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A SCHENKER PEDAGOGY

H. LEE RIGGINS

GREGORY PROCTOR

INTRODUCTION

In "The Americanization of Heinrich Schenker," William Rothstein conjures up the image of a *sub rosa* gathering of fanatical Schenkerians in a room somewhere beneath Mannes College.¹ They are huddled about a map of an expanding Schenkerian empire. Each pin stuck into the map marks the conversion of a department or School of Music to Schenkerianism. Beginning with a thick cluster in the Northeast, with Mannes naturally at the center, the pattern thins out toward the Midwest. There, a cluster of pins marks another array of Schenkerian outposts. Westward, there is but a scattering of pins. Nevertheless, the overall pattern is clear: Schenkerianism is spreading.

Although this description of the expansion of "Schenker's approach"² is intended by Rothstein as a colorful analogy to illustrate the current state of affairs, it aptly underscores the extent to which Schenker's theories have become incorporated into contemporary theoretical discourse.³ Now, when Schenker's theories are so widely dispersed throughout the field of music theory, formulation of pedagogies for the teaching of Schenkerian theory is of ever increasing interest and urgency. Taking note of the major contributions of Rothgeb and Beach,⁴ we propose the present formulation of a Schenker pedagogy, one that recognizes the academic environment in which these theories are transmitted, and that distinguishes among a variety of issues associated with that transmission. For example, in speaking of a Schenker pedagogy, two distinct issues immediately arise: one is the teaching of Schenkerian theory and analysis proper, the other is the teaching of music theory from a Schenkerian point of view. We address both of these matters.

The typical class in Schenkerian analysis consists of a series of analytic performances by the instructor to be imitated by the students; they are to copy the behaviors they have witnessed and apply them to other pieces. The syllabus for such a course is commonly a list of compositions. There is often

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little direct reference to Schenker's theories proper, and no distinction is made between teaching Schenker and using Schenkerian concepts to teach analysis.

We suggest that the teaching of Schenkerian theory and analysis should be based on a clear model and image of his theories. Our pedagogical paradigm is based on a model of those theories.⁵ The paradigm has the following characteristics:

Schenker's theories are to be taught directly, but critically, using Schenker's own texts.

The idealistic approach is favored over the reductionist approach.

Analysis is taught only after the broad outline of Schenkerian theory is learned, starting with *Harmony* and proceeding through the study of at least the first level of middleground as defined in *Free Composition*.

Specific techniques are used that address both notational and theoretical problems.

Analytic exercises are constructed according to the theoretical model.

CURRICULAR RESTRAINTS

By their nature, paradigms are bounded by certain *a priori* assumptions as well as restraints. Although a thorough discussion of the tacit curricular assumptions and restraints incorporated into our paradigm is beyond the scope of this paper—suggesting the need for further pedagogical discourse—two restraints cannot be ignored. Both are familiar to Schenkerians who practice in the classroom. They are: 1) student preparation; and 2) the amount of time allotted for the Schenker course.

Student Preparation. In the Introduction to *Free Composition*, Schenker himself describes what constitutes adequate preparation for the study of his theories: "instruction in strict counterpoint (according to Fux-Schenker), in thorough-bass (according to J.S. and C.P.E. Bach), and in *Free Composition* (Schenker)."⁶ David Beach refers to this passage as the basis of his prescription for understanding Schenker. He goes on to describe the "conflict . . . that results from the difference between the time needed to develop these skills [i.e., Schenker's analytic method] and the time pressures at institutions of higher education in this country."⁷ This conflict is a

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very real concern to anyone teaching Schenker in the classroom, and we shall return to it.

John Rothgeb's ideal Schenkerian curriculum similarly consists of "at least one full year of strict counterpoint and figured bass, with little if any reference to inversion theory of Roman numerals."⁸ He concludes pessimistically that the curriculum he describes "is an impractical one only because it is so different from any in existence, and because no correspondingly organized modern textbook has been written."⁹

Allen Forte and Steven E. Gilbert take up Rothgeb's pedagogical challenge in *Introduction to Schenkerian Analysis*, which is "addressed to college students of music who have had a year of instruction in tonal harmony and counterpoint."¹⁰ In the "Instructor's Manual" for their textbook, Forte and Gilbert discuss the issue of student preparation:

The problem of student preparation (or preparedness) increases with the level of the course. The early chapters of the book can be used as early as the second year of instruction Above all, the student of Schenkerian analysis needs to know figured bass 'cold'¹¹

Our paradigm likewise would require at least two years of grounding in voice leading and harmony as a preparation for the study of Schenker. Despite Schenker's suggestion, the study of voice leading need not necessarily be of the strict Fuxian species variety.

