitions of its first and second halves. The first phrase occupies measures 1-4, and its harmonic foundation is the progression I-V7-I; measures 5-8 comprise the second phrase, whose underlying harmonic structure is I-ii-V6/4-5/3.¹ In these measures the violin plays the melodic line. The next eight measures repeat the first eight; here, however, the piano takes over the melody and the violin assumes an accompanying role. The third phrase, measures 17-20, prolongs and tonicizes the dominant harmony (that is, locally it is in the dominant key of E, but in relation to the theme as a whole it represents the progression V7/V-V); and the fourth phrase, measures 21-24, returns from V to I. These two phrases are repeated in measures 25-32; once again, the first statement of the phrases presents the melody in

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the violin part, while the second statement transfers the melody to the piano.

Figure 1. Theme (mm. 1-32)

Allegretto con Variazioni

a b

p dolce

cresc.

A: I I 6 V⁷ I

sf sf sf

I I V⁶ I V⁶/II II V⁶ I II⁶ V⁶.....⁵₃

a¹ b¹

p *cresc.*

I (V⁷) I I

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Figure 1. con't.

c

Harmonic analysis for section c: I V⁶ I V⁶/II II V⁶ I II⁶ V⁶₄.....₃ E: V⁷

d

Harmonic analysis for section d: (1) V⁷ I = A: V V⁴₃ ⁶/₅

c¹

Harmonic analysis for section c1: I IV V⁶₄.....₃ I E: V⁷

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Figure 1. con't.

Let us now turn our attention to the melodic structure of the theme. As the graphic analysis of Figure 2 illustrates, the first phrase rapidly ascends, via an arpeggiated A-major triad, to the C-sharp of measure 2; the remaining measures of the phrase elaborate a stepwise descent from C-sharp to A. A similar arpeggiation opens the second phrase, but this time the ascent covers a full octave to the E of measure 6; the answering descent spans the fourth from E to B. (A neighboring F-sharp, its function symbolized as "N" on the graph, embellishes the E.) The third phrase recovers the high E by means of a stepwise ascent from B in measures 17-20, mirroring the descending line of measures 6-8; once again a neighboring F-sharp ornaments the E.

The events of these first three phrases point toward a quite specific conclusion in the fourth. The rising arpeggios of measures 1 and 5 are answered by falling scalewise lines in measures 2-4 and 6-8, respectively, leading us to expect a similar descending answer to the ascending line of measures 17-20. Furthermore, the second phrase

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initiates a descent from E to A but interrupts it on B with a half cadence; just as the half cadence implies an eventual tonic cadence to complete the harmonic action, so does the interrupted melodic descent imply its later continuation to A to complete the melodic action.

Figure 2. Graphic Analysis of Theme

The figure displays a musical score for a theme, analyzed graphically across three systems. Each system consists of a treble and bass staff. The notation includes notes, rests, and various musical symbols. Below the staves, harmonic analysis is provided using Roman numerals and figured bass notation. Graphic annotations, including dashed lines and boxes, highlight specific melodic and harmonic features.

System 1: The first system shows a melodic line starting with a half cadence on B. The harmonic analysis below includes $A: I$, V^7 , and I . The graphic analysis includes a dashed line indicating a melodic descent from E to A, interrupted on B.

System 2: The second system continues the melodic line. The harmonic analysis includes $A: I$, I , ii^6 , $V^6_4-^5_3$, and V^7/V . The graphic analysis includes a dashed line indicating a melodic descent from E to A, interrupted on B.

System 3: The third system concludes the theme. The harmonic analysis includes V , I , IV , V^6_4 , and I . The graphic analysis includes a dashed line indicating a melodic descent from E to A, interrupted on B.

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As we have already seen, the fourth phrase does indeed bring about the formal and harmonic closure of the theme. This phrase also incorporates the expected descent to A, but in the context of a compound melody (that is, a melody that implies more than one contrapuntal voice). Figure 3 shows the passage in question: the high E recurs in alternation with the tones of the descending line, on the weak part of the beat at first but on the downbeat of the final measure. We hear this E, in effect, as a sustained soprano tone against which an inner voice falls contrapuntally to the A. The E continues to ring in memory as the final soprano tone of the theme, an unstable tone (scale degree 5) in comparison with the A (1). The theme, then, remains melodically open-ended despite its closed harmonic and formal structure, and the variations, presumably, inherit the task of melodic closure.

Figure 3. Theme (mm. 22-24)



VARIATION I

The first variation is a *figural* variation (i.e., one constructed upon a characteristic figure, in this case the triplet motive that permeates the piano part). The variation retains the form of the theme, although here the repetitions are indicated by repeat signs rather than written out. The literal repetitions preclude the kind of exchange of melodic and accompanying roles that occur between the violin and piano in the theme, but this interplay still occurs on a smaller scale as the violin, though primarily an accompanying instrument in this variation, takes up the triplet figuration at the end of each phrase.

The harmonic structure is essentially the same as that of the theme, although measures 6, 7, 8, 13 and 14 exhibit changes of harmonic detail.² Figure 4, a harmonic comparison chart of the theme and the six variations, itemizes these changes.

Variation I also resembles the theme in its melodic structure. Although the violin concludes the fourth phrase with a downbeat A, approached stepwise from B, this does not achieve complete melodic

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closure, for the line from E to A contains a gap between D and B (see Figure 5). (To be sure, the D, the seventh of V7, does resolve to the expected C-sharp, but in the piano part, after a voice exchange—B and D—between the soprano and tenor lines; the tenor line, however, does not continue to the A. Neither does the baritone register contain a complete E-to-A descent, for in this case there is a skip between E and C-sharp.)

VARIATION II

Variation II begins as an *ornamental* variation in which the violin presents an elaborated version of the theme melody, but gradually the violin's running eighth notes obscure the original melodic contours, and the variation takes on a figural character. One melodic feature that does remain constant is the final soprano E; the low A with which the violin part concludes is clearly the bass of an arpeggio whose soprano pitch is the downbeat E of measure 16.

Like the first variation, the second retains the form of the theme. Once again the repeats are literal rather than reorchestrated. The violin and piano no longer trade melodic and accompanying functions, even on the small scale of Variation I; the piano does participate in the eighth-note figuration, but it is the violin that carries the melodic interest. The harmonic structure, too, remains the same. Measures 3, 6, 7, 8, and 14 vary the foreground harmonic detail somewhat; Figure 4 supplies the particulars of these changes.

VARIATION III

In the third variation, two variation principles combine. One is figuration; like Variation I, Variation III features a triplet motive. Here the triplet figure permeates the bass and also appears a few times in the violin part as an anacrusis to a new phrase. The other principle is *simplification*—the piano presents a simplified version of the original melody in the right-hand part.

This melodic line ends with a more explicit closure to A than has yet occurred, but even here the high E is superimposed, albeit on an off-beat (see Figure 6). The E-D-C-sharp-B-A descent, moreover, is in the wrong register to resolve the dangling E of the theme satisfactorily (though it is in the right register with respect to the earlier phrases of the variation), for it is an octave too high.

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Figure 4.

TH	m. 1 (9) A major			
	I*	I 6	V 7	I
I	m. 1			
	I	I	V 7	I
II	(I)	I	5 6 3 ii ---- V	I ----
	I	I	7 6 3 5 V/ii ii ---- V	4 2 6 3 I ----
IV	I	I	7 V/ii ii	7 V
	I	I	7 V/ii ii	9-----8 4-----3 I
V	m. 1 a minor			
	i	i	6 VI bII	6 V
VI	9			
	i	i	6 6 4 6 5 VI bII --- vii	6 6 4 6 V i ----
VI	m. 1 A major			
	I pedal	I	(ii	V 7 V I)
VI	9			
	I pedal	I	7 (ii	V 7 V I)

*A tonic pedal is added in mm. 9-13

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Figure 4. con't.

5 (13)	I	I V I V/ii ii V I ii V	6-----5 4-----3
5	I	I V/IV IV vii I vii/V V	7**
	I	I V/ii ii V I vi ii V	
	I	I (6) V/ii ii V I vii/V V	7
	I	I V/ii ii vii I ii V/V V	6*** 7 5 4-3
5	i	i (6) (4) VI V V/bVII V/bVII bVII V	4 6 2 5
13	i	i VI V i V/bVII V/bVII bVII	5 3 6
5	I	I (6) V/ii ii V I ii V	7 6-----5 4-----3
13	I	I V I V vi V/ii ii V I ii V	6-----5 4-----3

9--8
4--3

The 2nd ending omits the chord 7th *The 2nd ending has V

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Figure 4. con't.

TH	17 (25) E major (V) 7 V pedal	(I)	7 V	I = V	A major
I	9 E major 6 5 7 V -----	I	7 V	I = V	A major
II	E major 7 V	I	7 V	I = V	A major
III	E major 7 V -----	I	7 V	I = V	A major
IV	E major 7 V	I	7 V	I = V	A major
V	17 e minor 7 V	6 4 (i)	9 V i	6 5 V	i V a minor
	25 e minor 4 2 V	6 i	4 3 V	i V a minor	6 5 V
VI	17 E major V pedal	(I)	7 V	I = V	A major
	25 E major 7 V pedal	(I)	7 V	I = V	A major

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Figure 4. con't.

21 (29) 4 6 3 5 V -----	 I	 IV	 7 6-----5 4-----3 V	 I	
13 6 7 6 5 7 6 V -----	 I	 IV	 7 6-----5 4-----3 V	 I	
 7 V	 6 I	 6 IV	 7 6-----5 4-----3 V	 I	
 7 V	 7 I	 V/IV	 IV	 ii	 V
 6 5 V	 I	 IV	 7 6-----5 4-----3 V	 9-----8 7-----8 4-----3 I	
21 7 V	 6 5 i	 (vii i)	 6 bII	 6 3 i	
29 4 4 6 3 2 5 V -----	 i	 ii	 7 6-----5 4-----3 V	 6 i	 bII etc.
21 V	 6 I	 6 5 ii	 V/V	 V	 7 6-----5 4-----3 I
29 7 V	 I	 IV	 7 6-----5 4-----3 V	 I	

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Figure 5. Variation I (mm. 15-16)



Figure 6. Variation III (mm. 14-16)



Measures 2, 3, 7 and 14 vary the chordal content of the theme slightly, but the structural harmonies remain unchanged (refer to Figure 4). The form is likewise consistent.

VARIATION IV

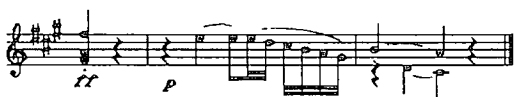
The fourth is another simplifying variation; it concentrates primarily on the harmonic aspect of the theme, employing a thicker chordal texture in the piano and multiple stops in the violin. The harmonic structure of the theme again remains basically unchanged, although the first two phrases of the variation place more emphasis on secondary-dominant chords (measures 2, 6, and measure 8 first ending; see Figure 4). Also characteristic of this variation are double suspensions at cadences: the final chords of the first, second (second ending), and last phrases are embellished with both 9-8 and 4-3 suspensions.

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Variation IV preserves the double-period form of the theme. The repetitions of the first and second halves are literal, save that each half has, as in the preceding variations, a first and second ending.

The violin and piano share the melody (the violin takes the first half of each phrase, the piano the second half, recalling the melodic interchange of the theme). Unlike the theme and the first three variations, Variation IV achieves full melodic closure—a neighboring F-sharp in measure 14 prefaces a complete E-D-C-sharp-B-A descent, in which B and A appear on strong beats to bring about a satisfying rhythmic close (see Figure 7).

Figure 7. Variation IV (mm. 14-16)



VARIATION V

Variation V, the penultimate variation, is in the minor mode. The change of modal color creates a marked contrast with the preceding material, a contrast heightened by other facets of the variation.

With the exception of a few measures of inexact imitation between the piano and violin in Variation III, the texture up to this point has been homophonic. Variation V, however, is *contrapuntal*, featuring invertible counterpoint in two voices. In measures 1-8 the bass (piano left hand) states a minor version of the theme melody; the violin plays a soprano counterpoint. (The right-hand piano part is silent.) Then in measures 9-16 the piano repeats the melody of the first two phrases two octaves higher and transfers the counterpoint to the bass voice, while the violin adds a third voice. The melody returns to the bass in measures 17-24, and once again the violin offers a contrapuntal accompaniment; this time there is a fragmentary third voice in the right hand of the piano. The piano right hand restates the third- and fourth-phrase melody in measures 25-32, and the bass takes up the counterpoint two octaves lower; now the violin has the third voice, an elaboration of the piano right-hand part of measures 17-24.

The harmonic foundation of measures 1-32 is similar to that of the theme. Many measures, however, now exhibit foreground chord

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changes, notably measures 2, 3, 6, 7, 10, 11, 14, 15, 22 and 23 (see Figure 4). There is also a structural change at the second-phrase cadence (measures 8 and 16): V/bVII-bVII replaces the theme's ii-V progression. (This foreshadows material to appear a little later, as do the bII chords of measures 3 and 11.)

Up to the cadence of measure 32, the fifth variation retains the form of the theme; it even shares with the theme the written-out repeats of the first and second halves of the double period, in which voices trade melodic and accompanying roles. At measure 32, however, immediately after the downbeat tonic cadence, a *sforzando* Neapolitan sixth chord (bII6) emphatically announces something new. This new material turns out to be a 23-measure transition to the last variation.

The harmonic basis of the transition is a progression from several dominant-preparation chords to the dominant. The bII of measure 32 progresses to g minor, bvii, in measure 37, via V7/bvii. The bvii moves in turn to iv by way of V6/5 of iv (measures 44-46); V6/5 follows in measure 48. The remaining measures of the transition prolong the dominant, with a D-sharp in measures 54-55 adding a suggestion of V/V.

The transition also effects a smooth rhythmic passage from the fifth variation to the sixth. The figure  gives way to  at measures 51-52; in performance, a slight *ritardando* allows this figure to slip into the triplet pattern  in preparation for the 6/8 meter of Variation VI.³

VARIATION VI

The final variation returns to the major mode. Its harmony, as Figure 4 illustrates, is closer to that of the theme than is the case in most of the foregoing variations.

Although 6/8 meter replaces the 2/2 of the theme and the first five variations, the melodic framework of Variation VI cleaves faithfully to that of the theme, for this is an ornamental variation in which first the piano, then the violin, presents an elaborated paraphrase of the original melody. As in the theme, the conclusion of the fourth phrase superimposes an unresolved E over the falling E-D-C-sharp-B-A melodic cadence (see Figure 8). The melodic exchange between instruments that characterizes the theme also typifies this variation.

The form is identical with that of the theme until after the cadence on the downbeat of measure 32. The piano carries its eighth-

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note figuration through the cadential measure to lead into the coda, which occupies measures 33-86. We shall reserve discussion of the coda for the concluding portion of this analysis.

Figure 8. Variation VI (mm. 30-32)



CONCLUSION: THE MOVEMENT AS A WHOLE

Although on the surface the movement falls into seven sections (i.e., the theme and the six variations), the motivic, melodic, and harmonic relationships among these sections articulate the movement rather differently. For example, the theme and Variations I through IV have a number of traits in common. All are in the major mode, and their harmonic frameworks are essentially the same. Their texture, with the exception of a few measures of Variation III, is homophonic. They share the same double-period form, with no extensions or omissions. The four variations differ from the theme but resemble each other in that the repetitions of their first and second halves are largely exact rather than varied, and also in that the exchange of melodic and accompanying functions occurs, if at all, only at the subphrase level. Triplet figuration links Variations I and III.

Between Variations IV and V, on the other hand, a marked division occurs. For one thing, the melodic cadence of Variation IV is conclusive; for the first time in the movement, the high E falls stepwise to the expected A. A slight *ritardando* enhances the effect of this cadence in performance; slowing down for the final cadences of the first three variations, on the other hand, spoils the continuity of the movement and creates a choppy effect. In the second place, Variation V contrasts sharply with what has gone before: its mode is minor; its harmonies differ not only in superficial but also in certain structural respects from those of the theme; and its texture is contrapuntal rather than homophonic.

Variation V reintroduces the melodic high E, prolongs it, and embellishes it with a neighboring F-natural. The latter is the soprano voice of the Neapolitan (bII) harmony that inaugurates the transitional extension following the fourth-phrase cadence; hence it

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occupies an extremely prominent position—in fact, it is the melodic climax of the movement. (Figure 9 summarizes.) The melody is now poised expectantly, as it were, on the brink of a second and definitive stepwise descent to the tonic A.

Figure 9. Graphic Analysis of the Movement as a Whole.

Theme - Var. III Var. IV Var. V mm. 30-32

Var. VI m. 38 43 45 46 47 54 55 67 71 73 85 86

The transition welds the fifth and sixth variations into a single structural unit; despite the contrast between them, they are melodically and harmonically inseparable. Variation VI, however, exercises a function quite distinct from that of Variation V. Variation V provides contrast; the final variation represents return and synopsis.

Variation VI is once again in the major mode, and it is like the theme in its melodic, harmonic, and formal structure. Its 6/8 meter recalls the two triplet variations (I and III), while its legato melody reconciles these two staccato variations with the more *cantabile* theme and second and fifth variations.

The sixth variation reaches its formal and harmonic conclusion with the cadence of measure 32, but the high E, the reader will remember, is still unresolved. The coda brings about the final resolution of this melodic tension. In measure 38 the melody falls from E to D,

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where it remains for six measures; this D is supported by the leading-tone and dominant harmonies (Figure 9). Here, the listener thinks, is surely the beginning of the end! But this D is only a feint; the melody rises back to E, then to a neighboring F-sharp, and falls once again to E. (The violin part moves by skip to an inner-voice A, but the piano states the E in measure 47.) A similar gesture occupies measures 54-69; here the D is harmonized a little differently, however, with vii07 of vi-ii04/3. Then at last in measures 72-73 the line really does begin to descend: D appears as the seventh of V7 in measure 72 and promptly resolves to C-sharp (supported by the tonic triad) in measure 73. Repetitions of this progression fill the next eleven measures. Finally, in the last two measures, C-sharp falls to B and then to A.

The design of the movement, then, is a two-part rather than a seven-part one. Relationships among the theme and the first four variations link them into a unit, and the first definitive melodic cadence articulates the end of this section. Variations V and VI, together with the coda, comprise the second formal unit. The melodic structure of the second section parallels that of the first, but whereas the first section prolongs the high E extensively and resolves it hastily, the second section works out the resolution of the E more deliberately, thereby balancing the movement. The melodic tension created by the E is a primary source of musical momentum in this work, and its resolution both delineates form and serves as the dramatic denouement.

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NOTES

¹The notation "V6/4-5/3" signifies the motion from a cadential 6/4 chord to the dominant triad. It is used in preference to the notation "I6/4-V" because although the cadential 6/4 chord contains the tones of the tonic triad, it does *not* exercise a tonic function but acts instead as an appoggiatura to the dominant harmony.

²Note that the measure numbers in the second half of the variation do not correspond to those of the theme; because the variation employs repeat signs instead of written-out repeats as in the theme, m. 9 of variation I corresponds to m. 17 or m. 25 of the theme and so on.

³One recorded performance that illustrates this "metric-modulation" technique is that by Arthur Grumiaux and Clara Haskil (*Beethoven: Sämtliche Sonaten für Klavier und Violine*; Phillips 6733 001).

ON TEACHING COMPOSITION

THOMAS BENJAMIN

I have been thinking about what it is like to teach composition, and especially about the limitations of what we can accomplish. There is little written on this subject that has much practical value of the "what do I do Monday?" variety. Like the weather, everyone discusses it, but mostly in general terms. We can understand why this should be since the composing process is intensely personal and subjective, and the teacher/student relationship is complex and privileged. In the avoidance of specifics we encounter in the limited literature, we sense some implicit assumptions: it can't be taught; it is too intuitive; genius teaches itself; there are no general principles or strategies. While we may share some of these attitudes ourselves, we still can discuss what works for us as teachers.

First, a few caveats. There is a clear danger in using a lot of words to describe non-verbal process. None will in any way substitute for the hands-on experiences of composing or nurturing students. Thus, the free-advice list I present at the end of this paper may look intimidating. It must be understood to represent many years' worth of advice to any given student or group of students. Obviously any particular piece of advice must arise spontaneously out of the exigencies of the moment, or the particular student and problem. Another caveat: it is self-evident that composition teaching varies with the needs of the particular student as well as the attitudes of the teacher. One's approach to a beginning undergraduate is likely to be utterly different from dealing with an experienced graduate student. And the needs of composition majors are quite different from those of non-majors. This paper's notions probably apply best to the undergraduate composer, major or not. It also avoids any reference to specific musical techniques; this approach is in no way technique- or style-dependent. Finally, these ideas may not apply very well to the student intending only to bang rocks together randomly. That sort of thing may well be of interest, but such a composer is unlikely to be in an academic context. And I may as well admit to a certain bias in favor of intentionally organized sounds meaningfully arranged.

Why study composition? A student intent on entering the field needs to be leveled with. We all, I suspect, spend a lot of time in

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professional and perhaps personal counseling of students, and we need to beware of encouraging professional ambitions except in the case of the most abundantly talented students (all too rare). "Have the courage," Hindemith urges us, "to discourage his (sic) ambitions as a composer."¹ The opportunities for teaching positions and professional success in the field are, of course, severely limited. Rather than majoring in the field, perhaps most music students should study composition for their own pleasure, and to improve their musicianship. Many composers have the feeling, cautiously expressed, that only composers understand music. Performing, careful listening, analyzing, studying—all are necessary but finally external activities compared to the attempt to create. All of us should try to understand, hear, and experience music as the composer does—as something vital, organic, necessary, and integral to our lives. As Schoenberg says, "The study of composition will not make [your students] experts . . . its only purpose is to help them understand music better."² Composition study should "train the mind of the student, [and] give him possession of the sense of form and balance and an understanding of musical logic."³ Whether the student is headed for a career in the field or not, study should "liberate his talents and his creative personality." There is, after all, great pleasure in self-expression. In all human beings there is a fund of sensitivity and imagination that can be released and given shape and purpose by any creative undertaking. This sounds a little like "composition as therapy," and why not? If we can't make money doing it, at least we can use it to explore our own creativity. So I always encourage my best theory students to take some composition, but not to major in it.

Can composition be taught at all? The bulk of the evidence says clearly "no." Telemann writes, ". . . nature alone was my teacher, without the slightest instruction,"⁴ and Toch tells us "I studied with Mozart."⁵ Mozart, as we know, refused to teach Beethoven, although he was very impressed with Beethoven's talents. Bartok taught only piano. "He who is destined to be a composer will be one in spite of what he is taught The only teacher is life You cannot learn to be creative."⁶ And Chavez writes, "The great masters have developed their natural faculties in the practice of music itself," and not in academic studies.⁷ "In earlier times," we are reminded by Hindemith, "composition was hardly taught at all. [The young composer] was given as an apprentice into the hands of a practical musician."⁸ The genius, writes Schoenberg, "really learns only from himself, the man of talent mainly from others The genius learns from nature—his own nature—the man of talent from art."⁹ We are not mainly concerned right now with geniuses, I think, but with the person of talent—at best.

ON TEACHING COMPOSITION

So what can we hope to teach? For one thing, not creativity. We can't give the young composer ideas. Blake has it right: "Science is soon got; the other (genius) can never be acquired, but must be born." I always think in this context of the answer, variously attributed to Fats Waller and Louis Armstrong, to the matron who asked what jazz was: "Lady, if you has to ask, you'll never know." That answer goes, of course, to the composition student begging for ideas. "Secret science," Schoenberg tells us, "is not what an alchemist would have refused to teach you; it is a science which cannot be taught at all. It is inborn or it is not there."¹⁰ C.P.E. Bach, writing on the composition lessons his father gave, tells us, "As for the invention of ideas, he required this from the very beginning, and anyone who had none he advised to stay away from composition altogether."¹¹ It is amusing and rather touching to read in Mozart's letters to his father of his frustrating composition lessons with the daughter of the Duc de Guines. He struggles with her utter lack of ideas, trying in all sorts of clever ways to get her to compose, at least in part, a minuet. Familiar? All fails. "Well, we shall see," he writes. "If she gets no ideas or thoughts then it is all to no avail, for goodness knows I can't give her any It will all have to be done by art—she has no ideas at all."¹²

While we can't give the student ideas, at least we can help with the craft. "A teacher cannot help a student to invent many and beautiful themes," says Schoenberg, "nor can he produce expressiveness or profundity. Instead, he can teach structural correctness and the requirements of continuity He furthermore can influence the taste."¹³ A teacher can, in short, "help the neophyte to find the adequate and exact expression of what he has in him to say."¹⁴ Sessions puts it very well: "The single goal of instruction is the pupil's resourcefulness and independence in the actual handling of materials," and not the transmission of style, technique, "rules," or theories. Our task is "purely and simply that of teaching him to write: that is, to use the materials at hand with precision and assurance."¹⁵

But beyond the teaching of craft, about which more later, we may have other obligations to the student. Composition teaching is by definition a very personal art; even in composition classes it is at best a one-to-one transaction. Our task is to assist students in discovering and developing their own musical personality, and not to impose our tastes or technical biases. If the teacher's personality is strong, there is always the danger of mimicry, or worse. Recent music history abounds in negative examples, to name no names.

Another habit we could be teaching, simply by exhibiting it ourselves, is constructive self-criticism. In lessons and classes, we can be developing a critical model which young composers will instinctively

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internalize and use for their own improvement. Criticism can be done with kindness and tact. This modeling process is probably even more important than any specifics we may hope to communicate. As a teacher of composition or theory, the composer's instruction "is bound to have a certain creative warmth," suggests Hindemith, "because he is passing on directly what he has experienced."¹⁶ "A true teacher must be a model for his pupils; he must possess the ability to achieve several times what he demands of a student once . . . He must work [a problem] out in the presence of the student, improvising several solutions . . ."¹⁷

Finally, it seems to me, we are providing a model of honesty, of authenticity. Sessions states it a little differently: "Composers cannot, certainly, be taught to keep faith with themselves; the impulse must be there, the courage, the intelligence. But they can be helped by teaching to understand their materials and come to real terms with them."¹⁸ Schoenberg's teaching was described by Webern as "a training toward complete honesty with oneself,"¹⁹ and Schoenberg himself writes that " . . . a teacher of art could help even the (merely) talented to reach the point where they can give voice to the kind of utterance that fittingly expresses a personality. Belief in technique as the only salvation would have to be suppressed, and the urge for truthfulness encouraged."²⁰ That would seem to be an excellent description of good teaching in any field.

Why do I teach composition? Well, of course, to eat, but also by choice. Some composers honestly do not like teaching; we can hope they will then refuse to do it. Stravinsky felt it would be harmful to his own work, but it seems to have done very little damage to Bach or Haydn, or Sessions or Schoenberg for that matter. I personally find it exciting. There is a free-wheeling, improvisatory quality in the doing of it that appeals to the performer in many of us. You can't really prepare a composition lesson. What is exciting are the surprises, the unstructured give-and-take of the lesson. I am much more likely to learn something in a composition lesson or seminar than in a theory class, even though these too are always open to dialogue and to the unexpected. Teaching composition improves theory instruction, almost certainly. In teaching theory, we are inevitably focused on facts, events, relationships, specifics. From composition teaching we develop a feeling for first principles, for general processes. Our teaching of theory becomes more musical, contextual, organic. Beyond all that, composition teaching has to have the effect of improving our general awareness of music, the acuity of our hearing, and our own perceptiveness as performers, listeners, and composers.

It might be useful, as a transition into the more specific part of this paper, to consider briefly the ideal background and training of

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young composers. What understandings and attitudes should they bring into the lessons? First, and in some ways most important, one needs a broad cultural awareness and sense of intellectual involvement with the world, especially that of the arts. A knowledge of and experience with the time-oriented arts—*theater, dance, film*—will be particularly useful. The thought that we are turning out technicians or theorists posing as composers terrifies some of us. A good reading knowledge of the liberal arts, including philosophy, and of the sciences, is highly desirable, and a solid background in electronics and math would be helpful. The point is, of course, that music exists in a wide variety of contexts—*aesthetic, political, historical, economic*—and the composer had better be aware of them all, not only for the sake of the art but for survival. If these things are important to us, we will somehow find the time to become conversant with them.

A practical knowledge of music history and literature also seems important. "One cannot understand the style of one's time if one has not found out how it is distinguished from the style of one's predecessors."²¹ This implies a profound awareness of the literature, through repeated listening, real analysis (beyond mere surface description)²² and, above all, performance. It is important for a composer to perform, for through performance one gains a feeling for real time in music, for the crucial role of gesture, for the psychological drama of a musical work. Conducting and keyboard performances are obviously desirable. Orchestral playing will prove of great benefit, as will playing chamber music or doing choral singing. In all cases, hands-on experience of the thing itself is preferable to academic "course" familiarity. Don't just analyze it, we might tell our students, do it!

I find that many of my students, both at the University of Houston's School of Music and at Interlochen, are unfamiliar with, and naive about, the music of our century. To counter this, I hand out a listening list to all composition students. They are responsible for becoming familiar with the works on it at some point in their course of study, the sooner the better. They are also urged to keep a listening journal, with their own reactions and thoughts about the works they hear. This may lead to some rather superficial familiarity with these works, but at least they will have been heard, if not fully assimilated into the students' experience of music.

Additionally, the beginning composer must possess, self-evidently, a discriminating ear, "the habit of complete accuracy of both inner and outer hearing."²³ Composers must hear their own music accurately, not only pitches, but also rhythms, textures, densities, dynamics, and so on. A good ear in the largest possible sense is inherent; it can hardly be produced by training, only made more acute.

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This brings us to the question of theoretical training for the composer. The question of the relationship between technical training and inspiration, between the conceptual and the instinctual, is complex—the balance is delicate. Especially problematic today is an issue on which Hindemith writes: "The most conspicuous misconception today in our education method is that composers can be fabricated by training We produce composers the democratic way, as we produce congressmen."²⁴ Talent, he points out, is essentially aristocratic, individualistic. Stravinsky makes a similar point: "I have learned throughout my life as a composer chiefly through my mistakes and pursuits of false assumptions, not by my exposure to founts of wisdom and knowledge."²⁵ For some composers, theoretical knowledge is the opposite, the enemy, of the creative. Today especially, with the ascendancy of speculative theory and theorists, we need to take care that the young composer is not seduced into writing works that are merely demonstrations of this or that theoretic construct. The composition of a work on a pre-existing *Umlinie*, for instance, strikes me as dry and absurd, like the deification of the species in contrapuntal training. Sessions writes significantly on the current trend toward musical analysis as a self-contained discipline, the "intoxication with detection,"²⁶ which Edward Cone so neatly skewers as "the lust for inventing structures."²⁷ Our music academies, by their nature, may overstress the rational at the expense of the intuitive, the conceptual over the experiential. No analysis is worth doing if it does not reflect and inform experience.

None of this is to say that craft is not vital. Verdi makes a helpful distinction between *erudition*, for which he has no use, and *knowledge*, by which he means practical technique. "In my youth," he writes, "I studied long and hard. That is why my hand is strong enough to shape the sounds as I want them."²⁸ This manual-labor image is healthy and practical. The point, of course, is the immediate application of a mastered craft to a specific result, as Haydn points out: "Any man who knows good craftsmanship will admit that it helps the creative process . . . for it nourishes the imagination and sets the impulses free."²⁹ But first the technique must be utterly mastered. "Facility in art is almost indispensable," writes Bizet, "yet only when the man and the artist are mature does it cease to be a threat."³⁰ Or as Schoenberg has it, "You don't have technique when you can neatly imitate something; technique has you. Other people's technique."³¹

Is the study of theory prerequisite to the study of composition? I should say probably not, assuming that the student has good musical instincts, a good ear, and a grasp of notation. Piston suggests that "it is a mistake to regard the writing of original music as the final stage of

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graduated technical studies," and urges that such studies run concurrently with work in composition.³² There are good practical reasons for beginning technical training as early as possible, though. We so often find our undergraduate students deficient in basic craft, the question of imagination aside. "No beginner is capable of envisaging a composition in its entirety; hence he must proceed gradually, from the simpler to the more complex."³³ Craft can be built up systematically through either style-oriented or materials-oriented theory programs. I firmly believe that the whole point is good teaching, and that the particular approach is ultimately unimportant. The study of historical techniques ought not to be thought of as style-imitative, but as "a convenient way of introducing a young musician to a set of problems with which he will be confronted . . . throughout his career as a composer." Such studies ought not to be confused with composing; they are simply a means of gaining fluency with materials.³⁴ After all, it is in the great tradition first to copy literally the works one most admires, and then to compose in frank imitation of them. While it may on the surface be true that "creativity is the opposite of imitation,"³⁵ it is truer still that, as Stravinsky said, imitation is the beginning of art.

For the composer, again, the whole aim of technical studies is to develop an answerable, practical craft, beyond mere "theoretical" knowledge. J.S. Bach "started his pupils at once with what was practical, and omitted all the *dry species* of counterpoint that we are given in Fux."³⁶ Writes Sessions, "An art is . . . a craft; and a craft is mastered through prolonged practice—not through theory or 'learning' in the usual sense."³⁷ Instruction should be based on psychological and acoustical fact, not on theories about music. That is to say, theory in the best sense is practice. Which suggests again an integrated, broad curriculum, with maximum attention given to the *reality* of music: hearing, performing, experiencing. Hindemith urges a "practical music" training for composers, rather than an overly-specialized one, leading to the broadest competency in the field. "Don't teach composition . . . teach musicians."

Technical studies, properly approached, do not revolve around the learning of rules, but rather the mastering of a craft through prolonged practice.³⁸ A traditional historical and stylistic approach to theory studies is thus perfectly compatible with a contemporary composer's needs, as long as the focus is on the practice, "not how music *should* be written, but how it *has* been written."³⁹ Only through study of the past can we liberate ourselves from it. "Well," said Picasso, "you see, everyone has to have a father." The main difficulty is that technical studies are started too late, so that we find composers of eighteen or twenty just beginning the work in technique that they

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should have mastered years before. This can create understandable resentments, unless we explain clearly and persistently the *purpose* of such studies, and communicate how important they have been for our own development, and then attempt to make these studies as exciting and engaging as possible. We need at all times to stay focused in our teaching on the larger issues, on principles and not just facts as was suggested earlier. We ought to be teaching not sonata form, but the application in a particular sonata of the practical and real principles of contrast, repetition, development, return, shape, gesture, closure, and so on. The current trend in some theory instruction in this direction is very healthy, as long as we remember to feed our understanding back into the experiences of performing and listening.

A couple of biases: I feel with Schoenberg that " . . . a student should never write mere dry notes. At all times he should try to 'express something.' Marking tempo and character . . . he may find that his imagination has been stimulated to make him produce pieces of a definite character."⁴⁰ I never allow my theory students to turn in an unedited assignment, and I find it possible to insist on some degree of musicality and personality in even the most elementary studies. It is, again, critical that all such studies connect with the student in an experiential way—that they be *musical* and not merely theoretical. "Technique never exists devoid of invention; what does exist is invention which has still to create its technique."⁴¹ The study of harmony, counterpoint, and form must be re-integrated, becoming simply the study of music. There are practical and pedagogically useful distinctions to be made between these aspects at the very earliest stages, but an integration should be attempted as soon as possible. To treat music as if it were synonymous with chords is obviously nonsensical. We need to be teaching harmony in the largest possible, medieval, sense of the word, as line, form, structural voice-leading, texture, shape, drama, all in a context provided by the immediate *experience* of music.

What do we actually do when we teach composition? We don't give students ideas; at least we shouldn't. And technique *per se* is hardly the point; we are more concerned with *results* than with methods. Technique must ultimately be transcended. Stated simply, we can be nurturing "the ability to sustain and develop an organic musical train of thought."⁴² Or, differently put, nurturing what in Beethoven has been described as " . . . this process of self-criticism, brought to the pitch of genius."⁴³ We can be communicating the fact that "appropriate patterns of organization spring from the materials themselves."⁴⁴ Whatever we teach about technique, we can make it consistently clear that the process is essentially intuitive first, and

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only later conscious and analytic. In fact, when the process is working well, "no one can tell where the composer's spontaneous invention left off and the hard work began," in Copland's phrase.⁴⁵ I have a prejudice that says if a work does not arise out of a spontaneous, deeply felt musical urge, then it is unlikely to be effective or perhaps even valid music; it is *inauthentic*. The student ought to look on rigid schemes and plans with considerable suspicion. In spite of some of the metatheorists, it is still an art and not a science.

On the other hand, it is dangerous to encourage the student to wait for inspiration. One is not likely to recognize it anyway, and you will hardly get anything done while you are waiting. It is well documented that inspiration is a secondary manifestation, not a pre-condition for composing. "The primary fact is the ability to compose. Inspiration is often only a by-product."⁴⁶ There are, of course, different types of composers—the spontaneous, "inspired" type (composers mainly of small works, of whom Schubert is an archetype) and the working-out, constructivist types (the Beethovens). The former, as Copland points out, conceives works in a flash, outlines intact. Hindemith refers to the *Einfall*, the lightning flash, as does Sessions. For the other type, and this includes most of us most of the time, the process is one of discovering the implications of the musical material. But to behave as if you were inspired is useful: ". . . A composer must not compose two or eight or sixteen measures today and again tomorrow . . . but should conceive a composition as a totality, in a single act of inspiration. Intoxicated by his idea, he should write down as much as he could, not caring for little details. They would be added later."⁴⁷ Excellent advice! This is what we mean when we urge students to sustain the grand line, to ignore detail problems, and press ahead. Can we help in this process? Probably not much. "The greatest difficulty for the students is to find how they could compose without being inspired. The answer is; it is impossible . . . The only way to help is if one shows that there are many possibilities of solving problems, not only one."⁴⁸

As composition teachers, finally, we can have tremendous influence over the formation of the student's character. We affect, by precept and example, not only the student's technique, but the style, taste, judgement, and aesthetic stance. "The art teacher . . . should pass on only artistic methods and aesthetics . . . Normally he mixes the two in a proportion that depends on his degree of insight; when he can get no further with one, the other had better come to the rescue."⁴⁹ We need not hesitate to pass along our own musical prejudices, judgements, aesthetics. Not to do so would be, in a way, dishonest. Of course we need to be careful to identify them as such, so as to avoid imposing them on our often uncritical and malleable students.

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Before closing, I would like to say a few *specific* things about how I teach composition. I suspect, from talking with colleagues about their own teaching, that I am not greatly different from most others. First, I teach composition privately or in seminars of two or three students. The small groups seem productive; it is very good for young composers to see their peers working out problems and exploring process. They are asked to critique each other's work, in a positive way, and this seems to lead to an increased self-awareness, an ability to critique their own work with some degree of objectivity. It does not seem to foster competition (highly inappropriate between composers) but to encourage support and mutual helpfulness. Some seminar time is spent in score study (as required by the students' immediate needs) or in discussions of aesthetic issues. I give the students a reading list in musical aesthetics and suggest readings as they seem appropriate to the issues raised by their work. I tend to refer often to the music of the masters, present and past, as models for the compositional process and for solutions to particular problems in the students' work. Schoenberg's use of the Beethoven piano sonatas is particularly apt, and I find myself using them as models quite regularly. When a particular contemporary work will serve as a model for a specific technique a student is using, it may be looked at. But I tend to think that use of models too close to the student's style is dangerous.

Regarding required work in composition, I am fairly non-directive, beyond insisting on a large output. You can't learn to compose without composing. If a student clearly needs to be exposed to a certain medium or idiom, I may make a specific assignment for that purpose. More usually, I let this happen by itself through exposure (the listening list is helpful) and through the course in 20th-century techniques we require of all music majors at the University of Houston. We are very restrictive about whom we allow to continue in the composition program. Promotion from one level to the next is juried by the faculty and is by no means automatic. Those who are permitted to remain in the program must demonstrate before graduation a solid grasp of a variety of media, forms, materials, and techniques. Some directive projects in composition can serve the function of showing the young composer the great value of imposed limitations. The self-discipline gained through working within restrictions is tremendously helpful in strengthening the craft. Many composers' favorite quotation must be this passage from the *Poetics of Music*: "My freedom thus consists in my moving about within the narrow frame that I have assigned myself . . . My freedom will be so much the greater . . . the more narrowly I limit my freedom of action, and the more I surround myself with obstacles."⁵⁰

All this brings up the style problem, which all composers and

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teachers of composition must resolve in their own way. What is your own proper style? What distinction do you draw between the derivative and the eclectic? Do you limit your students' choices of style or material? Is it acceptable to borrow from Boulez but not from Bartok? from Crumb but not from Hindemith? Where do you draw the line—or do you draw it at all? Obviously some borrowing will occur at the earlier stages. In fact, as I have suggested, it may be desirable, if done consciously and purposefully. The student who is truly a composer will gradually develop an individual musical personality. Style is, after all, only "the way in which ideas take shape,"⁵¹ and the student can be encouraged, even forced, to explore all available styles as they embody the spectrum of available techniques and materials. I personally put no rigid limitation on style, beyond insisting that in the course of study the student must exhibit a wide range of competencies, to prove that style is a matter of choice, and is not *faute de mieux*. The problem, Schoenberg writes to Karl Wiener in 1910, is "how to develop one's own talent in the way most suited to it. I do not force anyone to compose in the modern manner if he does not feel in the modern way."⁵² Schoenberg's teaching, as reported on by Webern and others, bears this out, as does the variety of styles of his various pupils. "I was not able to teach my students a style . . . even if I would have overcome my dislike of so doing," he writes later.⁵³ His own stylistic flexibility perhaps is the clue to this attitude: "I myself often feel an upsurge of desire for tonality After all, composing means: obeying an inner urge."⁵⁴ I see a problem these days in the pressure at some schools to write in whatever is the prevailing academic style. This doctrinaire attitude, equally prevalent among graduate students as among faculty, can be resisted. The point is not, after all, academic respectability but the composition of music that is honestly felt and crafted. We can, and I am sure do, insist with our own students on the demonstration of conviction, of authenticity.