Most students are more exposed to chorale-style voice leading than to the less style-bound conventions of Fux, even when their instructors are Schenkerians. Neither Fuxian conventions nor those of the chorale are quite what musicians use when they hypothesize voice leadings for some analytic stage. The actual tool is more abstract, and seems to have three primary characteristics: 1) from one harmonic state to the next—regardless of their relative structural status—a note is either a common tone or it is displaced upward or downward by step (possibly in both directions); 2) specific displacements are a product of compositional choice and structural requirements; 3) the bass is treated as a member of this contrapuntal weave except when it fulfills one of its other two characteristic functions, a) the provision of a root for a chord, and b) fulfillment of structural arpeggiation and its derivatives.

There are no textbooks beyond Schenker's work that teach such an abstract kind of voice-leading, and Schenker only implies it. A textbook that taught such voice leading, with varied textures for its realization, would probably be too Schenkerian in real content for non-Schenkerians to be

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comfortable with. Under the circumstances, any kind of contrapuntal study will suffice as long as the student is exposed to the concept of voice leading as a isolable component of tonal music. Further, introducing the student to the idea of a melodic progression in the Schenkerian sense considerably smooths the path not only to the understanding of Schenker but to the understanding of concepts of goal and cadence.

This is to say that students can be taught from a Schenkerian perspective at the same time as they become literate in the standard terminology as currently used in the field of music theory and analysis. To some extent, this has become easier as teaching materials more and more come to reflect a position that, at the worst, does not conflict with the Schenkerian point of view, and at best addresses its concerns directly. At the same time, the matter of "harmony" has been made more difficult by the recent "return to basics" by textbook authors and publishers. Although the three most-used textbooks in college and universities in the United States,¹² *Tonal Harmony* by Kostka and Payne, *Music in Theory and Practice* by Bruce Benward, and *Elementary and Advanced Harmony* by Robert Ottman, contain Schenker-flavored chapters,¹³ their pedagogical approach and content are radically different from textbooks such as *Harmony and Voice Leading* by Aldwell and Schacter,¹⁴ clearly derived from and based on Schenkerian theory.

Regardless of the textbook selected for the first two years of study, the essential distinctions that must be made to prepare the student for Schenker studies in particular are the differences between "chord" and "harmony," and between "melody" and "line." Students in any class in form and analysis can and should be taught the difference between individual chords or simultaneities in a passage and the harmony that envelops them, and likewise the difference between individual notes in succession and the line that directs them. They must be taught that figured-bass symbols are more than appendages to the Roman numerals, and do more than indicate inversions. In an atmosphere congenial to Schenkerian thought, chromaticism can be taught under the rubrics of mixture and tonicization, and students should be taught that chromaticism arising from tonicization is goal-oriented.

Goal-orientation is critical in teaching theory and analysis from the Schenkerian perspective. Students need to be taught that cadence is not merely the function of a particular bass motion, but a contrapuntal complex involving convergence upon a goal tone as well as a special root movement. Schenker points to the I-V-I motion in the bass and refers to it as the "sacred triangle."¹⁵ He always associates this bass triangle with upper-voice motion, scalewise descending in the background and at the first level, and in other configurations as they become possible at later levels.

Such an association of elemental cadential bass movement with linear

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activity appropriate to its breadth can do wonders in orienting undergraduate students toward the perception of music in coherent units. It can also train them in the discernment of the typical locations of major formal signs, such as the modulations in consequent segments of small forms. It can further sensitize the student to the necessary awareness that not all tonics and dominants are created equal, that some are part of these triangles while others are simply part of the contrapuntal weave.

All of this is to say that current undergraduate training already often contains a background sufficient to sensitize the student to Schenkerian concerns. What remains for a specifically Schenkerian focus need only be a shift of emphasis toward the structures beneath the surface, especially toward the lines in upper parts, and how they interact, together or in succession. There is little need at the training-wheel stage to worry over the possibility of many layers of these relations of complex surfaces to simpler models.

The real drawback in undergraduate training is not that materials for presenting a particularly Schenkerian superstructure are not available, but rather that departments don't form a clear image of what they wish to produce, Schenkerian considerations aside; they move about among various textbooks, all of which have differing goals when they have goals at all. A department with a coherent point of view does not especially require a change to new materials, unless materials come along that make the process more efficient. We still believe, for example, that Mitchell's *Elementary Harmony*¹⁶ is an elegant undergraduate textbook, but it is no longer in service for a variety of reasons, not the least of which is simply its age. (Another major reason it fell out of favor, or never enjoyed extensive use, is that it barely reaches into the field of chromaticism. Nevertheless, augmented-sixth chords can wait beyond the first year of theory, while fundamentals are drilled. After all, we teach augmented-sixth chords essentially because of their having names and forming regular practices, not because of their ubiquity and significance in tonal composition.)