Let me mention a few things I find myself doing consistently over the years in teaching. They are probably not very different from the strategies of other composition teachers. I do ask most students to prepare a plan of action, a ground plan for a piece. This may be done before, during, or after the process of composing, to help the student to consider the large-scale direction, drama, contour of the work, and direct attention away from the constant preoccupation with detail. The ability to sustain this duality of focus is the essence of the ability to compose successfully. The plan should not be inflexibly followed, but used as a frame of reference only. It may be written as a graph, a timeline, or a verbal outline, and needs to be focused on the large-scale structure as experienced by the listener. Another device is to ask

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students to keep a sketchbook of all their musical ideas for future use. This should include not only notes, but tempi, dynamics, and articulations, to capture clearly the flavor of the original idea. A variant on this is to ask the student, especially when stuck on a piece, to prepare a few pages of sketches showing every imaginable treatment or manipulation of the material. This brainstorming approach will often suggest continuations that would otherwise not have been discovered, and will enhance the grasp of unification and developmental processes.

A few key words seem to recur in my composition and theory teaching, as no doubt others do in yours: gesture, shape, flow, process, logic, drama. It is often necessary to direct the students' attention constantly to the effect of the music, beyond mere technique. The classic notion of "Le grande ligne" is very useful in all composition teaching. A student can be directed to sketch through an entire movement as one line, leaving out all the detailing, in an attempt to capture the continuity and character of the original musical *Einfall*. This counters the tendency to think in isolated fragments, on the detail level, a habit of mind picked up at least in part from the fragmenting nature of so much music instruction. In all instruction it seems useful to speak in terms of first principles: repetition, departure, return, contrast, closure, and so on. And the pairing of concepts seems helpful to both theory and composition students: tension/relaxation, unity/variety, stable/unstable, exposing/developing, leaving/returning, active/static, directed/undirected, continuous/articulated, predictable/unpredictable, and so on. These are LaRue-esque terms, and I am fond of the LaRue view of what music is. His notion of "options for continuation," for instance, is extremely provocative for a composer, as is the concept of the "growth module." And his replacement, by the word "growth," of the misleading term "form" is helpful. From Schoenberg I borrow the idea of the *Grundgestalt*, though defining it more loosely and less serially, more like what d'Indy calls the "cellule."

Other tactics include improvising on a student's material to suggest the full range of treatments and continuations possible. I think if one goes through a variety of continuations, there is little danger of leading students on our paths and not theirs.

There are many useful questions to be asked of the student:

Where is this piece going?

Where are we *now* in the piece?

Where is the climax, if any? How is it approached, left, sustained, and by what means? Is it placed effectively? Is it long enough?

What is the *focus* of this passage, thematically?

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Where does this piece, or passage, fall on the various scales of unity/variety, continuous/articulated, stable/unstable, and the rest?

Would you pay \$6.50 to hear this in Jones Hall?

Yes, but how do you *feel* about it?

What does this passage *do* for the piece?

What is next?

Where does this music really fit?

Do you really *need* this introduction(transition, coda, etc.)?

How might you end?

Didn't you actually start at the end, or the middle?

What is in this material that is trying to get out?

What is the music telling you it wants to *become*?

Additional suggestions and questions are on the "Free Advice to a Young Composer" pages.

There are some problems that seem to crop up continually in teaching composition. Some few students are too facile, not sufficiently thoughtful or careful. There is in them a tendency to accept the first thought, the obvious answer, whatever has worked before, rather than to think through a problem to its best possible solution. We all face the danger of standardized responses, of artificially limited options. We tend to use the same shapes, developmental processes, gestures, colors, harmonies, we have used before, because they work. This is especially problematical for pop-oriented students, who tend merely to manipulate standardized formulas rather than actually compose. Rameau hits on it exactly: "We all have our habitual 'modulations' into which we lapse when we lack the knowledge which might divert us from them to good purpose."⁵⁵ A common problem, at least with my students, is being stuck. I have a multitude of gimmicks to protect against this, though my success rate is not impressive. The trick is to be in touch with the wellsprings of one's creativity, through improvisation or other expedients, as detailed on the free-advice pages. A related dysfunction is compositional tightness, an overconcern with conscious control, unity, organization, which can result from too much intellection, or the wrong kind of analytic work. Composers with this problem need to be induced to believe in their own instincts, to take a leap of faith, to improvise, to stop worrying about being right or in control all the time, to be in touch with their powers (if any) of musical fantasy.

Finally, it seems as though some students come to us only for praise, not helpful reactions. They have the "every-note-is-sacred" syndrome, in which the ego is too heavily involved with the product. They lack that objectivity, that ability to distance themselves from the work and function as its audience, which is so necessary for the

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process to operate properly. I have had very few of these students, and they need, as do all students, tact and kindness. Composing is terribly personal. Our identity is on the line every time, and we have an obligation to be aware of this and to temper our reaction with objectivity, humor, and understanding. We find ourselves, as teachers, suggesting, questioning, giving options. I like to feel that my relationship to a student is that of an older to a younger colleague. Because of this feeling, I will try to avoid *ex cathedra* pronouncements of all kinds, except perhaps humorously. For all of us, I am sure, it is not an issue of teaching or indoctrination so much as of gentle guidance and tactful help. After all, we are all in this together.

FREE ADVICE TO A YOUNG COMPOSER

Note: these are only suggestions, not imperatives. They will not all apply to you. Use your own sense of process as a composer to decide what works for you.

I. Attitudes and General Suggestions

Beware of free advice from other composers.

Don't believe everything you hear.

Each composer has a different working process. Composing was hard work for many of the great masters. Beethoven is a better model for most of us than Mozart in that sense.

Write, write, write, write . . .

No one can teach you to compose except you; no one can give you musical ideas. Teachers only help with craft.

You will tend to write out of your own musical experience. Therefore, immerse yourself in music. Listen, analyze, perform.

Originality may not be possible or desirable at first. One often learns best by imitation. The point is not so much the idea as its treatment.

You can't know too much or have too much technique. If your personality and gift are strong, technique will free, not inhibit, you.

Don't be too self-critical at the beginning. Don't hesitate to guess, to leap.

You don't have to be right all the time; you can always come back later and fix something or fill in details. Press on.

You don't always have to know what you are doing.

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Keep a sketchbook of ideas: tunes, rhythms, harmonies, textures, sonorities. Don't throw away ideas even if they don't seem promising now.

Beware of program music; a work must stand on its own.

Don't always write for your own instrument; don't always play your own music.

You owe your performers a clear, correct, and unambiguous notation, and complete editing of score and parts.

Oversee rehearsals if you can. Your responsibility to your music does not end when the last note is written; it ends when the piece has been properly performed.

II. The Compositional Process: Starting and Continuing

Don't be afraid at first to borrow an idea (a motive, a texture, a rhythm, a color) to get started. Try improvising to get the process started. Don't be afraid of fantasy or free-association.

Try preparing a ground plan, a plan of action, graphic or verbal. But don't follow it rigidly if the music tells you differently.

Be constantly aware of the dramatic shape. A composer is a dramatist and a psychologist. Is the music building? relaxing? level? Where are the climaxes? How are they achieved, sustained, and distributed in the work?

What are the notes telling you they want to do? Try not to impose preconceptions rigidly on the music. Stand back from it and try to be objective. Pretend to be the audience. What would you like to hear next?

Be constantly aware of the big line: continuity, flow, logic, shape.

Be aware of the force of *gesture* in your music.

Conduct the piece to yourself as it is in progress. Really listen to it. Time it. Is this part long enough? Does this music come in the right place? Is this the appropriate gesture here?

Watch the form trap. A general structural scheme may be useful, if not mechanically followed. Prefer words like shape, growth, process.

Be aware of the placement points of focus or goals. Are you always moving toward them? Or always away? Use both processes.

Watch articulations (pauses, divisions) in the flow. Do you always articulate with the same element (texture, cadences, color)? Do you articulate too often or too strongly? or not enough?

Consider all possible options for continuation: repetition, varied repetition, contrast, development, response, return, closure, etc.

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Keep in mind these pairs of principles: tension/relaxation, unity/variety, continuity/articulation, exposing/developing, leaving/returning, static/dynamic, regular/irregular, predictable/unpredictable, directed/undirected, and so on.

Beware of falling into easy habits of form, harmony, and texture. Don't always accept the first idea, even if it seems right. What would be even better? Beware of formulas of all kinds.

Be constantly aware of the non-pitch aspects: color, dynamics, density, pulse, rhythm, tempo, texture, attack density, articulation, and so on.

Learn all the devices for development as soon as you can.

Limit your materials rigorously at first. You can always free up later. Stay with the material: "How can I get more mileage out of this; what's in this material that's trying to get out?"

On the other hand, watch for over-tightness of process or result. Music needs free fantasy, spontaneity, air, light, windows, doors, contrast, variety.

Don't allow yourself to get bogged down in detail. Try for the big line, the overall shape or effect first, and fill in the details later.

If stuck: try improvising; use a tape recorder; try working on two different pieces alternatively; use a simplified, graphic notation; go away from the piece for a few days; work on a different section; analyze the material and make sketch-pages of every possible treatment of it; start again.

Write on one side of the paper only. Try taping the pages together and laying out the whole piece on a table or floor to see the entire work as an entity.

Perform each instrumental or vocal part, at least in your head. Is it interesting, idiomatic, grateful, well-notated? Don't waste any instrument; make them all necessary to the music.

Don't just stop. End.

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NOTES

¹Paul Hindemith, *A Composer's World* (Gloucester, MA, 1969), p. 214. (The author would like to apologize for the many gender-specific references in the quotations given here. It seemed awkward to alter each item.)

²Arnold Schoenberg, *Style and Idea* (New York, 1975), p. 382.

³Arnold Schoenberg, *Preliminary Exercises in Counterpoint* (New York, 1964), p. 23.

⁴Quoted in Piero Weiss, ed., *Letters of Composers through Six Centuries* (New York, c1967), pp. 69-70.

⁵Ernst Toch, "I Stopped Teaching Composition!" *Music Journal* (March 1954): 39.

⁶Idem

⁷Sam Morgenstern, ed., *Composers on Music* (New York, c1956), p. 524.

⁸Hindemith, p. 206.

⁹Schoenberg, *Style and Idea*, p. 365.

¹⁰Ibid., p. 386.

¹¹Weiss, p. 108.

¹²Ibid., p. 125.

¹³Schoenberg, *Style and Idea*, p. 389.

¹⁴Richard Hall, "Some Reflexions on the Teaching of Music Composition," *Score* (December 1956): 31.

¹⁵Edward Cone, ed., *Roger Sessions on Music: Collected Essays* (Princeton University Press, 1979), p. 206.

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¹⁶Paul Hindemith, *The Craft of Musical Composition* (New York, 1941-42), vol. I, p. 4.

¹⁷Schoenberg, *Style and Idea*, p. 398.

¹⁸Sessions, p. 192.

¹⁹Morgenstern, p. 456.

²⁰Schoenberg, *Style and Idea*, p. 368.

²¹*Ibid.*, p. 377.

²²See Thomas Benjamin, "Musical Analysis: Some Notes Toward an Understanding," *Forum* (Summer-Fall 1976): 4-9.

²³Sessions, p. 207.

²⁴Hindemith, *A Composer's World*, p. 211.

²⁵Igor Stravinsky and Robert Craft, *Themes and Episodes* (New York, 1967), p. 7.

²⁶Sessions, p. 221.

²⁷Edward Cone, *Musical Form and Musical Performance* (New York, 1967), p. 98. See also my article "Against Analysis" in the *Journal of the Liszt Society* (June 1984): 167.

²⁸Morgenstern, p. 194.

²⁹Weiss, p. 174.

³⁰Morgenstern, p. 238.

³¹Schoenberg, *Style and Idea*, p. 366.

³²Walter Piston, "What a Young Composer Should Know," *Music Journal* (November-December 1949): 6.

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³³Arnold Schoenberg, *Fundamentals of Musical Composition* (New York, 1967), p. 2.

³⁴Sessions, p. 214.

³⁵A. B. Hunkins, "A Teacher Views Problems of the Student Composer," *American Music Teacher* (March 1968): 24.

³⁶Weiss, p. 107.

³⁷Sessions, p. 205.

³⁸*Ibid.*, p. 210.

³⁹Piston, p. 6.

⁴⁰Arnold Schoenberg, *Models for Beginners in Composition* (New York, c1942), p. 4.

⁴¹Schoenberg, *Style and Idea*, p. 366.

⁴²Sessions, p. 191.

⁴³Paul Mies, *Beethoven's Sketches* (New York, 1974), p. 1.

⁴⁴Hunkins, p. 24.

⁴⁵Aaron Copland, *What to Listen for in Music* (New York, 1939), p. 31.

⁴⁶*Ibid.*, p. 22.

⁴⁷Schoenberg, *Style and Idea*, p. 385.

⁴⁸Schoenberg, *Fundamentals*, p. 215.

⁴⁹Schoenberg, *Style and Idea*, p. 365

⁵⁰Igor Stravinsky, *Poetics of Music* (New York, 1947), p. 68.

⁵¹Hunkins, p. 24.

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⁵²Erwin Stein, ed., *Arnold Schoenberg Letters* (New York, 1956) p. 27.

⁵³Schoenberg, *Style and Idea*, p. 386.

⁵⁴Stein, p. 255.

⁵⁵Morgenstern, p. 43.

ARRANGEMENT AS ANALYSIS

NICHOLAS COOK

Analysis has been one of the major growth areas in the training of musicians over the last twenty or thirty years. New analytical methods of ever-increasing sophistication have been developed while older methods, such as that developed by Heinrich Schenker, have been the object of a massive resurgence of interest. There is, however, a paradoxical sense in which the greater prominence of musical analysis has masked a decline in its real educational significance. This is because as analysis has become more abstract, not to say abstruse, it has turned into a specialty. Especially in North America, people tend to focus on analysis as an alternative to specializing in historical studies, or performance, or whatever. In other words analysis has become one option among several. Traditionally, however, analytical studies occupied a much more central role in music teaching. The difference is that the insights which are today presented in an abstract and even intellectual manner—and often as ends in themselves—were formerly the outcome of practical musical studies such as arrangement and orchestration.

Figure 1 illustrates this. It shows bars 13-15 of Debussy's 'Danseuses de Delphes' (from Book 1 of the *Preludes*) together with two alternative analytical interpretations of the passage; these are marked (a) and (b), and they use the symbols for rhythmic analysis developed by Cooper and Meyer.¹ For readers unfamiliar with these, — represents a stressed note and ∪ an unstressed one, while the square brackets show what belongs together in a single rhythmic group; you can see that an entire group can be regarded as stressed or unstressed at the next level of structure, so that the analysis is a hierarchical one. What does the difference between these two interpretations actually amount to? In (a), there is no immediate rhythmic connection between bars 14 and 15; you might bring this out in performance by making a slight break before the beginning of bar 15, so the last four chords of bar 14 become a kind of rhetorical gesture, with the crescendo perhaps reaching the level of *forte*. By contrast, (b) suggests that the last four chords of bar 14 act as an upbeat to the beginning of bar 15, so that there is no rhythmic break at this point; this implies a smoother style of

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performance, with the crescendo leading up to the *mezzo-forte* at the beginning of bar 15.

Figure 1. (mm. 13-15)

The figure displays a musical score for measures 13-15, featuring a piano and a violin. The piano part is in the lower staff, and the violin part is in the upper staff. The key signature has one sharp (F#), and the time signature is 4/4. The score includes various musical notations such as notes, rests, and dynamic markings. Below the score are two analytical diagrams, labeled (a) and (b), which use brackets to group notes and chords across the measures, illustrating different ways to analyze the harmonic structure.

But it is not actually necessary to use abstract symbols such as Cooper and Meyer's in order to express these analytical insights. Figure 2 shows two alternative orchestrations of this passage, and these correspond precisely to the two analyses in Figure 1. Thus the first orchestration emphasizes the discontinuity between bars 14 and 15 by changing the instrumentation at that point, as well as by the dynamic indications, whereas orchestration (b) links the rising chords of bar 14 with the middle-register tune of bar 15, underpinning this with a roll on the timpani.

In order to orchestrate or arrange such a passage it is necessary to decide what goes with what, which is exactly what Cooper and Meyer's symbols are intended to show. And deciding what goes with what (more formally termed segmentation) is the basis of virtually all analytical techniques. The analytical insights expressed by Roman numerals, for instance, can be equally well expressed—in fact, better expressed—through arrangement. Figure 3 shows the piano score of bars 45-48 of 'Einsame Blumen' (from Schumann's *Waldscenen*); it contains no phrase-markings above the level of individual bars, so it's not immediately obvious which chords belong with which, and where the breaks are in terms of harmonic structure.

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Figure 2.

(a)

hns *mf* *f* tpts *f* ob I, cl I *mf*

tbns *mf* cl II, bsn *mf*

vln I, II, fl *f* bsn II *f*

vla, ob *mf* vln I, II, fl *mf*

vla *mf*

vd *mf*

db *mf*

(b) fl, ob I *mf* fl, ob I, II *mf*

ob II, cl I *mf* cl I *mf*

cl II, bsn I *mf*

tpt I, II *mf* bsn II *mf*

hn II *mf* hn I *mf*

vln I, II *mf* timp tr *mf*

vla, vlc *mf*

db *mf*

Detailed description of Figure 2: The figure consists of two systems of musical notation, labeled (a) and (b). Each system contains multiple staves for different instruments. System (a) includes staves for horns (hns), tubas (tbns), violins I and II with flute (vln I, II, fl), viola and oboe (vla, ob), double bass (vd), and double bass (db). It also includes woodwinds: oboe I and clarinet I (ob I, cl I), clarinet II and bassoon (cl II, bsn), and bassoon II (bsn II). Dynamics include *mf* and *f*. System (b) includes staves for flute and oboe I (fl, ob I), flute and oboe I and II (fl, ob I, II), oboe II and clarinet I (ob II, cl I), clarinet I (cl I), clarinet II and bassoon I (cl II, bsn I), trumpet I and II (tpt I, II), bassoon II (bsn II), horn II (hn II), horn I (hn I), violins I and II (vln I, II), timpani and triangle (timp tr), viola and violoncello (vla, vlc), and double bass (db). Dynamics include *mf* and *f*. The notation includes various musical symbols such as notes, rests, and dynamic markings.

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Figure 3. (mm.45-48)

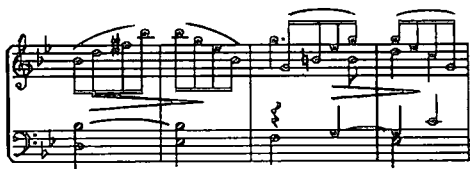


Figure 4. (mm. 45-48)

A musical score for three staves: Violins (Vlns), Violoncello (Vcl), and Piano. The key signature has two flats. The Vlns part has a melodic line with slurs. The Vcl part has a more rhythmic, chordal accompaniment. The Piano part consists of block chords. The measures are numbered 45, 46, 47, and 48.

Of course one could play the music without any larger articulation, performing everything at precisely the same speed and without dynamic variation; it would even be possible to arrange it in such a way as to avoid making any harmonic interpretation of the passage (Figure 4). But in either case the result would be painfully dull and mechanical; it's obvious that the music needs shaping in terms of some sense of what goes with what. Figure 5 provides one such interpretation; here the violin's dynamics, the cello's bowing, and the piano's rhythm all suggest that bars 46-47 belong together as a single harmonic unit. But this is a strange interpretation of the music that actually produces a rather Wagnerian effect, because the links between the chords that it couples together are linear rather than harmonic. The natural interpretation of the music is, of course, that embodied in Figure 6, which couples together bars 45-46 and 47-48; that is to say, the chord at bar 45 leads to that at bar 46, and the chord at bar 47 leads to that at bar 48.

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Figure 5. (mm.45-48)

Figure 5 shows a musical score for measures 45-48. The score is arranged in three systems, each containing three staves: Violins (Vlns), Violoncello (Vcl), and Piano. The key signature is B-flat major (two flats). The Vlns staff features a melodic line with slurs and accents. The Vcl staff provides a harmonic accompaniment with slurs. The Piano staff features a complex harmonic texture with many beamed sixteenth notes and slurs, indicating rapid chord changes.

Figure 6. (mm. 45-48)

Figure 6 shows a musical score for measures 45-48, identical to Figure 5. It features the same three staves: Violins (Vlns), Violoncello (Vcl), and Piano. The key signature is B-flat major. The Vlns and Vcl staves are identical to those in Figure 5. The Piano staff is also identical, showing the same complex harmonic texture with beamed sixteenth notes and slurs.

How could these interpretations have been expressed using Roman numerals? The interpretation, or rather the lack of interpretation, in Figure 4 is equivalent to labelling each chord in relation to the piece's overall tonic (B-flat), without attempting to indicate any relationships *between* the chords. The resulting analysis is I#5 - IV-VI7/#5/3 - II, which is both complicated and meaningless. The strange interpretation in Figure 5 corresponds to I#5 - VI - (VI - I7/#5/3) - II,

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which is again complicated, though it does at least say something. The sensible interpretation in Figure 6, however, could be equated with either of two possible Roman-numeral interpretations. Of these, one is VI (V#5 - VI) - II (V7/#5 - I), while the other is IV (V#5 - I) - II (V7/#5 - I). In each case the music is divided into two pairs of chords, with the first of each pair in some kind of dominant relationship to the second. The difference is that in the first version bars 45-46 are regarded as an interrupted cadence formula on the submediant, whereas in the second they are regarded as a perfect cadence formula on the subdominant; accordingly the first version interprets bar 45 as an altered D triad, whereas the second interprets it as an altered B-flat triad. What does this theoretical distinction actually mean? The answer is that it means nothing at all, at least in terms of the music as Schumann wrote it. Of course, Schumann could have written it in such a way that it definitely implied either the one interpretation or the other. For instance, he could have added a seventh, as he did in bars 47-48, and this would have been C according to the first interpretation but A-flat according to the second (Figure 7 explains). But the fact is that Schumann did not add a seventh; and we should not analyze the passage as if there were one by deciding on one interpretation or the other. However—and this is the point—using Roman numerals forces you to decide on either the one interpretation or the other. It does not allow you to say the important thing about the music, which is how the segmentation works, without at the same time saying something spurious about it. By contrast, the arrangement allows you to say what you want to say about the music, and no more.

Figure 7.



B $\flat$: VI(V $\sharp 5$ - VI) IV(V $\sharp 5$ - I)

But why, it might be asked, do we need either the analytical reduction or the arrangement in order to say what we want to say about the music? Can't such an interpretation be embodied simply through

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performance? Of course it can. But the purpose of an analysis is not simply to embody an interpretation; it is to stimulate it. As I said, it is possible to perform music without really making up one's mind on the kind of issues I have been discussing. But there will be something indecisive and colorless about such a performance. Analysis strengthens performance because it compels the performer to decide exactly what he does think. It does this by offering him explicit models of relationships that are merely implied in the music. And again this is something that is involved in arranging. Take as an example the opening bars of the *Allegretto* from Beethoven's Sonata Op. 14/1 (Figure 8). Bar 1 is marked *piano*; bar 3 is marked *sforzando*. A crescendo during bar 2 is implied; but it is no more than an implication—a matter of performance interpretation. When Beethoven arranged this sonata for string quartet, however, he composed the crescendo into the music (Figure 9)³; it is made explicit through the increase from two instruments in bar 1 to three in bar 2 and four in bar 3. The greater complexity of the quartet medium demands an explicit interpretation of the music on the arranger's part; in short, it demands analytical insight.

Figure 8.



Strictly speaking, it is not the piano sonata that has been arranged for string quartet, but Beethoven's analytical image of it. Bars 47-59 of the finale provide a good illustration of this; Figure 10 compares the two versions. The differences are quite drastic, owing to the excessively pianistic idiom of the original. Beethoven has had to

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strip away everything that is specific to the piano medium, before refashioning the music for string quartet. Just how much of the piano sonata remains in the quartet transcription? The two versions share the same bass, and consequently the same harmonic outline; also the downbeats of the melody usually coincide, though the register is not always the same. But that is all. This represents Beethoven's conception of the work's underlying structure (a conception that is clearly molded by figured bass and species counterpoint, which still formed the mainstay of composition teaching in Beethoven's day). The piano and quartet versions are different elaborations of the same underlying structure—elaborations appropriate to the specific medium in which they are realized.

Figure 9.

The image displays two musical staves for Figure 9. The top staff is a piano transcription, and the bottom staff is a string quartet transcription. Both are in 3/4 time and marked 'Allegretto'. The piano transcription features a melody in the right hand and a bass line in the left hand, with dynamic markings *p*, *cresc.*, and *sfz*. The string quartet transcription shows the same harmonic structure with four staves, maintaining the same dynamic markings. The notation includes various musical symbols such as notes, rests, and slurs, illustrating the structural similarities between the two versions.

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Figure 10. (mm. 47-59)

This musical score, labeled Figure 10, covers measures 47 through 59. It is written for a four-staff ensemble, likely a string quartet, in a key with two flats (B-flat major or D-flat minor). The score is divided into two systems, each containing two staves. The first system (measures 47-50) features a melody in the first staff starting with a forte (*f*) dynamic, while the second and third staves have rests. The second system (measures 51-54) shows a shift in dynamics, with the first staff continuing its melody and the second and third staves entering with a fortissimo (*sf*) dynamic. The third system (measures 55-58) continues the melodic development in the first staff, with the second and third staves providing harmonic support. The fourth system (measures 59-62) concludes the passage with a final melodic phrase in the first staff and sustained chords in the other staves.

Figure 10. con't.

The musical score for Figure 10 continues from the previous page. It is divided into two systems, each containing four staves (treble, alto, tenor, and bass). The notation includes various musical symbols such as notes, rests, beams, and dynamic markings like 'sf' and 'p'. The first system shows a complex melodic line in the treble staff, with the alto and tenor staves providing harmonic support. The second system continues the melodic development, with the bass staff showing a more active role. The score is written in a key with one flat and a common time signature.

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Figure 10. con't.

The musical score for Figure 10, continuing from the previous page, is presented in two systems. The first system consists of four staves. The top staff features a complex melodic line with many sixteenth notes. The second staff has a similar melodic line, also with many sixteenth notes. The third staff contains a series of chords, mostly triads and dyads. The bottom staff of the first system has a bass line with a few notes and rests. The second system consists of two staves. The top staff of the second system has a melodic line with many sixteenth notes. The bottom staff of the second system has a bass line with a few notes and rests. The notation includes various musical symbols such as notes, rests, and dynamic markings like 'sf'.

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Working out the underlying structure of a piece of music, then, is a precondition of successful arrangement; no arrangement can be better than the analytical interpretation it embodies. Indeed one might reasonably describe arrangement as analysis made audible. Just as in orchestration, clarity of conception translates directly into clarity of sound. Busoni pointed this out with regard to Richard Strauss' *Sinfonia Domestica*: "Strauss . . . has said himself: 'Wagner makes everything sound but I am often unable to achieve this'. That is because Wagner concentrates everything on the principal idea. Strauss really has twelve subordinate ideas, and they are in confusion."⁴ A confused image of the music results in a confused sonority, and one of the advantages of teaching analysis through arrangement is that such confusion is rendered immediately obvious to the student. Everybody can hear the difference between a musical arrangement—one which embodies a clear conception of how the music works—and an unmusical one. By contrast it is much harder to explain to someone just why one Schenkerian interpretation is musical, and another unmusical, if they cannot already see it for themselves.

Of course there are many analytical insights about music that cannot be adequately expressed through arrangement, especially where large-scale directed motion and formal structure are concerned. Arrangement is no substitute for more abstract and speculative techniques of analysis. But an intellectual understanding of musical structure needs to be built upon a practical understanding of it; and in view of this, it's unfortunate that studies in theory (including analysis) and composition (including arrangement) tend to be understood as alternative topics, rather than as complements to one another. This can easily result in students adopting an inappropriately intellectualizing approach to music when they analyze it. If on the other hand basic analytical concepts such as segmentation, and structure vs. elaboration, are introduced through practical applications, then theoretical refinements and extensions of these concepts are less likely to produce people whose analytical interests are at best tangential, and at worst antipathetic, to their practical musical activities.

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NOTES

¹Grosvenor Cooper and Leonard B. Meyer, *The Rhythmic Structure of Music* (University of Chicago Press, 1960).

²The parentheses indicate progressions which relate to the scale degree shown in front of the parentheses, rather than relating directly to the tonic. So VI (VI) reads as 'VI of VI', VI(VI - I) as 'VI - I of VI', etc.

³Beethoven has transposed the arrangement a semitone higher than the piano original, in order to take better advantage of the open strings.

⁴Ferruccio Busoni, *The Essence of Music* (New York, 1957), p. 175.

A COMPARISON OF SYNTHESIZED AND ACOUSTIC SOUND SOURCES IN LOWER-DIVISON THEORY COURSES

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BACKGROUND

In 1981, the Department of Music at the University of Nebraska at Omaha initiated a new approach for teaching aural perception of music based on the Personalized System of Instruction (PSI), also known as the Keller Plan (Keller and Sherman, 1964). With this approach, students were required to pass a number of competency tests during the semester. The final grades were based on the number of exams successfully completed. Students were allowed to go on to a new test only after they had exhibited competency on the current test. *Competency* was defined as a score of 85% or better on each exam. Students were provided with a great deal of individualized instruction from the teacher, graduate assistants, and a computer-assisted instruction laboratory that included lessons on PLATO and Apple II computers. After two years of study, the results of this experiment suggested that PSI in aural-training classes did not significantly increase students' performance in the classes, but did increase student morale and had a positive effect on attrition, which is traditionally high in college-level classes in aural training (Bales and Foltz, 1985).

As an ongoing part of the research conducted with these classes, the effect of synthesized sound as a stimulus was examined, since this was a major sound source for student practice in the PSI project. Synthesized sounds have long been used as stimuli in music courses and for research in music, speech pathology, physical acoustics, foreign languages, and aural perception. Much research has been done in the area of auditory perception (Deutsch, 1982). The perception of pitch and timbre has been found to be mutually dependent (Plomp and Smoorenburg, 1970), and the dominant frequencies in complex auditory stimuli have also been described (Ritsma, 1967). The role of height, melodic contour, and timbre in the recognition of melodic patterns has

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been studied (Massaro, Kallman and Kelley, 1980), and dependence of timbre on the tonal loudness produced by musical instruments has been examined (Clark and Milner, 1964).

However, the research mentioned above deals primarily with audio and psychophysical perception of isolated musical events. We were unable to locate any studies that compared synthesized sound directly to acoustic sound when used as a stimulus in courses in aural training. Remez, Cutting, and Studdert (1980) compared response to synthesized violin tone with electronically gated speech in order to support the hypothesis that these sounds do not share the same feature detectors. Cope reviewed the mechanics of listening to synthesized music (1977). However, no conclusive research has been done to ascertain whether or not the timbre (color) and feature detectors of synthesized sounds is an acceptable stimulus for use in music courses, particularly in the area of aural-skills training. The perception of musical timbre has been linked to the dynamic processes by which sound is created (Balzano, 1986). These processes are encountered and initiated outside, as well as inside, musical contexts and never lead to a static spectrum analysis idealized by the use of Fourier Analysis, except in degenerate cases (297).

It occurred to us that this question of timbral appropriateness or "goodness of fit" (Risset and Wessel, 1982) is a concern of all who teach aural training and conduct research in perception using synthesized sound as a stimulus. Our speculation, based on personal observation and discussion with colleagues who taught similar classes at other institutions, was that there was no significant difference between sound sources with different timbres when used as stimuli in aural-training courses if those sources were equally familiar to students. However, also through personal observation, we noted that subjects seemed to respond differently to the sounds of a piano played in class than they did to the synthesized sounds in the computer-assisted instruction lab, which they were required to use. This observation was further substantiated when subjects expressed concern that the practice they were taking in the computer lab was given by an instrument whose timbre in no way resembled that of a piano, the instrument with which they were tested in the classroom. The same phenomenon was reported by colleagues in other similar situations, and led to the question "What is the difference between these two sound sources with regard to success in aural perception?" At first this research was undertaken in order to make sure that students were treated fairly, since they were practicing with one sound source, the computer, and being tested with an entirely different one, the piano. Since recent research supporting the effectiveness of computer-assisted instruction (Lee, 1975) has led to

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significant increases in the use of computer-assisted instruction and, consequently, synthesized sound, we were further motivated to compare the use of the piano with that of synthesized sound within the PSI environment.

After the problem outlined above was defined, a second question arose. It has not been proven that musicians who learn to respond to a synthesized sound source can respond in a similar way to any other sound source. Nor is there overwhelming data proving that musicians who respond to a piano can respond similarly to any other instrument. It is quite likely that the students who expressed concern about the sound source with which they were practicing out of class also could have complained if they had been listening to brass ensembles, string ensembles, an organ, woodwind ensembles, or any other traditional instrument or instrumental or vocal ensemble. With this in mind, we wished to determine whether or not subjects could respond in a similar manner to unlike sound sources. The problem is a practical one, since there is not conclusive evidence that a student who learns to identify a particular interval on a piano, for example, will be able to identify the same interval when it is played on a flute.

Musical sounds are intrinsically complex (Risset and Wessel, 1982), and musical instruments have a complex behavior (Benade, 1976). During most real musical experiences, such as listening to a piano, the tones are not generated by a standardized mechanical player. Music is produced by human musicians who introduce intricacies both intentionally and unintentionally (Risset and Wessel, 1982): "Even if a human player wanted to, he could not repeat a note as rigorously as a machine does. More often the performer will not want to play all notes the same way. All these considerations, which involve different disciplines—physics, physiology, psychology, esthetics—certainly make it difficult to isolate characteristic invariants in musical instrument sounds" (30). With this in mind, it was obvious that the subjects who received aural stimulus from a piano played by the teacher in the classroom were not hearing the same example each time. Further, these same students were likely to hear more accurate mechanical performances from the computer in the listening laboratory. Do the exercises presented by the computer, then, lack aural relevance? If synthesized versions of musical sounds are to be useful to musicians and music educators, they must have feature detectors similar to those found in traditional musical instruments; in other words, they must have aural relevance, or "goodness of fit."

The purpose of this study, then, was twofold. First, we wished to examine the aural relevance of synthesized sound, both in the classroom and in individual practice sessions, for students in aural-

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training classes. This was addressed by asking, "Is the timbre of the synthesizer used in the computer-assisted instruction laboratory good enough for students to use as a major resource in aural-training classes?" Second, the experiment was designed to determine what, if any, transfer of skills was identifiable between sound sources—in this case, between the synthesizer and the piano. In other words, can students who successfully complete exercises on the computer transfer their skills and complete the same or similar exercises when the sound source is a traditional piano?

We felt this work was necessary for several reasons. First, as stated above, recent expansion of computer-assisted instruction laboratories at all levels of instruction (elementary, secondary, post-secondary, and adult-continued education) is making extensive use of synthesized sound of relatively low quality with equally low fidelity. Almost none of these laboratories makes use of the high-quality sound reproduction currently available through the use of advanced digital synthesis. These new machines are capable of synthesizing all the necessary feature detectors to fool even practiced listeners with regard to identification of electronic or acoustic sounds. Second, it has never been conclusively proven or strongly suggested that skills gained by practice with these computer-synthesized stimuli can be transferred by students to any other sound source. Third, while a great deal of research has been done in the realm of audio acoustics, no work has been done that directly compares acoustic and synthesized sound sources. Finally, while a great deal has been done in the area of sound synthesis, very little has been done that examines the effect of these synthesized sounds on human behavior.

PROCEDURES

Since the context of musical cues is important (Rasch and Plomp, 1982), the experiment was carried out during the course of two regular semesters of aural-training classes. Two classes totaling sixty-one ($n=61$) first-semester aural-training students were divided into four random groups as prescribed by the Randomized Solomon Four-Group Design (Campbell and Stanley, 1966). The groups were designated as C1 ($n=13$), C ($n=18$), E1 ($n=15$), and E2 ($n=15$). Groups C1 and E1 were given a pre-test based on the content of the course for first-semester aural skills. Groups C2 and E2 were not pre-tested. The four groups were then assigned to two sections of the course, with C1 and C2 in the control group and E1 and E2 in the experimental group. The control group ($n=31$) was taught using a piano, the traditional instrument for

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sonic stimulus in aural-perception classes. The experimental group (n=30) received all classroom instruction from a synthesized sound source, a Yamaha DX-7 with a Crate 40-Watt amplifier and two Crate loudspeakers. A sound was programmed and used during the course of the semester that closely matched that generated by the MMI DAC Board, the sound source in the Apple II computers. Both groups were subjected to the same material in the same order for the entire semester. All musical examples used during class were determined before class periods and were uniform for the two groups. The instructors and graduate students involved in teaching the class used identical class plans for each day of the classes during the semester-long study.

In order to minimize the effect of different teaching techniques on the experiment, the instructors of the two groups alternated every two weeks during the course of the sixteen-week semester, so both groups were exposed equally to both teachers. Graduate assistants periodically visited both classes and regularly met with the instructors to further insure uniform instruction. All subjects were required to spend two thirty-minute sessions of supervised practice each week outside class. The subjects in the control group practiced in groups of five or fewer at a piano with a graduate assistant playing examples similar or identical to those used by the experimental group. The students in the experimental group practiced at Apple computers equipped with digital synthesizers (MMI DAC boards). The Yamaha DX-7 used in the classroom for all examples and testing was programmed with a sound that emulated the sound of the synthesizers in the computers. Both groups practiced the same material each week.

At the end of the semester, all subjects were given a post-test with the piano as the sound source. The test was exactly the same as the pre-test given to groups E1 and C1. Test results were tabulated, and, using the post-test score as an arbitrary measure of success in the class, the following results were recorded.

RESULTS

Group C1 scored a mean of 55.38% with a standard deviation of 15.385 on the pre-test. Group E1 scored a mean of 49.6% with a standard deviation of 15.52 on the pre-test. T-test results of these two groups give $t = -.952$ with $df = 26$. From this it was determined that there was no significant difference between the groups at the .05 level of confidence for a two-tailed test.

At the end of the semester, all subjects in all groups were given a post-test that was identical to the pre-test. The results of the post-test

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are shown in Figure 1. The two control groups, C1 and C2, and the two experimental groups, E1 and E2, were compared in order to ascertain whether or not pre-test bias was a factor in the result of the experiment. For groups C1 and C2, $t = .749$ with $df = 29$. For groups E1 and E2, $t = .2547$, with $df = 28$. In both cases the t values do not exceed the cutoff point for significance at the .05 level of confidence for a two-tailed test. Since the pre-test bias does not appear to be statistically significant, the post-test data for all subject groups was used for further analysis.

Figure 1.

<u>CONDITION</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>
C1 (n=13)	82.154	8.184
C2 (n=18)	78.944	13.756
E1 (n=15)	77.933	6.453
E2 (n=15)	76.667	18.192

The total mean for the control group was 77.3% with standard deviation of 13.201 ($n = 31$). The mean for the experimental group was 80.29, standard deviation was 11.498 ($n = 30$). A t value of 1.3 with $df = 58$ was found not to be significant at .05 level of confidence for a two-tailed test.

With the sample sizes of $n=31$ and $n=30$ observed here, we can calculate a 95% confidence interval with interval bounds of $\pm 6.35\%$. This gives an estimate of the difference between the experimental and control group to be between $+9.34\%$ and -3.36% . In short, whatever differences may exist must be small.

Further processing of data included analysis of variance and analysis of covariance with pre-test scores used as a covariate. Results of the analysis of variance is shown in Figure 2. Results of the analysis of covariance with the pre-test scores for groups E1 and C1 used as covariate is shown in Figure 3.

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Figure 2. Analysis of Variance of the Four Groups.

Method:	Piano x Synthesizer	SS= 158.863 df=1 f = .98
Treatment:	Pretested x Posttested	SS= 75.374 df=1 f = .465
	Method x Treatment	SS= 14.199 df=1 f = .088
	Error	SS=9236.9 df=57 MS= 162.05

Figure 3. Analysis of Covariance with Pre-test Scores as a Covariate.

Pre-Tested Groups (C1 and E1)

		<u>Error</u>
SS =	60.304	SS = 1085.657
DF =	1	DF = 25
MS =	60.304	MS = 43.426
F =	1.389	
P =	.248	

Homogeneity of Regression

SS between regression = 108.973
 SS within regression = 976.684
 F (1,24) = 2.678 P = .11

Within Group Correlation

R = .466

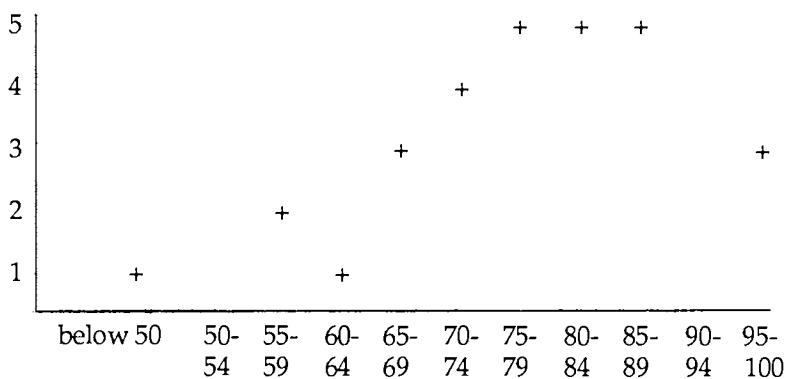
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DISCUSSION

The excessive potential for error as indicated by the above results would lead to caution with regard to generalizations. This may be partially explained by the distribution of scores of the two groups (see Figures 4 and 5). The definite skew to the right as well as the relatively high standard deviations are to be expected, since the purpose of the class was to produce subjects who had more developed aural skills at the end of the term than at the beginning. However, the results of the experiment imply that there is little difference between the synthesizer and traditional instruments, such as a piano, as a choice for sonic stimuli in courses.

Figure 4. Dot-Array Diagram of Post-test Scores, Experimental Group

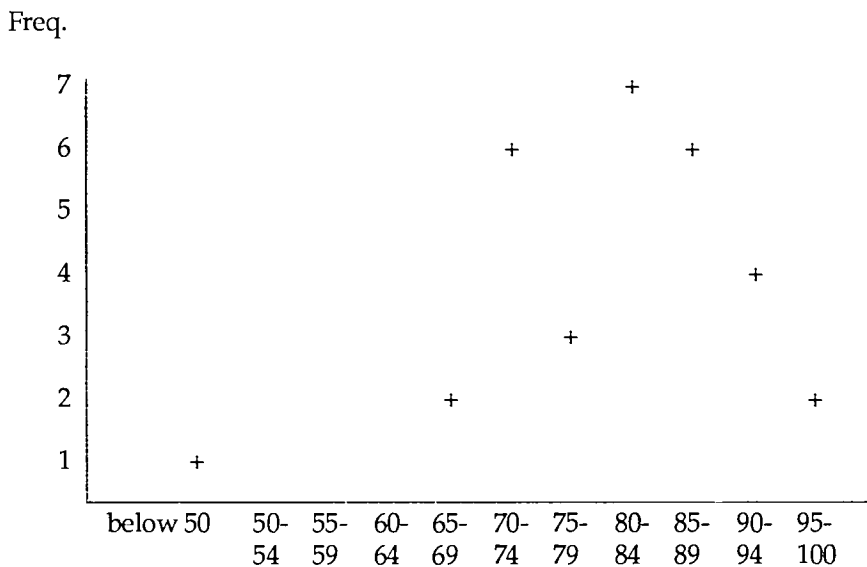
Freq.



N = 30 Mean = 77.3 Standard Deviation = 13.201

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Figure 5. Dot-Array Diagram of Post-test Scores, Control Group



N = 30 Mean = 80.29 Standard Deviation = 11.498

Students were given continuous reinforcement of desired behavior in both sections, and the results as reported above are posited to be similar in other situations where skills in aural perception are important. The course content and method of presentation were not intended as a variable in the experiment, since the purpose of the work was not to test a method of teaching, but to test the appropriateness of the synthesizer as a sound source in any course dealing with aural perception. In addition to the data discussed above, an attitudinal survey was administered. This measurement revealed that only 16% of the total population, with an opinion, disapproved of the use of the synthesizer in the classroom. No students who used the synthesized sound on the computer outside the classroom disapproved of that sound. This would suggest that any significant differences found in these experiments are based on listener prejudices and experience rather than on the chosen sound source. Further, this work suggests that transfer of skills gained in certain circumstances does occur when instruments with disparate timbres are used. Subjects who took the post-test on the

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piano, when they had had only a synthesizer as a sound source for the entire term of the experiment, did not score statistically higher than those who had used the piano for the entire term.

SUGGESTIONS FOR FUTURE RESEARCH

From data collected and studied to date, it has become apparent to us that more research needs to be done in this area, since students and teachers are placing increased reliance on synthesized sound sources both in and out of the classroom. It seems that familiarity with the timbre of the piano as opposed to that of a synthesizer accounts for some of the perceived differences. However, a difference was indeed perceived by us and the subjects involved. What causes this perception? If indeed, there is no significant difference between the sounds produced by traditional acoustic instruments and electronic instruments, when used pedagogically, then the trend toward expanded use of electronic instruments in music training should continue. Otherwise, more work should be done to assure that subjects receive the best possible instruction on traditional instruments while continued research and development create electronic instruments that meet the needs of teachers and students alike.

We suggest that repeats of this study be carried out by others. It would be interesting for researchers at other institutions, with differences in class demographics and course content, to repeat this experiment, to see if similar results are produced. If the results of these repeats are similar to the results outlined above, it would seem that educators are justified in their move towards greater use of the synthesizer as a sound source.

POSTSCRIPT

When this research was begun, high-quality digital synthesis and sampling technology were not readily available to most computer-assisted instruction laboratories in schools. The conclusion of little difference between sound sources, when used in a classroom situation, may seem to have little pertinence, given the fact that these newer technologies are now widely distributed and relatively inexpensive. However, the results of the study indicate that these advances in technology may not necessarily improve the quality and/or efficiency of ear training in lower-division theory classes. The results of the study also have important implications in the prioritizing of limited

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financial resources for equipment related to theory teaching. No doubt, students will continue to comment on what they perceive to be the poor quality of sound in the music laboratory. The results of this study are not intended to refute these students' feeling, but rather to serve as a reassurance of benefit from training in many circumstances—even those not approaching the optimum. Technological advancements will, of course, continue to have significant impact on the training of musicians, but they do not negate the values of older technologies and certainly do not replace practice and hard work.

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Review-Article

ROBERT GAULDIN, *A PRACTICAL APPROACH TO SIXTEENTH-CENTURY COUNTERPOINT*

(Prentice-Hall, 1985)

THOMAS CHRISTENSEN

Sixteenth-century (or "modal") counterpoint has long occupied a venerable if dusty corner in most music theory curriculums. Curiously, though, there has been a sharp disagreement concerning its pedagogic function. A traditional view holds that one studies sixteenth-century counterpoint less for intrinsic historical value than for extrinsic compositional value. The sacred polyphony of Palestrina and his contemporaries is canonized as "ideal" music which embodies in the purest form absolute and eternal principles of music. In the words of one of the most committed advocates of this view, it is music which "does not subordinate itself to the expressive will of an artistic personality, or of a historic epoch but follows only its own purely musical laws and urges."¹ These "purely musical laws," Jeppesen continues, are "fruitful and eternally valid." They govern the most fundamental aesthetic norms of musical structure: the graceful shaping of a melodic phrase; the poised balancing of lines within a unified whole; the strictest rules on the placement and resolution of dissonance. The catholicity of these principles is usually learned and applied, then, through the abstracted context of species counterpoint. In many theory curriculums, these same principles are then carried over—with slight modifications—to the following semester for the study of tonal counterpoint. Emphasis is thus placed upon the continuity of contrapuntal principles within the evolution of musical style.

In opposition to the view of these "idealists," a small, but growing, minority of theorists have argued for a more critically historic approach towards sixteenth-century counterpoint. By extracting from Palestrina's music an abstracted list of counterpoint rules and melodic prescriptions, they argue, one necessarily reduces compositional practice to the lowest common denominator, thereby providing an oversimplified picture of Palestrina's music, to say

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nothing of sixteenth-century contrapuntal practice in general. The concern of these theorists is, instead, to get as close as possible to the actual repertoire and to answer questions of style, genre, and historical development, even if this is at the expense of a unified codification of practice. Not only does the historicist methodology provide a richer and more accurate view of sixteenth-century practice, they believe, it avoids the pernicious suggestion that tonal counterpoint is some kind of teleological culmination to which modal counterpoint serves as a preliminary and pedagogically elementary foundation.

Unfortunately, the historicist epistemology offers little aid to the theory student. Loath to reduce sixteenth-century music to any set of abstract rules or compositional prescriptions, the historicist offers, instead, endless numbers of empirical descriptions and illustrations. Yet the student wanting to understand the principles of this music in any systematic way—let alone to imitate it—is left floundering without any didactic guides.

While the above characterizations are obviously generalizations about a wide and diverse literature on sixteenth-century counterpoint, they do accurately capture, I think, the two basic polarities of counterpoint pedagogy to which belong the vast majority of textbooks. Of the two approaches, the "idealists" are by far the oldest and most common, the classic texts being by Fux, Cherubini, and Bellerman. The "historicist" school is a more recent and largely English-speaking phenomenon. The principal texts here are by R. O. Morris, A. Tillman Meritt, and Gustave Soderlund. Jeppesen's work falls somewhere between the two approaches. Although he was clearly sympathetic to the "idealist" school, he was also a thorough and informed historian, sensitive to the stylistic and historical problems associated with the music of Palestrina. I will have more to say on the pedagogical implications of these respective epistemologies below.

It is with this problem in mind, then, that Robert Gauldin has written his textbook, *A Practical Approach to Sixteenth-Century Counterpoint*. Gauldin's sympathies, it is clear, lie with the historicist school. He rejects, from the outset, the species approach in favor of a direct empirical description of sixteenth-century contrapuntal practice. But wishing to avoid the pedagogical difficulties of previous "direct approaches," he has attempted to introduce real systematization and order in his text. And he succeeds in this task remarkably well. By combining rigorous analysis with imaginatively designed composition exercises in increasing degrees of complexity, the student learns to master systematically a wide and diverse representation of sixteenth-century music.

The student begins by analyzing—and then writing—a single vocal

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line conforming to the basic melodic and rhythmic characteristics of Palestrina's music. The student then proceeds to combine these lines in an appropriate and idiomatic manner. Gradually, he works his way from short two-voiced compositions to longer works of greater complexity. Gauldin correctly notes in his introduction that modal counterpoint textbooks rarely ever treat music in more than three voices, while the norm for the period was 4 and 5 voices (p. vii). Thus, polyphonic writing in 4 and 5 voices is fully covered, as indeed is music in 6 and 8 voices. In the course of the text, diverse topics are introduced such as sixteenth-century notation, mode, imitation, the canon and double counterpoint. Advanced compositional techniques from the sixteenth century not normally dealt with in practical textbooks are also covered: paraphrase and parody techniques; the use of a *cantus firmus* in a tenor mass; familiar style; and polychoral writing. Gauldin even offers two chapters at the end of his book on extended *musica ficta* and chromaticism as used by the late sixteenth-century madrigalists and keyboard composers.

Undoubtedly the greatest strength of Gauldin's book is its abundant use of musical examples. On virtually every page of the text there is at least one musical example illustrating some relevant musical problem under discussion. A number of these examples are ingeniously composed by Gauldin himself in order to illustrate a particular contrapuntal device or compositional procedure. In one example the melody of the well-known Thanksgiving hymn *We Gather Together* is exploited motivically in imitative texture, as well as in a *cantus firmus* in the tenor of a four-part composition (pp. 155-56). Elsewhere, an original five-note motive is incorporated in different contrapuntal manners into a number of lengthy illustrations. By these means, the student is given graphic illustrations of the many idiomatic polyphonic contexts and contrapuntal manipulations to which a melody or short motive may be subjected.

Even more valuable than Gauldin's original illustrations, though, are the generous citations from sixteenth-century polyphonic literature. Every important contrapuntal technique, compositional style, and genre is illustrated with appropriate excerpts from the works of Renaissance composers. These are not short citations, either. At the end of each major subdivision in the book, there is a chapter containing the music of up to a half-dozen complete compositions. These chapters serve as both illustrations of the subject matter covered, as well as literature for analysis. While Gauldin's book does not offer the quantity of music found in Soderlund's well known anthology², it does provide more scholarly transcriptions and an overall richer sampling of Renaissance literature. Of course, this is not unexpected in a textbook of sixteenth-

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century counterpoint; what is remarkable, though, is the diversity of sources cited. Not surprisingly, it is the sacred vocal polyphony of the Counter-Reformation composers led by Palestrina who receive the largest number of quotations (the runners-up being, respectively, Lassus and Victoria). But Gauldin makes a point to include the music of a number of composers not normally discussed in traditional modal counterpoint textbooks. Thus the English school is amply represented with works by Gibbons, Byrd, Tye, Weelkes, and Morley. So too are composers from the earlier generation of the sixteenth century represented (Josquin and Isaac), as well as "modernists" such as Rore, Gesualdo, and Galelei. A number of surprising pieces are to be found, constituting a rich tableau of Italian, German, French, and English styles: masses and motets, canzonets and biciniums, chansons, madrigals, and instrumental music. The wide spectrum covered by all this music, illustrating a wealth of compositional styles, genres, and idioms, provides the student with a rich exposure to sixteenth-century music.

Yet it is just these strengths in Gauldin's book that offer perils in the classroom. By presenting such a wide range of music to the student, Gauldin is faced with a real pedagogical dilemma. The fact is, the species pedagogues have a valid point: much of sixteenth-century contrapuntal practice can be described by a small number of rules, and hence formulated into prescriptive formulas for compositional imitation—this with a precision unthinkable with any other musical style.

Can one imagine a comparable situation with tonal music, wherein we compile a list of prescriptive rules for a one-semester course in, say, the "high-classical" style, with the aim being for the student to produce a respectable, if not inspired, imitation of a Mozart minuet and trio? While there exist those students (and teachers) for whom such a goal might be attainable, I do not believe there are many. And I would be most interested in seeing such a set of rules; those who have sought an algorithm by which to generate tonal compositions with the voice-leading rules of Schenkerian theory have been notably unsuccessful.

This addresses at least in part, I think, David Lewin's challenge to the "historicist" school to defend why it would choose to have the student learn to write in the style of the sixteenth century as opposed to, say, "the organ works of Bach" or "Notre Dame polyphony."³ Granting the desirability of having the student learn to write in some historical musical language (which is itself another subject for debate, but unrelated to the present argument), it is precisely the consistency and (superficially) the simplicity of sixteenth-century polyphony that

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allows it, above all other repertoires, to be systematized and imitated. This, of course, in no way denies the idealist claims of a deeper compositional value to the music. Indeed, at this level, the historicist and idealist theorist may be in total accord.

The use of prescriptive formulas for compositional imitation, then, has meant focusing on an admittedly selective repertoire, one heavily represented by a single composer: Palestrina. But by introducing the earlier practice of Josquin or Zarlino, as well as the idiosyncracies of the English or Madrigalist schools, let alone the exigencies of parody or instrumental writing, Gauldin presents music, which, he himself acknowledges, does not always conform to the normative contrapuntal principles followed by Palestrina. Their presentation in the text can only compound the already great difficulties facing the student.

To be fair to Gauldin, the majority of his musical illustrations are stylistically homogeneous. And when an example from some earlier (or later) practice is introduced (usually to illustrate a specific compositional technique or genre), Gauldin is always careful to alert the reader to the fact. There is, nonetheless, a discontinuity in ranging in the same chapter from "pieces that incorporate the abstruse canonic technique found near the end of the fifteenth century to those which incorporate procedures of the Venetian school" (p. 158).

The root of the problem, I think, is Gauldin's bifurcated pedagogical aim. He tells us in the very first sentence of his preface that his goal is dual, being "the acquisition of writing skills in the contrapuntal discipline," as well as "the simulation of sixteenth-century sacred polyphonic idioms" (p. vii). But these are really two different goals; learning the principles governing the contrapuntal manipulation of vocal lines is a quite different task than learning the historical genres and idioms in which these lines occur. The fact is, when talking of the "abstruse canonic technique found near the end of the fifteenth century" or "procedures of the Venetian school," one is dealing with problems beyond—and in many cases different from—those posed by the suspension, passing tone, and the *cambiata*. To be sure, one cannot properly speak of Renaissance counterpoint independently of any genre or style. But the advanced compositional genres and styles introduced by Gauldin presuppose a normative contrapuntal style. And this normative style can—and for pedagogical purposes should—be considered independently of genre and style. As any theory teacher well knows, just assimilating the basic rules of two- and three-part counterpoint is a challenge for most undergraduates. How then can the same students be expected to master with any competence all the advanced topics presented? To draw an analogy from tonal harmony, we would not have the student write a sonata or

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concerto, let alone use advanced chromatic harmony, before he has mastered the principles of elementary four-part harmony. And even then, we certainly would not expect to do all this in one course. Why should it be so different with Renaissance music?

As Gauldin's text is structured, there is a formidable amount of material to cover. Each of the 22 chapters in the book contains ambitious assignments consisting of analyses, transcriptions, and compositions. Any one of the composition assignments would itself seem to be a major project for the student, one not so easily tossed off for the following class. Just consider a sampling of these: an original three-part "puzzle canon" (ch. 11); a four-voiced *Sanctus* using paraphrase and cantus-firmus technique (ch. 13); a five-voiced *Kyrie* parodying a Victoria motet (ch. 17); a polyphonic composition in eight parts and triple meter (ch. 19); and an imitative piece for organ based on a chromatic subject (ch. 22)—and all this to which the teacher "will doubtless wish to supplement . . . with projects of his or her own" (p. viii)! Now, given that most modal counterpoint courses are one semester long, it is beyond me how all but the most precocious students can begin to cover this material in any depth. Presumably, Gauldin takes a full year in his own modal counterpoint course at Eastman. But few other teachers have the luxury of this amount of time. This is not to argue against including the material in the book—it is nice to have all these styles and idioms covered pedagogically. Rather, it is to argue that Gauldin has not been able to resolve the practical time constraints faced by most teachers which, necessarily, limits the amount and extent of material covered.

Implicitly admitting the problem, Gauldin has advised that "it is the author's experience that each new device does not have to be mastered completely before moving on to the next. After all, the same problems and situations will continue to arise in subsequent assignments, and this allows additional opportunities for correction" (p. viii). I wonder, though, if this is really true. Of course certain technical problems will continue to arise in subsequent assignments. But these occur in evermore complex situations where the student is forced to focus on a more immediate and unrelated problem. If he hasn't mastered, say, the suspension in two parts, I have little optimism to think that he will begin to understand it better when trying to write a canon in three parts, or a parody in six parts, let alone trying to incorporate it within a highly chromatic texture.

A few words should be said about Gauldin's "practical approach" in teaching counterpoint. As with all the historicists, Gauldin is keen that the student be exposed, right at the start of the course, to real music literature. The traditional Fuxian species are rejected as too

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abstract, historically unrelated to the music at hand, and as overly time-consuming. Gauldin's judgement—shared by many theory teachers—bears some scrutiny.

To be sure, species exercises are, by necessity, abstract, and let's admit it, musically stilted. Even the best shaped fifth-species line will rarely resemble Palestrina when it is tied down by a *cantus firmus* plodding along in whole notes. Yet, the point of species counterpoint, as Gauldin well knows, has never been to resemble a musical model in any overt—or should one say foreground?—sense. Its advantage, as musicians since the time of Mozart have recognized, is that it effectively isolates well-defined musical problems in a precise and economical manner which the student can master in orderly succession.

Thus, I do not understand Gauldin's objection that "idiomatic devices, such as the portamento, cambiata, accented passing tones, etc., are somewhat difficult to present within the context of third (quarter note) species alone, and must wait until fifth species (or better still, entirely free two-voiced counterpoint) is introduced." Or, that in species counterpoint, "the rhythmic vitality (or microrhythm) of the Renaissance melody with its reliance upon the text is often neglected" (p. 279). This is precisely the virtue of species counterpoint. Idiomatic contrapuntal devices and rhythmic complexities are deferred until more basic problems of line and dissonance control have been solved by the student.

It is true that the actual rules taught by Fux and elaborated by nineteenth-century pedagogues such as Cherubini and Bellerman seemed to have little to do with the historical style of the sixteenth century. One need only play through Fux's own examples of a third-species bass line to realize how his musical conception was rooted in the basso-continuo tradition of his time rather than the vocal polyphony of Palestrina. Nonetheless, the Fuxian approach was shown, in Knud Jeppesen's landmark study⁴, to be adaptable to sixteenth-century style. Strictly following the paradigm of Fux's species approach, Jeppesen was able to formulate a virtually definitive codification of the contrapuntal practice of Palestrina. While, as a textbook, Jeppesen's work has severe deficiencies, it nonetheless showed how a species approach could be brought into line with the music of the sixteenth century through a modification of Fux's rules. In fact, it was quite common for sixteenth-century theorists themselves to utilize species-like exercises as illustrations of contrapuntal problems. Gauldin cites examples by Zarlino, Banchieri, and Morley which are, for all practical purposes, exercises in species counterpoint (pp. 281 ff.). The theorists of the time recognized—as Fux did later—that contrapuntal

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writing could be effectively analyzed and imitated through a graded succession of rhythmically abstracted lines.

I would take issue, then, with Gauldin's assertion that the species approach is too time-consuming (p. vii). On the contrary, it seems to me to be one of the most efficient means for the student to learn idiomatic and stylistically correct counterpoint. It is the direct approach, I believe, that could conceivably delay the student. By his "practical approach," Gauldin asks the student to begin writing idiomatic lines from the very start. And while this is certainly a desirable goal, is it realistic to expect the student to write characteristic melodic and rhythmic lines incorporating idiomatic devices such as the *cambiata* and *portamento* before he has mastered the simplest problems of dissonance control—problems that are easily isolated and addressed by the species approach? Lacking the efficiency of species rules, Gauldin offers a long list of empirical descriptions and prohibitions. Yet the result is, in many cases, lengthier than the same material covered under more generalized species rules. Especially in dealing with the devices such as the suspension in 3 and 4 voices or common cadential patterns, Gauldin must provide rule after rule and example after example. I find many of Gauldin's illustrations redundant, though, being only slight variations or revoicings of one another. In simply accounting for his multiple illustrations, the prose occasionally breaks down into a series of one-sentence rules strung together in a paragraph, reading like they were compiled from old mimeographed sheets handed out in class. This has the result of fragmenting the text while frustrating the reader. Of course his rules are, for the most part, empirically valid descriptions of practice, but there are, at times, so many that the student faces real problems in assimilating them all. I kept finding myself compiling Gauldin's rules and descriptions into a more orderly and logically generative list. Even for the historicist, a certain amount of didacticism is necessary in a textbook whose aim is compositional imitation.

I do not want to leave the impression that Gauldin's text is absolutely incompatible with the species approach. The teacher is free, after all, to introduce species rules and exercises in class. In fact, I found that Gauldin's text complements Jeppesen's species rules perfectly. Gauldin provides just what Jeppesen's text most lacks: diverse musical examples for analysis; creative exercises for the student; and considerations of various sixteenth-century styles and idioms. Yet Jeppesen provides precisely the pedagogical systematization I think Gauldin's text occasionally lacks. Together they work wonderfully. And the structure of Gauldin's text proves well-suited to a modified "species" approach. The first problems addressed

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in the book deal with the construction and combining of simple melodic lines with only "white notes" (essentially second and fourth species). Gauldin then covers the same problem using "black notes" (third and fifth species). By chapter 6, the student is ready to move on to questions of imitation, canon, and double counterpoint. Three-part counterpoint is begun in chapter 8, again by first considering white-note relationships, and then black notes. Eventually, we move on to four, five, six, and finally eight voices. In the broadest sense, then, Gauldin follows the species approach, or perhaps more accurately, he follows the obvious and reasonable pedagogical approach—of which Fux's species is a prime example—that any difficult subject is best taught by first analyzing it into composite elements and then reassembling these elements in successive stages. In fact, at points in the text, Gauldin even specifically assigns species exercises for the student (e.g., p. 81).

It would be needlessly picky of me to end this review with a list of disagreements over specific counterpoint rules and prohibitions. As with any theory text, one can always take exception to a rule or example. For the most part, I find Gauldin's descriptions of contrapuntal practice intelligent and correct. I did occasionally come across a dubious rhythmic or melodic prohibition. More often, though, I found examples of melodic construction and dissonance treatment that struck me as clear licenses to the normative practice outlined in the rest of the book, and having minimal empirical justification. But this is an unavoidable consequence, I suppose, of the historicist methodology. All things considered, Gauldin displays a virtuosic mastery of sixteenth-century contrapuntal practice, and he conveys this knowledge clearly and convincingly.

Some teachers may be bothered that in all of Gauldin's musical examples the original C clefs have been transcribed into modern treble and bass clefs. This, of course, makes the music easier for the student (and the instructor!) to read. Yet one might argue that an important function of a modal counterpoint course is precisely to acquaint the student with the various C clefs and allow him to acquire some facility in their use. Again, there is nothing that prevents teachers themselves from introducing C clefs in class.

A minor point concerns Gauldin's use of terminology. The text is chock full of italicized Italian and Latin terms, despite the existence of English cognates that are, in my mind, perfectly reasonable and unambiguous. For instance, names such as *bassus*, *altus*, and *guida* (the guide voice in a canon) are continually used. I am not sure of the reason for this, unless it is to instill some kind of historical consciousness in the student. But why is this any more necessary here than in, say, a tonal counterpoint text? It is doubly disconcerting to read these terms in a text

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where one also finds contemporary expressions such as "pitch class" (p. 101) or "metric modulation" (p. 192). I can imagine the hearts of not a few Renaissance historians skipping a beat when coming across these.

All in all, I think *A Practical Approach to Sixteenth-Century Counterpoint* is an excellent book, despite the reservations I have voiced over its ambitious scope. Gauldin obviously loves the music he is dealing with, and this enthusiasm is catching. He has given us a soundly researched, creatively written, and most importantly, a *fun* textbook that will be a pleasure to use for both teacher and student.

NOTES

¹Knud Jeppesen, *The Polyphonic Vocal Style of the Sixteenth Century*, trans. Glen Haydon (Englewood Cliffs: Prentice-Hall, Inc., 1939), p. 285.

²Gustave Soderlund and Samuel Scott, *Examples of Gregorian Chant and Sacred Music of the Sixteenth Century* (Englewood Cliffs: Prentice-Hall, Inc., 1971).

³David Lewin, "An Interesting Global Rule for Species Counterpoint," *In Theory Only* 6/8 (March 1983): 37.

⁴See footnote 1.

Review-Article

GUIDES TO BETTER CLASSROOM TEACHING: A REVIEW OF THREE BOOKS AND ADDITIONAL POSSIBILITIES

L. DEE FINK

College teachers, unfortunately, do not have a lot of time to read books about college teaching. The reason, of course, is that they are too busy teaching and doing research. What this means, though, is that they have to be very selective about what they do read. In the last few years a number of valuable books have been published on college teaching, and three of them are being reviewed here. These three are quite different from each other and hence fill different needs. This review essay will comment on each in turn and then add a few ideas on college teaching not covered well in any of the books.

Joseph Lowman, *Mastering the Techniques of Teaching* (San Francisco: Jossey-Bass, 1984).

The characteristic that distinguishes this book from most others is that it is built on a carefully articulated model of college teaching. Noting that the college classroom is a *dramatic* and *human* arena as well as an *intellectual* arena, Lowman proposes that masterful teaching has two critical dimensions: intellectual excitement and interpersonal rapport. You can be a "good" teacher by being skilled on either dimension alone, but only by being skilled in both can you be a "master" teacher.

The content of this book is noteworthy for several reasons. First, it is integrated, meaning that many of the chapters are a direct product of the special perspective on teaching noted above. Thus it has chapters on classroom dynamics and tips for developing interpersonal skills as well as on more traditional topics. Second, the book is full of practical suggestions. Each chapter lays a conceptual base but then turns immediately to the question of "what should I do as a person wanting to teach effectively?" Third, the scope of the book is comprehensive in

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covering all the main activities of classroom teaching: planning a course; developing learning activities; lecturing; leading discussions; evaluating students' performance; evaluating one's own teaching; and assessing the institutional context.

The book also has an unusual origin. The author has been an associate professor at the University of North Carolina since 1971 and has supervised graduate instructors there for several years. To develop the material for this book, he spent two years observing and interviewing twenty-five college professors reputed to be master teachers at schools in the Southeast and New England, including one full year as a visiting associate professor at Williams College. This led to the development of his model of teaching, which earned him an award in 1984 at the Sixth National Institute on the Teaching of Psychology to Undergraduates.

In my view, this is probably the best book now available for anyone who wants a single, comprehensive guide for effective teaching. This is a strong statement but I make it because of the book's clearly articulated model of teaching (with whose philosophical and value premises I happen to agree) and the large number of practical recommendations.

As an instructional consultant at the University of Oklahoma, I have loaned this book out to faculty members wanting to improve their teaching more frequently than any other book in my professional library. In preparing for this review essay, I asked one user what she thought of the book. Her response was that the book had succeeded in reassuring her that there was a science to the art of teaching. Traditional wisdom in her discipline (Law) has it that teaching is very idiosyncratic, hence very dependent on intuition, and even then, limited in its ability to really change students. This book gave her a solid definition of effective teaching and helpful tips on how to develop the necessary skills for achieving it. Since reading the book, her teaching has become more effective in the eyes of her students (as reflected in student ratings) and more enjoyable for the teacher herself.

Barbara Schneider Fuhrman and Anthony F. Grasha, *A Practical Handbook for College Teachers* (Boston: Little Brown and Company, 1983).

This is very different from the Lowman book, but nonetheless excellent. Although it could be read cover-to-cover, most readers are likely to use it a chapter at a time. It has eleven chapters on eleven

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discrete topics (e.g., the role of personal values in teaching; getting students involved in the classroom; and considering alternative course designs). Much of the material came from workshops on college teaching conducted by the authors, and hence has a "workshop feel" (i.e., every chapter directs readers to actually reflect and write on their thoughts, feelings, values, and behavior, or to produce something). Although each chapter has historical, theoretical, and/or research literature in it, none of the chapters is meant to be a mere thought-piece. It assumes that if you want to change your teaching and do it differently in order to do it better, then you have to begin by actually doing something like writing, creating, etc.

As a result, any chapter can be used by itself. In fact, this is how I have used the book myself and in consulting with other faculty. If a person has a question about the subject of one of the chapters, this is an excellent and—as the title suggests—practical handbook. Each chapter contains an extensive range of ideas and information on the topic, always coupled with exercises designed to increase one's self-awareness and to open up new possibilities.

As an illustration of how well this is done, the authors take a topic that would be an afterthought or throwaway chapter in most books: the history of college teaching. But, in their hands, this becomes an opportunity to analyze where the reader's philosophy and expectations fit, in terms of earlier or contemporary traditions.

In addition to the topics already mentioned, the book has chapters on cognitive perspectives on learning classroom application; designing classroom experience based on students' styles and teaching styles; evaluating students; assessing one's own teaching; using media; and defining effective teaching. One final comment on the book: it is extraordinarily well written. The text flows easily from idea to idea; the wording is clear and straightforward, yet the explanation of ideas is thorough.

Stanford C. Ericksen, *The Essence of Good Teaching: Helping Students Learn and Remember What They Learn* (San Francisco: Jossey-Bass, 1984).

This book is also slightly different from the two preceding ones. Although it contains a generous quantity of recommendations, it is more reflective and speculative. The stated purpose of the book is "to give the teacher a conceptual base for making decisions about how to do a better job of managing the classroom hour."

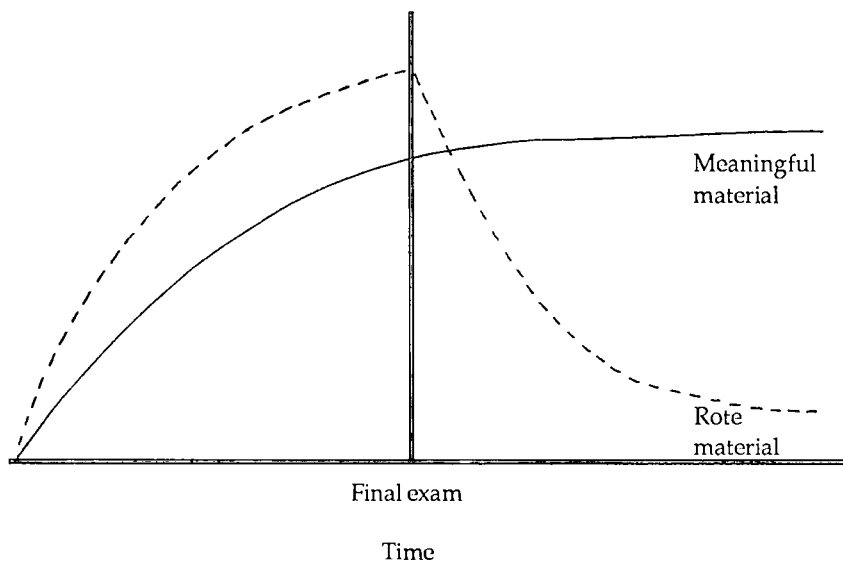
The strength of the book grows out of the author's rich experience.

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He is a professor emeritus of psychology at the University of Michigan and the first director of that university's Center for Research on Learning and Teaching (CRLT) established in 1962. Much of the material for the book comes from essays he wrote for the CRLT newsletter over many years. Having been a college teacher for over forty years and having as his specialty the study of human learning and thinking, Ericksen clearly has a well-seasoned and mature perspective to offer on the subject of college teaching. Although this book does not have the density of practical recommendations as the two preceding, it is nonetheless enjoyable and worth reading for several reasons.

As a senior scholar-teacher in psychology, Ericksen does a superb job of assembling and succinctly summarizing research findings on college teaching. The book is full of pithy, quotable statements, either by Ericksen himself or by others whose work he mentions. A couple of examples will illustrate this point: "Exposing students to the light of knowledge by covering the field—the sunburn theory of instruction—is inadequate as the aim of a course" (p. 15). "Higher education succeeds or fails in terms of motivation, not cognitive transfer of information" (p. 154, quoting from Csikszentmihalyi, 1982, p. 15).

Figure 1. Retention Contrast of Meaningful and Rote Materials



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Also, Ericksen does have underlying value assumptions that he makes explicit in the preface and chapter one: the lasting measure of good teaching is what the individual student learns and carries away. Translated slightly, an effective teacher is one who can generate learning that lasts. Figure 1 (from chapter one) illustrates Ericksen's view. The rest of the book discusses further how to achieve this.

ADDITIONAL POSSIBILITIES

There are three additional ideas about teaching that I was surprised to find missing in these three books—or only mentioned in passing. I will describe them briefly here because I believe they represent important developments in the professional lore on college teaching.

The first is the model of ethical and intellectual development created by William Perry and his collaborators at Harvard as a result of their longitudinal study of college students there (Perry, 1970; 1981). He postulates that all human beings have to work through a series of ethical-intellectual stages, and that this often happens during the college years. The main stages are:

Dualism - Sees issues as right or wrong, good or bad; teacher is an authority who must therefore be right; student should learn what the teacher has to say.

Relativism - Different authorities have different answers; everyone has a right to his own opinion; no one is wrong.

Commitment - There are different ways of looking at issues in life. But if I am going to live a meaningful life, I must make some choices and a commitment.

This scheme has become fairly well-known in the last five to ten years, hence, my surprise to discover no reference at all to it in any of the three books reviewed. Part of the problem may be that even though this scheme seems to be valid and understandable, it is not clear what the implications are for teachers, other than to be aware of such differences among students and between ourselves and students. Practitioners are currently thinking and working out the practical applications of this scheme.

The two remaining ideas are related in my view. I see college teachers as needing to find sources of energy within students that will allow them to accomplish the work of learning. Two very important sources are small groups and writing. The effective use of small groups

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releases energy by putting students in touch with each other, writing by putting students in touch with themselves. Both techniques, that of breaking a class into small groups and having students write, have been around for a long time. But recent practitioners have developed more sophisticated and more effective ways of doing this.

The growing body of literature on small groups (Michaelson, 1982; Bouton & Garth, 1983; Michaelson, 1984-1985) suggests a number of general guidelines, including the following: make the groups heterogeneous and permanent; allocate a significant portion of class time (40-80%) for group work; make the groups responsible for mastering the reading material and for solving the problems of the subject matter; and make the work of the groups and peer evaluation within the groups a substantial part of the course grade. If this is done properly, students discover they can learn from and excite each other. They become much more active participants in the teaching-learning process. And they learn how to work collectively on intellectual problems and questions, an important skill in contemporary life.

The use of writing activities in courses outside the English department is rapidly gaining national momentum, often under the label of "writing across the curriculum" (Maimon, 1981; Griffin, 1982; Barry, 1984). The significance of this movement is that writing can be valuable as a means of furthering students' understanding of a subject, not just as an evaluation tool. The use of frequent, short, in-class writing activities forces students to articulate for themselves what they really think about a question or topic. Having done this, students are ready to read and/or listen to new presentations with more interest, and are in a better position to incorporate new ideas and information into their own thinking because they now know what their own thinking is. The use of other students to review what one has written and then to re-write (i.e., re-formulate) one's ideas presses students towards more refined ideas as well as towards more effective and correct ways of expressing them. Finally, the use of out-of-class course journals (a kind of focused, intellectual diary) can integrate the content of a course with the students' personal thoughts and life in a way that would be very difficult for a teacher to accomplish in a class of any size. And notice: in all the examples described thus far, none require (although they may allow for) grading of papers by the teacher!

Some exciting things are happening in college teaching today. Many of these are discussed in the books reviewed in this article. Hopefully future guides will incorporate additional developments such as those described above.

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CURRICULUM DESIGN SERIES

The following article is the first in a new series on specific university-level theory programs. Additional articles in this series will be published from time to time in future issues. Readers are encouraged to submit contributions on any aspect of curriculum or individual course design for consideration in this series (e.g., structure, evolution, and philosophy of undergraduate theory programs; layout of graduate theory degrees; outlines, syllabi, and organization of single courses or graduate seminars—especially those that are unusual, creative, or innovative).

COMPREHENSIVE MUSICIANSHIP AT SAN DIEGO STATE UNIVERSITY

DAVID WARD-STEINMAN

OVERVIEW

Comprehensive Musicianship is a three-year program that provides the core musicianship training for music majors and minors at San Diego State University. It is an outgrowth of an experimental two-year program developed by the writer under a grant from the Ford Foundation-MENC Contemporary Music Project (1967-69).

The courses at San Diego State University called "Comprehensive Musicianship" are not only comprised of theoretical studies, though they are the basis for much of the work. They include harmony; ear training; sightsinging; both sixteenth- and eighteenth-century counterpoint; form and analysis; arranging and orchestration; composition; improvisation; conducting; and ensemble performance. In addition, the courses cover major styles in a survey of musical literature from all periods of music history.

Traditional Western European art music no longer dominates the curriculum, though it remains at the heart of it. We now include references to non-Western musics (principally from African, Indian, and Asian cultures), jazz, and a wide variety of twentieth-century musics. A primary objective of Comprehensive Musicianship is to teach students to deal intelligently with all kinds of music.

Interrelationships among music and the sister arts are introduced with specific reference to formal, textural, and stylistic analogues in painting, sculpture, architecture, and poetry.

It must be emphasized that there is no dilution in the standards or requirements of traditional musicianship—emphasis is placed on composition, analysis, aural skills, and classroom performance. Students learn instrumentation by writing for instruments available in class (and the classes are sectioned or subdivided to provide instrumental balances). Students are expected to rehearse and conduct their own music as well as each other's, to transpose as necessary, and to analyze and evaluate the results.

Sightsinging and ear training are currently being taught in two ways, at faculty option. Some use a programmed language-lab

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approach; others base their drill directly on the literature, but the goals are the same.

OVERALL GOALS (applicable to every class and topic)

1. Recognize by sight (notation) or sound (live or recorded) specific instances of topics studied when presented in new, unfamiliar contexts or compositions;
2. Be able to extrapolate musical experiences and knowledge gained from specific examples studied to unfamiliar works encountered elsewhere;
3. Compose examples illustrating the various topics or style characteristics under study;
4. Improvise when appropriate (e.g., ornaments in Baroque pieces; keyboard realizations of figured basses) in a given style;
5. Function variously as conductor, performer, coach, editor, or arranger of material for class use and study;
6. Take from dictation (live or recorded) melodies or progressions from material relevant to class study;
7. Sight read and sightsing with fluency and musicianship, attending not only to matters of pitch and rhythm but also tempo, dynamics, and phrasing as well;
8. Develop personal standards of taste and discrimination as a basis for judging musical quality.

OUTLINE OF COURSES (6-semester sequence)

A detailed syllabus with calendar for each course is provided at the beginning of each semester by individual instructors or the Director. Detailed *Study Guides* for PSI sections of 158A and 158B, written by Merle E. Hogg, are available from the campus bookstore.

COMPREHENSIVE MUSICIANSHIP

158A-158B. Comprehensive Musicianship [4 hours/week]

"Direct analysis of musical styles and forms as they have evolved historically; composition, improvisation, performance, and instrumentation; sight-singing, dictation, harmony. Parallel developments in related arts, including some comparisons with non-Western musical systems."¹

One section of 158A and 158B will employ the teaching format called Personalized System of Instruction (PSI). The PSI course, developed and taught by Merle E. Hogg with the assistance of several research grants from the SDSU Teaching and Learning Council, offers the self-paced feature that allows for "working at your own pace" within certain guidelines. Very few lectures are given, but student aides or proctors are available to answer questions and evaluate tests. Students in the class who are ahead of schedule are given the opportunity to assist as special proctors.

Core Content (158A)

Rhythm: speech rhythms, musical rhythms, rhythmic setting of texts, monophonic song composition;

Basic conducting patterns;

Intervals, scales, modes, signatures (key-, time-), treble, bass, and C-clefs;

Instrumentation, transposition, notation (including graphic, non-standard, etc.);

Plainchant (Gregorian notation, transcription, composition with 3-line and 4-line staves, performance, evolution, and influence, etc.), organum;

Cantus-firmus functions (traced from origins through twentieth-century examples);

Beginning study of harmony, phrase structure, cadences; simple musical forms (monothematic, binary, ternary); composition of original

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piece scored for class instruments in theme-and-variations form or utilizing cantus-firmus principle;

Beginning critical-analytical vocabulary via concert reports, etc.