TEACHING SCHENKER

The teaching of a formal course in Schenkerian theory and analysis is possible at the undergraduate level, but, as Beach asserts,¹⁷ only *after* the establishment of the fundamentals of music theory. Schenker's theory, whatever model of it is entertained,¹⁸ rests on a sophistication of musical experience. It is likely to be confusing for the students to have each harmonic-contrapuntal piece of musical lore explained in terms of the

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interaction of levels, when that student is still perhaps wondering if a plagal cadence is a real cadence or a fact of musical color.

Students with a firm foundation in musical grammar and syntax, derived from a coherent viewpoint possessed by their teachers, are capable of dealing with a course in Schenker, even possibly, if not preferably, as a component of their form and analysis course, normally taught toward the end of the theory core.

To teach Schenker formally requires elaborate preparation by the instructor and gradual, thoughtful assimilation by the student. As Beach points out, a student can learn something *about* Schenker and perhaps his theories in one term.¹⁹ To develop the skills required to apply Schenker's approach in an analytic setting is another matter. Under no circumstances, however, at the undergraduate or graduate level, should a Schenker course be limited to one term. There is barely time enough to provide the specifically Schenkerian theory necessary before the student takes up the production of analytic graphs. Although Forte and Gilbert provide syllabi for just such a "one-term ('easy') undergraduate course" and a "one-term ('difficult') undergraduate (or graduate course),"²⁰ they acknowledge that

The contents of the entire book are admittedly too much for one semester; to go through it completely would take a full year of intensive work. Rather, we expect that most instructors will have to make a selection, start at some place other than the beginning, and or conclude at some place other than the end.²¹

Whether a student is taught Schenkerian analysis itself or analysis informed by a Schenkerian perspective, the production of analytic graphs tends to be emphasized early in the process, as though the making of graphs were the essential product. The tradition has been to make graphs virtually immediately, in imitation of the instructor. If this experience is limited to a short period, such as one term, the student will have the Zen-like experience of attempting to satisfy the instructor's sense of successful behavior solely on the basis of the committing of blunders pointed out in red pencil. Academic tradition requires rather that the rules be explained before the game begins.

This means that every Schenker course must begin with Schenkerian theory. Theory and analysis are different subjects: theories provide the framework for the production and transmission of analyses. Since analysts rarely depend only on one theory for their activity, the goodness of badness of a theory is unlikely to guarantee the goodness of badness of an analysis;

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and the badness of some particular analysis concomitantly may not be laid at the door of its ostensible theoretical model. Yet, to provide students with a course in what is called Schenkerian analysis without a firm grounding in Schenkerian theory is quixotic at best, for all that it is, and has been, the normal pattern for decades. Schenker's theories of musical coherence are capable of further clarification and refinement but they are profound and informative even as they stand. Further, one can generate specific theories of analytic behavior with respect to Schenker's theories,²² but one still must assert his theories as such to provide the stage for the theory of analysis.

Textbooks. It is a curious and disturbing phenomenon that, among Schenkerians, one of the questions most often heard is "What textbook are you using?" The answer is usually "Forte and Gilbert" or sometimes Felix Salzer's *Structural Hearing*.²³ The textbook for the kind of course we envision is *New Musical Theories and Fantasies (Harmony through Free Composition)* by Schenker himself, supplemented by a pedagogical digest—not yet written—that addresses the theoretical inconsistencies in Schenkerian theory and provides answers for the remaining questions, theoretical answers for theoretical questions.

It can easily take at least one term with graduate students to consider seriously Schenker's writings, as a prelude to the study of specific analyses of the kind represented in *Five Graphic Music Analyses*,²⁴ and preceding the production of new analyses by the students themselves.

Let us assume that the students have a firm grasp of Schenker's theories and the commentary upon them, by way of completeness, by expert Schenkerians (as in Carl Schachter's consideration of *Free Composition*²⁵). One might further assume the task to be simply to plug in Schenker's theory as a set of expectations. Thus, since interruption characterizes binary forms, the external appearance of a binary pattern induces the analyst to seek out an interruption. Since middle sections of ternaries related by lateral keys (IV, III, or VI) are often large-scale neighbors, the analyst looks for the most promising large-scale neighbor to aid in selecting his primary tone for the fundamental line of the entire piece. And, because second themes of sonata forms, as well as other binary forms, are descending linear progressions of the first order from the second scale degree in an interruption scheme, the analyst looks for completion in the key of the dominant and tries to discern the line behind it, simultaneously determining the location of the structural 2 over V with respect to the surface of the composition. At the same time, the analyst is discovering the surface time-span that must be filled preceding the appearance of this melodic progression from scale degree 2, determining the content of *that* passage by models of good conformation such as initial ascent, initial arpeggiation, descending linear

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progressions of the first order from the head-tone, motion out of a middle voice, reaching-over, unfolding, and the combination of all of these, insofar as they don't conflict.

Using Schenker's theory in this way as a guide to analytic behavior makes the subsequent task of producing graphs substantially simpler for the student. The student is not asked to analyze pieces so much as to find instances within pieces of each major prolongational procedure, especially at the first level of the middleground.

Notation. It would be wonderful enough if that were all that is taught, and it ought to be the minimum. But the student is always taught to use some version of Schenkerian notation in the making of analytic graphs, and, unfortunately, notation does not fold so well into such direct connections between levels in the theory and attributes of the composition. Specifically, the "levels" of notation are not the levels of Schenker's structure. If they were, we would either be using a different system of notation or we would see a grotesque deliberateness in the introduction of information in a graph. There are usually more theoretical levels than notational levels represented in any graph.

Given the importance attached to graphic notation and its ubiquity, one might expect that care would be expended in developing standards of analytic notation. It is odd, then, that this is the area where instruction is loosest. Allen Forte warns that "Schenker's use of the various [graphic notational] systems is flexible" and that "a completely systematic interpretation . . . would certainly be subject to serious errors."²⁶ We agree that one cannot establish a universally valid notation for all circumstances, but the notational example set by Schenker himself is both clear and consistent. To teach Schenkerian analysis is ultimately to expose the student to Schenker's own notational style. We have found sufficient internal consistency in *Free Composition* to support limited recommendations concerning normative notations, especially in the vicinity of the first level of the middleground.

Forte indicates that there are essentially two kinds of graphs in *Free Composition*: "structural" and "rhythmic."²⁷ To those we add a third: "model" graphs. *Structural* graphs are the representation of levels proper, and are what one normally associates with Schenkerian analysis. Those in *Free Composition* are normally "compressed" to an even greater extent than those in *Five Graphic Music Analyses*.²⁸ *Rhythmic* graphs constitute a simplification of the surface rhythms of the composition, Beach's "metric reduction."²⁹ These graphs refer to the surface meter of the composition, unlike structural graphs. Schenker's *Umlinie-Tafeln* are composites of both of these types of notation. *Model* graphs, exemplified by Figure 14 in the supplement to *Free Composition*, are intended as non-contextual illustrations of specific

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prolongational procedures. Because they represent theoretical entities, they should be compared to Schenker's graphs of the same procedures as applied to actual compositions, to see how they are changed in practical environments.

In Table 1, figures from *Free Composition* are cited as models for graphic notation.³⁰ The prolongational procedures are in basic contrapuntal categories. Other ways of organizing these procedures into categories are possible, depending on what point is to be made about them. Items that take no special notational consideration, such as Phrygian II and mixture in the fundamental line in the middleground, are not included in this table, but might be included in a categorization scheme that dealt more specifically with harmony.

Table 1: Prolongational procedures and their graphic notation as represented in *Free Composition*.

I. Arpeggiation

A. On the background

1. fundamental bass arpeggiation: Figures 9-11

B. On the first level of the middleground

1. initial arpeggiation to the primary tone:
Figures 40, 3 and 40,8
2. ascending third-divider: Figure 40, 2
3. repetition of the fundamental bass arpeggiation:
Figure 20,4
4. unfolding: Figures 7b, 30b and 43b

C. On the later structural levels and the foreground:

1. ascending arpeggiation: Figures 100, 1 and 100, 6a
2. unfolding: Figure 103, 1 and 103,7

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II. Passing Motion

- A. On the background:
 - 1. the fundamental line: Figures 9-11
- B. On the first level of the middleground:
 - 1. filling of the bass arpeggiation: Figure 48, 1
 - 2. descending linear progressions: Figures: 35 and 47, 1
 - 3. initial ascent: Figures 37a and 39
 - 4. motion from an inner voice: Figure 42
- C. On the later structural levels and foreground:
Figures 99, 2 and 154

III. Neighboring Motion

- A. On the first level of the middleground
 - 1. neighboring note: Figures 76, 5 and 153, 1
- B. On the later structural levels and foreground:
Figures 99, 2 and 154, 1

IV. Change of Register

- A. On the first level of the middleground
 - 1. coupling: Figures 48, 1 and 40, 4
 - 2. ascending and descending register transfer: Figures 46-48
 - 3. reaching-over: Figure 41
- B. On the later structural levels and foreground:
Figures 106, 107 and 108, 3-4

One must connect the system of notation of graphs to the theory of musical coherence. As a prelude to this, and as accompaniment to the study of *Free Composition*, one should consult Schenker's elaborate and mature graphs in *Five Graphic Music Analyses* and his analysis of Beethoven's Third Symphony.³¹ All the procedures in *Free Composition* listed for the middle-ground can be found in these two sources. The *Five Graphic Music Analyses*,

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for example, contain instances of interruption at several levels, coupling in both voices of the fundamental structure, remote-level unfolding, descending and ascending melodic progressions, and structural neighbors.