Styles: overview from Medieval to Contemporary periods.

Core Content (158B)

Development of harmonic vocabulary: evolution of harmonic concepts from Medieval and Renaissance precursors to the Baroque and Classic periods, with emphasis on functional harmony of the eighteenth and early nineteenth centuries, including modulation and secondary dominants;

Figured bass (with reference also to contemporary jazz/pop notation);

Chorale harmonizations for instruments and voices; evolution of characteristic ostinato forms (ground bass, passacaglia, etc.) traced from beginnings to latest manifestations, culminating in an original composition for class instruments based on the ostinato principle;

Styles: Baroque and Classic.

258A-258B. 2nd Year Comprehensive Musicianship [6 hrs./week]

"Continuation of Music 158A and 158B. Late 19th- and 20th-century harmony. Counterpoint and texture in Medieval and Renaissance styles."

Core Content (258A)

Chromatic and modern harmony: altered-6th chords, expanded tertian harmony, cadence evasion, added-note harmony, parallelism; jazz harmony and notation; polychords, polytonality; quartal/quintal harmony; secondal/cluster harmony;

Evolution of forms (e.g., rondo, sonata) from earliest manifestations through the twentieth century;

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Independent performance/analysis project; independent composition projects in Classic/Romantic style (of rondo or sonata length) and in chromatic and Impressionist or post-Impressionist styles, scored for class instruments;

Styles: Classic, Romantic, post-Romantic, Impressionist, post-Impressionist, Modern.

Core Content (258B)

Monophony and polyphony in the Middle Ages and Renaissance;

Plainsong, troubadour/trouvere repertory, liturgical drama;

Origins of polyphony in organum, motets, other early forms;

Mass/motet and madrigal styles in the Renaissance; species counterpoint based on Palestrina/Lassus models;

Demonstration of Medieval and Renaissance instruments by members of the Collegium Musicum;

Stylistic transcription problems for modern instruments;

Composition of 2- to 4-part motets and madrigals;

Styles: Ars Antiqua, Notre-Dame School, Arts Nova, Burgundian School, Renaissance, Mannerism.

[As part of the final exam for 258B, the CM Aural Skills test is given. Students may take this exam at any time, however, and indeed are encouraged to do so as soon as possible. This exam includes melodic dictation, two-part contrapuntal dictation, four-part harmonic dictation, chromatic and modern harmony identification, and error detection commensurate with a level of ability expected of music majors after two years of CM. Any section of the test not passed must be retaken the next semester. Students may continue with their undergraduate program, but music majors may not graduate until all sections of the test have been passed. The test is given at the end of every semester and may be repeated as often as necessary.]

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358A-358B. 3rd Year Comprehensive Musicianship [6 hrs./wk.]

"Continuation of Music 258A-258B. Counterpoint from 18th to 20th century, serial techniques, electronic music. Individual projects in instrumentation, composition, analysis."

Core Content (358A)

Counterpoint in the 18th-20th centuries;

Study of fugue, invention, suite, etc., through analysis, composition, and performance;

Seminars in ornamentation, live figured-bass realization, dance forms in the suite (students will typically learn several Baroque dances, taught by guests from the Dance Dept.);

12-tone/serial techniques;

Contrapuntal composition in three or more parts employing 20th-century materials and techniques; scored for class instruments;

Styles: Baroque, Modern.

Core Content (358B)

Major independent projects: composition and orchestration; performance and analysis; post-1950 new- music techniques and notation;

Scoring for symphonic band or wind ensemble, symphony orchestra, jazz band, or choral/instrumental ensemble (students have access to all major performance groups);

Score preparation, extraction of parts, conducting practice (students are expected to rehearse and conduct their own scores); all projects taped and played back later for discussion and evaluation; best projects are performed in public on the annual spring CM Large Ensemble Concert;

Advanced problems in analysis; introduction to electro-acoustic

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music, computer music, chance music, graphic scores, multimedia, free improvisation.

UNIQUE ASPECTS OF CM

COLLEGIUM CONCERTS: At least once a semester the best compositions and performance projects from each CM class level are assembled and presented semi-publically for all the CM classes. Discussion, analysis, and, frequently, ear-training exercises follow each performance. A large-ensemble concert of outstanding CM compositions is given every Spring as a culmination of the CM program. Students are invited to conduct their works with the SDSU Symphonic Band or Wind Ensemble I, SDSU Symphony Orchestra, Jazz Ensemble, Chamber Singers, or CM Choral-Instrumental Ensemble, through the cooperation and support of the directors. All concerts are recorded (by students from the Electronic Music classes) and tapes are made available to the composers afterward.

SIGHT-READING SESSIONS: Several times a semester the CM classes combine to form a chorus and orchestra to read significant works from different periods. Qualified students are invited to take turns conducting for additional experience. Typical repertory has included Bach cantatas, Haydn masses and oratorios, modern works by Stravinsky, Honegger, Harrison, Schafer, and Ward-Steinman.

IMPROVISATION: Although not normally required in conventional music classes, improvisation nonetheless remains an incalculably valuable form of musical expression and synthesis. Students are given opportunities to express themselves in a variety of musical styles and performance situations. To improvise convincingly in a given style, form, or musical language requires as much analytical and musical skill as a written exercise or research paper, and this reveals a great deal about the quality of musical intelligence at work. In some classes, students will learn to improvise phrases, complete antecedent-consequent pairs, work in modes, ground-bass and chaconne patterns, improvise different kinds of counterpoint to given lines, and illustrate a wide variety of musical devices and styles. Students also learn to read graphic scores and various kinds of open-form notations, as well as to make their own.

COMPOSITION: A natural correlate of improvisation, compo-

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sition, begins where improvisation leaves off, that is, with notation (of what may have begun as an improvisation), polishing, editing, rewriting, etc. In CM, virtually all musical observations and analyses of style-periods and characteristics are tested in recomposition and improvisation situations, which are regarded as valuable forms of feedback. Students also have the opportunity in individual projects to compose freely in their own style; they must, however, be prepared to analyze and discuss their work in class.

PERFORMANCE PROJECTS: At various times in the CM sequence, students are required to perform something for the class that they have prepared by themselves without coaching. They must be prepared to analyze the piece and defend their interpretation. They are encouraged to form chamber groups with other students and present joint performances.

COMPARISON PAPERS: Throughout the three-year CM sequence students are asked to write papers on various topics as another form of feedback and as an indication of their ability to do independent research. Most often these papers will take the form of a concert report or a detailed comparison between two or more pieces, typically from different periods, but with something significant in common: form, medium, texture, etc. It will be the students' task to detail the similarities as well as the differences with whatever depth they are capable, and to generalize their conclusions, with references to other works they may know so that they begin to form concrete ideas of style attributes and formal organization in music.

SPECIAL SDSU CM TEXT/ANTHOLOGY: In 1976, *Comparative Anthology of Musical Forms*, a basic two-volume source text and reference was published, co-authored by Susan L. Ward-Steinman and David Ward-Steinman. This anthology includes folk, jazz, pop, and non-Western examples of world music as well as Western traditional and contemporary music, providing primary source material for the three-year CM sequence. The anthology is unique in its organization according to structural and textural principles that transcend stylistic and chronological boundaries, and in its integration of art analogues with the music.²

OPPORTUNITIES FOR GRADUATE STUDENTS AND ADVANCED UNDERGRADS: Three units of credit are available to graduate students and advanced undergrads (the latter must have completed the CM sequence with an average of A or B) who wish to

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serve as Teaching Assistants in the CM program. Generally, one T.A. will be assigned per section. Graduate students register for Music 658; undergraduates for Music 458, "Comprehensive Musicianship Pedagogy" (the latter for students wishing to specialize in the PSI approach at the freshman level).³

PLACEMENT OF TRANSFER STUDENTS

Students who begin the CM program at San Diego State and stay with it generally do very well with composition projects and other activities that are not usually included in programs elsewhere. But transfers entering in the middle of the program often flounder for awhile until they become used to our expectations. Often, on the basis of their placement exams, they lose a semester or two of previous study that was not up to our standards. Several of the local community colleges have adopted modified forms of our CM program, however, and their students tend to do much better than those from schools with more traditional curricula. In the latest 6th-semester class, for example, 15 of the 26 students were transfers at some point from other institutions. In an attempt to better cope with the needs of our transfers, we have come up with the following guidelines:

Recommended Prerequisites for Admission

158A: the Basic Musicianship Examination for admission to the Comprehensive Musicianship program requires that the student demonstrate basic musical literacy by, for example, 1) matching pitches; 2) singing back short phrases or intervals; 3) writing or identifying key signatures to the principal major and minor keys; 4) identifying common meters by ear; 5) sightsinging (or sight reading on an instrument) simple melodies in one or more clefs, and playing, recognizing, or writing a few basic scales and chords.

Students seriously deficient in any of the above may be counseled into Music 102, Basic Musicianship for Non-Music Majors, before beginning the CM sequence; concurrent registration in Music 102 and Music 158A may be recommended, depending upon the needs and abilities of the student. Special courses in aural skills (Music 103A and 103B) may also be recommended to help remedy deficiencies.

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158B: completion of one semester of Theory (Harmony, Musicianship) required, or ability to pass an exam on the core content of 158A as described elsewhere.

258A: completion of one or two semesters of Theory required, plus exam on core content of 158B as described elsewhere.

258B [Counterpoint in the Middle Ages and Renaissance]: transfers should have completed the study of traditional harmony (at least two, usually three semesters' study) through chromatic harmony and late nineteenth-century literature. (258A continues through Impressionist, post-Impressionist, and twentieth-century harmony. Transfer students deficient in these areas may take the last third of the course under a Special Studies number for two units credit.)

358A [Counterpoint in the 18th-20th centuries]: the last third of this course introduces twentieth-century counterpoint and serial techniques. Students deficient only in the latter may register for the last third only under Special Studies for two units credit. Transfer students should have had by now at least a survey course in music literature or music history. Students lacking this will be required to take one extra music history/literature course. Renaissance counterpoint (258B), though normally prerequisite, may be taken later, if necessary, to solve scheduling problems.

358B [Independent Projects]: completion of all the above or the equivalent, plus completion of a course in Form and Analysis; completion of a course in Instrumentation and Arranging; two semesters of ensemble performance in addition to general department performance requirements.

No student will be allowed to exempt 358B without taking a full range of comprehensive tests covering every aspect of the CM program at San Diego State. Transfer students will be required to take at least one CM course unless able to demonstrate conclusively and unequivocally a mastery of the total CM course content.

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EVOLUTION OF THE CM PROGRAM

The Original CM Pilot Course

The first CM classes, taught by the writer, met four days a week (two hours a day) for two years (1967-69). Six units of credit were given for each semester's work during the four-semester sequence. No extra credit was given or required beyond that normally accruing to the courses replaced by the experimental CM class.

Traditional courses subsumed under the CM umbrella included the following:

3 semesters of traditional harmony ("elementary," "intermediate," and "advanced"—3 units each);

Orientation in Music Literature (2);

18th-Century Counterpoint (3);

16th-Century Counterpoint (3);

Form and Analysis (2);

Instrumentation and Arranging [for band] (2);

Performance Ensemble (2);

Special Study (1).

Total: 24 semester units

Students completing the CM sequence were exempted from the courses listed above and given commensurate credit. The original college course catalog described CM as "Direct analysis of musical forms as they have evolved historically; sightsinging, keyboard harmony, dictation, partwriting and counterpoint and, where relevant, orchestration, aesthetics, art and architecture, literature, and cultural history."

Because one of the premises of the CM philosophy was to develop the capacity for independent thought in the students, as well as to take a fresh look at the entire pedagogical process, *no textbooks of any kind were used or required during the two-year experimental course*. Instead, actual musical literature was made the basis for all studies, except for a single handbook in ear training. One commercial two-volume anthology was used for source material, but this soon proved inadequate, leading to the eventual development and publication of our own CM anthology, *Comparative Anthology of Musical Forms*.

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Since the establishment of CM as the core course for all music majors and minors, textbooks have returned, primarily at the request of students themselves, who wanted references to consult when they missed a class or needed to review. We have thrown in the towel on this one, though heavy use of the *Comparative Anthology* is still made and we hope to keep living music always at the core of the experience.

The pilot class of twenty-two consisted of approximately one-third of the entering Freshmen music majors; the remaining two-thirds went through the traditional modular (fragmented) curriculum as a control group. At the end of the two years the CM students took the final exams from the traditional classes as well as their own, and passed all of these, proving they were able to fulfill the requirements of the traditional music theory classes as well as the more advanced and specialized requirements of the CM program.

As a check on aural-skills training, the Aliferis Music Achievement Test was administered twice—at the beginning and at the end of the second year. There was a positive correlation (.52 at the beginning, .53 at the end) between the abilities of the students as measured by their American College Test [ACT] scores and their achievements in CM, as determined by the Aliferis test. This indicated that both the ability of the students and the course influenced the overall 15% increase the students made in their second taking of the Aliferis test. The mean improvement did not reflect the often dramatic improvement made by the weakest students (e.g., 29%-86%, 16%-57%, 38%-64%).⁴

Evaluation and Implementation

In addition to the testing described above, comparisons were made with the control groups. At the beginning of the two-year sequence the experimental students ranked generally in the bottom third of the freshman music majors on the basis of musical background and experience, as determined by questionnaires and initial diagnostic tests. (This was to prove fortuitous in light of subsequent testing, for the experimental students were not preselected in any way; they were only asked if they thought they would be able to remain for the full two years. Attrition was minimal to normal over the period, but did not exceed departmental norms.) By the beginning of the second year, the Aliferis test indicated that the experimental class now matched the general level of the control students. By the end of the second year the CM students had surpassed the level of the control groups in every case (i.e., *each* of the CM students scored above the mean level of the control groups.)

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During the fall of 1969 after the pilot class ended, the results were discussed and evaluated by faculty and students. Comment from all quarters was solicited and considered. During the spring of 1970 the writer spent a sabbatical semester at Princeton University researching material for the eventual CM anthology, among other things. A two-year appointment as a Ford Foundation Composer-in-Residence for the Tampa Bay area of Florida postponed his return. During the writer's absence the San Diego State Music Department voted overwhelmingly to replace the traditional curriculum with the CM course as soon as it could be implemented, which was in the fall of 1972.

First Changes in the CM Program

Because of catalog problems with giving upper-division credit during the first two years of CM, which included some UD material and course-work, it was decided to stretch out the program to three years, but without adding any extra class hours. From the original eight hours/week for two years, the course now met four hours/week during the freshman year, and six hours/week during the sophomore and junior years. Two credit hours were added, however, reflecting the added content of the course beyond that of the original fragmented curriculum (e.g., instead of just studying instrumentation for the band—all that was previously required—orchestration was added along with scoring techniques for chorus and stage band; contemporary music—nonexistent in the courses replaced by CM—was included along with modules in non-Western musics, in accordance with another national CM principle of expanding the repertoire studied—since to become a California state law with the passage of the Ryan Act).⁵ These two units were borrowed from elective options that most students were taking anyway. The total number of units (26) encompasses the items mentioned above as well as those described elsewhere in this paper.

The non-Western, or world music, component of the program proved to be so intriguing and seductive of time that a full-semester course was spun off as an "Introduction to Ethnic Musics" (taught by the writer) to allow more time for exploration. With the establishment of the Center for World Music and a program of studies in world music and ethnomusicology at San Diego State under the direction of Dr. Robert E. Brown, this course was further subdivided into a two-semester survey of world music, now taught by specialists. So the world music component of CM is now back to "square one" or less—still an important reference but no longer the tail that was beginning to wag the Western European musical dog.

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When the CM approach was adopted for all our music majors and minors, it meant that there were now multiple sections at each level. This made possible a number of activities that were not particularly feasible when there was only one class at a time, taught by one person, such as: a) combining classes for joint events, lectures, performances; b) team teaching to take advantage of individual faculty strengths; c) collegium concerts of student works; and d) choral-instrumental reading sessions, which have been broadened to include anyone in the Department who wishes to participate. (Students from the Conducting classes as well as CM are regularly invited to conduct a movement or two of whatever has been scheduled.)

Another recent addition to the program was the establishment of both undergraduate and graduate courses in CM Pedagogy for students wishing to serve as Teaching Assistants and desiring hands-on experience in helping run the program.

Future Changes Under Consideration

We are presently studying ways of computerizing some aspects of aural skills and theory rudiments training. As soon as funds can be obtained, and a consensus reached, we hope to acquire sufficient computer stations and software packages to service at least a substantial percentage of the Freshman class, where help is most urgently needed.

We have drawn up tentative plans for special world music and jazz sections of CM at the 258B or 358A level, which can be implemented whenever there is sufficient enrollment to justify a separate section; but for the present, those majors can still pursue their special interests in the many independent project opportunities scattered throughout CM.

The most unpleasant change we face is the prospect of having to cut one semester out of the CM sequence. We are under increasing pressure from other areas of the Department to relinquish some of the units presently required in CM to make room for courses others feel are more important to their majors. We are not entirely unsympathetic—out of only 70 units maximum that can be required for music, CM consumes 26. (The State of California mandates 49 units of General Education courses for Bachelor's degrees, in addition to foreign language requirements for music majors.)

We appear to be most vulnerable in the area of counterpoint. We have not been able to find any other schools in support that require both 16th- and 18th-century counterpoint for *all* their music majors, not to

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mention what we also do with medieval and contemporary counterpoint in an attempt to convey the complete spectrum of the subject.⁶ We hate to give way in this area, but the handwriting seems to be on the wall (and there be tygers at the gates, burning bright).

Therefore, our contingency plan is to eliminate 258B (Medieval and Renaissance counterpoint), stretch the content of 258A out over two semesters but reduce the time from 6 hours/week to 4 hours/week and the credit from 5 units/semester to 3 units/semester (like Freshman CM, 158A-B), thereby freeing 4 units as electives for the students or grist for the other Departmental mills. If this should come to pass, we would then put in a separate course in 16th-century counterpoint that we would try to require for composition majors and perhaps a few others who could be persuaded that it would be good for them. This does not sound like progress—indeed, it sounds far too reminiscent of the bad old days before CM—but if we have to do this, at least we would teach that counterpoint from the CM point of view.

CONCLUSIONS

There are really only three things you can do with music, three basic activities: compose it, perform it, or listen to it. Every other musical activity is a spin-off of one of these. Therefore we try to place equal emphasis on these three activities in CM. Specialization can come later, or in tandem with CM. And whatever the student's ultimate specialization, we think he will be the richer for his broad CM experience, and infinitely more versatile musically. And that is what many of our graduates tell us.

If there are strengths in the program, it is directly due to the commitment and personal investment of the faculty teaching CM. We also owe a large vote of thanks to the vision and leadership of our Department Chairman at the time of the implementation of the CM program, the late J. Dayton Smith, who supported the program wholeheartedly.

The consensus is that teaching CM is much harder and more time-consuming than teaching in the older traditional style, but CM is also much more rewarding. Of those on our staff (present and former) who have taught in both formats, there is not one who indicated he or she preferred the older way or would willingly go back to it. But CM is obviously more than a curriculum or a format; it is a philosophy, an approach that can have many manifestations. Without commitment,

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determination, and belief on the part of those teaching it, however, it would be doomed to failure, and that, no doubt, explains why so many of the thirty-six programs originally funded nationally by the Ford Foundation have fallen by the wayside.

The CM experience is not for everyone. Transfers who come in at the middle often flounder for awhile. Students needing a highly structured authoritarian approach are not always able to handle the responsibility and individual initiative we encourage. Some do not take well to self-discipline, and put off starting major projects until the last possible moment. They then find themselves in over their heads, start cutting their classes, and blame it all on CM, to our embarrassment and the occasional detriment of the program's standing among the rest of the faculty, many of whom think CM takes far too much of "their" students' time.

But the students who stay with the program and meet us at least half-way do very well indeed. While incoming transfers often have problems initially, the reverse is not at all true. Not one of our students who transferred to another school before graduating has ever been set back, to our knowledge. Many, in fact, have been able to exempt all their undergraduate music history requirements on the basis of what history they have picked up in CM, even though two semesters of music history remain here *after* completion of the CM program.

Ideally our students should be able to function in any capacity as musicians—conductors, arrangers, composers, copyists, annotators, performers, teachers—and they should be able to deal with any kind of musical repertory, not just what they may have studied in class. The CM approach is a very broad one; we also think it is a deep one. The synthesis of all elements of musicianship is encouraged from the beginning; we do not trust in a post-graduate "Eureka!" experience to bring it all together. Rather, we try to set up the "Eureka!" experience throughout CM. It is what we discover for ourselves that tends to stick with us.

No lecturer, no matter how brilliant or entertaining he or she may be, can teach anyone anything he is not ready to learn. Therefore, we try to be co-discoverers with our students of what they need to know, not authoritarian founts-of-all-knowledge. Asking the right questions is perhaps more important than finding the answers in the long run. But knowing where and how to find the answers is indeed important, and better to find them yourself than have them handed to you on the proverbial silver platter. Or the ex-post-facto textbook.

William Sullivan, writing in *HIGH FIDELITY/Musical America*, summarized the program in this way:

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Student reactions to Comprehensive Musicianship range from enthusiasm for its projects to dismay at its demands. Enthusiastic students are pleased with such practical aspects as being able to compose and conduct actual performances of their own music. The nay-sayers point out that the course requires lengthy classroom participation and much preparation compared to other courses; and there are suggestions that not enough time is spent on any given unit for mastery and that there are as a whole not enough repeated drills. There are many complaints about the nature of the course.

But there is praise for Comprehensive Musicianship because the course is about music as a reality and not a series of abstract elements; and praise because the course is flexible, thorough, and effective; and praise because students have a chance to encounter not only music of all periods from medieval to modern but also ethnic and Eastern music in addition to Western classical music. At least some students have been more motivated than ever before.⁷

And, we might add, so have the faculty teaching CM.

CURRENT CORE CM INSTRUCTIONAL STAFF

Frank Almond (Director, Concert Choir, San Diego Master Choral)

Brent Dutton (tubist, composer)

Merle E. Hogg (trombonist, composer)

Danlee Mitchell (percussionist; Director, Harry Partch Ensemble)

Lewis Peterman (musicologist)

Thomas Stauffer (cellist)

Susan Ward-Steinman (CM Coordinator; Undergraduate Advisor)

David Ward-Steinman (Director, CM Program; composer, pianist)

(Assisted by guest faculty and lecturers from the Music Department and other departments from time to time.)

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NOTES

¹All course descriptions in quotes are from the official San Diego State University *General Catalog*, published annually, v. 73 (San Diego, 1986-1987).

²Susan L. Ward-Steinman and David Ward-Steinman, *Comparative Anthology of Musical Forms* (Wadsworth Publishing Co., 1976; reprinted University Press of America, 1986-1987).

³Some of the above material was presented previously in greatly abbreviated format in "The Theory Curriculum: Styles and Ideas," in CMS Proceedings, Report of the 19th Annual Meeting, Washington, Nov. 1976, *College Music Symposium* 17/1 (Spring 1977): 175-178.

⁴Phyllis Lloyd Whayne, "A Study of the Experimental Course, Comprehensive Musicianship," Master's Project (San Diego State University, 1969), p. 45.

⁵"The Ryan Act" or "Teacher Preparation and Licensing Law of 1970," State of California, became effective 1976. It mandated the study of ethnic musics, including native American music, for those seeking a teaching credential in the state.

⁶The theory program at The American University in Washington, D.C. (instituted in 1965) appears similar in many ways to ours, but it was impossible to determine from the published account of the program if their counterpoint requirements are identical. [See Lloyd Ultan, "Theory with a Thrust, Part II," *Music Educators Journal* (October 1968): 49-51.]

⁷William Sullivan, "San Diego State Goes Comprehensive," *High Fidelity/Musical America* (March 1979): MA-11.

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DERIVATIONAL ANALYSIS STEP BY STEP

ARTHUR KOMAR

During the past century, various theorists—such as Heinrich Schenker, Arnold Schoenberg, Rudolph Réti, and Hans Keller—have expressed the belief that a masterwork represents a series of interrelated pitch-rhythmic events. In the absence of a widely accepted term, I have adopted *derivational analysis* to denote the activity suggested by this belief. And to give my students a methodology for performing derivational analysis, I have formulated the following guidelines.

The basic strategy of derivational analysis involves monitoring initial materials through successive stages of repetition and transformation. First, one identifies an opening gesture as a potential source for subsequent events. Next, one examines Event 2 to see how it may derive from Event 1, proceeding then to Event 3, attempting to determine its relation to Events 1 and 2, taken singly or in combination. As one moves further into the piece, the web of interwoven events becomes ever more intricate. In larger works, connections may be far removed, even bridging the gap between one movement and another. It is important to stress that there are no mechanical rules for devising derivational analyses; we can only rely on our musical intuitions. I shall draw on several well-known tonal works to illustrate derivational analytic technique.

STEP ONE: THE OPENING GESTURE

Some pieces begin with a gesture or motive that is definitely set off from the material that follows. The first movement of Beethoven's Piano Sonata in C Major, Opus 2, No. 3, begins with a clear-cut motive (see Figure 1). Once we hear the rest at the end of measure 2 followed by the repetition in measure 3, we know the first two measures constitute the opening gesture. Many classical works start in this fashion. In rare cases, the articulation of a clear-cut motive may not count as an opening gesture, as in Beethoven's Symphony No. 5 in C Minor, where the initial motive is clear enough, yet is so short that we regard the first few measures merely as introduction to the more substantial gesture beginning after the second fermata.

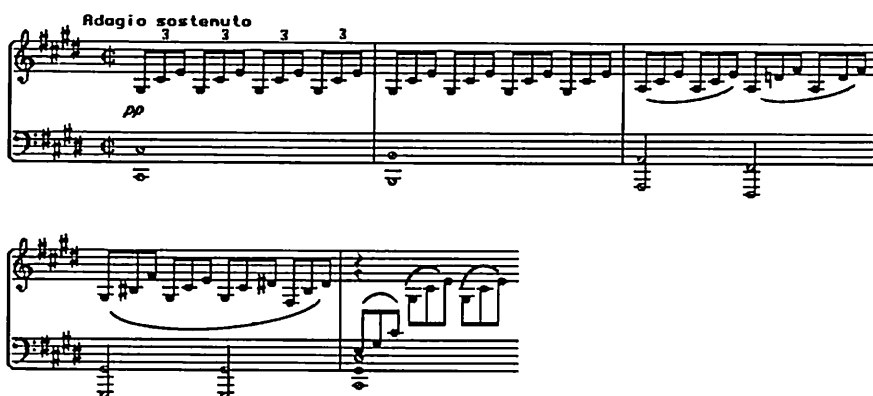
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Figure 1. (mm. 1-8)



By contrast, the opening of Beethoven's "Moonlight" Sonata, Op. 27, No. 2, provides a continuous flow throughout the first five measures (see Figure 2). It seems difficult to break this material down into smaller elements, yet the phrase is so full that we may wish to analyze it as a series of smaller events. For that matter, an opening gesture, even one so clear-cut, is rarely indivisible and can usually be broken down. Thus, Figure 1 exhibits four distinct elements: the opening chord, the neighbors in parallel thirds, the concluding chords, and the final rest.

Figure 2. (mm. 1-5)



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Chopin's Prelude in B Minor (see Figure 3) presents a continuous flow throughout measures 1-4 (like Figure 2), yet clearly articulates an opening gesture in the first two measures (like Figure 1). This shows that while rests are a practical means of setting off an opening gesture, they are by no means required. Figure 4 illustrates a similar passage containing a rest in the vocal line, but with a link in the supporting instrumentation.

Figure 3. (mm. 1-8)

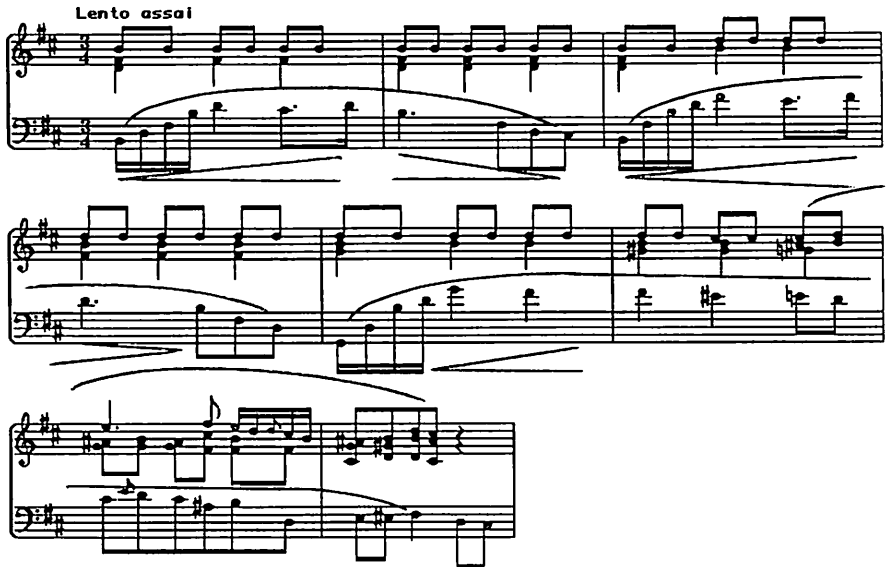


Figure 4. (mm. 1-4)



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Like the "Moonlight" Sonata, Bach's Prelude in C Major, from the first volume of the Well-Tempered Clavier, provides a continuous flow throughout the entire piece (see Figure 5). Nevertheless, we perceive the first four measures as the opening unit, consequent upon the return of the exact pitch content of measure 1 in measure 4. (A similar illustration of tonic enclosure can be found in the opening measures of the slow movement of Beethoven's "Pathétique" Sonata, Opus 13, spanning measure 1 to the downbeat of measure 3.)

Figure 5. (mm. 1-4)



As suggested above, determination of the boundaries of an opening gesture depends on various and diverse criteria; consequently one analyst's notion of an opening event may differ from another's. This should cause no concern, since at worst one version of the first event will be somewhat shorter or longer than another version. The main thing is to show how what ensues is derived from what precedes. To do this, one needs to examine the selected opening gesture in considerable detail, observing all its special, as well as conventional, moves so they can be recognized in whatever form or fashion they later present themselves. In some works, such as fugues, derivation is emphasized intentionally as a continuous feature of the musical surface; but in most pieces, recurrence and transformation of earlier material are concealed—forcing us to dig and delve until we discover any existing derivational continuity.

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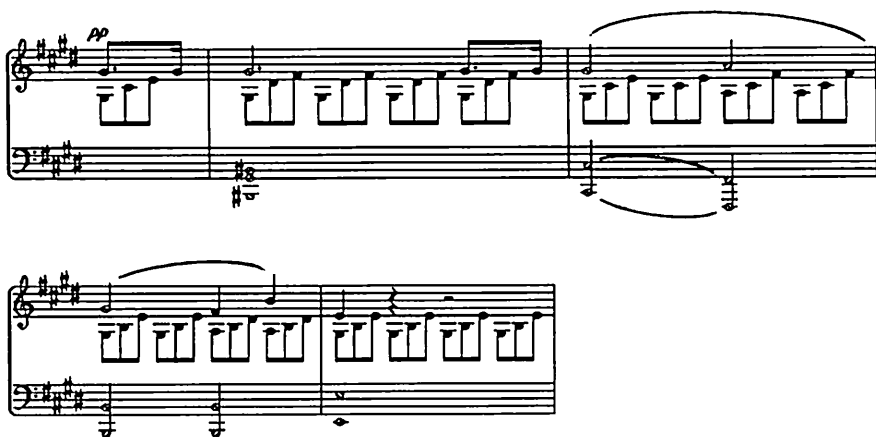
STEP TWO: THE SECOND EVENT

In many pieces, the second event—like the opening gesture—is clearly set off from the preceding and following material, as in measures 3-4 of Figure 1. Here the melodic material starts a step higher than in measure 1 (with F replacing E as first pitch), but the harmony simply reverses the tonic-dominant progression of measures 1-2. In other words, measures 3-4 represent a semi-sequential restatement of measures 1-2 (i.e., sequential melodically but not harmonically). In measure 3 the alto voice mimics the 7-8 relationship of measure 1, as D is ornamented by its leading-tone C-sharp—almost suggesting a melodic, but not harmonic, tonicization of D minor.

In contrast to Figure 1, the second event of the "Moonlight" Sonata might at first appear unrelated to the opening gesture of measures 1-5 (see Figures 2 and 6). However, in following the top line of measures 1-5, we find a linear motion, 3-4-3-2-1, which reappears a third higher in measures 6-9 as 5-6-5-4-3 (with 7 interpolated between 4 and 3). Moreover, in view of the modulation during this phrase, its melodic line is effectively reinterpreted as 3-4-3-2-1 in the secondary key of III. This is a nice illustration of derivation lying just below the actual musical surface.

As in Figure 6, the melodic content of the second event (mm. 3-4) of Chopin's Prelude in B Minor also repeats the first event a third higher (see Figure 3), but in this case with no change in the tonic harmony of the opening gesture.

Figure 6. (mm. 6-9)



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It is by no means always obvious where to locate the second event. In the first prelude of the Well-Tempered Clavier, I regard measures 5-7 (see Figure 7) as the second event, based on the following considerations:

1) The opening unit (Figure 5) consists of five complete neighbor motions, one for each member of the underlying 5-voice texture.

2) Of these five motions, the first one to be completed is 5-6-5, with 6 resolving to 5 exactly at the point where the bass moves from 8 to 7 (m. 3).

3) In measures 5-7 (see Figure 7), the preceding 6-5 line (A-G) is augmented and also emphasized by sounding an octave higher; at the same time, 8 moves once again to 7 in the bass just as 6 (now in the soprano) resolves to 5 (m. 7).

4) Measures 7-11 constitute a complete unit that starts and ends in G Major (V), thereby setting measures 5-7 apart on one end by the tonic prolongation of measures 1-4, and on the other end by the dominant prolongation of measures 7-11. (Observe that a single pitch or chord—in this case the G6 chord of measure 7—may belong to two overlapping events.)

This second unit introduces a new linear element, 6-7-8 of V, as the E of measure 4 splits off into two linear directions, E-F-sharp-G and E-D. This 6-7-8 motion is exploited later in the piece, as we shall see below with regard to measures 11-15.

Figure 7. (mm. 5-7)



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The first two events in Bach's Gavotte from the English Suite in G Minor (Figure 8a) are clearly delineated—each exactly two measures in length—but how is the second event derived from the first? The first thing to notice is the continuing recurrence in the upper part of a 3-note rhythmic figure (quarter-eighth-eighth), but there is more than that. In measures 1-4 the soprano part outlines the following melodic scaffolding: G-B-flat-A-G; E-flat-D-C-B-flat. This half-note series serves as the structural underpinning of the actual surface melody of these four measures. The second part of this scaffolding (6-5-4-3) reverses the left-hand quarter-note line that accompanies the initial soprano motion (1-3-2-1); see Figure 8b. Moreover, in the second unit the left hand parallels the right-hand line in tenths, 4-3-2-1.

Figure 8a. (mm. 1-8)



Figure 8b.



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STEP 3: THE FIRST TWO EVENTS IN COMBINATION

Examine the first two events to determine whether they jointly form a meaningful macro-event. The first two events of Figure 1 combine into a unified whole, insofar as the completion of Event 2 restores the initial pitch content of Event 1. Although the melody consists of an elaborate combination of two passing motions, 3-2-1 and 5-4-3 (see Figure 9), the overall effect—ending up back at the beginning—is like that of a neighbor motion.

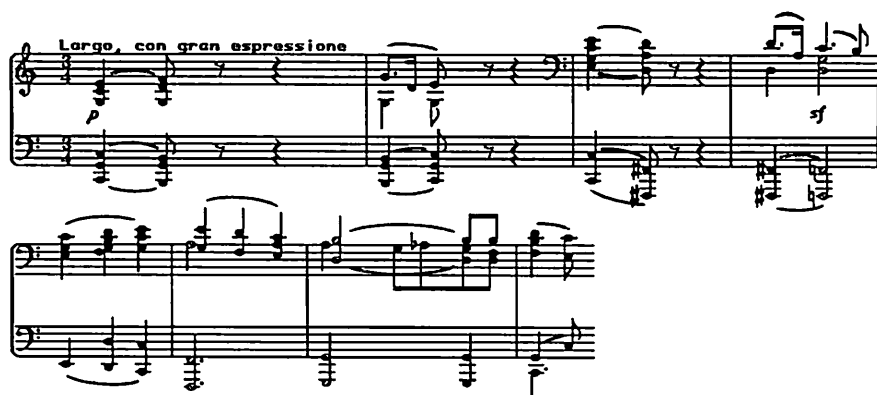
Figure 9.



Another pertinent example is found in the opening measures of the second movement of Beethoven's Piano Sonata in Eb Major, Opus 7 (see Figure 10a). Observe that Unit 2 (mm. 3-4) provides an interesting variation of measures 1-2, in that the G-D-E figure of measure 2 is transposed down a fourth to D-A-B in measure 4, but now expanded to include the accented non-harmonic tone, C. At the same time, we find that both units start with a root-position tonic triad with 3 on top. Viewing Unit 1 as fundamentally a neighbor motion that sustains 3 in the soprano voice (with F essentially resolving back to E rather than passing up to G), we encounter a melodic scaffolding, 3-2-1-7, which embraces all of measures 1-4. This analysis derives from the assumption that in tonal music passing motions carry more structural weight than neighbor motions; therefore, given the choice of locating the inception of the linear descent at the beginning of measure 1 or measure 3, we select measure 1. The goal of this 3-2-1-7 line is the middle C that initiates the third event of the phrase at the downbeat of measure 5. As indicated above, single pitches often serve the double function of starting a new event even while completing a preceding event.

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Figure 10a. (mm. 1-8)



STEP FOUR: THE THIRD EVENT

The third event may follow from preceding material or else represent some new idea. In Figure 10a we find that once the opening linear scaffolding is completed by the soprano C (m. 5), the melody then reascends to 3 only to proceed once again through the entire 3-2-1-7 succession—although with noticeably different harmonic support. This passage shows that consecutive events may occupy different durations; although Events 1 and 2 each lasts two measures, Event 3 (mm. 5-8) is as long as both of them combined.

Figure 10b.



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In contrast to the preceding example (in which the third event is derived from the combined first two events), the third event of Bach's Prelude in C Major (mm. 7-11) primarily resembles the first event, with the second event, measures 5-7, functioning mainly as a link between the two. Figure 11a illustrates Event 3, a dominant prolongation in sharp contrast to the tonic prolongation of Event 1. In Figure 11b we see the previously described combination of five neighbor motions of Event 1 (mm. 1-4). In Figure 11c (mm. 7-11) we find passing motions replacing the outer-voice neighbor motions: i.e., 5-4-3 over 3-2-1 (in the dominant) replaces 3-4-3 over 1-7-1 (in the tonic).

Figure 11a. (mm. 7-11)



Figure 11b. (mm. 1-4)



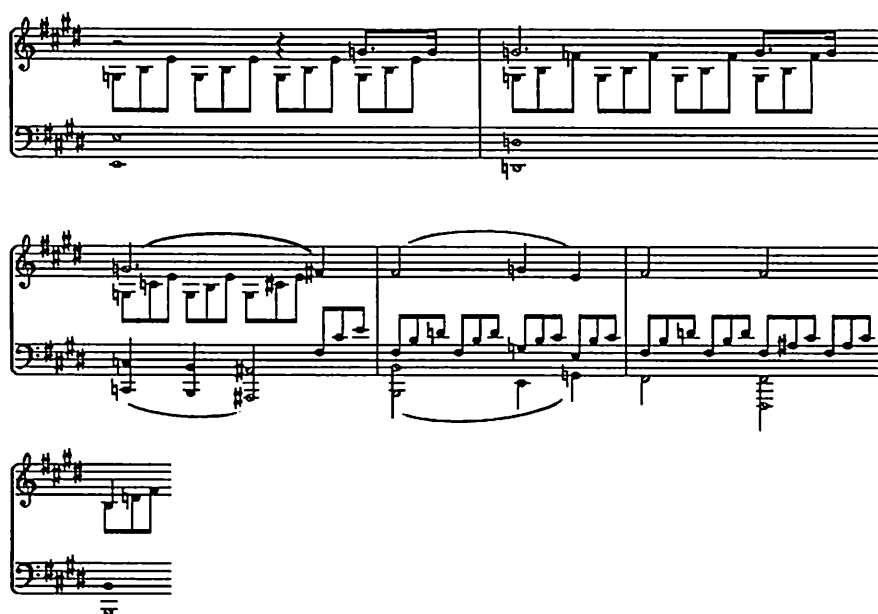
Figure 11c. (mm. 7-11)



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In both passages an inner voice moves 5-6, with 6 resolving back to 5 just as 7 is introduced in another voice. [That is, in Event 1, A resolves to G in the tenor as C moves to B in the bass; in Event 3, E resolves to D in the tenor as G moves to F-sharp in the alto.] Thus, the two passages are interesting both for their similarities and differences. The similarities include the upper voice moving 4-3 in measures 3-4 and 10-11, and the local tonic being treated as a dissonant suspension against 2 in a ii7 chord (mm. 2 and 9). And of course, both units involve the same essential harmonic progression, I - ii7 - V7 - I. The differences involve a) the insertion of the extra dominant-preparation chord, IV4/2, in measure 8 (which is also similar, in that a 4/2 chord again serves as the second chord of the event, as in measure 2); b) the aforementioned descending passing motions in the outer voices; and c) the cadential 5-1 bass motion in measures 10-11. Notice, too, a connection between Events 2 and 3: the outer voices in measures 9-11 (C-B over A-D-G) repeat by inversion the outer voices of measures 5-7 (see Figure 7).