Beyond this, there are five techniques we recommend as a basis of the pedagogy of analysis proper: 1) the use of example compositions for the students to analyze, selected with a view to applying specific middleground procedures; 2) the evaluation of a passage first without Schenkerian notation; 3) the reconstruction of elaborate pre-existing graphs to align theoretical levels with notational levels; 4) the expansion of compressed graphs, such as those in *Free Composition*, to reflect the theoretical levels; and 5) graph-to-graph comparisons, perhaps using Laskowski's index as a guide.³²

Figure 1a.

Figure 1a, a segment of a Bach chorale in figured-bass notation, illustrates the first two of these points. Because there is a double bar with repeat sign, and because there is a perfect authentic cadence in the dominant at the double bar, we can apply the expectations of binary form to this piece. Whether or not there is an interruption, one should be looked for. In any case, there will almost certainly be a first-level middleground descent from scale degree 2 over V. Instead of troubling with the notation first, one could indicate the probable upper voice as shown in the example: specifically, a letter name is placed over the entire span it might dominate. The argument for the determination of these letter names might go as follows, reflecting a potential classroom exercise: because there cannot be a descent on the first level of middleground over a stationary bass, the last bar of the first section must be all E4.³³ II⁶ moving to V tends to indicate a prolongation of the local second scale degree (2), with motion within a third, either upward from or downward to that second degree. This is indicated in Figure 1a by F#4 across the entire penultimate bar. This will have originated in a G#4, literally instantiated in the preceding bar, and apparently the G#4 in the

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present example is prolonged by a suspension of A4, information to be stored away for later levels. In this way, working backwards from the cadence, one can build on expectations of normal behavior to invoke an instance of a descending linear progression of the first-order. A plausible graph in light of this discussion is offered in Figure 1b.

Figure 1b.



If Schenker asserts that, for theoretical reasons, a certain event can only appear on a particular level of structure, the student should go through the discipline of assigning a level of notation to each level of structure. Figure 2 is a well-known analysis by Schenker.³⁴ It is an uncommonly leisurely graph, allowing for three middleground levels.

The levels of notation as assigned by Schenker do not correspond to his definition of theoretical levels. For example, the neighbor to the retaken head tone in the interruption, graphed in the first level, should lie on the next level.³⁵ Similarly, the second level of notation shows a line descending from C5; this belongs on the first theoretical level.³⁶ The ascent back to C5 is, on the other hand, correctly placed on the second level.³⁷ The coupling in the bass belongs in the first theoretical level,³⁸ but doesn't appear until the second notational level. The first unfolding, shown in the third notational level, should arise on the second theoretical level.³⁹ (This is not to say that Schenker's assignment of theoretical levels cannot reasonably be challenged, but merely that he has such theoretical assignments and they differ from notational ones.)

Figure 3 show how this graph might be rennotated to conform to the theoretical levels. Note that in this example some events appear earlier, some later, than in Schenker's original graph, and that the third level of the revised graph includes events shown only in the *Urlinie-Tafel* stage of the original graph. (Incidentally, the second interruption segment of the third level does not, in this revised graph, include some of the detail already indicated in the first segment. Instead, attention is focused on the delay of

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the latter's Db3 in the bass, which causes the dissonant 7th with the soprano.) The point is that the two series of graphs contain the same information, but that the second is closer to Schenker's assertions of good conformation of structural levels in *Free Composition*. There is no attempt to reconsider Schenker's analysis. Dispute as to the correct analysis is the least interesting aspect of analysis altogether, especially insofar as there may not be such a thing as a "best" or "true" analysis.

We have mentioned the selection of compositions reflecting specific procedures, evaluation of passages previous to concerns about graphing, and the realigning of notational levels with theoretical levels. The fourth pedagogical technique is the expansion of graphs to conform to theoretical levels. Figure 4 illustrates this procedure.

Schenker's compressed graph, Figure 4b, of the "Saint Anthony Choral," which fairly well represents the third level of the middleground, is reconstructed through to the second level of the middleground, Figure 4a. Recreating hypothetical earlier graphs addresses one of the most critical steps in producing a Schenkerian analysis: assignment of prolongational procedures to their correct structural level.

Unfortunately, the analyst's intent to communicate a complete analytic image normally results in a compression of graphic levels in even the most carefully constructed graphs, so that an event is introduced as soon as it is graphically plausible. If a first-level middleground line appears in the graph, and if a later-level line may appear applied to a separate portion of the same graph without confusion, no analyst will wait to introduce the later-level material. The rule is: if the formations on different theoretical levels are separate in graphic space, they may appear together on one and the same graphic level.

The last pedagogical point, careful comparisons of varying analyses, is generally fulfilled, at least in part, in courses in Schenkerian analysis. Assuming agreement as to analytic issues, there typically is discussion of the virtues of different graphic representations. Students' graphs are compared with one another and with that of the instructor. When there are different analytic interpretations, there should also be discussion of: 1) relative simplicity of each solution, with the assumption that simpler solutions correspond better to preferences exercised in listening; 2) the clearest graphic representation of each of the various solutions, while avoiding the assumption that the simplest graph corresponds to the simplest analysis; and 3) the relation of each solution to Schenker's theory, indicating points of conformity or departure without value judgements as to the musical correctness or sensitivity of any analysis as a function of its degree of conformity to the theory.

Figure 2.

The image displays a musical score for three layers of a bell, labeled '1. Schicht', '2. Schicht', and '3. Schicht'. Each layer is represented by a system of two staves (treble and bass clef). The score includes various musical notations such as notes, rests, and slurs, along with German annotations in parentheses: '(3 = Zug abw.)', '(3 = Zug aufw.)', '(5 = Zug)', '(Kopp. abw.)', '(Ausf.)', and '(5 = Zug)'. The score is divided into three main sections, each starting with a '3' and ending with a '2' and a double bar line. The first section is labeled 'Ursetzung' and the second '1. Schicht'. The third section is labeled '2. Schicht' and the fourth '3. Schicht'. The notation includes various musical symbols such as notes, rests, and slurs, along with German annotations in parentheses: '(3 = Zug abw.)', '(3 = Zug aufw.)', '(5 = Zug)', '(Kopp. abw.)', '(Ausf.)', and '(5 = Zug)'. The score is divided into three main sections, each starting with a '3' and ending with a '2' and a double bar line. The first section is labeled 'Ursetzung' and the second '1. Schicht'. The third section is labeled '2. Schicht' and the fourth '3. Schicht'.

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Figure 2. con't.

The musical score consists of four systems of staves. The first system shows a single staff with notes and rests. The second system has two staves with notes and rests, including annotations like '(3 = Zug abw.)' and '(3 = Zug aufw.)'. The third system has two staves with notes and rests, including annotations like '(4 = Zug)' and '(kopp. aufw.)'. The fourth system has two staves with notes and rests, including annotations like '(3 = Zug abw.)', '(3 = Zug aufw.)', and '(4 = Zug)'. Roman numerals I, IV, V, and I are placed below the staves, indicating harmonic structure. The notation is complex, with many lines and curves connecting notes across staves.

Figure 2. con't.

Takte: 1
(Fermaten:

2 3 4 5 6

Url. Tafel

(10-6-10)

(kopp. abw.)

(3 = Zug abw.)

(Innen 2 = Zug)

(3 = Zug abw.)

(5- (71))

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Figure 2. con't.

Figure 2. con't.

Desimonsatz: 10 - 10 - 10 - 10

(3 = Zug)

(3 = Zug)

(4 = Zug)

10 10 10 (10)

6 7 8 9 10 11 12

(3 = Zug abw.)

(3 = Zug aufw.)

(10)

(4 = Zug)

(10) (3 = Zug) 10 - 10 (10)

(7 - 5)

(8 - 7)

(kopp. aufw.)

(kopp. abw.)

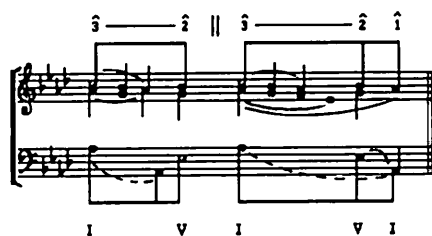
I IV V I

Figure 3.

Fundamental structure



1st level



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Figure 3. con't.

2nd level

The 2nd level of the analysis shows the reduction of the musical texture to its essential harmonic and melodic lines. The score is written for piano, with a treble and bass staff. The melody is represented by a single line of eighth and quarter notes, while the bass line consists of a few sustained chords. Above the staff, Roman numerals indicate the harmonic structure: I, I, V, I, IV, V, I. Above the melody, numbers 1, 2, 3, and 4 are placed above specific notes, indicating their structural function. A double bar line is present in the middle of the piece.

3rd level

The 3rd level of the analysis shows the reduction of the musical texture to its essential harmonic and melodic lines, with a focus on the voice leading. The score is written for piano, with a treble and bass staff. The melody is represented by a single line of eighth and quarter notes, while the bass line consists of a few sustained chords. Above the staff, Roman numerals indicate the harmonic structure: I, I, V, I, IV, V, I. Above the melody, numbers 1, 2, 3, and 4 are placed above specific notes, indicating their structural function. A double bar line is present in the middle of the piece.

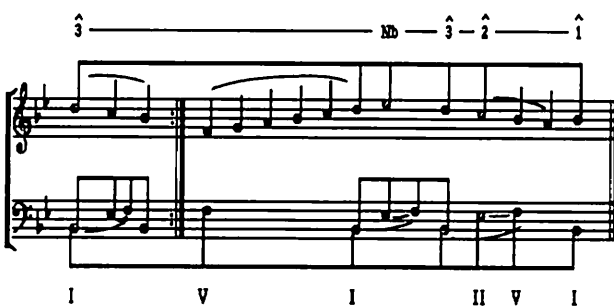
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Figure 4.