Figure 12.



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The third event of Figure 1 represents a curtailment of the first event, starting on a different scale-degree and lasting just one and a half measures (overlapping into a varied repeat in measure 6). The third event of the "Moonlight" Sonata (see Figure 12) synthesizes elements of the first two events (see Figures 2 and 6): the mode switches back to minor (with E as local tonic), 3 (G-natural) is re-established over a bass motion 8-7-6 (as in mm. 1-3), and yet the rhythmic character of the soprano line is clearly similar to that of measures 5-9. Moreover, Event 3 modulates, like Event 2, whereas Event 1 remains fixed in the tonic; and then, in the newly found secondary key of B minor, the melody sustains 5 (F-sharp, mm. 13-14), similar to the emphasis on 5 (G-sharp) in measures 6-7.

STEP FIVE: THE FIRST THREE EVENTS IN COMBINATION

We now examine the first three events as we earlier did for the first two events. The range of possible interrelationships among three units is considerable. In Bach's Prelude, Events 1 and 3 are substantial while Event 2 is merely a link. In his Gavotte (Figure 8a), Events 1 and 3 are almost identical—with Event 3 representing a new beginning, and arousing our curiosity about Event 4. In Chopin's Prelude in B Minor, the third unit is similar to Events 1 and 2, but is the first to branch out from the tonic triad; in Beethoven's Op. 2, No. 3, the third unit is a harmonic diminution of the first two units. And the third unit of the slow movement of his Op. 7 restates the underlying thematic material of Units 1 and 2 combined (see Figure 10b). We may also discover a larger unit resulting from the conjunction of all three of the initial units. In Bach's Prelude in C Major (Figures 5, 7, 11), an overall unifying effect is achieved throughout Events 1-3 similar to the combined effect of the first two events of Example 10a; each exhibits a descending line, 3-2-1-7, constituting an incomplete larger motion calling for completion in the unit(s) to follow.

STEP 6: THE SMALL VS. THE LARGE

At this stage, the analyst must make a choice: either to continue examining successive local events, or else to step back to get a sense of the structure of the piece (or section thereof, if the piece is a large one) as a whole. In some cases, there is no reason not to proceed immediately to Event 4, as in Bach's Gavotte (see Figure 8a) and Chopin's Prelude in B Minor (Figure 3)—since both passages are about to reach the conclusion of a section. In other cases, where Event 3 itself is the

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conclusion of the opening section or subsection, it is best to step back, rather than push on to Event 4. This is the case in Beethoven's Opus 7, second movement (Figure 10a).

In Bach's Prelude in C major the first three units (mm. 1-11) are part of a larger unit comprising measures 1-19 (see Figure 13). Together, then, there are five individual units here:

- 1) measures 1-4 (opening gesture—tonic)
- 2) measures 5-7 (transition)
- 3) measures 7-11 (middle unit—dominant)
- 4) measures 11-15 (retransition)
- 5) measures 15-19 (closing unit—tonic)

Figure 13. (mm. 11-19)



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As Figure 14 demonstrates, the overall motion is 3-2-1 in the soprano over 1-5-1 in the bass, yet with the soprano voice restoring 3 (an octave lower) at the tonic cadence in measure 19. [This represents an extension of the idea of restoring 3 via the overlapping descending passing motions, 3-2-1 and 5-4-3, as shown in Figure 9.] Measures 12-15 serve the same transitional function as measures 5-7, but in a more complex way. To begin with, Bach replaces the original descent of a perfect fourth (from I down to V) with a perfect fifth (from V down to I); he cannot restate measures 4-7 in measures 11-14 without leading (via an e_6 chord in measure 12) to D major, rather than back to the original C major. Bach achieves this goal by replacing e_6 with d_6 , functioning as ii_6 , thereby heading back to I6 for the onset of the final tonic unit. In measures 11-13 he tonicizes D minor with a melodic 6-7-8 line, derived from the inner voice E-F-sharp-G line of measures 5-7. Having reached the obligatory D6 chord in measure 13, he then models measures 13-19 on measures 5-11, although with one slight change: measure 14 consists of $vii^{04/3}$, rather than $V4/2$, sequentially restating the $vii^{04/3}$ of ii found two measures earlier. The 6-7-8 line now occurs twice: B-C-sharp-D in measures 11-13, and A-B-C in measures 13-15.

The fifth event, measures 15-19, represents an exact transposition of the dominant prolongation of Unit 3 into the tonic harmonic area of Unit 1—thereby producing a synthesis that brings to a conclusion the first large section of the piece, measures 1-19.

Figure 14.



STEP 7: THE NEXT MOVE

By the time one reaches Step 7, various alternatives open up. One may resume examining each local event, or one may once again step back from the music, considering still more or all of the entire work. The choice will depend upon the circumstances of any given piece. And

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there is always the question of how much derivational detail one wants to uncover. One may wish to pursue an entire sonata or symphony in relentless derivational fashion, although perhaps only in special cases, such as when writing a dissertation. Normally, in preparing an analysis suitable in length and scope for a term paper of perhaps 3000 words, it should suffice to select a dozen or so passages that exhibit interesting and meaningful derivations. One should always try to emphasize the passages that seem most absorbing; in this way analysts can best communicate their enthusiasm to the reader.

I shall conclude by presenting some further derivations of special interest drawn from the pieces under discussion.

BACH: PRELUDE IN C MAJOR

After the completion of Unit 5 (see above), the piece once again moves ahead—albeit an octave lower—from the tonic triad in root position with 3 on top. Soon an extended dominant pedal progression is reached, and here we find an interesting derivation from the first part of the prelude. As illustrated in Figures 15b and c, measures 25-27 recall the opening melodic 3-4 counterpointed against 8-7, with 8 once again suspended against 4, while measures 29-32 restate the linear motion 5-4-3, with 8 once again suspended against 4, from measures 7-11 and 15-19. Thus, we find an almost back-to-back conjunction of previously widely separated pitch configurations.

The last four measures of the Prelude (Figure 16) quite obviously derive from measures 1-4. Measure 32 represents the third time that 3/I has appeared at a crucial juncture. The startling alto B-flat of this measure recalls the previous appearance of 3/I (m. 19), with its subsequent conversion into V7/IV in measure 20 (see Figure 15a). In these last measures we hear 3-4-4-3 paired once more against 8-8-7-8 (see mm. 1-4, etc.); acknowledging, however, that this is the concluding phrase of the prelude, Bach exchanges the voices, making the final soprano note 8 instead of 3. [Scale degree 3 is immediately restored in the opening of the fugue that follows. The fugue subject itself is closely modeled after the essential soprano notes of measures 1-7 of the prelude, as shown in Figure 17.]

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Figure 15a. (mm. 20-31)

The musical score for Figure 15a, measures 20-31, is presented in six systems. Each system consists of a grand staff with a treble and bass clef. The time signature is 7/8. The key signature has one sharp (F#). The melody in the treble clef is a continuous eighth-note pattern. The bass clef features a simple harmonic accompaniment with quarter and half notes. The notation includes various musical symbols such as clefs, time signatures, key signatures, and note values.

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Figure 15b.



Figure 15c.



Figure 16. (mm. 32-35)

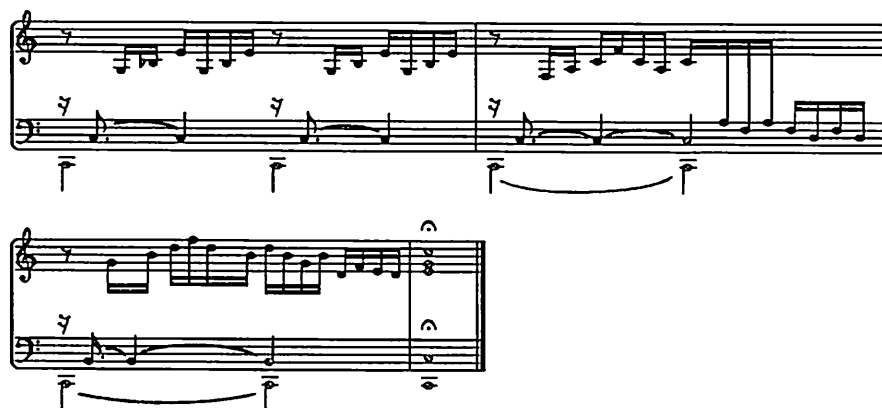


Figure 17.

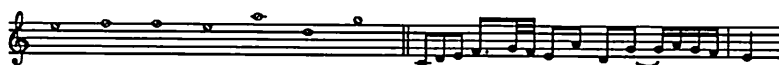


Figure 18.

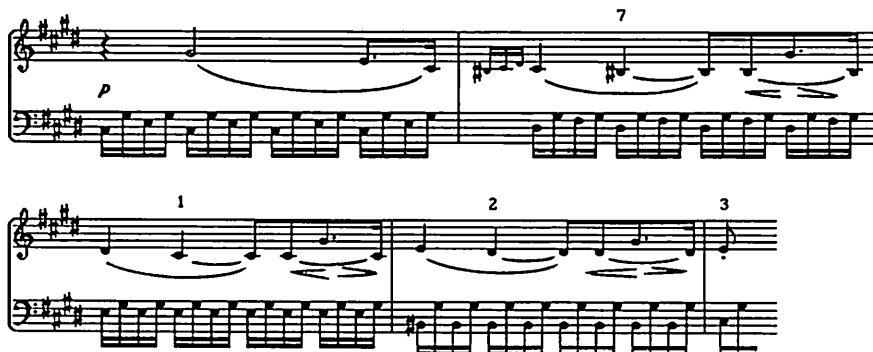


Figure 19.



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BEETHOVEN: MOONLIGHT SONATA

In our earlier discussions we surveyed the first three phrases of this work. After the cadence in B minor (see Figure 12), we hear an arresting phrase featuring a melodic diminished 3rd: B-C-A-sharp-B (mm. 15-19). This phrase returns later in the work, transposed up a step to C-sharp-D-B-sharp-C-sharp (see mm. 51-55). The source of this figure is found in the alto part of measures 1-5 (Figure 2), and the unusual harmonies of measures 16 and 52 originate in the Neapolitan-6th chord found in the second half of measure 3.

The germinal 3-4-3-2-1 line of the first movement reappears also in the finale. The principal theme of the second subject emphasizes an inversion of this source line: 1-7-1-2-3 (see Figure 18). This is followed by a retrograde inversion, 3-2-1-7-1, in the key of the Neapolitan (see Figure 19), again reflecting the seminal importance of the N6 chord in measure 3 of the first movement.

CHOPIN: PRELUDE IN B MINOR

After Chopin repeats the source material of measures 1-2 (see Figure 3), he focuses on the central idea of the first event—the descending passing motion 3-2-1. In measures 5-6, he descends 6-5-#4, extending the motion by means of a suspended 5 (F-sharp) at the downbeat of measure 6. The soprano voice now takes over the melody, presenting a middleground scaffolding offering yet another descending third, 4-3-2 (see Figures 3 and 20). Observe the continued use of suspensions (E and D in mm. 7 and 8, respectively), and the hemiola effect produced by the middleground harmonic rhythm in measures 7-8.

Figure 20.

mm. 1-2 3-4 5-6 7-8

b4 — 3 — 2

6 — 5 — #4

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BACH: GAVOTTE IN G MINOR

The first section (see Figure 8a) closes with an expanded transposition of the initial melodic scaffolding 1-3-2-1; i.e., G-B-flat-A-G now becomes B-flat-D-C-B-flat (1-3-2-1 in the key of III) with various ornamental insertions (see Figure 21). Also, at the end of Event 3 (mm. 4-6, Figure 8a) notice the diminution of the parallel lines 6-5-4-3 and 4-3-2-1 from Unit 2 (see Figure 8b). Although the surface melodic material of the next section (starting in the middle of measure 8) is closely allied to the 3-note foreground motive of Event 1, it presents an essentially new melodic underpinning, 3-5-6-5 in the key of III (see Figure 22). Then, in the second half of measure 10, the soprano presents continuous 8th-note figurations that outline a 6-5-4-3 scaffolding (as in mm. 2-4) in the upcoming key of D minor (v); see Figure 23. In measures 14-16 the left-hand melody repeats the first part of the opening theme in D minor. Consequently we hear the original middleground motives of Units 1 and 2 (1-3-2-1 and 6-5-4-3) in this secondary key, but in reverse order.

Figure 21.

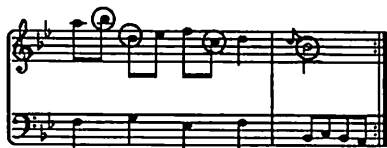
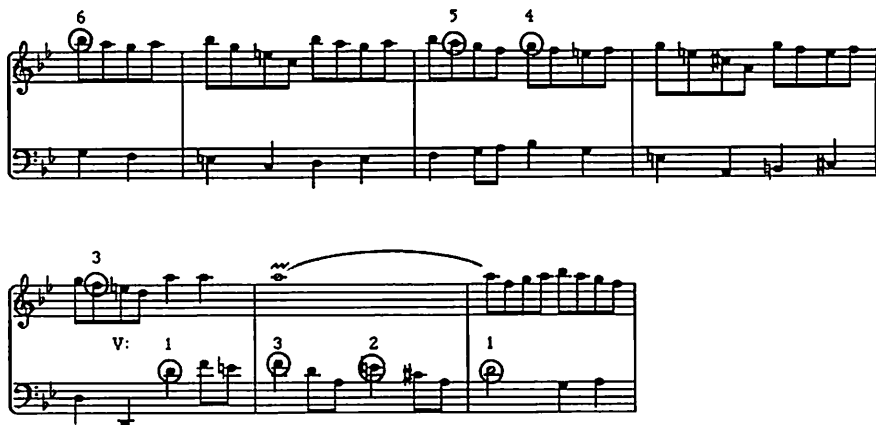


Figure 22.



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Figure 23.



Gavotte II in G Major (Figure 24) functions as a trio to Gavotte I in G Minor. It begins with a melodic line featuring D-E-D-G-B-A-G. This new line combines two basic melodic ideas from Gavotte I: transposition of 5-6-5 from measures 9-10 (see Figure 22), and a modally altered restatement of 1-3-2-1 from measures 1-2.

Figure 24. (mm. 1-4)



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BEETHOVEN: PIANO SONATA, OP. 7, SECOND MOVEMENT

In the first phrase we hear an important 3-note cell, G-D-E (see Figure 10a). A transformation of this cell, G-F-sharp-D, appears in the second phrase (Figure 25; m. 9), recurs frequently in the third phrase (A-E-F, F-B-flat-G, G-C-A, A-D-B; mm. 17-18), and also appears prominently in the contrasting middle section of the movement (E-flat-A-flat-G, D-flat-B-flat-A-flat, C-E-F, etc.; mm. 25 ff.). No wonder that Schoenberg, the master of the 3-note cell—see his Opus 23—regarded Beethoven's derivational technique as a model and inspiration for the Second Viennese School.

Figure 25. (mm. 9-30)

2nd Phrase
fea.

3rd Phrase

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Figure 25. (con't.)

The musical score consists of five systems of piano notation, each with a treble and bass staff. The notation includes various dynamics and articulations:

- System 1:** Features a series of chords in the bass staff. Dynamics include *ff* (fortissimo) and *pp* (pianissimo).
- System 2:** The treble staff has a melodic line with a slur. The bass staff has a continuous eighth-note accompaniment. Dynamics include *pp*. The section is labeled "Middle Section" and "sempre staccato".
- System 3:** The treble staff has a melodic line with a slur. The bass staff has a continuous eighth-note accompaniment. Dynamics include *sf* (sforzando).
- System 4:** The treble staff has a melodic line with a slur. The bass staff has a continuous eighth-note accompaniment. Dynamics include *sf*.
- System 5:** The treble staff has a melodic line with a slur. The bass staff has a continuous eighth-note accompaniment. Dynamics include *sf*.

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As these various illustrations have shown, the inherent possibilities of derivational analysis are unlimited. Of central importance is the imperative to use strong musical instincts as a guide to locating derivations; one must take care to avoid finding derivations where none exist. In other words, one must always strive to keep the ear in control of the eye.

PEDAGOGICAL ASPECTS OF CHROMATICISM IN 16TH- AND 18TH-CENTURY COUNTERPOINT

ROBERT GAULDIN

In textbooks on 16th- and 18th-century counterpoint, one of the more neglected topics is the role that chromaticism plays in the polyphony of these periods.¹ The present study will attempt to rectify this deficiency by providing: a) some basic principles concerning the use of linear chromaticism; b) typical models or paradigms of voice-leading; and c) passing references to examples from the musical literature based on the above models. It is not my purpose here to formulate any general theory of chromaticism, although some of the observations may provide an initial step in that direction.

Prior to examining both Renaissance and Baroque polyphonic practice, it is necessary to define the nature and limitations of this investigation. The term *chromaticism* and its relation to the music of the 16th century has been rather loosely employed to denote a number of different compositional techniques. In the present context it will refer to passages in which one or more lines exhibit(s) successive intervals of half-steps, at least one of which involves the chromaticization of a pitch class (or an augmented prime). We are dealing, therefore, with what is basically a melodic phenomenon, and its counterpointing in two or more voices. This excludes the consideration of those works that feature extended cycles of fifths with their resultant exotic accidentals or *musica ficta*, such as Willaert's celebrated duo *Quidnam ebretas* (1519), Mattheaeus Greiter's *Passibus ambiguus* (1553), or Costeley's *Seigneur Dieu ta pitie* (c. 1558); the former two have been discussed in detail by Lowinsky² and the latter by Levy.³ Likewise the question of cross relations between different voices, treated at some length by Haar,⁴ will be omitted, except in those instances where *simultaneous* vertical augmented primes or diminished octaves occur.

The voice-leading models and theoretical conclusions presented here have been drawn from and based upon an examination of the actual musical literature of the periods. References to theoretical treatises are intentionally avoided.⁵ Most of the paradigms appear in

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either the untransposed modal system (Renaissance) or C major-A minor (Baroque). In those cases that represent reductions of specific compositions, the original pitch level has usually been retained. Numerous references to various representative works are included in footnotes; these immediately follow the example reference.

LINEAR CHROMATICISM IN 16TH-CENTURY POLYPHONY

Since most texts are traditionally based on the polyphonic practices of the Counter Reformation in general and Palestrina in particular, the problem raised by linear chromaticism is seldom broached. Although admittedly rare in this literature, the device does play a role in some of the secular (and even sacred) music of the century. It appears to have originated with those proponents of the Venetian school (deRore, Willaert, Vicentino, and later Giovanni Gabrieli), whose influence may be seen in the Italian and English madrigal (Marenzio, Gesualdo, Monteverdi, Wilbye, and Weelkes respectively). Certain of these techniques are carried over in keyboard pieces of the first part of the 17th century (Sweelinck, Frescobaldi). It is primarily from these composers, with passing reference to some other masters of the period, that the voice-leading models and citations will be drawn.

Despite Vicentino's abortive attempt to base compositions on the ancient Greek *genera*, the music of the late Renaissance remains firmly rooted in the diatonic pitch collection with the dual alteration of B-natural/B-flat. The term *diatonic* (literally *two tones*) implies successions of major 2nds partitioned into conjunct tetrachords by means of Mi to Fa. *Chromatics* (or *color tones*), in turn, divide the major 2nds by means of the augmented prime (C to C-sharp to D, etc.). In an idealized hypothetical state one might imagine a projection of whole-tones (0, 2, 4, 6, 8, 10, 0, etc.) as the "diatonic" norm, with its "chromatic" complement "filling in" the steps (1, 3, 5, 7, 9, 11, etc); see Figure 1. From the application of such an admittedly artificial system, one significant characteristic of linear chromaticism may, nevertheless, be observed: its tendency to establish and continue *strict sequential patterns*.

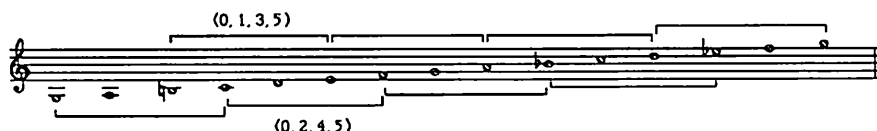
Figure 1. Hypothetical "diatonic/chromatic" system

"diatonic" pcs	=	0	2	4	6	8	10	0
"chromatic" pcs	=	1	3	5	7	9	11	

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In the diatonic pitch collection the presence of the Mi-Fa half-steps prohibits the rigorous projection of these patterns beyond the span of the tetrachord. Thus the natural minor 2nds act as built-in "dividers or limiters." The various tetrachords present within the basic modal system (using both B-flat and E-flat) are illustrated in Figure 2. Note that the lower quartet (0, 2, 4, 5) represents an inverse relation to the upper four (0, 1, 3, 5).

Figure 2. Conjunct tetrachords in modal system (= diesian scale)



The next step is the establishment of the accidentals commonly employed in the period as the basic source for the generation of chromatics. In the untransposed modes these normally include C-sharp, F-sharp, G-sharp in addition to the usual B-flat; although in the transposed system they appear a fourth higher, only the former will be employed here. This allows the filling-in of the A-D and E-A tetrachords with chromatic motion that may either ascend or descend (see Figure 3). The B-E span requires the use of a D-sharp and is somewhat less common, while the D-G tetrachord with its E-flat is rarer yet. The lower set of tetrachords in Figure 2 (0, 2, 4, 5) are not usually chromaticized, since that would necessitate more exotic accidentals (C, B-natural, B-flat, A-natural, A-flat, G; or C, B-natural, A-sharp, A-natural, G-sharp, G-natural).⁶ The three more frequently employed forms may be conveniently related to the standard hexachords of the period (see Figure 4). They will hereafter be designated as *naturale* (E-A), *molle* (A-D), and *duram* (B-E) tetrachords respectively.⁷

Before preceding to a systematic categorization of the various paradigms of linear chromaticism in contrapuntal settings, it is necessary to establish some rhythmic principles regarding their practical use. In general, chromatic passages employ *minims* as the basic durational value, although occasionally augmentations in *semibreves* and diminutions in *semiminims* may be noted. Chromatic

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inflections are almost always found on *weaker* metric positions, both in ascending and descending motion (see Figure 5); about the only exception to this rule occurs sometimes in triple meter.⁸ These tones are seldom, if ever, encountered as non-harmonic tones, but form part of consonant sonorities. Thus verticalities become an important consideration in their contrapuntal settings.

Figure 3. Chromaticization of upper tetrachords (0, 1, 3, 5)

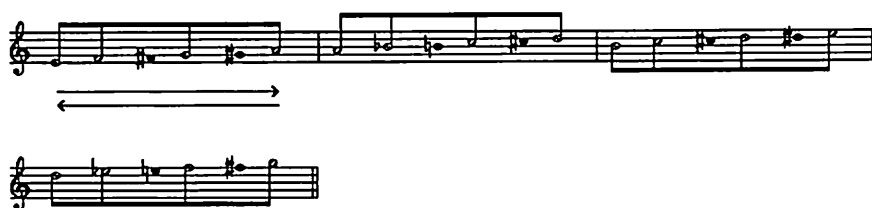


Figure 4. Relation of chromaticized tetrachords to diatonic tetrachords

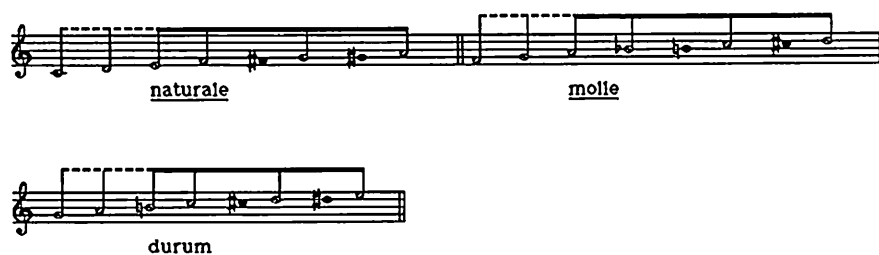


Figure 5. Metric positioning of chromatic notes



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The examples will commence with complete chromatic tetrachords, and progress through successively smaller segments of the fourth span. Passages that extend beyond the tetrachordal bounds will then be considered, followed by the question of overlapping, which results in double-chromatic motion, and finally a brief allusion to chromatic dissonance. Regarding the musical illustrations, chromaticism in vocal works is closely related to specific phrases of appropriate text (or *madrigalism*), so that alternating sections of diatonicism and chromaticism tend to be the norm; the works of Gesualdo are typical cases. In later keyboard pieces, an entire composition may be based on a single chromatic *sogetto*, which pervades the entire work. For instance, the fantasias of Sweelinck are particularly pertinent, since one can study recurrences of the chromatic segment in the light of different polyphonic settings.

Two paradigms form the basis for the voice-leading in *ascending* chromatic tetrachords. In the first (see Figure 6) the harmonic motion is from weak to strong, in that the chromatics on weaker beats operate as miniature "leading-tones," pulling toward their resolution on the following strong beat. The result resembles a kind of "secondary-dominant" progression, which is then sequenced upward. The underlying voice-leading is the familiar 5-6 in terms of three parts (Figure 6a).⁹ If the chromatic line appears in the superius, a continual voice-switching may be necessary to avoid inappropriate inversions (Figure 6b).¹⁰ Figure 6c offers another solution. Two-voice reduction produces a pattern of alternating 6ths and 3rds, which can conveniently be incorporated in double counterpoint (Figure 6d).¹¹

Figure 6. Voice-leading in ascending tetrachords I

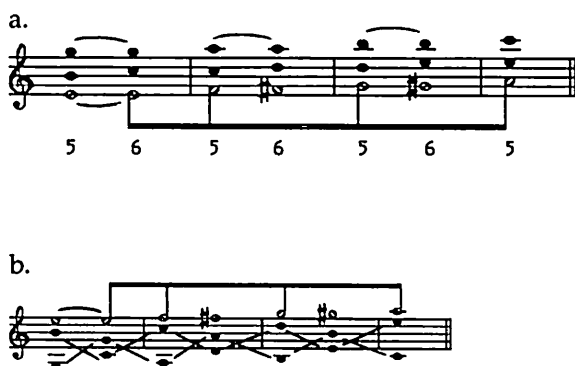


Figure 6. con't.

c.



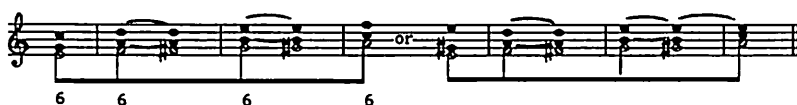
d.



The other less frequently encountered model features a succession of 6/3 sonorities. Note that in Figure 7a the first and last chords may not always form part of the sequence. The motion is from strong to weak, with the minor first inversion mutating into its major counterpart on the weak beat. In Figure 7b the chromaticism is transferred to the upper part (note the avoidance of parallel fifths).¹² The hypothetical two-voice setting shown in Figure 7c is rarely utilized.

Figure 7. Voice-leading in ascending tetrachords II

a.



b.



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Figure 7. con't.

c.



In general, *descending* chromatic tetrachords follow the same voice-leading principles outlined in the previous illustration, although in reverse order. Thus Figure 8a is the retrograde of Figure 6a, and Figure 9a is the retrograde of Figure 7a. In Figure 8a the pairing of diatonic half-steps (see brackets) produce miniature tonicizations of "I - V" from weak to strong. Observe the textural "inversion" in Figure 8b.¹³ Figure 8c shows a pair of possible two-part models with their settings in double counterpoint.¹⁴

Figure 8. Voice-leading in descending tetrachords I

a.



b.



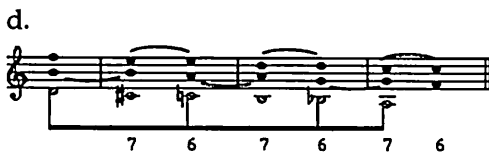
c.



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The succession of 6/3 chords may take several different forms, depending on which voice constitutes the chromatic tetrachord (see Figure 9a through c). Figure 9a¹⁵ is sometimes elaborated with 7-6 suspensions to stagger possible parallels in the upper parts (see Figure 9d).¹⁶ Figure 9e illustrates the usual two-voice model.¹⁷ In most of the above voice-leading reductions the counterpointing parts feature exclusive *diatonic* movement. Thus a chromatic theme tends to be tonally balanced with a diatonic countersubject. There is no better illustration of this mannerism than in Sweelinck's *Fantasia Chromatica*, where the descending *molle* tetrachord is given no less than five distinct and different diatonic counterparts during the course of the piece.

Figure 9. Voice-leading in descending tetrachords II



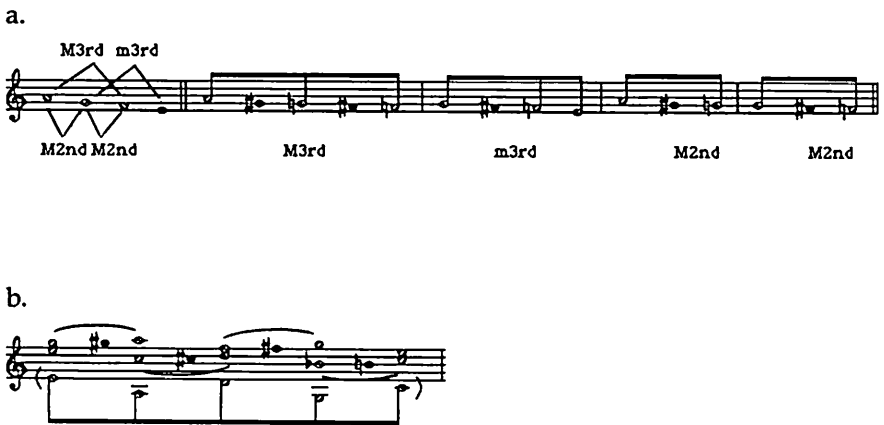
ASPECTS OF CHROMATICISM

Figure 9. con't.



The underlying diatonic components of the various tetrachords may now be segmented into smaller intervallic spans of a major 3rd, minor 3rd, and a pair of major 2nds, each of which, in turn, can be chromaticized. (see Figure 10a). All adhere to the same voice-leading paradigms illustrated previously. While the major-3rd span is somewhat less common, the filled-in minor 3rd is quite frequent.¹⁸ Chromaticization of the whole step often results in an alternating pattern between two separate parts, suggesting a root movement downward by fifths (Figure 10b).¹⁹

Figure 10. Segmentation in chromaticized tetrachords

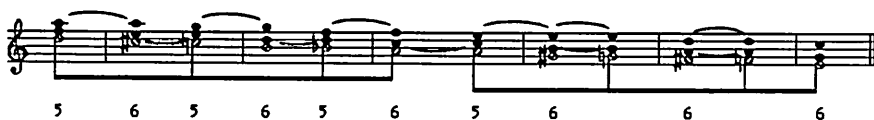


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Chromatic *extensions* beyond the bounds of the tetrachordal dividers may be thought of as the result of the elision of two (or more) tetrachords. In the case of Figure 11a the *molle* and *naturale* are employed. Although the succession of 5-6 is maintained, the normal rhythmic pattern of *minims* must be broken at the repeated A in order to assure the metric placement of the chromatics in the second tetrachord. Thus both voice-leading models (Figures 8 and 9) are present. Chromatic spans of this magnitude are rather rare; consult the interesting Marenzio reduction in Figure 11b.²⁰

Figure 11. Extended chromatic passages

a. Descending chromatic extension (voice-leading models I and II)



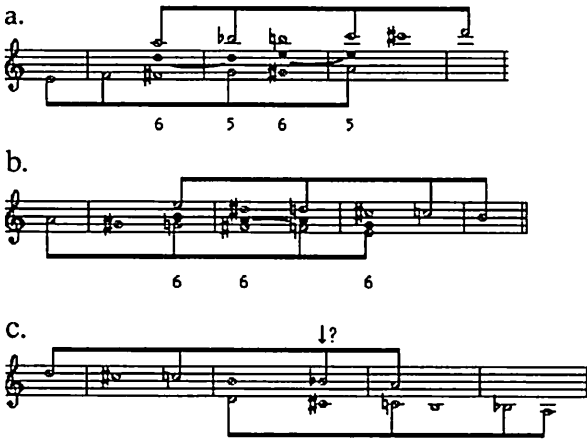
b. Ascending chromatic extension: Marenzio, *Se quel dolor* (Settima parte), mm. 40-54 (reduced and transposed)



The *overlapping* of half-step progressions gives rise to double chromaticism. The more common models, usually the result of *stretto*, are shown in Figure 12a and b.²¹ In cases of this nature the resultant vertical intervals must conform to the standard consonances of the period; augmented or diminished intervals are not allowed (see Figure 12c).²²

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Figure 12. Overlapping of tetrachords, producing double chromatics



A brief word concerning chromatic subjects (*soggetto*) may be inserted. In those themes that frame a perfect fifth or fourth, a *tonal answer* often occurs in imitation, lest the chromaticism direct the tonal motion outside the defining mode (Figure 13). We will return to this topic later in the discussion of Baroque polyphony. Several quotations of vertical dissonance involving either simultaneous cross-relations or "non-harmonic" chromatics are given in Figure 14a and b respectively. The first is more typical of the English school and may be rationalized on purely melodic grounds. The A-flat in Figure 14b may be thought of enharmonically (G-sharp) creating what appears to be an early prototype of the German-sixth sonority.

Figure 13. Tonal imitation of chromatic subject: Frescobaldi, *Ricercar dopo il credo* (*Fiori musicali*)



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Figure 14. Chromatic dissonance

a. Weelkes, *Those sweet delightful lilies*, mm. 26-29



b. Gesualdo, *Io pur respiro*, mm. 29-30



Up to this point all of the prior examples may be reduced back to an underlying diatonic basis. Thus the *surface* chromatics have invariably "resolved" into a diatonic tone. However, with the rise of more exotic accidentals (such as D-sharp, A-sharp, E-sharp, or A-flat, D-flat, etc.) near the end of the century, passages may be encountered that stretch the credibility of the modal system, creating bold and striking harmonic relations. Regarding linear chromaticism, many situations may be found in which the eventual destination is *not* a diatonic tone but the accidental itself. [See Figure 15a.] On the basis of previous harmonies, the initial triad is B-flat major. However, the following B-natural is not "resolved," but instead initiates a sequence by falling thirds, which hypothetically could be extended through the octave by enharmonics. Although the passage does eventually return to the opening B-flat major sonority, it does serve to illustrate a more "structural" use of chromaticism that may move *outside*, if but momentarily, the diatonic confines of the modal system.

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Figure 15. Examples of structural (non-resolving) chromaticism (in reduction)

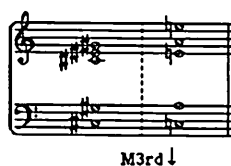
a. G. Gabrieli, *In ecclesiis*, mm. 179-183



b. Gesualdo, *Merce grido piangendo*, mm. 28-29



c. Gesualdo, *Io pur respiro*, mm. 22-23



d. Giovanni Masques, *Consonanze stravaganti*, mm. 26-27



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Figure 15. con't.

e. Gesualdo, *Merce grido piangendo*, m. 31



f. "Neapolitan" relation



In nearly all cases these direct "non-resolving" chromatics produce a harmonic third-relation. Illustrations of the four possibilities are given in Figure 15a through d. Gesualdo sometimes substitutes a third-relation in place of an expected cadence (Figure 15b), or uses it as a means of suddenly veering back into a diatonic section (Figure 15c). Figure 15e quotes a rare instance of a root movement by the augmented prime. Strangely enough, the "Neapolitan" progression (bII - V), with its cross-relation and tritone root movement, is almost never encountered in this period (Figure 15f).

LINEAR CHROMATICISM IN 18TH-CENTURY POLYPHONY

The second part of this study will concentrate on chromatic techniques encountered in the contrapuntal practice of the late Baroque period. The emergence of thoroughbass resulted in a shift from the linear characteristics and abstract intervallic calculations of Renaissance polyphony toward an emphasis on vertical sonorities of the triad and even seventh chord. This was coupled with a

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replacement of the modal system in favor of a dual major-minor hierarchy and the establishment of tonal harmonic function.

Three basic principles may be enumerated that pertain to the use of linear chromaticism in Baroque counterpoint:

1. The chromatic tones will be indicated as alterations of *diatonic scale degrees* within the major or minor mode (#1, #4, $\flat 7$, etc).

2. Because of non-equivalent enharmonics in the mean-tone derived temperament systems of the early 17th century, a set of accidentals was evolved that allowed modulation from a given tonality to its five closely related keys and their diatonic pitch classes. In terms of C major/A minor these were C-sharp, D-sharp, F-sharp, G-sharp, and B-flat; E-flat and A-flat were rarely encountered.²³ In relation to scale degrees these result in #1, #2, #4, #5, $\flat 7$ in the major mode and $\flat 2$, #3, #4, #6, #7 in the minor mode.

3. The three tetrachords noted previously in the Renaissance continue to operate as the basic dividers that limit the projection of strict sequential chromatic motion. Referring to Figure 16, the *durum* spans 7-3 in major and 2-5 in minor, the *naturale* 3-6 in major and 5-8 in minor, and the *molle* 6-2 in major and 1-4 in minor. While the former two feature *both* ascending and descending motion, the latter is normally limited to falling patterns only; in fact, the major mode tends to employ only 8 down to 6. The various altered scale steps are indicated in Figure 16.

Figure 16. Tetrachordal basis of linear chromaticism in the major-minor modes, expressed as pitch classes and scale degrees

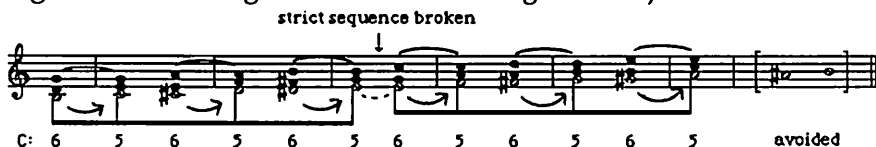


Our survey of Baroque chromaticism will likewise be divided into two general categories: non-structural vs. structural. In the first case, the chromatic halfsteps can be reduced to a diatonic basis, thereby remaining within the confines of the closely-related key system. There

is even evidence that contemporary theorists viewed such passages in a similar fashion.²⁴ Structural chromaticism, on the other hand, involves the tonicization of "altered" chords or movement to foreign (non-diatonic) key centers. Our investigation will commence with the former topic, outlining the fundamental voice-leading procedures in first the major and then the minor modes.

Figure 17 shows the usual method by which ascending half-step motion is treated in the major key, filling up the tetrachordal spans of scale degrees 7 up to 3 and 3 up to 6 with raised chromatics and thus directing the harmonic movement toward either iii or vi. The latter tetrachord is seldom extended, since #6 implies the improbable tonicization of the leading tone. The basic voice-leading is the familiar 5-6 observed earlier in the Renaissance, producing applied dominants of I, ii, iii (= *durum* tetrachord) and IV, V, vi (= *naturale* tetrachord); refer back to Figure 6a. Although the succession of 5-6 can be continued through the entire m7th span, the repeated Es break the strict pattern metrically.

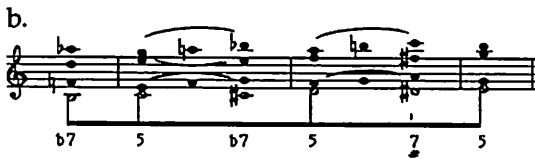
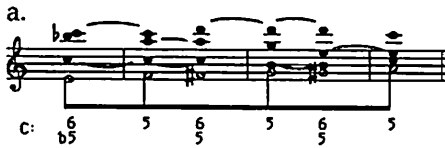
Figure 17. Ascending chromatic voice-leading in the major mode (5-6)



The voice-switching (necessary when chromaticism is assigned to an upper voice) and typical two-voice models are also similar to those of the 16th century; refer back to Figures 6b and 6d respectively. Secondary V6/5s (see Figure 18a) and vii⁰7s (see Figure 18b) may also be substituted, although the latter is somewhat rare in the major mode.²⁵ A quotation employing double and staggered chromatics based on the 5-6 paradigm is given in Figure 18c.²⁶ Progressive segmentation of the tetrachords producing ascending diatonic M3rds, m3rds, and M2nds is common. The latter is often encountered in chromaticized sequences of falling root movement by fifth, providing possible canonic treatment or double counterpoint (see Figure 18d).

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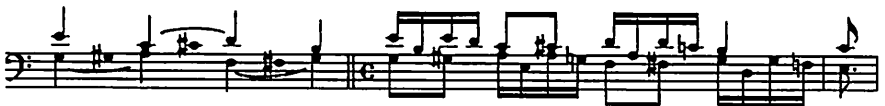
Figure 18. Variations of the basic paradigm in Figure 17



c. Handel, Keyboard Fugue in B minor, mm. 36-41



d. Bach, Prelude and Fugue in A minor BWV 551, mm. 16-17 of Fugue



Descending chromatic motion in the major mode employs a pair of related voice-leading models. Figure 19a is the retrograde of Figure 17 with the tonicizations reversed (iii, ii, I); the 5-6 motion is retained.

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When the chromatic motion is shifted to an upper voice, the lower parts must again be switched (see Figure 19b).²⁷

Figure 19. Descending chromatic voice-leading in the major mode I

a.



b.



In the second paradigm, the chromatic line consists of an alternation of the seventh and third chord members of the harmony, featuring root movement by fifth. Several versions are cited in Figure 20.²⁸

Figure 20. Descending chromatic voice-leading in the major mode II



b.