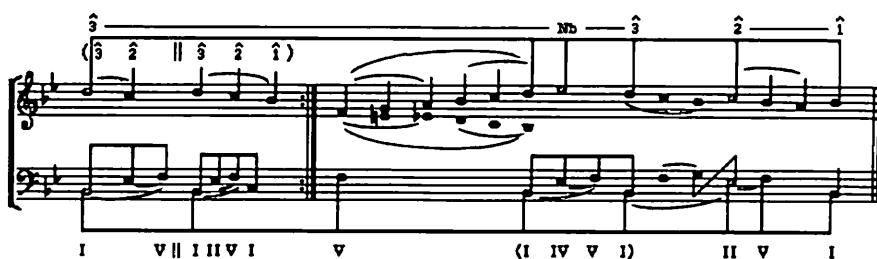
Fundamental structure



1st level



2nd level



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Figure 4b.

Mgd. I- (div.), I- , V(?) (8-7-6-5) I II V I

Fgd. I II V || I II V I , V (-I-IV-(II)-V) I - II V I

a₁- -b- -a₂

Since the graph has always taken precedence over Schenker's theory in Schenkerian analysis courses, the students, as well as the teachers, have been inclined to blur the distinctions between theoretical levels, giving to Schenkerian analysis an impressionistic vagueness, and promoting the Romantic notion that the act of analysis is an esoteric artistic behavior. It may well be that the production of a good Schenkerian analysis requires an artistic upbringing, but if the behavior belongs in the academy, then it can be taught, it can be good, without requiring or eliciting metaphysical sensibilities.

Ultimately, what we are proposing is the demystification of Schenker. Generations of students have by now been exposed to Schenker-like analysis without ever having discovered the strictness and sophistication of Schenker's theory. We recommend that the instructor be in possession of a clear model of the theory; that the theory itself be taught; that graphic notation be related to the theory; that any analysis, not just Schenkerian ones, be seen as the act of correlating pieces of music to some theory of good conformation. Most of all, we recommend that *Free Composition* not be hidden from the students.

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NOTES

¹William Rothstein, "The Americanization of Heinrich Schenker," *In Theory Only* 9/1 (March 1986): 5.

²Rothstein, p. 6. According to Rothstein "Schenker's approach" was the terminology preferred by his teacher, Ernst Oster.

³Equally colorful is Rothstein's likening of the appearance of Allen Forte's 1959 article, "Schenker's Conception of Musical Structure," in the *Journal of Music Theory* 3, to the conversion of Constantine.

⁴See John Rothgeb, "Schenkerian Theory: Its Implications for the Undergraduate Curriculum," *Music Theory Spectrum* 3 (1981): 142-149; and David Beach, "Schenker's Theories: A Pedagogical View," *Aspects of Schenkerian Theory*, ed. David Beach (New Haven: Yale University Press, 1983), pp. 1-38.

⁵See Gregory Proctor and Herbert Lee Riggins, "Levels and the Reordering of Chapters in Schenker's *Free Composition*," *Music Theory Spectrum* 10 (1988): 102-126.

⁶Heinrich Schenker, *Free Composition* (New York: Longman, 1979): xxi-xxii.

⁷David Beach, "Schenker's Theories," p. 3.

⁸Rothgeb, "Schenkerian Theory," p. 149.

⁹*Ibid.* Rothgeb apparently discounts Felix Salzer's and Carl Schachter's *Counterpoint in Composition: The Study of Voice Leading* (New York: McGraw-Hill, 1969), presumably because it doesn't include the study of both counterpoint and then harmony.

¹⁰Allen Forte and Steven E. Gilbert, *Introduction to Schenkerian Analysis* (New York: W.W. Norton and Company, 1982), p. 1.

¹¹Allen Forte and Steven E. Gilbert, "Instructor's Manual" for *Introduction to Schenkerian Analysis*, p. 2. Their final recommendation is that the would-be Schenkerian be able to "play her analyses [at the keyboard]" (p. 2).

¹²Rosemary Killam and others, "Survey and Results: Most-Used Theory Texts in U.S. Colleges and Universities," North Texas State University.

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¹³See for example, Chapter 15, "Levels of Harmony," in *Tonal Harmony*, by Stefan Kostka and Dorothy Payne, 2nd ed. (New York: Alfred A. Knopf, 1989), pp. 237-246. David Beach recommended just such a tiered approach to Roman-numeral analysis in his keynote presentation to the Gulf Central Music Theory Society (March, 1988). [Editor's note: see the published version of this paper in this issue of *JMTP*.]