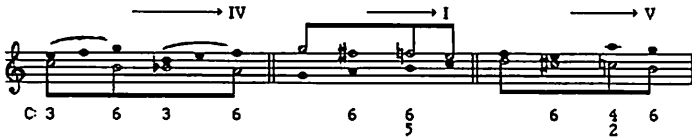
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Figure 20. con't.



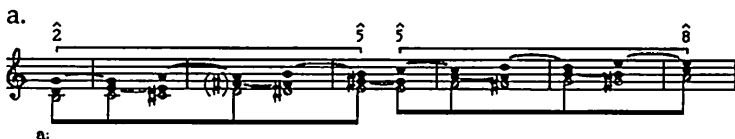
Segmentation of descending chromatic progressions tends to be limited to the falling m3rd span. Three different settings in two-voice texture are illustrated in Figure 21. Although their predilection is to tonicize either I, IV, or V, they can be extended to include altered chord destinations as well (consult measures 18-28 of the Fuga from Bach's Sonata for unaccompanied violin in A minor). The use of mixture or secondary dim7th chords that evoke scale degrees b_6 and b_3 are possible but rather infrequent.²⁹

Figure 21. Settings of the falling m3rd chromatic span in major (two part)



Ascending chromatic motion in the minor mode is limited largely to the tetrachords of 2 up to 5 and 5 up to 8, producing tonicization of III, iv, V and VI, VII, i respectively. See the basic voice-leading in Figure 22a,³⁰ followed by a Vivaldi passage employing 6/5s (Figure 22b).

Figure 22. Ascending chromatic voice-leading in the minor mode



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Figure 22. con't.

b. Vivaldi, Concerto Grosso in G minor Op. 3, No. 2, mm. 14-17.



Occurrences of descending chromatics in minor focus more frequently on the 8-down-to-5 tetrachord so much that it is usually referred to as *the* chromatic tetrachord. Often associated with the affective "sigh" figure, it commonly occurs in movements of a more pathetic nature; Dido's final aria and the *Crucifixus* from Bach's B minor Mass are two familiar examples. In these two instances it appears as a varied form of the descending diatonic tetrachord, used as the basis for numerous continuous variations of the period. The more normative settings are given in Figure 23; note the typical use of 7-6 suspensions.³¹ Due to the relative frequency of the 8-down-to-5 chromatic tetrachord, especially in variations with their successive reiterations, it came to represent a kind of textbook model for harmonic experimentation, with the result that one may encounter a wide variety of different, and sometimes ingenious, settings in works of the Baroque.³²

Figure 23. Typical settings of the $\hat{8} \downarrow \hat{5}$ chromatic tetrachord in minor

a.



b.



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An extended chromatic passage is quoted in the reduction of Figure 24.³³ Here a pair of 2-down-to-5 tetrachords in D minor and B-flat are elided. Overlapping in different voice parts creates double chromatics, usually the result of stretto technique; see the reduction in Figure 25.³⁴

Figure 24. Extended chromatic motion: Bach Contrapunctus XI (*Art of the Fugue*), mm. 105-109 (reduced)



Figure 25. Overlapping chromatic tetrachords: Handel, Chaconne (*Trois Lecons*), Variation 16, mm. 1-6 (reduced)



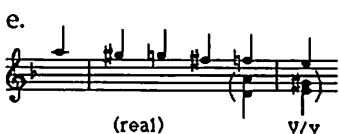
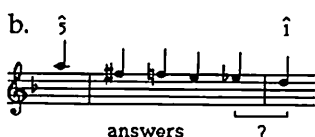
A brief word on chromatic fugue subjects is in order. In principle, the chromatic segment of a subject is answered by *real* imitation.³⁵ However, problems involving tonal answers that exchange scale degree 1 for 5 or 5 for 1 may arise. Figure 26 is simple enough; the substitution of a m2nd for the opening m3rd allows the retention of the chromatic segment (in brackets), with the usual implied harmonic goals (in parentheses). If the motion is now reversed, as in Figure 27a, then neither of the cadential approaches in Figures 27b and 27c is satisfactory. Thus an extension is required (see Figure 27d) to allow proper harmonic preparation for the tonic.³⁶ Of course, the composer may wish to avoid these pitfalls by using a real answer (Figure 27e),

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Figure 26. Tonal answer retaining chromatic segment



Figure 27. Problems involving tonal answers of descending chromatic subjects



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Structural chromaticism involves the tonicization of non-diatonic chord functions and/or the exploration of foreign-key relations. In several genres of the Baroque period, such as the toccata, fantasia, or recitative, the modulatory process sometimes features highly chromatic episodes. Indeed, strange, ambiguous passages may occur in which the detection of tonic orientation is occasionally difficult. Space will permit the analysis of but one such excerpt. For other examples the reader is referred to the choral recitative "He sent a great darkness" from Handel's *Israel in Egypt*, the second movement ("Ubrichi domienti") of Vivaldi's *L'Autunno* from his *Four Seasons*, and several striking instances in Bach's Chromatic Fantasia and Fugue in D minor.

Figure 28. Reduction of mm. 31-39 of Bach's Organ Fantasia in G minor ("Great") BWV 542

mm. 31 35

g: V g c f b^b e^b a^b d^b (g^b c^b)

36 39

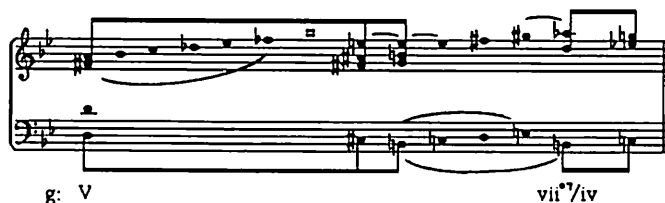
f^b=e^b 6 4 iv

The passage to be examined occurs in measures 31-39 of the first movement of Bach's Organ Fantasia and Fugue ("Great") in G minor (see the reduction in Figure 28). Originating with a structural dominant triad, an extensive sequence of descending perfect fifths is initiated, employing the alternating chromatic paradigm in the upper voices (refer back to Figure 18d). In this case, no tritone is inserted between E-

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tonic, so that when a D-flat minor (!) chord is reached, any sense of one prevailing key center has been effectively nullified. The strict patterning is finally broken in measure 35, with ambivalent dim7th chords propelling us to the climactic E-minor 6/4 of the next measure. Had this sequence of fifths continued unabated, this would have eventually been the resultant enharmonic key: D-flat m, G-flat m, C-flat m, F-flat m = Em. The bass now initiates a chromatic span of the tritone, whose last F supports a vii^o_{4/2} in A minor. This sonority functions enharmonically as vii^o₇ of iv in the original key of G minor, in which the movement concludes. A middle-ground reduction (Figure 29) graphs the overall scheme of the passage. The section beginning at measure 36 has already occurred earlier in E-flat minor (see measures 21-25), yet another foreign relation. Further analysis will reveal the significance of the half-step in the tonal design of the entire Fantasia.

Figure 29. Further reduction of Figure 28



In conclusion, I hope that the foregoing discussion has not only stimulated instructors to include some study of chromaticism in their future counterpoint courses, but has also provided sufficient material from which to devise varied and appropriate student exercises.

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NOTES

¹Sections or chapters devoted to chromaticism may be found in Robert Gauldin, *A Practical Approach to Sixteenth-Century Counterpoint* (1985); Kent Kennan, *Counterpoint* (Based on Eighteenth-Century Practice), 2nd ed. (1972); Richard Parks, *Eighteenth-Century Counterpoint and Tonal Structure* (1984).

²Edward Lowinsky, *Secret Chromatic Art in the Netherlands Motet* (New York: 1946): 52-56 is devoted to the Willaert; and "Matthaeus Greiter's *Fortuna*: An Experiment in Chromaticism and Musical Iconography," *Musical Quarterly* 42/4 (October 1956): 500-519 and 43/1 (January 1957): 68-85.

³Kenneth Levy, "Costeley's Chromactic Chanson," *Annales Musicologiques* 3 (1955): 213-263.

⁴James Haar, "False Relations and Chromaticism in Sixteenth-Century Music," *Journal of the American Musicology Society* 30/3 (Fall 1977): 391-418.

⁵A good overview of theoretical speculation on chromaticism in the late Renaissance may be found in Karol Berger, *Theories of Chromaticism and Enharmonic Music in Late 16th-Century Italy* (*Studies in Musicology*; 10).

⁶A mixture of sharps and flats (C, B-natural, B-flat, A-natural, G-sharp, G-natural) is rare, since it is impossible to maintain any strict sequential pattern.

⁷This classification by tetrachord is hinted at in Theodor-Kroyer, *Die Anfänge der Chromatik im italienischen Madigral* (Leipzig: 1902). This book is an excellent source for chromatic examples in the period.

⁸For instance, in Frescobaldi's *Gagliarda Quarta* (measures 14-17) one finds a succession of semibreves barred thus in triple meter: D, C-sharp | C-natural, B-natural, B-flat | A, G-sharp, G-natural | F-sharp.

⁹Most of the remaining footnotes cite illustrations of the voice-leading models in actual music literature. For an instance of 5 - 6 see William Byrd, *Come Woeful Orpheus* (measures 44-49); note the text "of sourest sharps and uncouth flats."

¹⁰Lassus, *Alma Deus* (from *Cantiones IV vocum*), measures 53-56.

¹¹Dowland, *Farewell* (fancy for lute), measures 3-5.

¹²Vincentino, *Madonna il poco dolce* (from *L'Antid musica*), beginning with the words "il troppo lungo."

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¹³Sweelinck, *Fantasia Chromatica* (I), measures 10-13, but with voice-switching in the upper parts.

¹⁴Dowland, *Forlorn Hope* (fancy for lute), measures 29-30.

¹⁵Frescobaldi, *Capriccio sopra La, Sol, Fa, Re, Ut* (measures 78-81).

¹⁶Frescobaldi, *Toccata Duodecima* (measures 25-27). The succession of 7 - 6s in Wilby's *Oft have I vow'd* (measures 45-50) incorporates both voice-leading models.

¹⁷Sweelinck, *Fantasia Chromatica* (I), measures 71-78; note the use of double counterpoint later in the passage.

¹⁸Sweelinck's *Fantasia IV* (measures 68-73) employs a falling third, while his *Fantasia VI* (measures 203-214) utilizes the rising form.

¹⁹In a fantasia attributed to Sweelinck (see pages 152ff. in Leonhardt's edition of his *Opera Omnia*) one may observe the device in measures 217-220.

²⁰A most interesting chromatic "cantus" in long durations may be found at the opening of Marenzio's *Solo e pensoso*. It rises in the superius from g¹ to a² and then descends to d².

²¹Vincentino, *Pioggia de lagrimar* (measures 1-4) and Luzzasco Luzzaschi, *Quivi sospiri* (measures 1-4).

²²An excellent example of overlapping double-chromaticism in ascending motion may be found in Weelkes, *Cease Sorrows Now* (measures 75-91). For an illustration of the opposite direction in stretto see the final section of Sweelinck's *Fantasia Chromatica* (I).

²³The diatonic scale degrees in minor would include #6, #7, and even the Picardy #3. Thus A minor = F-sharp, G-sharp, C-sharp; D minor = B-flat, C-sharp; E minor = F-sharp, C-sharp, D-sharp, G-sharp; G major = F-sharp; F major = B-flat. If, after finishing a piece in the C major/A minor complex, a harpsichordist performed a Suite in E major, the temperament would have to be adjusted, since A-sharp does not equal B-flat. The main goal in the systems of the late Baroque (such as 1/6th comma) was to lessen this enharmonic discrepancy.

²⁴Johann Marpurg in his *Abhandlung von der Fuge* (1753-1754) reduces the chromatic "Royal Theme" of Bach's *Musical Offering* to its diatonic foundation.

²⁵For an example of 6/5s see measures 13-14 of the Air from Bach's Overture for Orchestra in D major, BWV 1068.

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²⁶Also see Bach's Fugue in F-sharp minor (*WTC II*), measures 48-49.

²⁷For a two-voice implication see the Fuga of Bach's Sonata for Unaccompanied Violin in C major (measures 4-7).

²⁸Bach, Fugue in D minor (*WTC II*), measures 11-12; also refer to Figure 25.

²⁹See Bach's harmonization of *Es ist genug* (measures 15-17) and his Prelude in F major (*WTC II*), measures 9-10.

³⁰The 2-up-to-5 ascent is more common in minor. See Bach's Fugue in E minor (*Eight Short Preludes and Fugues* for organ), measures 8-12.

³¹See the setting (without suspensions) in the Largo of Handel's keyboard Suite in F-sharp minor (measures 14-17); note the voice-switching to avoid parallel fifths.

³²For instance, from Bach's work alone see the subject of the E minor "Wedge" Fugue for organ (implying a rare aug6th); the Gigue from the E minor English Suite, measures 38-42 (parallel dim7th chords); the Chaconne from the Violin Partita in D minor, measures 113-116 (applied 6/5s); the *Crucifixus* from the Mass in B minor, measures 37-41 (a remarkable passage cadencing in V/iv); and Variation 25 from the *Goldberg Variations* (measures 1-4).

³³Also see the chromatic episode in the Ricercar à 6 from Bach's *Musical Offering* (measures 40-44); Frederick's theme incorporates the chromatic span of a dim7th.

³⁴Johann Christoph Bach, Prelude and Fugue in E-flat major (measures 36-45) of the Fugue.

³⁵It may be observed that some so-called "chromatic" fugue subjects do not technically belong in the category, since no augmented prime is involved. For instance the half-step appoggiaturas in Bach's B minor Fugue (*WTC I*) all employ m2nds. For several examples of real imitation incorporating chromatic segments see Bach's F minor Fugue (*WTC I*) and the answer to the Royal Theme in the Ricercar à 3 of his *Musical Offering*.

³⁶An interesting discussion of chromatic subjects and their answers may be found in Marpurg's *Abhandlung von der Fuge*, quoted on pages 170-175 of Alfred Mann's *The Study of Fugue* (New York: 1965).

³⁷See Bach's E minor "Wedge" Fugue for Organ and the E minor Fugue (*WTC I*).

TEXTURAL CONSTRUCTIONS IN MUSIC

MONTE TUBB

By and large, constructions of music are in the form of concurrent strands of activity, acting in relation to each other. The study of texture in music aims at distinguishing these concurrent strands, identifying them, and analyzing their interrelations. It also involves tracking changes of textural construction within a piece so that corresponding patterns of broad design can be considered.

My intent here is to present a flexible system of concepts and terms by which textural constructions can be described and studied with a reasonable amount of detail and precision; and following that, to present some examples.

PRELIMINARY STATEMENTS

Among musicians, the term *texture* has acquired a history of blurred meanings. The question of using the term here was not easy for me. On one hand, the inherited confusion surrounding it was clearly a liability; on the other, arguing for a new term—say *fabric* or *webwork* or *reticulation*—seemed inappropriate to me. As you proceed, then, bear in mind that my eventual choice was arbitrary, but that the basic meaning to be installed here is both discrete and critical.

TEXTURE: the organization of music with respect to its concurrent strands of activity and their interrelations.

Traditional classroom teaching maintains five basic categories of musical texture. Although they will not be used in the vocabulary to be proposed here, review them now as comparative references:

MONOPHONY: texture with only one line.

HOMOPHONY: texture with only one primary line along with one or more strands of concurrent supportive activity.

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POLYPHONY: texture with at least two interdependent and concurrent strands of linear activity.

IMITATIVE POLYPHONY: polyphony in which similar or identical melodic configurations appear in at least two concurrent strands, and in displaced juxtaposition (i.e., one part of the configuration concurrent with another part).

COUNTERPOINT: (1) Generally, a synonym for polyphony or imitative polyphony; (2) the study of either the composition or analysis of polyphony, or of both.

My approach to textural analysis begins with the assumption that texture is neither a compositional style nor a stylistic premise, but is an element of musical organization subject to change from moment to moment within pieces from *all* genres of our traditional concert music. Given this initial premise, bear in mind as you proceed that the conventions of assuming homophony and polyphony as antipodal categories of texture, or as mutually exclusive textures, or as delineations of basic textural differences, must be regarded here as suspended from active duty.

Texture—unlike pitch, duration, meter, dynamics, etc.—is an element of musical organization that cannot be explicitly conveyed by orthodox notation. A substantial amount of textural information is usually nested in notation, however, and can be extrapolated from clues such as stem positions, note-stem configurations, and note-staff deployments. The ability to read these textural clues is an intrinsic part of music literacy.

Some questions about textural construction—e.g., the assignment of particular notes to particular strands, the assignment of strands to different levels of prominence—are essentially issues of artistic interpretation linked to knowledge of styles, and lie in the performer's domain. My intent here is not to propose a theory of interpretation, but to propose a language by which such issues can be explored and discussed.

INTRODUCTION TO THE CONCEPTS AND TERMS

Textural constructions are formed from concurrent interrelated strands. A strand can be formed with one or more of these five types of activity: (1) lines; (2) chords; (3) figures; (4) ostinatos; (5) pedals.

TEXTURAL CONSTRUCTIONS

1. **LINES:** a line, in the most general sense, is a succession of tones one at a time. Most textures contain at least one line; it is common for a texture to contain two or more concurrent lines; some textures have no lines. Also, two lines can converge to become one, or can split to become two or more. I distinguish five types of line:

Primary lines: if a construction has only one line, I call that a *primary line*. If a construction has two or more concurrent lines, I usually regard the line of greater complexity as the primary line, and the other line or lines as subordinate. I gauge linear complexity in terms of differences-over-time: the more fluctuations of pitch, interval, duration, amplitude, and contour a line has, the more complex it is. [See "Amplifications".]

A construction *can* have two or more concurrent primary lines, but such instances are uncommon and even then, only momentary. [See "Lines with Alternating Activity".]

Subordinate Lines: by definition, a texture with only one line cannot have a subordinate line. Subordinate lines are always less complex than the primary line with which they are concurrent.

Bass Lines: a bass line is a subordinate line that is below the other concurrent strands (i.e., at the bottom of a texture). Bass lines earn particular distinction because of their role in framing textures, and because of their heavier resonances. If the bottom of a texture is carried by a subordinate line predominantly above middle C, I do not regard it as a bass line, but simply as a subordinate line. Some textures have a primary line at the bottom, but in such instances I do not use the term *bass line*, since it is not subordinate.

Lines with Alternating Activity: textural constructions seldom sustain two or more concurrent lines with equal and simultaneous levels of complexity. There are often instances, however, of two or more lines engaged in a turn-taking of activity: that is, one line is active while the other is, or others are, momentarily static. In constructions of this sort, the level of complexity of each line will rise and fall from moment to moment, and the locations of primary and subordinate will shift correspondingly.

Doubled Lines: there are instances of textural construction in which a linear strand is not a succession of tones *one* at a time, but a parallel flow of groups of simultaneous tones. The appearance is that of two or

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more concurrent lines with the same durations and contours, but with different successions of pitch. In a doubled line the intervallic structure of each group may be identical or only similar to those of the other group. [In some music, what appears visually to be a single line may actually be heard as two or more lines implied by or embedded in a succession of tones. I will deal with this in the section of examples.]

2. CHORDS: a chord is a group of tones—ordinarily a tertian group—involving at least three pitch classes. Chords can appear in two forms: (a) *blocked*, when the chord members occur simultaneously; or (b) *broken*, when the chord members occur in a succession. Note from this that a broken chord can appear within a line, and that chord progressions can have embedded lines (i.e., the members of one chord can have linear connections with the members of an adjacent chord, etc.). A single tone, therefore, can simultaneously be a member of a chord and a line. [See Amplifications.]

3. FIGURES: a figure is a brief linear or chordal image that has been included in a textural construction, usually to punctuate or modify another strand, or as an interjection or interpolation of another strand. Figures are too brief to be considered lines or progressions, and they may appear singularly or intermittently. (A periodic figure is an *ostinato*.) Brief, here, is obviously an arbitrary distinction; ordinarily, however, in this context it means no more than two or three beats. I distinguish four types of figure:

Punctuating Figure: a figure used to emphasize or articulate the end of a segment of activity.

Modifying Figure: a superimposed figure used to modify a concurrent segment of activity.

Interjected Figure: a figure used to interrupt the continuity of an activity.

Interpolated Figure: a figure used—often like a conjunction—between two adjoining segments of activity.

4. OSTINATOS: an ostinato is a pattern of tones or events repeated in a succession, usually at least three times. The pattern's length can

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range from two or three notes to several measures. The repetition need not be exact so long as the shape and character of the pattern stays perceptibly intact. The most frequently encountered types of ostinato are: (a) linear ostinatos; (b) blocked-chord ostinatos; and (c) broken-chord ostinatos. Some ostinatos are formed by combinations of chordal and linear patterns. Chordal ostinatos, for example, often include a conjoined bass line.

5. PEDALS: a pedal is a sustained or repeated tone or pitch class, used as a static element in relation to some form of change in another strand. In some instances, a pedal is formed by sustaining or repeating something more elaborate—a chord or figure, for example. In any case, the element must be sustained or repeated enough to become static in a context that is otherwise dynamic.

AMPLIFICATIONS

Strands: textural analysis begins by identifying the strands of a construction. Ordinarily, a strand is formed by a single activity: a line, a series of chords, a string of figures, an ostinato, a pedal, etc. In some instances, however, two or three activities may be conjoined to produce subdivisions of a single chord.

Delineating Primary and Subordinate Lines: in distinguishing primary from subordinate lines it is predictable that the question of relative complexity will sometimes be apparent or enigmatic. In approaching this problem, begin with an understanding that the tone-to-tone procession of a line produces sequences of pitch, interval, duration, amplitude, and contour—and that each of these sequences is subject to differing amounts of redundancy and fluctuation.

This concept is critical: the relative and overall amount of fluctuation in a line defines the level of its "linear complexity." If, for example, a line or segment of line has a series of notes of equal duration, a "no fluctuation" summary on the issue of duration is produced, but may be offset by a "high fluctuation" summary of the issue of pitch. Or if a line or segment of line is comprised of a back-and-forth alternation between two pitches, a "no fluctuation" summary on the issues of interval, and a "low fluctuation" summary on the issue of pitch is produced; but these may be offset by a "high fluctuation" summary of the durations . . . and so forth.

Keep in mind, incidentally, that "linear complexity" is not an

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aesthetic issue. In other words, my premise is not "the more complex, the better." (Indeed, what we regard as "good melodic lines," on the whole, tend to have balanced mixtures of fluctuation and redundancy.) The point is, when differing patterns are combined, they merge and become one, or failing that, form a hierarchy in which elements of redundancy become subordinate to the presence of fluctuation.

Lines with Intermittent Activity: although "line" is generally defined as "a succession of tones one at a time," linear strands often include rests as well as tones. A line, in other words, may contain segments of activity punctuated with pauses or momentary suspensions of activity. Keep in mind, incidentally, that a line with intermittent activity maintains continuity through its rests, and is thus distinct from intermittent figures, which are individual, discrete, and used to modify, punctuate, etc.

Chords: in most pre-twentieth-century and some twentieth-century concert music, chords are of tertian construction. This means that the method for identifying a group of tones as a "chord" presumes a knowledge of the pitch-class patterns that can be generated by the tertian principle. (In essence, this principle states that the pitch classes of a chord are initially established by stacking notes in a series with only major or minor thirds between the adjacent members of the series. It is assumed that once the pitch classes of a series have been established, any rearranged deployment of those pitch classes, simultaneously or successively, will not change the tertian identification of the series.)

In much twentieth-century music all or part of the chordal vocabulary may be other than tertian. In such contexts, the identification of the non-tertian chords must be preceded by an understanding of the premise(s) underlying the employed chord constructions.

Chorale Texture: in its basic form, the traditional chorale is a piece for mixed voices, written with four parts: soprano, alto, tenor, and bass. Ordinarily, the soprano line of a chorale is assumed to be the primary line, and the other lines, although composed to have linear integrity, assumed to be concurrent subordinates. It is also assumed that all four voices of a chorale will move somewhat independently of each other, especially with respect to contour and pitch, but will generally move with the same pace (i.e., the lines will be generally dominated by the same durations), and that the concurrency of the four lines will ordinarily produce changes of chord from beat to beat.

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What is of particular significance here is the textural model of chorales in many other kinds of pieces. In the language proposed here, I use the term "chorale-like texture" as a generic term, appropriate whenever the texture of a passage with three or more voices is chorale-like in the ways listed above.

Textural Ambiguities: ambiguity—the simultaneous presence and mixture of multiple meanings or functions—is a familiar and aesthetically effective element in all art forms. Ambiguities of texture are an integral part of virtually all genres of music.

One of the most common forms of textural ambiguity is created by the interdependent duality of chords and lines. Because a chord progression can also be viewed as a flow of multiple concurrent lines, and because these lines inevitably generate chords, discrete separation of the two is often neither possible nor appropriate.

Because linear and chordal strands can share tones, and because a single tone can have both linear and chordal functions, does not mean, however, that "chordness" and "lineness" are indistinguishable concepts. (Consider, for example, a crossword puzzle: when one letter belongs to two words, the distinction between the two words is not impaired.) In any series of chords there will be linear connections between members of one chord and members of the next (i.e., chord progressions always have embedded lines). Conversely, the concurrence of multiple lines will always produce chords. Given this as axiomatic, the textural analysis of such constructions can proceed along either or both of two lines:

- 1) View the construction as multiple concurrent lines; evaluate their levels of complexity, assign them to their primary and subordinate roles, and simply take for granted the presence of an inferred chord progression that will not be explicitly identified as a strand.

- 2) View the construction as a series of chords, identify the series as a single strand and examine the embedded lines for linear complexity. In some instances, an embedded line may be of substantial significance; in others, it (or they) may be only a negligible side effect of the chord progression, and too insignificant to earn distinction as a strand.

Another common form of textural ambiguity comes from the occurrence of broken chords. Since a broken chord is a succession of tones, it is therefore a line, and classification can therefore be enigmatic. To resolve this, proceed with one of three outcomes: a broken chord is

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either a line that incidentally includes an embedded chord; or it is essentially a chord and the line is incidental; or it is an ambiguous mixture of both. Keep in mind that if the members of a broken chord are in a line concurrent with a background sustaining a different chord or chords, the broken chord is to be regarded as incidental to its linear identity. Conversely, if a line contains a broken chord that is the prevailing chordal background of the moment, it is the line that is incidental to the chord. Keep in mind too, that lines dominated by seconds (i.e., conjunct lines) are virtually never experienced as broken chords.

Changes of Texture: studying the changes from one textural construction to another within a piece is an important part of textural analysis. Patterns of change determine the overall picture of a piece's textural architecture. In some pieces there may be only one or two changes of construction. In some there may be a back-and-forth alternation between two constructions. In others, the vocabulary of constructions may be extensive, and changes from one to another relatively frequent.

Keep in mind that there are various types of textural change. Some produce a difference in the number of strands: new strands can be added, and strands can evaporate; or one can split and become two; or two can converge and become one.

Some textural changes produce no difference in the numbers of strands, but involve change in a strand's type of activity: one activity can replace another; or an activity can experience gradual modifications and become a similar or different strand.

Some changes produce sharp contrasts of textural construction, and some produce only subtle modifications of a previous construction. In some instances, a change may involve the retention of certain parts of a previous construction while the other parts change or are replaced.

EXAMPLES

The next section contains a series of excerpts from the standard concert repertory along with brief explanations of their textural constructions. Below each excerpt are the extracted strands of activity, and related definitions and comments.

TEXTURAL CONSTRUCTIONS

Figure 1. Bach: French Suite in D minor



Number of strands: 3

Definitions:

- (1) = primary line
- (2) = subordinate line
- (3) = bass line

Comments:

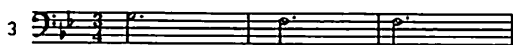
- (1) has more fluctuations of duration, contour, and interval than (2) or (3).
- (2) is the least complex of the three.
- (3) and (1) are about equal with respect to pitch fluctuation, but (3) is less complex in other respects.

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Figure 2. Handel: Minuet



allusion to doubled subordinate line (embedded in ost.)?



Number of strands: 3

Definitions:

- (1) = primary line
- (2) = broken chord ostinato
- (3) = bass line

Comments:

Each tone of (3) has two roles: one as a member of the ostinato, and one as a member of the bass line. Note the reference to a possible doubled subordinate line embedded in the broken chords.

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Figure 3. Mozart: Minuet, K.355



Number of strands: 2

Definitions:

- (1) = doubled primary line
- (2) = bass line

Comments:

Note the mixture of major and minor thirds in the doubled primary line.

Figure 4. Bach: Invention 13 (mm. 1-2)



This passage contains a rapid back-and-forth alternation between two textural constructions.

The first construction has two strands: a primary line (1), and a bass line (2).

The second construction also has two strands: a subordinate line (3) and a primary line (4).

I also view all four as "lines with intermittent activity."

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Figure 5. Schubert: Impromptu, Op. 90, no.4

Allegretto

1 *p*

allusion to a doubled sub. line?

1

2

3

Number of strands: 3

Definitions:

- (1) = broken chords
- (2) = primary line
- (3) = bass line

Comments:

In this instance, (1) is more "active" than (2), but still less complex; i.e., there are more fluctuations of interval, duration, contour, and pitch in (2).

Note the reference to a possible doubled subordinate line embedded in the chords.

Is (1) an ostinato? Possible, but we would have to see more of the piece to decide.

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Figure 6. Beethoven: Bagatelle, Op. 119, no. 1



Number of strands: 2

Definitions:

- (1) = doubled primary line
(2) = subordinate line

Comments:

The subordinate line in this texture is "couched" inside the doubled primary line.

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Figure 7. Haydn: Sonata in D major, Hob. XVI: 37

Presto ma non troppo

1

2

3

Number of strands: 3

Definitions:

- (1) = doubled primary line
- (2) = ostinato
- (3) = bass line (embedded in ostinato)

Comments:

You could argue that this is a two-stranded construction by regarding the ostinato and embedded bass line as components of the same strand of activity. (?)

Figure 8. Chopin: Prelude, Op. 28, no. 6



Number of strands: 2

Definitions:

- (1) = primary line
- (2) = a repeated block chord

Comments:

Some of the tones of the primary line also act as members of the blocked chord.

TEXTURAL CONSTRUCTIONS

Figure 9. Chopin: Mazurka, Op. 24, no. 3

Moderato, con anima

The image displays a musical score for Chopin's Mazurka, Op. 24, no. 3, in 3/4 time and B-flat major. The tempo is marked 'Moderato, con anima'. The score is presented in three parts, labeled 1, 2, and 3. Part 1 is the primary line, written in treble clef. Part 2 is a blocked-chord ostinato, written in bass clef. Part 3 is the bass line, also written in bass clef. The first three measures of the piece are shown. Part 1 begins with a quarter note B-flat, followed by eighth notes A and G, and a quarter note F. Part 2 consists of a series of chords: a B-flat major triad in the first measure, and a B-flat major triad with an added fourth (D-flat) in the second and third measures. Part 3 begins with a quarter note B-flat, followed by eighth notes A and G, and a quarter note F.

Number of strands: 3

Definitions:

- (1) = primary line
- (2) = blocked-chord ostinato
- (3) = bass line

Comments:

The tones of (3) act as both a bass line and as part of the ostinato.

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Figure 10. Ravel: Mother Goose Suite, The Magic Garden

Lent et grave

1

2

3

3

Number of strands: 3

Definitions:

- (1) = primary line
- (2) = subordinate line
- (3) = doubled bass line

Comments:

Note the shift of location of the subordinate line in the third bar. In this instance I assume that chords are generated by the lines.

TEXTURAL CONSTRUCTIONS

Figure 11. Beethoven: Sonata, Op. 109

Andante molto cantabile ed espressivo

The image displays a musical score for Beethoven's Sonata, Op. 109, specifically the section marked 'Andante molto cantabile ed espressivo'. The score is presented in three staves, labeled 1, 2, and 3. Staff 1 is the primary line, staff 2 is the subordinate line, and staff 3 is the bass line. The subordinate line (staff 2) is annotated with 'split', 'converge', and 'split' to indicate its complex texture. The music is in 3/4 time and D major.

Number of strands: 3

Definitions:

- (1) = primary line
- (2) = subordinate line
- (3) = bass line

Comments:

Note how the subordinate line splits and converges and thus alternates between being a single and doubled line. This passage is similar to "chorale" texture, except for the splitting and converging of the subordinate line.

Figure 12. Mozart: Rondo, K. 485

Allegro

1

2

pedal?

Number of strands: 2

Definitions:

- (1) = primary line
- (2) = broken chord ostinato

Comments:

The ostinato could also be viewed as a doubled subordinate line inter-locked with a pedal. (?)

TEXTURAL CONSTRUCTIONS

Figure 13. Schönberg: Suite für Klavier, Op. 25, Gavotte



Definition:

Two primary lines with alternating activity.

Comments:

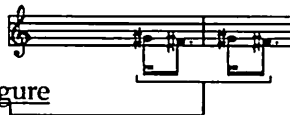
Note the longer durations in one line when the other line becomes active.

Figure 14. Stravinsky: Petroushka, Scene 2



Definition:

A doubled primary line and a punctuating figure



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Figure 15. Bartok: Mikrokosmos, no. 101, Diminished Fifth

Con moto $\text{♩} = 110$

Two primary lines with alternating activity Two concurrent primary lines

Figure 16. Hindemith: Piano Sonata No. 2, First Movement.

Mässig schnell $\text{♩} = 108$

1.
 2.
 3.

Number of strands: 2

Definitions:

- (1) = primary line
- (2) = broken-chord ostinato
- (3) = pedal

Comments:

The pedal is embedded in the ostinato; the ostinato also has an embedded double subordinate line. (See dotted line above.)

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Figure 17. Schumann: *Poor Orphan Child* from Album for the Young, Op. 68



Definition:

"Chorale-like" texture. (See pages 206-207.)

Figure 18. Bach: *Chaconne* from Partita No. 2 in D minor for Violin Solo (mm. 33-35)



Definition:

Two lines with alternating activity embedded in a single succession of tones.

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CLOSING REMARKS

That concepts of textural construction are treated superficially—or ignored—in the classrooms and studios of many music schools seems odd to me. Knowledge of texture is a significant part of understanding and making music. I regard it as an essential component of any analysis aimed at broad-based investigation, and as an indispensable part of music literacy.

To performers, textural savvy is crucial. Each passage of a piece must be regarded not as a general flow of tones, but as a weave of discrete, concurrent strands, each usually requiring a different level of prominence. This, of course, presumes an ability to distinguish the strands, identify their primary and supportive roles, and make artistic decisions about how to play each one in relation to the others. To the composer, textures are strategies by which images are presented and illuminated, and a resource for articulating broad morphic patterns. Since textural constructions are part of what must be composed, the ability to invent, design, and control them is clearly one of the basic crafts of composing.

The idea of developing better ways to study and explain texture seems worthwhile to me. Just as architects frequently talk about joists, beams, footings, cantilevers, and girders, the classroom teacher may have need to discuss "a doubled primary line over a repeated-tone pedal"; or the studio teacher may need to point out that "when the subordinate line becomes an ostinato in bar thirty-two, the bass line evaporates"; or the ensemble conductor may need to tell the trombones, "in bar sixteen, don't let the modifying figure mask the entrance of the new subordinate line." The approach I have presented here—with its premise of viewing strands in terms of five kinds of activity—may use definitions you regard as rebuttable. It does, nonetheless, suggest a language with which reasonably vivid descriptions of texture can be formed so that communication about musical processes and relationships can be initiated—and perhaps even enhanced.

SUGGESTED FURTHER READINGS

Berry, Wallace. "Texture." Chapter 2 in *Structural Functions in Music*. Prentice-Hall, 1976, pp. 184-300.

DeLone, Richard. "Timbre and Texture in Twentieth-Century Music." Chapter 2 in *Aspects of Twentieth-Century Music*. Edited by Gary Wittlich. Prentice-Hall, 1975, pp. 66-207.

White, John. "The Element of Sound" and "An Approach to Musical Sound in Analysis." Chapters 8 and 9 in *The Analysis of Music*. 2nd edition. Scarecrow Press, 1984, pp. 160-203.

PHRASE AND CADENCE: A STUDY OF TERMINOLOGY AND DEFINITION

Ann Blombach

STATEMENT OF THE PROBLEM

The terms *phrase* and *cadence* are so common we tend to take their definitions for granted. We all know what *phrase* means and what a cadence is without defining exactly what musical phenomena we are referring to. Or do we? Anyone who has taught a beginning form or analysis course knows how difficult it is to define and explain these terms to a novice who has not already been initiated into the mysteries of musical terminology. Instead of giving a precise definition of phrase, for example, teachers tend to illustrate the concept by giving copious examples of musical events that they, through experience, have learned to label as phrases. Students are expected to learn intuitively, as did their teachers. By watching a teacher point out phrases, students learn to identify phrases on their own. Even well-prepared and intelligent graduate students, who necessarily have had different teachers, can have very different opinions concerning the appropriate application of *phrase* and *cadence*. Little wonder that Apel defines phrase as "A natural division of the melodic line, comparable to a sentence of speech," and then immediately apologizes for the inadequacy of his definition: "The term is used with so little exactness and uniformity that a more specific description can scarcely be given" (Apel, 1944, pp. 572-73). His view some 25 years later is, if anything, even less encouraging: "There is no consistency in applying these terms [period, phrase, half-phrase, double phrase, etc.] nor can there be, in view of the infinite variety of situations and conditions found in music" (Apel, 1969, p. 668).

Yet, if we do indeed know what *phrase* and *cadence* signify—and we continually use the terms as if we did, even though we may disagree about specific applications—then surely the task of defining them more explicitly should not be impossible. One obstacle to a clearly defined system of musical terminology is applying terms rather loosely. In writing or speaking, the use of synonyms, for example, is highly desirable, and we carry that into musical discussions as well. Synonyms make the language more colorful and interesting, but potentially more

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dangerous. We know what we mean when we explain musical facts to our students, but we often fail to explain what we somehow *know*, at least in a way a novice can immediately understand. Unfortunately, there are no ready answers, and the reader who expects to find the indisputable TRUTH about *phrase* and *cadence* here will be disappointed. This discussion is, instead, intended as an orderly beginning of a dialogue that may eventually lead to more precise definitions.

EXISTING DEFINITIONS

Existing phrase and cadence definitions, taken from basic textbooks, would seem to be an appropriate starting point. These books might be variously intended for music fundamentals, theory, music appreciation, history, composition, or form-and-analysis courses. Reference books or music dictionaries are another source. For most current musicians and musically educated listeners, these are typical of the books from which we—and our teachers before us—learned fundamentals. Of the eighty-one books I examined that contained a definition of either phrase or cadence, approximately one-third are freshman-sophomore theory textbooks; one-third are music appreciation textbooks; and the remainder include form and analysis, music composition, 20th-century music, and beginning music theory. The median publication date is about 1970. The characteristics of the definitions in the two groups do not differ significantly. (Percentages of occurrences of elements included in cadence and phrase definitions are shown in Tables 1 and 2, respectively.)

Examining various definitions provides ample evidence of the difficulties of adequately defining these deceptively simple terms, regardless of when the definitions were written or the audience for whom they were intended. The main differences are the number of elements included. Definitions in music appreciation books contain the fewest different elements, theory texts typically contain more, and form texts include the most. Most of the definitions are woefully imprecise, and some are excellent examples of a fatal logical flaw: *phrase* and *cadence* being defined circularly. Over 20% of all the definitions examined were circular, but the percentage was even higher (25%) for theory and form books. The most overtly circular definition is found in Bockmon and Starr's book: "The words 'phrase' and 'cadence' are best defined in terms of each other. A *phrase* is a unit of musical structure terminated by a cadence. A *cadence* is an effect of temporary or permanent conclusion marking the termination of a phrase" (Bockmon

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and Starr, 1962, p. 193). Other authors generally make at least some attempt to obscure the circularity of their definitions. And, as do classroom teachers, many authors evade the problem by giving examples but not formulating comprehensive definitions. A typical approach is to give a four-measure segment of a well-known song, followed by a brief comment such as: "This is a phrase. Notice that it has a cadence at the end." Other writers give more examples and somewhat more explanation but still never quite arrive at giving definitions.

Table 1. Elements of Cadence Definitions

<u>Element</u>	<u>Before 1970</u>	<u>After 1970</u>	<u>All</u>
Harmony, chord progression	77	63	70
List of cadences (P.A.C., etc.)	54	68	62
End of phrase	57	51	54
Conclusion	51	56	54
Melody	57	49	53
Rest, pause	43	49	46
Rhythm	46	37	41
Language, punctuation	29	49	39
Formula	40	22	30
Relaxation	31	27	29
Formal indicator	14	34	25
"To fall"	20	24	22
Recognizes other styles	23	15	18
Other elements	3	7	9
Confirm tonality	6	7	7
Completion of structural unit	9	2	5

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Table 2. Elements of Phrase Definitions

<u>Element</u>	<u>Before</u> <u>1970</u>	<u>After</u> <u>1970</u>	<u>All</u>
Musical unit of thought	38	56	48
Terminated by cadence	41	54	48
Structural unit or division	44	46	45
Language	41	41	41
Melody	41	30	40
4 bars	35	44	40
Motives	38	39	39
Rhythm	32	22	27
Comes to a stop; relative repose	6	20	13
Harmony	9	15	12
Perception limits	18	5	11
Singing	12	7	9
Not entirely self-subsistent	6	2	4
Other styles	6	2	4
Other elements	3	2	3

A primary assumption in many of the existing definitions is that the music under consideration is tonal, Western European, from the so-called "classical" period. This assumption is especially clear in discussions of *cadence* that may consist primarily of lists and examples of the usual harmonic formulas—e.g., perfect authentic, perfect plagal, half cadence. Perhaps there are kinds of music to which the terms *phrase* and *cadence* do not apply, but most of these authors do not address that question.

In slightly more than half the *cadence* definitions, the discussion includes the prescription that a cadence is the musical phenomenon that is located at the end of a *phrase* or other structural division point, while prominent in the other half is the statement that a phrase is the musical phenomenon terminated by a cadence. Although the individual pairs of definitions are not circular, they clearly attest to a perceived close relationship between *phrase* and *cadence*. Some authors prefer to define *cadence* first, and others prefer to begin with *phrase*, but—in either case—many eventually define the second word in terms of the first. The result is a kind of "chicken-or-egg" problem.

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Which comes first, phrase or cadence? Or should they, in fact, be defined in terms of each other at all?

Phrase is often described as a musical thought or unit of thought, sometimes designated as a complete musical thought, particularly in brief definitions. Correspondingly, *cadence* is often specified as the destination or conclusion of musical ideas or, less often, as a point of relatively less tension. Analogies to language are frequently used to help clarify the definitions, although there is much disagreement about which language elements correspond. *Cadence* is frequently compared to the use of punctuation, usually without specifying a particular punctuation mark. Comparisons with pauses, sometimes including references to the lowering of the voice at the ends of sentences or clauses in spoken language, are also common, as are references to the derivation of *cadence* from the Latin *cadere*, to fall.

The musical elements that comprise a phrase are often not specified, although melody is mentioned most frequently. *Cadence* is associated most closely with harmonic elements, with melodic and rhythmic aspects also included in many definitions. Several authors mention that cadences tend to be used as standard formulas in a given musical style or period, implying that it would be possible to specify what would constitute an acceptable cadence in a particular style. No comparable notion regarding phrase formulas is expressed, though perhaps the closest is an attempt to establish general principles of phrase construction; but some authors are careful to emphasize that it would be impossible to make an exhaustive list of all the possibilities (e.g., Christ, *et. al.*, 1972, Vol. I, pp. 77-78).

One additional determining factor in some phrase definitions is length. Four measures is often considered normal, although frequently great care is taken to explain that length varies, depending on such factors as tempo, meter, and style. Explanation of the limits to phrase length range from the amount of music that can be sung in one breath (including the listener's need for such a breath even in non-wind instrumental music) to the listener's perceptual limits.

TOWARD WORKING DEFINITIONS

If the designation of phrases and cadences is not to be merely a matter of opinion or intuition, then all musical aspects pertinent to the decision-making process should be taken into account. The essential problem is that *phrase* and *cadence* are not simple terms but, in fact, represent relatively complex concepts that are extremely resistant to clear definition.¹ Perhaps copious examples and descriptions of some

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typical characteristics of phrase and cadence are the only way we can make the concepts less abstract for our students. Yet, the result in these books—and in our classrooms—is an apparent narrowness in the attempts at definitions, a narrowness that may inadvertently appear to exclude perfectly good but less obvious examples of *phrase* and *cadence*. Consequently, although students may be able to locate straightforward examples in some kinds of music, they may very well lack a general understanding of the broader conceptual base.

In the strictest sense, of course, describing or explaining the exact meaning of "a general notion or idea" by listing its properties may seem to constitute a logical paradox. The effort, however, should bring us closer to a real understanding of the meanings of these concepts, meanings that can be expressed perhaps as working definitions that will provide a starting point for future clarification. To be useful, each working definition should include those attributes that distinguish the term or concept from all others, and general enough to include all musical phenomena that we might want to identify by the term. We should also keep in mind the difference between definition and description—explaining the concept rather than merely listing typical examples in the hope the reader will thereby understand intuitively the concept these examples represent. In addition, any hint of a circular definition should be rejected, including circularity disguised by the use of synonyms (e.g., "musical idea" used as a substitute for *phrase*; or "conclusion" used instead of *cadence*). Perhaps the two terms are somehow fundamentally linked, but we have no way to examine the relationship objectively so long as *phrase* and *cadence* are defined in terms of each other.

The most useful scope of the definitions is another question: what style(s) or period(s) should be included? Based on the published definitions examined, the appropriate scope would appear to be primarily tonal music of the Viennese classical period. Some authors do discuss "contemporary" cadences (although often as modifications of traditional tonal cadences), and several authors refer to cadences in older, pre-classical styles. Only one of the books directly addresses the idea of phrase in contemporary music, and the authors note a relative lack of "clearly defined phrases" (Christ, 1972, Vol. II, p. 434). If possible, however, it seems desirable to make the phrase and cadence definitions of equal scope, encompassing all styles of music. Given what appears to be an inescapable linkage between the two concepts, it seems unlikely that a kind of music containing musical events identifiable as cadences would not also include phrases, even though both might be very different from their traditional counterparts.

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The following, then, is an attempt to formulate broad comprehensive definitions containing the vital elements that distinguish each of these terms from every other kind of musical phenomenon. The definitions are intended to apply to any type of music, from the earliest to the most recent. Whether or not music from all eras actually contains phrases and/or cadences is another question, but at least the possibility is left open.

If *music* may be defined as an organized succession of sounds and silences, then:

A **phrase** is a coherent and cohesive, though not necessarily complete, segment of music that is perceived as a single significant unit of musical structure. The phrase is the next higher, consistently structurally significant level of organization above the motive (the smallest identifiable unit of musical structure).

[Notes: 1) Any musical element or combination of elements may contribute to our perception of a musical phrase (e.g., melody, rhythm, harmony, timbre); 2) Compositional devices such as repetition, variation, and contrast of musical ideas may help to establish the beginning or end of a phrase; 3) It may sometimes be useful to consider a phrase as comprised of two or more subphrases, or phrase components, but the subphrase does not constitute a consistently structurally significant level of organization.]

A **cadence** is any musical element or combination of musical elements, including silence, that indicates relative relaxation or relative conclusion in music. ("Conclusion" is intended in the sense of "destination of ideas," as opposed to merely stopping with no indication of finality or direction.)

Admittedly, these definitions require a great deal of qualitative and, perhaps, subjective judgment to apply them to real musical situations. The reader must be able to recognize a coherent and cohesive musical event, for example, since no further definitions or guidelines for identifying such circumstances are provided. Similarly, the reader should have some prior notion of what constitutes a "unit of musical

structure," as well as how musical elements might "indicate relative relaxation or relative conclusion." In other words, the concepts of phrase and cadence are defined in terms of still other concepts that, for absolute clarity, would also require definition. Tracing each concept back to its ultimate roots (i.e., to a primary concept or term that can be defined without reference to other undefined concepts and terms) would be impossible within the scope of a single article—maybe impossible altogether. This brief discussion, however, does provide an instructive glimpse into the magnitude of the definition problems that we, as musicians, must solve if we are to develop a complete and orderly system of terminology in which each concept and term is defined precisely and carefully with necessary scholarly rigor.

Now that we have comprehensive, non-circular, working definitions of *phrase* and *cadence*, we may begin to explore the relationship between the two concepts more thoroughly. Implicit in the statement that a phrase "can be perceived as a single unit of musical structure" is the notion of boundaries. In order to perceive a given unit as a distinct entity, distinguishable from surrounding musical events, there must be some means of separating that particular musical event from the others. One easily identifiable boundary marker or divider is a cadence appropriate to the given style of music—i.e., a cadence may very well mark the end of a phrase.

If the existence of a cadence is not clear, we need to look for other musical clues in order to locate the boundaries of the unit. Just as the dividing line between units can be indicated by a clear ending in the form of a cadence, so it can be determined by a clear beginning. Once we perceive the existence of a new unit of musical structure, we realize in retrospect that the previous unit has ended. Musical clues might take the form of a repetition of the immediately preceding musical material, a variation, or a contrast.² The means of variation and contrast to indicate a new beginning point are limitless; they include any and all means of musical expression available to a composer writing in a given style. Note that the preceding phrase does not necessarily have to end with a cadence in order for the listener to perceive the beginning of a new phrase or other unit of structure if the musical indicators of separation—or of a new beginning—are sufficiently strong. (One obvious example is the elided cadence, in which the ending of one phrase and the beginning of the next overlap without any pause to mark the boundaries of the two phrases.)

The next step is to consider whether a cadence is necessarily located at the end of a phrase. Presumably, "relative relaxation or relative conclusion," as cadence was defined above, could be expected to provide some sense of separation of musical ideas. But is it possible for

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a cadence to be weakened enough, or negated enough by other musical factors, that the listener perceives the cadence—but not the end of a phrase—at the point where the cadence is located? To some extent, the cadence answer may depend on a subjective judgment concerning the requisite strength of "relative relaxation or relative conclusion." But if a particular musical event satisfies these criteria in listeners' judgment, then they indeed perceive a cadence that indicates a separation of musical events and, most probably, the end of a phrase. In other words, it seems that a musical event which is perceived as a cadence according to the definition given above would also be perceived as ending a phrase. (Logically, it follows that the so-called deceptive "cadence" is not necessarily really a cadence, despite its label; depending on the musical context, a deceptive "cadence" may mark the end of a phrase or it may serve merely to extend the phrase through deceptive resolution thereby forcing—or, at least, implying—further continuation.)

It is also important to distinguish, more carefully than do most textbook authors, between the use of a cadential formula and the existence of a cadence. Do we necessarily have a cadence every time a cadential formula appropriate to a given style is used? Or is it possible to have a cadential formula that avoids "relative relaxation or relative conclusion?" One clear example is the repeated dominant-to-tonic pattern that frequently occurs at the ends of tonal compositions or major sections. Here, the actual cadence occurs at the end of a phrase or other structural unit, but then the cadence is often extended, by means of varied repetition. The individual formulas that comprise the extended cadence may fulfill all the usual stipulations concerning harmonic progression, metric placement, and melodic movement but, in this context, they are probably not heard as a series of individual cadences, each indicating relative relaxation or relative conclusion. Rather, each pattern is just one portion of a single larger musical event that concludes a composition or section.

The formulation of good conceptual definitions of *phrase* and *cadence* is, of course, merely a first step. The immediate problem with these definitions is that, for the beginning music student, they are probably much too vague to be very useful. To learn how to apply the definitions appropriately, the novice needs concrete examples accompanied by detailed discussion and explanation of the principles involved. And therein lies the crux of the dilemma: how can teachers and authors convey the broad, conceptual meanings of *phrase* and *cadence* without implicitly limiting the scope of these concepts by means of selective, often unexplained examples of the practical applications? The task is undeniably a difficult one, especially since both teachers and students typically find dealing with abstract

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concepts to be extremely challenging. Yet, with some well-defined basis for understanding the fundamental concepts, combined with a careful and systematic analysis of musical evidence, a cogent analysis should be possible. Although subjective judgments will probably always be a necessary factor, reliance on intuition *alone* can be minimized.

The various musical factors that may influence the listener's perception of phrases and cadences are perhaps best illustrated initially by musical examples that do not permit students—or teachers—to rely entirely on an intuitive understanding of these concepts. For the most part, experienced musicians' intuition serves them well, and although they may not be aware of all the musical data their mind processes, they no doubt rely on a variety of musical cues. In the absence of the formal indicators we are generally most familiar with, we are forced to examine the music closely to determine the musical evidence that indicates where phrases and cadences occur. In other words, beginning with a practical understanding of the possible implications of the broad conceptual definitions, teachers can gradually expand students' comprehension of the principles involved by considering music in which the identification of phrases and cadences is not immediately obvious. Or stated more concisely, students learn and understand more when forced to *think* as they practice solving real music analysis problems.

APPLYING THE DEFINITIONS

Figure 1 is the opening of the "Gavotte" from Schoenberg's *Suite for Piano*, Op. 25. Although the "Gavotte" is based on a twelve-tone row, the row analysis need not serve as the starting point for determining the identification of phrases any more than a chordal analysis of tonal music necessarily precedes phrase analysis. Instead, we will consider the entire spectrum of musical factors as they combine to indicate the phrase boundaries that the listener hears.

The first phrase is shaped by a variety of musical elements. Because of the characteristic rhythmic organization of a gavotte, phrases—including the first phrase—usually begin and end in the middle of the measure. Textural, harmonic, and rhythmic factors combine to focus attention near the end of the phrase with the short dotted rhythmic figure leading into the expanded range of the right hand and the strong dissonance of two pitches struck simultaneously (last eighth note of measure 1). The end of the first phrase is indicated by a return to consonance as well as a slowing of the rhythmic motion

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from predominantly eighth notes to the dynamically emphasized and syncopated C quarter note in measure 2, which then cadences melodically on the B. The articulation (slur connecting C and B) is an important element of the melodic cadence. The sixteenth rest that follows, though only a very brief interruption of the movement, helps to reinforce the rhythmic closure. The rise and fall of the left-hand melody, accompanied by the rise and fall in dynamics, also help to unify and shape the first phrase.

Figure 1. Schoenberg: Gavotte from Suite for Piano, Op. 25

Etwas Langsam $\text{♩} = \text{ca } 72$ *nicht hastig*

Phrase 1 ————— Phrase 2 —————

Codetta/extension —————

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The opening of the second phrase is an exact inversion of the beginning of the first phrase, with both patterns leading to a relatively long accented D-flat on the downbeat of the following measure. This varied return of the opening material also helps to confirm the point of division between the first two phrases. As in the first phrase, the melodic rise and fall in the left hand helps to unify the phrase while at the same time delineating the boundaries of the phrase. The descending melodic line, the return to a single voice, and the repeated eighth-note E-flats signal the close of the second phrase. Again, the D-to-E-flat slur (which corresponds to the C-to-B slur at the end of the first phrase) contributes to the melodic cadence, but the difference in rhythm and the repeated ending notes make this cadence seem more conclusive than the previous one.

The sudden change of range, dynamics, and texture, along with the entrance of a new musical idea in the middle of measure 4, reinforces the closure of the preceding phrase. The varied repetition (measure 5) of the distinctive ending of the second phrase links this new segment to the preceding material and contributes to the listener's identification of this unit as a codetta-like structure that functions as closure to the first two phrases. The continuation of the strict eighth-note movement from the last three notes of the second phrase into the codetta also helps to tie this unit to the preceding material. The arpeggiated chords (which are used elsewhere in this composition as preparation for closure), the continuous *forte* marking, and the rhythmic extension of the final repeated notes help to emphasize the relatively conclusive qualities of this passage. The eighth rest—the longest rest so far—also helps to enhance the feeling of closure. The larger downward leap at the beginning of measure 5 also contributes to a more definite closure than that found at the end of the second phrase.

This one-measure codetta-like segment does not fulfill the definition of *phrase* in that it does not constitute a distinctively separate unit of structure. Rather, it is an extension of the preceding material, serving as an extension of the cadence that closes the first period (the first two phrases).

Although specific usage of the row in this composition may or may not be perceived by the listener, it should be noted that analysis of the row usage supports the phrase designations discussed above. Each of the first two phrases corresponds to one complete, although segmented, presentation of a row form (Phrase 1: P^O; Phrase 2: I⁶), with the row elements used very similarly in the two phrases. The one-measure cadential segment is another complete row presentation (P⁶).

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Figure 2. Debussy: "Danseuses de Delphes"

Lent et grave $\text{♩} = 44$

Phrase 1
doux et contrasté

Phrase 2

The musical score is written for piano in B-flat major and 3/4 time. It consists of four systems of music. The first system, labeled 'Phrase 1' and 'doux et contrasté', spans measures 1-4 and includes dynamic markings *p* and *p*. The second system, labeled 'Phrase 2', spans measures 5-8 and includes dynamic markings *pp* and *p*. The third system spans measures 9-12 and includes dynamic markings *p* and *p*. The fourth system spans measures 13-16 and includes dynamic markings *mf* and *mf*. The score features various musical notations including slurs, accents, and articulation marks.

Figure 2. con't.

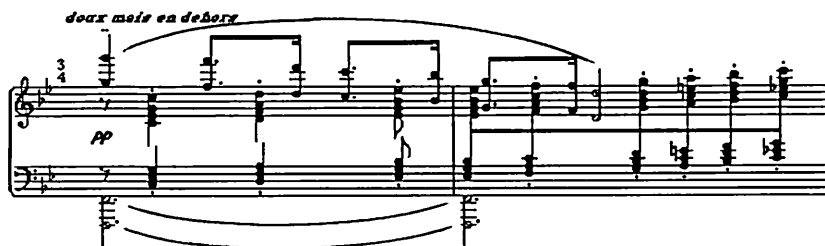


Figure 2 is from "Danseuses de Delphes," *Preludes*, Book I, by Debussy. The first major separation point is at the double bar between measures 5 and 6, where a varied repetition of measures 1-5 begins. This similarity of material helps to confirm the location of the division. In addition, the end of the second segment, again marked by a double bar, is clearly indicated by the contrasting material that follows in measure 11.

Focusing attention now on measures 1-5, what musical cues delineate the unit or units of structure within this segment? Given the very slow tempo, this segment appears to be divided, at least superficially, into two-measure units. Measure 2 is an almost exact repetition of measure 1, and then the musical material changes somewhat in measures 3 and 4. The contrast in the middle of measure 4 is so much stronger, however, that the effect retrospectively is to coalesce the preceding material into a single unit. The insertion of the sixteenth-note F at the end of measure 2 also serves to continue the momentum of the first two measures and to connect the inner-voice motivic line with the upper-voice melody in measures 3 and 4.

The musical cues that indicate the beginning of new material in measure 4 include a sudden drop in dynamics to *pianissimo*, changes in texture and range, the use of consonant harmonies instead of primarily dissonant harmonies, less stepwise motion, and a rhythmic change from the dotted-eighth and sixteenth-note pattern to steady eighth notes. In addition, strong cadential cues indicate the end of the preceding material. The chromatic motive that begins in measure 1, in an inner voice, is lengthened and switched to the bass in measures 3 and 4, and it finally resolves to the half-note D at the point of cadence in measure 4 (beat 2). The B-flat chord, although its inversion perhaps indicates continuation, is the first consonant chord since the opening chord in measure 1 and its repetition at the beginning of measure 2. The fact

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that all three consonant chords are B-flat major triads helps to tie the unit together as well as to emphasize the return to consonance at the point of cadence. The melody in the top line beginning in measure 3, with the repeated dotted-eighth and sixteenth-note G-to-A pattern, expands melodically in measure 4 to conclude on the F, again at the point of cadence. The loudest dynamic level (the end of the longest crescendo) of the first six measures also coincides with the ending point indicated by the other musical cues. The meter change in measure 4 is a reflection of the change in rhythmic organization and momentum although, in fact, the motivic conclusion on the half-note D results in another measure of 3/4 meter, despite the overlapping beginning of the next phrase. All these musical elements combine to create a sense of relative conclusion, i.e., a cadence, which ends the first phrase.

The end of the second phrase (measure 5), as already noted, is followed by a return to a variation of the opening material. The musical cues that mark the beginning of the second phrase are again present, with contrasts in dynamics, harmony, texture, range, type of melodic motion, and note-value patterns. As at the end of the first phrase, various musical elements combine in a cadence to mark the end of the second phrase. The last chord is of longer duration, with the *tenuto* marking further emphasizing the difference. The simultaneous melodic leaps upward in the top line and downward in the bass stress the importance of the F as an arrival point. The chords in the second phrase are all consonant, but the only other major chords in root position are the C chord at the beginning of measure 5 and immediately preceding the final chord. The perfect-fifth root relationship (dominant to tonic), with its tonal implications enhanced by the relationships among the other chords in measure 5 and even, to some extent, in measure 4, helps to establish the F-major chord as the harmonic goal. The diminuendo from *pianissimo* also supports the feeling of relative relaxation and conclusion. We have, then, strong musical evidence that there are two clearly delineated phrases, each ending with a cadence.

The familiar Introduction to Wagner's *Das Rheingold* (please consult a score) is quite different from the other examples in almost every musical aspect. The entire Introduction, which consists of 136 measures in 6/8 meter, is tonic harmony. After 48 measures of only tonic-chord pitches, eighth-note non-chord tones that imply dominant harmony are introduced, and the number of these non-chord tones (eighth notes or sixteenth notes) gradually increases throughout the remainder of the Introduction. The harmony, however, remains tonic and static. As a result, there are no harmonic cadences in the Introduction. Similarly, there are no clear rhythmic or melodic

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cadences. Rhythmic and melodic patterns are repeated again and again, switched to different instruments, and periodically replaced by new patterns, but individual patterns do not arrive at a point of relative relaxation or conclusion. Dynamics do not rise and fall; tempos do not increase and decrease. Given the programmatic nature of the Introduction—music representing a flowing river—it seems likely that Wagner intentionally attempted to hide the structural division points that are evident in most musical composition.

The lack of cadences and other clues does not mean, however, that there is no structure to this work or that structural units such as phrases cannot be located; rather, it indicates we cannot rely on the traditional clues used to locate phrases. The music can be divided into distinct structural units on the basis of instrumentation and/or textural changes, and melodic pattern repetitions or changes. Viewed from this perspective, most of the phrases—even though none ends with a cadence—are clearly delineated.

The first phrase (measures 1-16) begins with the double basses playing the tonic. In measure 5 they are joined by the bassoons playing the fifth of the tonic harmony. (The dynamic markings remain unchanged until measure 129, where crescendos are introduced. Until then, each part is marked *piano* with increases in dynamic level resulting from the gradual addition of instrumental parts.) The end of the phrase is indicated by the beginning of new musical material and the addition of a new instrument (horn) in measure 17. The second phrase (measures 17-24) is eight measures long and includes two presentations of an ascending melodic idea that prominently features the third of the tonic chord as well as providing some rhythmic motion.

In the third phrase (mm. 25-36), canonic treatment of the melodic idea from the second phrase begins. The listener, without the information provided by the score, would not notice a change (i.e., would not realize phrase 2 had ended) until the second horn (horn part 7) enters in the third measure of the phrase. From the analyst's perspective, however, the structural beginning of the third phrase is in measure 25, signalling the end of the second phrase in measure 24. These canonic entrances at two-measure intervals (for 4 measures) are followed by canonic entrances at one-measure intervals (for another 4 measures) with all eight horns joining the canon one by one. Although this twelve-measure unit could be considered as three separate phrases consisting of four measures each, it seems reasonable to designate it as one twelve-measure phrase instead. The only difference among the three segments is the time interval of the canonic entrances; in the context of the Introduction as a whole, this distinguishing feature seems relatively insignificant.

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The next phrase begins with eight measures of the canonic treatment of the horn melody with entrances on every strong beat (mm. 37-44). The following four measures (45-48) are, in the context of this composition, almost cadential. There is some sense of relaxation created by the gradual ending of the canon in each horn part, followed by a melodic descent on the tonic-triad pitches in longer note values (at least a dotted half-note duration value for each pitch). The descending line (the first in this piece) and written *ritard*, along with a less complex texture, indicate some degree of relaxation and perhaps conclusion, even though trombone, bass clarinet, and Wagner tuba enter on long sustained notes.

At this point (m. 49) the entrance of the next phrase (and the end of the cadential measures of the preceding phrase) is marked by a new melody in the bassoons and an arpeggiated running figure in the cello part. The Introduction continues in a similar fashion, with the addition of new instruments and new melodic ideas, or variations of old ones, indicating the division points between phrases. Beginning in measure 81, some of the continuing patterns are shifted slightly (this result is achieved initially by extending one of the ongoing melodic patterns by one measure). From that point on, the various patterns—and, consequently, the phrases into which the patterns are grouped—overlap one another. It is still possible to identify phrases in individual voices, or sometimes in groups of voices, but points of division in the texture as a whole constantly conflict with each other. In other words, Wagner succeeds in making the last part of the Introduction relatively seamless although, as is usual in a contrapuntal texture, the component voices themselves do have identifiable points of separation.

In the opening movement of Mozart's Piano Sonata, K. 576 (Figure 3), the first unmistakable indication of a structural-division point is the rest in both hands in measure 4, followed by a return of the opening material transposed up a step. The question here is whether these first four measures constitute a single phrase or whether they are comprised of two phrases, each two measures long.

On the sixth eighth-note beat of measure 2, the change in musical material clearly contrasts with the preceding two measures. Melodically and texturally, measures 1-2 consist entirely of the arpeggiated pitches of the tonic triad played in octaves. The triad (D-F-sharp-A) occurs on consecutive strong beats with each pitch emphasized by the anacrusis which immediately precedes it. On a larger level, the pitches D and F-sharp function as an anacrusis to the A in measure 2, thereby making the upward movement, and consequently the arrival point, even stronger. The A is further

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reinforced rhythmically by its quarter-note duration, an interruption of the ambient eighth-note movement, and by its repetition. The result is a cohesive unit of sound—a short, relatively uncomplicated, easily remembered pattern.

Figure 3. Mozart: Piano Sonata, K. 576

Allegro

Phrase 1

Phrase 2

In measures 3-4, the melodic movement is stepwise, with ornamentation in the right hand. The two hands also move in contrary motion to each other in a more contrapuntal texture. The rhythmic motion is primarily anacrusis to strong beat, in contrast to the steady eighth-note movement of measure 1, although that eighth-to-strong-beat melodic movement might be considered as ornamentation of an

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essentially anacrusis-to-strong-beat melodic movement. The melodic shape is different and the harmony is no longer limited to tonic as it was in measures 1 and 2. The end of this segment is indicated harmonically by a half cadence and a melodic cadence here, both enhanced by the rhythmic cadence in measure 4. The closure is reinforced by the eighth rest and the return of opening material.

Clearly, measures 1-4 consist of two different components, but are the two components distinct enough to justify classifying each one as a coherent, cohesive structural unit? The relatively greater strength of the division point in measure 4 (compared to measure 2) supports the identification of measures 1-4 as a single unit, or phrase, despite the apparent contrasts between the two-measure segments. I can find additional evidence of the over-all unity of measures 1-4 in the treatment of the opening material when it returns in measures 9-12. Here, the main melodic ideas are in the left hand, which begins with an exact repetition of measures 1-2. The melody (left hand) continues with an unornamented version of the melody (right hand) from measures 3-4. The removal of the ornamentation makes the continuity of the anacrusis-to-strong-beat rhythmic pattern more obvious. In addition, in the return (measure 9), the setting is contrapuntal from the beginning of the right-hand entrance, with the sixteenth-note runs (which are an ornamented version of the left-hand melody from measures 3-4) also helping to tie the two-measure segments together. In short, the analysis of measures 9-12 verifies that measures 1-4 do indeed constitute one phrase—a single coherent and cohesive structural unit.

The boundaries of the second phrase in measures 5-8 are much easier to locate once the first phrase has been identified. The same arguments apply to measures 5-8 (and to the corresponding return in measures 13-16). The eighth rest in both hands in measure 7 is not a pause indicating any significant structural separation but, rather, it serves to heighten the listener's anticipation of the full harmonic cadence and the melodic cadence in measure 8. Once again, the longer held note on the downbeat helps to slow the motion and contributes greatly to the sense of relative relaxation and conclusion at the point of cadence. The return of opening material following the eighth rest in measure 8 reinforces the sense of conclusion provided by the cadence. Thus, we have two four-measure phrases, each ending with a cadence. The treatment of the next two four-measure phrases (phrases 3 and 4), which are a varied repetition of the first two phrases, verifies the boundaries of the opening phrases.

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These few examples illustrate how the definitions of phrase and cadence can be used to help guide the determination of the boundaries of phrases and the locations of cadences in musical compositions. The detailed discussions, which would probably be unnecessary after the initial introduction of these concepts, should help the student recognize the broad range of musical factors that might be relevant to the task of locating phrases and cadences. Clearly, the student will need to develop some skill in applying these definitions since the musical concepts involved in the decision-making process are relatively complex. The qualitative judgments necessary in any kind of musical analysis cannot be avoided here. However, the definitions and resulting analytic processes, based as much as possible on a careful consideration of musical evidence, can begin to replace the more intuitive, purely subjective feelings that we so often rely on and that are so difficult to convey to students. Reasonable people may very well disagree with these phrase analyses, but at least the objections can be based more on comparative factual grounds and less on vague, unexplainable opinions.

CONCLUSION

These definitions of phrase and cadence, along with the identification process illustrated above, are only a beginning. I do not presume to have the definitive solution to the problem. Perhaps even such common terms simply cannot be defined "in a definite or precise sense." Yet, only by attempting to "make the obvious explicit"³ can we be certain that all of us, including our students, recognize the same things as being "obvious" and comprehend the "obvious" in the same way. Moreover, only then can we begin to address, and perhaps reconcile, the differences between our varied opinions and perceptions concerning the categorization of musical events. As for my proposed working definitions, other musicians can and no doubt will dispute the necessity for including—or for omitting—particular elements in each definition. If this attempt encourages such a dialogue, then it and the questions it raises represent the initial steps toward the establishment of useful, comprehensive definitions of these two basic concepts.

In the context of developing a complete musical lexicon consisting of precise definitions of every pertinent term and concept, this beginning may seem small indeed. It is, nevertheless, a place to begin building a logical, coherent framework of analytic concepts that the novice can learn to apply in solving musical problems and answering musical questions. Of course, no matter how well organized and how completely

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delineated the conceptual system is, intuition (in the sense of integrating and drawing from all our past experiences) will certainly continue to play an important role in music analysis. To the extent, however, that we can minimize the influence of unexplainable factors and maximize the application of logical and intelligent reasoning, we will add to our collective knowledge of music and musical processes. And that, after all, is what music theory is all about.

NOTES

¹A *term* is "A word or phrase used in a definite or precise sense" while a *concept* is "a general notion or idea" (*The Oxford English Dictionary*, 1971).

²I would like to thank Professor Henry L. Cady (University of Delaware) for suggesting the importance of these three musical clues in determining musical structure.

³"Make the obvious explicit" is Professor William Poland's (The Ohio State University) often-repeated directive that originally inspired this study.

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HARMONY AND INTEGRATED THEORY: FOUR RECENT TEXTS

MARY WENNERSTROM

Theory teachers are always searching for an improved curriculum and for better teaching materials. In the United States and in other English-speaking countries, where a national theory curriculum is not prescribed, teachers change basic texts and approaches frequently. We open the packages that arrive from publishers with distressing regularity, hoping to find the answer to our problems: a text with clearer explanations, better-designed assignments, superior organization, and more helpful references.

In the last two or three years several important theory books—some new, some revisions of earlier editions—have appeared. This article surveys four texts published since 1985,¹ designed for the written portion of a curriculum. The books reflect two of the most common undergraduate music-major plans of study: the harmony course (a one- or two-year sequence covering diatonic and chromatic common-practice harmony) and the integrated course (four- or five-semester sequence including harmony, melody, counterpoint, form, and style, proceeding either chronologically or by topic). The harmony texts to be reviewed here are the fifth edition of Piston's *Harmony* (with even more revisions by Mark DeVoto), accompanied by a workbook/anthology by Arthur Jannery, and a new series of books by Allen Winold (two texts and two workbooks entitled *Harmony: Patterns and Principles*). Both have an informal instructor's manual available from the publishers. The integrated books are the third edition of Benward's *Music in Theory and Practice* (two texts, two workbooks, workbook solutions, instructor's manuals, and CAI materials) and *Music Theory* by Earl Henry (two texts, study guides, instructor's manual). Both Benward and Henry have also published aural-skills books and CAI material to be used for ear training and sightsinging classes, thus providing pedagogical courses for a comprehensive, integrated theory curriculum. These aural-skills sources will be discussed in a later issue of this journal.

Walter Piston's *Harmony* was first published in 1941, following his *Principles of Harmonic Analysis* of 1933. *Harmony* marked "a

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return to the practical philosophy of theory",² an observation of common practice rather than acoustical speculation. The third edition of *Harmony*, the last that Piston wrote, was published in 1962. By this time the book had become established as one of the best-selling theory textbooks in the United States; "harmony" for many teachers and students was synonymous with Piston the way "music history" is with Grout. The third edition was accompanied by a workbook by Paul des Marais, which included written and keyboard exercises and additional explanatory text. Before Piston's death in 1976, he began work on a fourth edition, in collaboration with one of his former students, Mark DeVoto. Piston/4 (revised by DeVoto) appeared in 1978, accompanied by a workbook by Arthur Jannery, the two authors involved in Piston/5. DeVoto, in addition to rearranging chapters, added new sections on the minor mode, on melodic structure and function, harmonic analysis, and, most controversially, four chapters on "after common practice"—harmony in music of the late nineteenth and early twentieth centuries. Although Piston stated in the preface to the third edition, "It is well to emphasize again that the primary concern [of this book] is to provide an understanding of the common practice of composers, in matters of harmony, as observed in music of the eighteenth and nineteenth centuries",³ DeVoto argued that his complete reworking of Piston's approach was still true to the original author's ideas and had been tacitly approved by Piston.⁴

Piston/DeVoto/5 retains all of the additions of the fourth edition and makes further changes in Piston's original text. The first impression is generally of a lighter tone, beginning with the publisher's advertising ("Now the Fifth Edition is destined to become the dominant fifth") and of an improved visual format. The book is wider with spacious margins and attractive layout; indeed, it is the most elegantly produced of the four texts here. DeVoto, in a majority of chapters, has retained most of Piston's original concepts, explanations, and examples. Naturally, Piston's influential concept of secondary dominants is intact (although again presented very late in the book). Three other ideas, which set apart this text from others (a chapter on harmonic rhythm, the definition of *appoggiatura* as an accented nonharmonic tone, no matter how the note is approached, and the incomplete dominant ninth chord) all appear in Piston/DeVoto/5, although DeVoto says in an informal letter to fellow teachers (inserted in the workbook) that "it's really OK to leave out this or that chapter, or even to use VII⁷ when I say V^{o9}." Gone, however, are Piston's terms *échappée* and *cambiata* (they became escape tone and reaching tone in the fourth edition), and masculine and feminine cadences are in the fifth edition "downbeat and upbeat cadences," since the gender-specific

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terms "are no longer used."⁵ DeVoto has again rearranged chapters and added one on texture, a short presentation that mixes terms in describing musical media with various homophonic concepts and that does nothing to clarify a difficult subject. The chapter on the harmonic structure of the phrase (9 in the fourth edition, 13 in the fifth) has been expanded to include a brief discussion of more terms relating to form (period, double period, binary, and ternary make a short appearance), and the chapter on harmonic rhythm now includes a section on the strength of harmonic progressions (to be found in Piston/3 but eliminated in Piston/DeVoto/4). The helpful indexes and cross-referencing of examples have been retained. Such changes are typical throughout the new edition.

In general, the text, especially the beginnings of chapters, has become more DeVoto and less Piston. Literal quotes from Piston/3 occur scattered throughout, sometimes as infrequently as every fifth or tenth sentence. They have the disconcerting familiarity of well-known record jacket notes, appearing without citation in a poor student's analysis paper. The beginnings of the last three editions illustrate DeVoto's move away from Piston's straightforward approach:⁶

"The unit of harmony is the interval." Piston, third edition

"Most music is made up of *tones*, defined as sounds having specific frequencies of pitch." Piston/DeVoto, fourth edition

"Music is indigenous to virtually every culture and every civilization." Piston/DeVoto, fifth edition

The musical examples continue to be short, presented in piano score only. Exercises are the familiar figured and unfigured bass and melodic harmonization problems of previous editions. Appendix II (Supplemental Exercises) has been cut; instead, the workbook presents (for only the first fourteen chapters of the text) a variety of materials: short exercises, analytical projects, composition activities, and self tests, based on words summarized at the beginning of each workbook unit. The new aspect of the workbook is a 100-page anthology of fifty or so short homophonic compositions, arranged alphabetically by composer with no commentary. The choice of these works reflects the evident determination of the authors to "lighten up": in addition to such omnipresent favorites as the theme of Mozart's A Major Piano Sonata, K. 331, I, there are familiar songs ("America," "Beautiful Dreamer," and as the last two entries, Jimmy Webb's "Up, Up and Away" and Sid Woloshin's and Kevin Gavin's "You Deserve a Break Today," a.k.a. the McDonald's commercial), and a bebop version of "Praise God from Whom All Blessings Flow." The anthology also

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includes, for no apparent reason, obscurities such as a recitative from Scene III of Donizetti's opera *Betty*, an unremarkable excerpt with two different chromatically-connected V⁷-I progressions under an untranslated Italian text. It is hard to know what Piston would think of these selections, but a teacher would probably be better served by anthologies such as *Music for Analysis* (Benjamin, Horvit, and Nelson) or *Music Sources* (Arlin, Lord, Ostrander, and Porterfield),⁷ which present a much wider variety of musical excerpts grouped by harmonic content.

Piston/DeVoto *Harmony* (fifth edition) is not for any teacher who wishes a structural approach to harmony, such as is the basis for the Aldwell/Schachter, Lester, or Forte texts,⁸ nor for anyone who wishes a pedagogically systematic, ordered, and musically varied approach to harmony. If one wants a fairly concise presentation of harmony (with Piston's idiosyncratic symbols and concepts) and is not particularly concerned about ordering (the dominant seventh, for instance, is still presented after chapters on cadences, the harmonic structure of the phrase, form, and modulation), and agree with DeVoto's approach to twentieth-century harmony as presented in the fourth edition, then the fifth edition will be welcome. It retains most of the changes of the fourth edition, includes more of DeVoto's prose, and is in a more attractive format.

Those theory teachers who approach harmony more systematically, using symbols more generally accepted (e.g., the nonchord-tone terminology and Roman-numeral symbols of harmony books such as those by Ottman and Kostka/Payne⁹) will find in the new books by Winold a well-worked out harmonic approach that is much more carefully ordered and comprehensive than Piston's. Winold points out that the purposes of his books are to present harmonic *patterns* (basic chord progressions that appear in Roman-numeral symbols, notes, and scale-degree notation), combined with harmonic *principles* (guidelines for selecting, constructing, and connecting chords). These ideas are worked out in two volumes of text (diatonic and chromatic harmony), in which clear explanations and musical examples are combined with extensive exercises. The exercises are enough to keep any class busy and range from very structured drill problems to "longer and more varied exercises": writing and analysis examples designed for more student creativity within specified guidelines. The companion workbooks are harmonic-keyboard and ear-training exercises (instead of more written problems like Piston) with the answers to the short drill exercises given in the text. The ear-training sections are set up with blank spaces for the students to write in

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and, in the back, the material to be played by the teacher, so that the workbooks can be used as a harmonic ear-training text.

Winold adopts throughout a straight-forward, exhortatory tone, addressing the student directly ("Apply these principles as you harmonize the melodies." "Search your own repertoire for short . . . progressions . . . and copy at least three into your notebook."¹⁰). Some teachers (and some brighter students!) may feel constricted or bored by the detailed rules ("guidelines"), the 66 basic-chord progressions presented in great detail (with each possible soprano-note position), and the discipline of the repetitive exercises. However, the books, in the hands of a skilled teacher, offer flexibility: the short, programmed-like exercises (with answers given in the workbooks) provide more help than a source such as the Harder texts,¹¹ and can be covered independently by students who need them, while the teacher concentrates on larger matters. The extensive rules and basic progressions are useful summaries of the complete structure of functional harmony and part writing. They function as the basis for chapter discussions and appear in the appendices for reference as well. The rules naturally can be more loosely applied by the teacher after the student learns the fundamental concepts. The ordering of the text is based on the ordering of these basic chord progressions: I-V-I is expanded first by inversions and by V7 and its inversions, next by the addition of the subdominant (I-IV-V-I), next by various substitutions (ii for IV, vii for V), and so on. This order of presentation of harmonic materials, of course, is completely different from Piston's ordering and is much closer to the structural view of authors such as Aldwell/Schachter: I-V(7)-I is the fundamental unit, with ever more complex prolongational possibilities.

Winold expands this skillfully paced harmonic exposition of basic units (which continues throughout the two volumes) by references to various theorists and harmonic systems. For instance, figured-bass symbols, Riemann's T, S, and D, and Schenker's reductive methods are all explained with clear summaries, and some of their symbols and concepts are incorporated into Winold's presentation and into the exercises. Harmonic study is also relieved by "interludes." Volume I includes two on melody: a clear discussion of considerations for melodic analysis and writing, and an illustration of various melodic-motivic operations (inversions, diminution, etc.). There is also an interlude on counterpoint, which follows Fux's species approach and unites it with harmonic (tonal) counterpoint. Volume II includes an interlude on timbre and dynamics (a list of instrument names and ranges, dynamic and character terms, and brief discussions of context) and one on form, the least complete section in the text (short presentations and analysis

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of sectional forms, sonata allegro, and contrapuntal forms). None of these topics is covered in the Piston/DeVoto book, except for the sketchy presentation on melody. Winold's interludes would have to be considerably amplified by the teacher, if the topics were included in a class; the workbook material for these sections consists mostly of musical examples (rather than exercises) to be approached as directed by the teacher. The summaries in these interludes are useful, however, and could point the way to counterpoint and form study at a more advanced level.

Many of the musical excerpts and exercises, in volumes I and II, are derived from Bach chorales and Beethoven piano sonatas. The choices are carefully ordered and a student could obtain an understanding of these two fundamental musical sources by working conscientiously through the texts. Other examples are drawn from well-known composers ranging from Monteverdi through Brahms; a few appear in more complicated score formats. Teachers should check examples and exercises, however, for incorrect symbols; several figured-bass ones have mistakes. At the end of Volume II, chapters 27-28 present extended tertian and non-tertian chords (including various twentieth-century examples and a chart on jazz chord symbols) and integer notation, which includes a clear summary of some of the ideas presented in sources such as Allen Forte's *The Structure of Atonal Music*.¹²

One final comment should be made about the brief, but insightful, Teacher's Manual that is available for the Winold books. It is really just a small pamphlet and, in comparison to the more weighty chapter-by-chapter guides and extensive answer keys of other texts, might strike casual readers as too skimpy to be of real value. It is, however, brimming with practical advice not just about how to use his own harmony books but with many perceptive suggestions about theory teaching in general. It is, in fact, a presentation (in outline form) of a complete philosophy for music theory teaching in general—a kind of mini theory pedagogy textbook for all subjects. In this regard it is clear that the information in this little book (especially the psychology of classroom dynamics) has been gleaned from many years of thoughtful classroom experience.

These two new texts (Piston/DeVoto and Winold) provide different options for those teachers convinced that a solid background in common-practice harmony should form the core of a music theory curriculum. Winold's is the more comprehensive and the more carefully-worked out pedagogically. It includes extensive harmonic keyboard and ear-training exercises not found in Piston/DeVoto. Winold's summaries of progressions and part writing will be handy references for

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any teacher; the basic progressions, notated in C major and C minor at the back of the workbook for Volume II, could form the backbone of any keyboard harmony class. Piston/DeVoto/5 gives the teacher more material (exercises, musical examples) than in previous editions; Winold gives so many possibilities that, at least in the harmony chapters, the problem will be one of choosing and simplifying, rather than expanding and elaborating.

Benward's *Music in Theory and Practice* and Henry's *Music Theory* are texts written for a much different sort of undergraduate theory curriculum, one that assumes that harmony study will be immediately combined with, or preceded by, study of other musical elements. An early text of this sort, covering melody, counterpoint, and form as well as harmony, was *Materials and Structure of Music*¹³ (first edition 1966). Later texts, such as those by Cooper and then Baur,¹⁴ have added more historical background or even a chronological presentation of materials. Benward's text first appeared in 1977 and has undergone various changes through its three editions. The two volumes include all the topics of *Materials and Structure*, plus stylistic information about music ranging from Renaissance polyphony to American popular song, blues, boogie, and jazz. Benward, however, clearly aims at less sophisticated students and less experienced teachers than do other integrated books. As in previous editions, much of the presentation is in outline format: theoretical materials combined with a music appreciation overview. Sentences are short. Vocabulary is unchallenging.

One positive feature for many is the very complete instructor's manual: syllabus, lecture notes for each chapter, classroom procedures, answers to each assignment (even the simplest), bibliography, and review quizzes with answers. In short, the texts may be useful for the busy teacher who is not a theory specialist and who is confronted by minimally-prepared students. Even in such a pressured situation, however, the teacher should examine Benward's book critically. Although many things about the book are helpful, some of the ideas presented are misleading, if, in fact, not actually wrong.

The third edition retains the first chapters on fundamentals, useful for establishing a basic musical vocabulary. A unit on "The Anatomy of Harmony" is followed by chapter 4, "The Anatomy of Melody." In the second edition's chapter 4, Benward defined step progression and explored structural tones ("a melody tone of maximum importance" produced by its position, register, or by durational and dynamic accent¹⁵), secondary tones, and embellishing tones. (Compare

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Hindemith's ideas on melody, and the terms presented in *Materials and Structure*: basic pitches, secondary pitches, decorative pitches.) In Benward's third edition, however, Chapter 4 is newly written by H. Lee Riggins and attempts to examine the structural line of a melody by reference to Schenker, although melody is completely separated from a harmonic context. Structural tones are now defined as 3-2-1, 5-4-3-2-1, and 8-7-6-5-4-3-2-1 patterns (Riggins does not use carats to indicate scale degrees). Secondary tones and embellishing tones have become prolongational and secondary prolongational tones, indicated by different-sized noteheads and various slur markings.

It is hard to see the point of this chapter, since clearly it is not a complete nor very accurate presentation of Schenker's ideas. Nor does Chapter 4 relate to the rest of Benward's text. The most obvious disjunction is the beginning of Chapter 5, in the third edition identical to the beginning of Chapter 5 in the second edition: "In the previous chapter, the function of melodic tones, the interaction of structural, secondary, and embellishing tones with step progressions, and the basic point and direction of melody were discussed."¹⁶ This is not true in the new edition, and worse, the definition of "structural" has been completely changed. Benward later makes a few passing references to searching for a 3-2-1 line, but in no way does the new chapter 4 give students tools for understanding Schenkerian hierarchical levels or for performing melodic structural reduction. Teachers would be better served by using Chapter 4 from the *second* edition or, for a structural approach, referring students to books such as Aldwell/Schachter or to articles such as the summaries by Forte and by Beach.¹⁷

Presumably at the request of those teachers who use the book, Benward has added to the third edition more chorale phrases, beginning in Chapter 7 of Volume I and continuing throughout much of Volume 2. Figured-bass exercises and additional harmonic completion problems occur at the ends of chapters. He has also added to Volume I a chapter entitled "Shorthand Analysis: An Alternative Analytical System," a chapter that is slightly expanded in Volume II. The goal of this system is harmonic reduction and the identification of "target chords." Students reduce the musical context to root-position, closely-spaced chords, written in the bass clef, a Rameau-like fundamental bass that includes the entire chord instead of only roots. Voice leading and spacing are ignored and chords are usually labeled without inversions (although here Benward is inconsistent). The reduction is examined for root motion and possible modulations and is further reduced to target (goal) chords; various symbols identify certain types of harmonic direction and motion. Benward is clearly aiming at a larger, more structural understanding of harmony, certainly a laudable

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goal that should be a vital component of any functional harmony class. His system, though, does not allude to harmonic levels as such (reductions and further reductions are not related by being placed on top of each other or by showing any type of hierarchical interdependency). And by disregarding voice leading, the bass clefs are disconcertingly full of parallel fifths and unresolved sevenths. Teachers may find the shorthand system helpful as a first step for students; but perhaps more elegant reductions can be demonstrated in class.

Benward continues to cover a wide variety of subjects in the two volumes. The first volume, in addition to melody and diatonic harmony, presents chapters on instrumentation, style periods, two- and three-part form, and American popular music. Volume 2 covers chromatic harmony and specific styles and forms (Renaissance polyphony, eighteenth-century counterpoint and fugue, variations, sonata allegro, rondo, and twentieth-century music), with chapters on general procedures followed by Benward's analysis of a specific piece and complete works for the student to analyze. Some of these chapters are very general and teachers should be aware of potentially misleading statements. Chapters 9 and 10 in Volume I, as in previous editions, are particularly sketchy, since in seven pages they cover style periods from the Renaissance to the present including a parametric checklist, with short definitions, to be used for stylistic analysis.

Teachers should skip Benward's explanation of set theory in Volume 2, Chapter 22, presented in conjunction with a study of Bartók's "Chromatic Invention" (*Mikrokosmos* No. 91). Benward mentions Leibowitz, Babbitt, and Forte, and proceeds to definitions: "The atonal (nontonal) analysis system is known as *set theory* and is based on any ordered collection of *pitch classes*." "The term *set* means an ordered group of pitch classes such as C, D, and E."¹⁸ Compare Forte's definition: "The pitch-class set is an unordered set and differs basically, for example, from the ordered 12-tone row, in which considerations of order-position are crucial."¹⁹ Benward is confusing ordered and unordered collections and continues by introducing his own definitions of normal order and prime form. Any teacher who wishes to present set theory as a possible analytical tool should send students directly to sources such as Forte's own summary.²⁰

In this third edition, Benward has retained his broad coverage, both of musical styles and of elements studied. The text has been popular with some teachers because of its straight-forward style and the guidance given to the teacher. Benward explains basic material clearly; students learn functional harmony quite well and get at least a smattering of musical styles and compositional techniques ranging from the sixteenth century to the present. The third edition offers more

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harmonic exercises and presents a harmonic reductive analytical method that students and teachers may find useful, particularly as a first step. The volumes appear to have fewer mistakes than in previous editions. However, in his attempt to include references to currently popular analytical systems, Benward has missed basic concepts of both Schenkerian analysis and of set theory and clearly has not integrated either system with other topics. Teachers should ignore the methodological parts of this text, referring the students, if the systems are introduced, to primary sources. Benward's analyses and stylistic overviews will also need to be clarified and amplified by the conscientious teacher.

Earl Henry's set of books, *Music Theory*, is an alternative for those teachers presently using Benward, *Materials and Structure*, Cooper, or Baur. The two volumes combine text and workbook; each chapter contains short drills and longer analytical and compositional problems. Study guides provide more background information, supplementary exercises and answers, and study questions in both a programmed and open-ended format. An instructor's manual contains a course syllabus, notes and suggestions for the teacher, and sample examinations, although it is much less extensive than Benward's guide. The study guides and instructor's manual appear to be notes directly from a word processor (or even a typewriter!) and need to be proofread again. The first two pages of the instructor's manual, for instance, include at least five mistakes in the text.

The text volumes, however, are much more carefully written and produced. Henry's style is clear and direct; he often manages to summarize complex ideas without missing the main points. His approach emphasizes the historical context of each subject, in a more expanded and organized way than the one-volume Cooper text, and from the beginning students are urged to analyze actual musical excerpts and to compose their own. The first volume begins, as does Benward, with fundamentals, but moves, very quickly, into two rather detailed chapters on rhythm that demonstrate Henry's approach: rhythmic and metric terms are defined and illustrated in music ranging from a thirteenth-century motet to Bernstein's *West Side Story*. Students are given a complete checklist for analysis and are asked to contrast rhythmically-different examples. They are also asked to compose a work for percussion ensemble.

Volume I continues with chapters on the tonal system, modulation, and form and analysis, including two chapters on melody and one on binary and ternary form. Henry points out that, although he presents an overview of chords and tonality, part writing and harmonization

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are delayed until the second volume. This underemphasis on harmony is one of the distinctive (and many teachers will say disturbing) features of the text. Where Winold's texts might be regarded as "harmonic overdose," Henry's volumes can certainly almost qualify as "harmonic starvation." Winold's detailed rules have been reduced in Henry to a one-page checklist for four-part writing; chord-connection guidelines are simply "Obey 'Law of the Shortest Way'."²¹ As Henry laconically comments in the instructor's manual, "Instructors who want to emphasize part writing in the freshman year will need to furnish supplementary materials."²²

Volume 2 begins with eighteenth-century style (fugue, tonal counterpoint, chorale harmonization, figured bass, and variation). Here part writing makes a rather brief appearance. Henry continues with chromatic and romantic materials (including chapters on the sonata and rondo) and 100 pages on the twentieth century. Again, he combines historical perspective, analysis of extended musical excerpts, and open-ended composition projects, with a few short drill problems added along the way. Although Henry covers basically the same territory as Benward, the books are less harmonically oriented, emphasizing general understanding, analysis, and individual creativity rather than drill or harmonic reduction. Henry also avoids the specific stylistic and composer-oriented information presented in Benward and does not include sixteenth-century polyphony nor American popular music, although there is a short appendix on "The Materials of Jazz." Many of the explanations in *Music Theory* are interesting and musical, but they would have to be supplemented by the teacher with more rigorous exercises and additional discussion.

Henry is different from Benward, too, in the theories he introduces. While Benward dabbles unsatisfactorily in Schenker and [Forte's] set theory, Henry presents clear summaries of his theoretical underpinnings and integrates them into the text rather well. It is the *choice* of theories that is surprising: Henry chooses those popular at influential music schools 30 or 40 years ago instead of 3 or 4. The explanation of tonality (Volume I, Chapter 7) depends on "the theory of primary function" (Henry references Ratner, 1962²³) and on McHose's "theory of chord classification" (McHose, 1947²⁴). McHose's ideas reappear in Chapter 3 of Volume 2 (harmonization of chorale melodies), although fortunately Henry uses the Roman numeral symbols and cadence symbology of Kostka/Payne rather than that of McHose.²⁵ The twentieth-century section presents chord analysis and concepts of set theory, as explained by Howard Hanson.²⁶ Students are asked to calculate "chord chemistry"; the results, of course, are the same as interval vectors. For example, $P^2M^2N^3SDT$ equals [113221],

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the vector for Forte's set 5-32, since each method summarizes the number of appearances of the six interval classes, although reported in different order. Henry spends quite a bit of time on chord chemistry; he also explains and drills on concepts such as set transposition and inversion (ordered and unordered), inclusion, and complement.

Hindemith's ideas are also represented in the text, not surprisingly, since Hanson's ordering of intervals matches Hindemith's in Series 2. In Volume II Henry discusses Hindemith's chord roots, table of chord groups, and harmonic fluctuation.²⁷ Excerpts by Bach, Chopin, and Hindemith are analyzed in Roman numerals and with Hindemith's and Hanson's symbols (*none* of the three systems makes sense as applied to Chopin's E minor Prelude!). Hindemith's melodic analysis is a part of Chapter 13 in Volume I (*Applied Melodic Principles: Analysis and Composition*). The terms structural pitches, secondary pitches, embellishing pitches, and step progression are all related to Hindemith's method of determining melodically prominent notes. (These are the very terms that have disappeared from Benward's melodic chapter in his third edition.) Henry also employs cadential terms similar to those in *Materials and Structure*: terminal and progressive cadences (although fortunately not transient terminal!) appear briefly in Volume I, Chapter 8.

These books by Henry thus represent an analytical-historical approach to music theory that emphasizes examining and composing musical excerpts from the beginning. The texts also present specific theoretical approaches in more detail than is usual in beginning books. The questions teachers will raise about this series are not ones of confusion or inaccuracy; they are ones of balance, emphasis, and choice of theories. One could imagine a lively course based on *Music Theory*, especially if the student group were rather small and the teacher creative and sympathetic to the theoretical concepts presented. However, this series will not be for everyone.

The four books reviewed here range from ones that place common-practice harmony at the center of theoretical study to those that place it in the context of many other types of music and musical elements. Pedagogical approaches vary from following strict rules to expressing minimally-guided compositional creativity. Theoretical systems are ignored or appear in some detail—explained and integrated into the texts with varying degrees of success. Finally, however, a good theory curriculum does not depend on the answers found in the newest text. It depends on musical, well-informed, and enthusiastic teachers, interacting with motivated, conscientious, and able students. These factors help to guarantee that, whatever the choice of text, the study of musical structure will be continually fascinating and challenging.

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NOTES

¹Walter Piston, *Harmony*, fifth edition, revised by Mark DeVoto (Norton, 1987), workbook by Arthur Jannery; Allen Winold, *Harmony: Patterns and Principles* (Prentice-Hall, 1986); Bruce Benward, *Music in Theory and Practice*, third edition (Wm. C. Brown, 1985); and Earl Henry, *Music Theory* (Prentice-Hall, 1985).

²David M. Thompson, *A History of Harmonic Theory in the United States* (Kent State University Press, 1980), 130.

³Walter Piston, *Harmony*, third edition (Norton, 1962), vii.

⁴Walter Piston, *Harmony*, fourth edition, revised and expanded by Mark DeVoto (Norton, 1978), xiv.

⁵Piston/DeVoto, *Harmony*, fifth edition, 181.

⁶Piston, third edition, 3; Pisto/DeVoto, fourth edition, 1; Piston/DeVoto, fifth edition, 3.

⁷Thomas Benjamin, Michael Horvit, and Robert Nelson, *Music for Analysis*, second edition (Houghton Mifflin, 1984); Mary I. Arlin, Charles H. Lord, Arthur E. Ostrander, and Marjorie S. Porterfield, *Music Sources* (Prentice-Hall, 1979).

⁸Edward Aldwell and Carl Schachter, *Harmony and Voice Leading* (Harcourt Brace Jovanovich, 1978); Joel Lester, *Harmony in Tonal Music*, 2 vols., Knopf, 1982; Allen Forte, *Tonal Harmony in Concept and Practice*, third edition (Holt, Rinehart, & Winston, 1982).

⁹Robert Ottman, *Elementary Harmony: Theory and Practice* and *Advanced Harmony: Theory and Practice*, third edition (Prentice-Hall, 1983, 1984); Stefan Kostka and Dorothy Payne, *Tonal Harmony* (Alfred A. Knopf, 1984).

¹⁰Winold, I, 83, 85.

¹¹Paul O. Harder, *Harmonic Materials in Tonal Music: A Programmed Course*, fifth edition (Allyn & Bacon, 1985).

¹²Allen Forte, *The Structure of Atonal Music* (Yale University Press, 1973).

¹³William Christ, Richard DeLone, Vernon Kliever, Lewis Rowell, William Thomson, *Materials and Structure of Music* (Prentice-Hall, 1966, 1972, 1980).

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¹⁴Paul Cooper, *Perspectives in Music Theory: An Historical-Analytical Approach* (Harper & Row, 1973, 1981); John Baur, *Music Theory through Literature* (Prentice-Hall, 1985).

¹⁵Benward, *Music in Theory and Practice*, second edition (Wm. C. Brown, 1981), I, 94.

¹⁶Benward, third edition, I, 99 (compare second edition, I, 103).

¹⁷Allen Forte, "Schenker's Conception of Musical Structure," *Readings in Schenker Analysis and Other Approaches*, edited by Maury Yeston (Yale University Press, 1977), 3-37.

¹⁸Benward, II, 329.

¹⁹Allen Forte, *The Harmonic Organization of the Rite of Spring* (Yale University Press, 1978), 3.

²⁰Forte, *Rite of Spring*, 1-17.

²¹Henry, I, 341.

²²Henry, Instructor's Manual, 46.

²³Leonard Ratner, *Harmony: Structure and Style* (McGraw-Hill, 1962).

²⁴Allen I. McHose, *The Contrapuntal Harmonic Technique of the 18th Century* (Appleton-Century-Crofts, 1947).

²⁵In building augmented sixths, Henry, however, uses an idea from McHose: for Italian and German chords, students are told to begin with the subdominant triad or seventh and raise the root (compare Piston's explanation). French chords are altered supertonic sevenths.

²⁶Howard Hanson, *Harmonic Materials of Modern Music* (Appleton-Century-Crofts, 1960).

²⁷Paul Hindemith, *Craft of Musical Composition*, Book I, revised edition (Associated Music Publishers, 1945).

THOMAS BENJAMIN, *COUNTERPOINT
IN THE STYLE OF J. S. BACH*

(Schirmer Books, 1986)

Theodore O. Johnson

In dealing with textbooks on eighteenth-century contrapuntal style, authors traditionally must face two broad decisions, one of which concerns how much emphasis—if any—to place on the species approach popularized by J. J. Fux in 1725, and the other, how much to place on music by J. S. Bach in relationship to that of other Baroque and Classic-period composers. Good textbooks based on species or modified species have been contributed by various authors, including Neale B. Mason (*Essentials of Eighteenth-Century Counterpoint*, Wm. C. Brown, 1968), who confines himself to the music of J. S. Bach, and Kent Kennan (*Counterpoint*, Prentice-Hall, 1987), who does not. Thomas Benjamin, in *Counterpoint in the Style of J. S. Bach* (which credits both of these authors in a brief bibliography), has selected the so-called direct approach, although intermittent references to note-value ratios, such as 2:1, 3:1, and 4:1, pay slight homage to species, which is referred to as "unnecessarily abstract, unmusical, and inefficient" (p. xii, under "Notes to the Teacher"), and he has, as the title suggests, restricted musical examples, other than those that are evidently author-composed, to the music of J. S. Bach.

The wisdom of his choices—which will receive no argument from this quarter—is perhaps best underlined by an observation that variety of approach can be welcome, particularly since Bach himself is reported to have "avoided using 'species' in teaching counterpoint,"¹ and a reminder that Bach's contrapuntal music makes an ideal model for students to emulate, because it is unsurpassed in quality and rich in available literature, including the otherwise rather sparse literature for just two voice parts. The author does, however, periodically acknowledge the Schenker-oriented generation by providing a certain amount of reductive analysis, which some will find instructive.

Counterpoint in the Style of J. S. Bach is replete with examples taken mostly, but not entirely, from Bach's keyboard works, and is packed with information and insights that reveal its author to be an observer having real concern for the welfare of the student. An outstanding job has been done of anticipating certain pitfalls, pointing

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out solutions, and prodding the student (through numerous creative, analytical, error-detection, listening, and performing activities) to overcome inertia in and out of the classroom by thinking carefully, remaining contrapuntally alert, and keeping in mind that the ultimate activity in question involves composing music, not writing out exercises. "Primacy of line" is repeatedly emphasized—but not at the expense of harmonic foundation; and an appropriate balance has been struck to maintain student awareness and to avoid the sacrifice of one in favor of the other. Many details of this intricate style (including a few probably understood on an intuitive basis by all but the most naive contrapuntist) have been examined, and some might be overwhelmed by the sheer amount of material or the author's expectations (as, for example, on page 244, where he talks about "the first few fugues one composes"), but if students can absorb and apply even a portion of what is covered, they will have acquired the intellectual equipment necessary for producing respectable counterpoint.

The book opens with preliminary material encompassing the aforementioned "Notes to the Teacher," as well as "Notes to the Student" commenting upon the benefits of contrapuntal studies. There is also an introduction explaining the author's method of graphic analysis and citing well-known quotations about Bach by noted composers of the past. Overall organization is characterized by a standard graduated approach, starting with a long account of pitch and rhythmic features of the single melodic line (including the compound line), and progressing into various aspects of two-voice, three-voice, and four-voice writing. Musical examples are situated at the beginning of certain chapters, where they can spark interest and allow typical practices to be extracted through deduction.

Individual chapters dealing with two voices are given over to free (non-imitative) association of voice parts, chromaticism, binary dance forms (optional), invertible counterpoint, imitation (mostly canonical), and the two-part invention. Similar coverage is given to three-voice counterpoint, but with *two* separate chapters devoted to that most sophisticated of all contrapuntal forms, the fugue. A single chapter is dedicated to four-voice counterpoint, which can be more easily treated by the instructor (if not necessarily applied by the student) as an expansion upon three-voice counterpoint, than can three-voice counterpoint as an expansion upon two (a point addressed within the book).

Additional chapters take up the variation form and cantus-firmus technique, and following a brief (one-paragraph) conclusion, three appendices appear, reviewing harmony and conveying information about rounds and organ-composition. A ten-item bibliography precedes

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a long (100-page) anthology, which focuses heavily on fugues from both volumes of the *Well-Tempered Clavier* but also contains many items from the French and English Suites, Inventions, and Goldberg Variations, as well as other celebrated keyboard and non-keyboard pieces. An index concludes the book.

Occasional questions concerning organization arise. For example, the few comments made about augmented-sixth chords, as such, appear under "Chromaticism in Two Voices" (page 97) and nowhere else in the book, except in the review of harmony in Appendix I, despite the fact that not even the Italian-sixth chord, much less the German- or French-sixth chords, can be realized within a two-voice texture unless implied by the *interval* of an augmented sixth (a rare-enough occurrence) or simulated through some means such as arpeggiation, and the one example cited, from the *Art of the Fugue*, in fact, exploits a *four-voice* texture. (Other, seemingly out-of-stride, circumstances—resulting in the employment of four-voice illustrations during a discussion of two-voice counterpoint—carry more logic.) Augmented-sixth chords are used "sparingly" by Bach, as the discussion points out, and one will search in vain for them in both the Three-Part Sinfonias and Two-Part Inventions; but, as might be expected, more of the four-voice works feature them, including some fugues from the *Well-Tempered Clavier* (Number 8 from Volume II has *several*).

Multiple inclusion of certain musical examples seems unnecessary—such as the Menuet from Bach's French Suite III, shown in part on page 3, in larger part on page 49, and in complete form (minus its accompanying Trio) on page 103; or the D-minor Invention (Number 4), the same portions of which show up on pages 143, 146, and 160. Another instance of less-than-effective space utilization results on pages 63-64, where an earlier musical example and its verbatim graphic reduction from page 4 are reprinted.

The importance of sequence is vividly recognized in chapter 1 ("Line and Other Elements of Style"), where it is discussed as "the most frequently used device for development in the music of Bach and his contemporaries" (page 35), but its definition has been relegated to a footnote, where it could give the impression that understanding sequence is peripheral to its use. In the definition itself, which like many authors' definitions is incomplete, there is nothing to prevent some careless student from, say, viewing a one-bar melodic idea, in measure 30 of a given piece, as supplying the second stage of a sequence, the first stage of which lies back in measure 2, or from talking about an oboe line as sequencing a clarinet line, because one essential condition has not been reinforced (immediacy of restatement, to distinguish it from return after intervening material), and another has been omitted

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(reappearance in the same voice part, to distinguish it from imitation). One could even construe octave repetition as sequence and not strain the boundaries of the definition.

In later chapters, this extremely important device (of both homophonic and contrapuntal music) is taken up but in a somewhat perfunctory manner involving mostly analysis, without many helpful hints about how it can be constructed *outside* the framework of the individual line, and although it is, of course, a single-line affair, most problems students encounter in dealing with sequence relate to its construction within a two-voice or multi-voice texture, a formidable contrapuntal challenge made no easier by the apparent ease with which composers of every stripe have managed to make it sound natural and inevitable.

The Neapolitan chord is identified (page 96) as "a highly charged sonority for this style," but since this sonority—a simple major triad—is not particularly unusual or distinctive in itself (as opposed to a sonority such as the French-sixth chord, which occupies 2/3 of the whole-tone scale), perhaps some mention that the Neapolitan chord receives its charge purely from context would have been appropriate. A later statement, "Neapolitan chords may alternatively be heard as iv, with chromatic neighbors" (page 199, note 2), may be true with regard to the example under discussion on the previous page, but not, as it implies, with Neapolitan chords in all other circumstances.

Nonharmonic tones are initially taken up in chapter 1, dealing with the *un*harmonized melodic line; and, although this does not pose much of a problem, Exercise 3 on page 33 directs the student to "locate and identify the nonharmonic tones in the examples beginning this chapter," something not always possible without a supporting line (Example 1-5's tied notes, for instance, are treatable as suspensions or chord members). Nonharmonic-tone identification is often somewhat touchy because of the lack of standardization in terminology. What some call changing tones, Benjamin calls double neighbor tone, and his incomplete neighbor tone is illustrated (page 32) along with the appoggiatura, which it resembles, almost as if to belie its own label. The suspension, accented passing tone, and appoggiatura are cited (page 69) as "the only accented nonharmonic tones," but some might want to add the neighboring tone, which sometimes appears accented, to this list.

Statements regarding the suspension (pages 69-71) inform us that the suspension dissonance can be situated only on the strong beat of a measure; however, placement exclusively—or almost so—on the strong beat is a Renaissance, not a Baroque, phenomenon; and, although a majority of suspension dissonances in Bach's music may well fall upon

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strong beats, one does not have to search far at all to discover numerous weak-beat occurrences, resolved *within* the beat, of course.

Discussion of the 6-5 upper-voice configuration as not involving a true suspension in two-voice counterpoint seems reasonable, except perhaps when it is placed in a syncopated passage along with other obvious suspensions (as in measures 33, 35, and 37 of Invention Number 6 in E major), but the given reason why, "as the sixth is not a dissonance, and therefore little used (page 70), tends to contradict the reasoning behind a correct earlier statement (page 69), "Not all nonharmonic tones are dissonant." Also, after a cautionary remark about "using a suspension to attempt to avoid an incorrect parallelism" (page 71), the accompanying example (page 72) exhibits a 6-5.

Exclusion of the 6/5-4 suspension later, during a discussion of nonharmonic tones in three voices (and, by extension, four voices, since not much separate material to speak of is included on nonharmonic tones in four voices within chapter 12 on four-voice counterpoint) is more serious than exclusion of the 6-5 figure under two-voice suspensions, for this cumbersome-to-label device—which is something of a cliché in sixteenth-century music—shows up with some regularity in the contrapuntal music of various later composers, including Bach (for example, in *Sinfonias* 1, 7, 12, and 13; *Fugues* 14 and 24 from the first volume of the *Well-Tempered Clavier*; and *Fugues* 5, 8, 9, 22, and 23, as well as *Prelude* 16, from the second volume).

Like other authors on the subject, Benjamin discusses two-voice invertible counterpoint in terms of the single octave, tenth, twelfth, and double octave (fifteenth) without going any further, a procedure that makes sense only up to the twelfth if one considers—as many do—the octave to include multiples of the octave as well as the single octave, but if the double octave is to be included for more precision why stop there? The *triple* octave (twenty-second) is by far the most common interval of inversion in the Two-Part Inventions, and there are some passages (in Inventions 4, 6, and 11) exploiting the quadruple octave (twenty-ninth!). Some confusion reigns (page 110) when double counterpoint, a specific term, is equated with invertible counterpoint, properly a generic term that includes double and triple counterpoint, in order to avert confusion with melodic inversion, and later (page 206) where a redundant-sounding title is employed, "Triple (Triple Invertible) Counterpoint," as opposed to "Double (Invertible) Counterpoint" before.

The discussion of three-part invertible counterpoint states, "Thus, three contrapuntal lines, A, B, and C, should sound equally good in all six possible positions." It comments next, however, on the unlikelihood of all six being used, and later (page 207) refers to what is called semi-

invertible counterpoint, in which only four of the six are used, as a means of avoiding unidiomatic forms of second inversion, suggesting that the unlikelihood of all six appearing could have something to do with the possibility that they may not always sound equally good. Occasionally all six manifestations do appear, as in Sinfonia Number Three in D major, a prize specimen, which might have been useful by way of example here, for none of chapter nine's passages illustrates the full potential of triple counterpoint. Minimally, the reader could have been directed to pages 375-376 in the Anthology, where the D-major Sinfonia appears in its entirety. (Generally, the Sinfonias have been somewhat slighted in favor of the three-voice fugues.)

In discussing the infinite or circular canon (page 128), the remark, "one of the canons in *The Musical Offering* is of this type," is somewhat misleading, because two—not one—of the canons from this work are actually identified by the term "Canon perpetuus," and for all intents and purposes, several of its other canons are also perpetual. One wonders, in fact, why the extremely sophisticated canons of *The Musical Offering* have been given such lean consideration given the amount of emphasis placed upon canon during both the sixth and ninth chapters.

Benjamin consistently applies the term *theme* to generating ideas of the Two-Part Inventions, a term some might dislike, especially to designate a very brief thought consisting of only a half measure's melodic material (as in Inventions 1, 7, and 13). Like others who make a distinction in terminology between the raw material of an invention (or sinfonia) and that of a fugue, he fails to support the distinction with any concrete reason; later, in fact, several remarks call attention to similarities between inventions and fugues (without underscoring any obvious differences, such as the one relating to the presence or absence of an accompanying line along with the very opening entry): "The main theme of a fugue is called the subject. It is analogous to the theme of an invention" (page 219). The point is reinforced later (page 221):

Fugue subjects, like invention themes, come in a variety of lengths and types, but all possess some of the same characteristics . . . There is, in fact, no clear distinction to be made between an invention theme and a subject (which we will call S) other than to say that most subjects are longer; are more complex in rhythmic, melodic, and harmonic structure; may modulate; may be sequential; and may be in two distinct sections.

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The problem of grammatical clarity (most subjects . . . may modulate) is compounded by one of content, since a pretty good case has been made for doing other than what has been done in terms of labeling. Resistance to the term *subject* for long ideas that generate inventions (such as Numbers 5, 9, and 14), but not short ideas that generate fugues (such as Numbers 17 and 22 from WTC I, or Numbers 2 and 9 from WTC II), does not always make sense, and it would seem best to apply this traditional term whenever the musical conditions are appropriate—be the piece a fugue, sinfonia, or invention—and do the same with the term *motive*, a term with which *all* the inventions' opening ideas frequently get stuck. Note 2 on page 145 (which explains why the term *motive* is not applied even to the briefest of generating ideas in the Two-Part Inventions) causes one to speculate about just how short an idea must be in order to qualify.

It is not true (page 146) that in the Two-Part Inventions, "the imitation is at the octave (except for No. 10, which imitates at the eleventh below, on the dominant)." Five of the fifteen inventions (Numbers 5, 10, 12, 14, and 15)—not just Number 10—employ initial imitation at the dominant, in every case manifested by the lower eleventh, except when tonal adjustments are made (as in Number 10) to create partial imitation at the lower twelfth, usually (but not in Number 10) with an accompanying modulation into the dominant key; therefore, a later statement (page 149), "it [the episode] serves the function of a modulatory passage, leading away from the tonic key which unified the exposition tonally," is not entirely accurate. In fact, one of the inventions using opening imitation at the lower octave (Number 11, in G minor), has an exposition characterized by tonal ambiguity rather than stability, by virtue of its employment of the augmented, as well as the perfect, octave.

Another potentially misleading statement, at least insofar as certain bodies of literature are concerned, is found on page 89, with regard to the simultaneous cross relation (double inflection), "isolated instances [of which] may occur in slow, highly chromatic movements." This somewhat extreme chromatic device shows up only five times throughout the Inventions and Sinfonias, in Inventions 6 and 12, and Sinfonias 1, 2, and 12, none of which could accurately be construed as truly slow, and only one of which comes close to being highly chromatic.

The authentic cadence is stressed (page 155) as a section-defining device in contrapuntal music—an obvious but sometimes neglected thought that should be stressed—but recognition of other sectionalizing means is somewhat limited until later (page 243). Invention Number 2 in C minor, for example, is dismissed (page 156) as less obviously

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sectional than certain other inventions, including its fraternal twin, Number 8 in F major, because "it lacks strong internal cadences"; however, no specific mention is made—here, or on the two previous pages alluding to the C-minor Invention (138 and 153)—of its structural procedure, which involves not only a long opening passage in which the bass imitates the treble canonically, but an equally long continuing passage in which the two voice parts are exchanged in invertible counterpoint, so that a new canon, having the same key *relationships* (in transposition up a fifth or down a fourth) results, with the treble imitating the bass. This establishment of sections seems to be more than enough to make up for the absence of a conclusive-sounding interior cadence, such as that found at measures 11-12 of the F-major Invention, which does not benefit from such extensive canonical parallelism. Structural similarities among such seemingly disparate works as the C-minor Invention and the ones in C major, E-flat major (to some extent), and A major, tend to corroborate the point, for all have second sections which in large part closely parallel their first sections—the first three with invertible counterpoint, the last without; the C-minor Invention with canonical procedures, the others without; and the C-major and A-major Inventions with brief inserted passages, the other two without. Of this particular group, only one (the C-major Invention) has a perfect-authentic cadence between the two sections in question.

Note 3 at the bottom of page 145, which states, among other things, that "the approach typified by [Invention] Nos. 1, 3, and 4 has been selected as best approximating the conditions found in fugal writing, and thus as the most useful preparation for it," might have offered additional evidence of the author's thinking, for among all fifteen Two-Part Inventions, only one—Number 10—opens with an unaccompanied idea *and* employs opening imitation at the fifth, like the typical fugue.

The term *consonant fourth* is brought in on three occasions (pages 182, 183, and 184), and always refers to an arrangement involving the perfect fourth of a first-inversion triad created by the fifth sounding below the root. Another term might have been more appropriate since this could be confused with something quite different—the consonant fourth expounded by more than one author in fairly standard textbooks on sixteenth-century counterpoint, in which the fourth created by one upper voice with the lowest-sounding voice, usually as part of a 6/4 sonority, is considered to have a consonant status in relationship to its subsequent dissonant status as the fourth of a 4-3 suspension that is part of a 5/4 sonority.

Some who have taught for many years and steered their students through the mazes of counterpoint, might take exception to the

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statement, "mastery of three-voice writing leads easily to mastery of four" (page 172), for although it is generally true that "counterpoint in four voices is no different in technique from that in three" (page 285), the addition of that fourth voice doubles (from three to six) the possibilities for unidiomatic successive perfect intervals, a point suggested by the author when he writes that "there will be six pairs (voices 1-2, 1-3, 1-4; 2-3, 2-4; 3-4)," as opposed to three pairs in three-voice counterpoint. The novice at four-voice counterpoint can find this a difficult condition with which to come to grips. The related problem of achieving linear independence results because four voice parts tend to unite into familiar vertical sonorities—what Piston has described as "contrapuntally . . . a defect rather than a virtue."²

Counterpoint in the Style of J. S. Bach is not without printing problems and typographical errors. On page 250, for example, the reader is referred to "pp. 000 ff."; at the bottom of page 195, chapter 8's Cumulative Exercise 10 drifts off in mid-sentence; and on page 239, crowding interferes with the clarity of Example 10-20. Editorial revisions are needed on various pages: 3 (the final sentence); 20 (the penultimate sentence); 51 (the last paragraph's second sentence); 162 (the bottom line); 247 (the first sentence); 305 (line 3); 333 (item a); and 444 (the index item on Sinfonia 9) to cite some of the more obvious items.

For the most part, points are communicated in an unintimidating, easy-to-understand manner; however, the writing style frequently exhibits carelessness in such a way as to distract from the subject at hand or to convey a meaning not intended. On page 61, the perfect fourth, itself (as opposed to one of its two ingredients), is said to be "usually heard and treated as a nonharmonic tone" (a thought compounded on page 208). On page 65, reference is made to doubling an accidental (rather than the note affected by an accidental). Certain other passages speak for themselves:

"Even when the same materials are not literally shared, as they would be in imitative works, still both voices will share the same general thematic content, especially when both are of equal importance" (page 51).

"The T is a strongly directed scalar shape, starting on the downbeat on tonic" (page 146).

"As Bach rarely uses canon in three voices as a developmental device as it is difficult to sustain successfully, we will not dwell long on it" (page 215).

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"The more voices, the narrower the range of the subject, avoiding crossings and other complications" (page 222).

"Where the A is real, there is no dependable way of distinguishing S from A in such passages" (page 259).

This list of sentences does not single out isolated, inadvertent slips of the kind any writer might occasionally make. It focuses on a pervasive problem that, unfortunately, conveys the impression that the author does not consider presentation as important as content.

The writing is sprinkled with apt, imaginative terms, but the penchant for abbreviations (such as "T" for theme, "CT" for countertheme, "ME" for middle entry, etc.) contributes to inelegance, as does the outline style of sentence construction, which sometimes invades the actual text. Enumerations having an ungraceful follow-through with their introductory material (as on page 183) or constructional inconsistency (pages 40-41) cause other problems. Additionally, parentheses are not always employed as effectively as they could be: "Observe, in Ex. 9-3, a reduction of Ex. 9-1, mm. 1-5, the highly directional structural (passing motion) lines, the descending chromatic lines (I to V), and the simplicity of the overall tonal/linear organization" (page 199). Other disconcerting practices involve such matters as the pluralization of certain nouns that do not really require pluralizing ("relative motions," "imitations," "counterpoints," etc.) and obsession with *note* as an imperative verb (rather than a musical symbol).

Nevertheless, the book has many strong points, not the least of which include exhaustiveness of detail within a wide range of topics, effective employment of musical examples, an underlying current of energy and enthusiasm that could easily be contagious for the student, and explanations that back up rules with reasons for their use. Benjamin's understanding of the compositional process comes across whether he is discussing the need for a delicate balance between the establishment of sections with appropriately strong cadential patterns or the continuity between sections by the subtle weakening of those same patterns (pages 17, 159, etc.); outlining the simple foundations that often lurk behind surface detail (page 201); or emphasizing the multi-faceted function of a musical event, for example, the intervening connecting passage (i.e., codetta) usually found between the second and third entries of a fugue—a passage that may exist not only for obvious modulatory purposes, but also "to avoid excessive predictability and regularity in the entries" (page 239) and to bring about "preliminary confirmation and development of motifs" (page 240). The importance of

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rests, "the windows and doors of music, letting in air and light" (page 177), is not lost upon him as it is upon certain other authors, nor is the combined aspect of rhythm, which is illustrated several times in charts showing the composite effect of all voice parts.

The student is kept on course by intermittent reinforcement of salient points, step-by-step models that pave the way for a gradual acquisition of the craft, and error-detection exercises, which (except when errors are overly basic) offer a valuable point of departure for classroom discussion. The anthology is unique, supplying—along with the numerous passages from the text, itself—far more music than can be found in any competing book and therefore alleviating one problem for the teacher, who is still free, of course, to provide supplementary material.

The musicianship of this author, especially in its emphasis on aesthetic and expressive factors that go beyond mere "correctness" of pitch, rhythm, or interval, is evident throughout the book (he frequently stresses, for example, that the structure of music involves long-range considerations having to do with shape, growth, climax, process, and flow); and it is clear he is sensitive to the psychological effect that particular operations have on potential listeners. Such concerns must surely exert a positive influence on the way the typical student thinks about and experiences music in general, not just Bach-style counterpoint.

One could argue endlessly regarding fine points of analysis, which terms are most appropriate, and how best to communicate, but ultimately a book such as this has to be measured on the basis of its overall, intrinsic, pedagogical value. On this basis, *Counterpoint in the Style of J. S. Bach* does constitute a viable alternative to its companion volumes dealing with the same subject.

NOTES

¹Hans T. David and Arthur Mendel, *The Bach Reader* (Norton, 1966), 39.

²Walter Piston, *Counterpoint* (Norton, 1947), 143.

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CORRECTION

The following corrections should be made in the article by Nicholas Cook, "Arrangement As Analysis," JMTTP (Spring 1987): 77-89.

1. In Figures 4 and 5, the top voice should be designated B-flat clarinet (to make the whole-step transposition meaningful); and the second voice for a single violin.

2. In the bottom two lines of page 81, the numeral 3 should be preceded by a natural sign. On the bottom line of the same page, the dash just before the parentheses should be removed and footnote number 2 should be inserted at the end.

3. In Figure 10, the piano part (which is meant to be compared with, not played with the quartet arrangement above) should have a key signature of one sharp throughout.

The *Journal of Music Theory Pedagogy* regrets these inadvertent errors.