¹⁴Edward Aldwell and Carl Schachter, *Harmony and Voice Leading*, 2nd ed. (New York: Harcourt Brace Jovanovich, Inc., 1989). Compare, for example, Chapters 6-8 to Figure 14 in the "Supplement" to *Free Composition*.

¹⁵Schenker, *Free Composition*, p. 15.

¹⁶William J. Mitchell, *Elementary Harmony*, 3rd ed. (Englewood Cliffs: Prentice-Hall, 1965).

¹⁷Beach, "Schenker's Theories," p. 16.

¹⁸We represented ten models; more are possible. See fn. 5.

¹⁹Beach, "Schenker's Theories," p. 3.

²⁰Forte and Gilbert, "Instructor's Manual," pp. 5-6. They also provide a syllabus for a two-term graduate course (p. 7).

²¹Forte and Gilbert, "Instructor's Manual," p. 4.

²²An example of such an attempt is: Karl-Otto Plum, "Towards a Methodology for Schenkerian Analysis," translated by William Drabkin, *Music Analysis*, 7/2 (1988): 143-164.

²³Forte and Gilbert barely introduce the three stages of Schenkerian theory. Their text hovers about the interface between foreground and middleground, the *Urlinie-Tafel*, and is essentially concerned with the making of rhythmic reductions. *Structural Hearing* departs significantly and in some aspects fundamentally from Schenker's theories.

²⁴Heinrich Schenker, *Five Graphic Music Analyses*, with a new introduction by Felix Salzer (New York: Dover, 1969).

²⁵Carl Schachter, "A Commentary on Schenker's *Free Composition*," *Journal of Music Theory* 25/1 (1982): 115-142.

²⁶Allen Forte, "Introduction to the English Edition" of Heinrich Schenker's *Free Composition*, p. xix.

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²⁷Idem

²⁸We recommend that students begin their study of Schenker's analyses with *Five Graphic Music Analyses* because of the clearer separation of notational levels there, and thus the greater ease of identifying theoretical levels.

²⁹Beach, "Schenker's Theories," p. 19.

³⁰See Herbert Lee Riggins, "Heinrich Schenker's Graphic Notation and Contemporary Variants," (Ph.D. Dissertation, The University of Texas at Austin, 1981) for a systematic discussion of traditional Schenkerian notation and its analytic application.

³¹Heinrich Schenker, *Das Meisterwerk in der Musik*, 3 vols. (Munich: Drei Masken Verlag, 1925, 1926, 1930) reprinted in one volume (Hildesheim: Georg Olm, 1974), 3: 29-84 and appendix to volume 3.

³²See Larry Laskowski, *Heinrich Schenker: An Annotated Index to His Analyses of Musical Works* (New York: Pendragon Press, 1978).

³³Schenker, *Free Composition*, Sections 53-86, pp. 29-36, and especially Section 283, pp. 116-117.

³⁴Schenker, *Five Graphic Music Analyses*, p. 32.

³⁵Schenker, *Free Composition*, Section 106, p. 42 and Section 196, p. 71.

³⁶Schenker, *Free Composition*, Sections 114-119, pp. 44-45.

³⁷Schenker, *Free Composition*, Section 136, p. 49. Specifically, he states that "at the first structural level this motion from the inner voice cannot relate to the first tone of the fundamental line."

³⁸Schenker, *Free Composition*, Section 153, p. 52.

³⁹Schenker, *Free Composition*, Section 142, p. 50.

THE ANALYTIC PROCESS: A PRACTICAL DEMONSTRATION

The Opening Theme from Beethoven's Op. 26

DAVID BEACH

INTRODUCTION

This article is the direct result of an invitation to give the keynote address at the 1988 meeting of the Central Gulf Theory Society, held at the University of Southwestern Louisiana in Lafayette.¹ After agreeing to do so, I gave considerable thought to what would be an appropriate topic, given my interests and what I assumed to be that of my audience. Though I have varied interests, my primary area is the analysis of tonal music, and I guess it is no secret at this point that my orientation is Schenkerian. So I asked myself, what could I, a Schenkerian involved primarily in the education of graduate students, offer a group of musicians whose primary teaching responsibility in theory is with undergraduates? My solution was to talk about the analytical process in general and to provide a practical demonstration of this process from a Schenkerian perspective, using the opening theme from Beethoven's Piano Sonata, Op. 26, as the focus of my discussion. What follows is that presentation.

I think I need not justify music analysis to an audience of music theorists or teachers of music theory. There are, of course, many reasons for studying and analyzing music, as there are countless ways to go about it. I have to admit that my main reason for studying a particular piece in detail is for the sheer joy of discovering what makes it tick, of unraveling and trying to answer the questions that inevitably arise. But, aside from this selfish reason, my motivation is pedagogical, as I suspect it is for most others. I am concerned with what I should be asking my students to look for (listen for) and about how I should direct them to discover what is there to be uncovered by analysis. Ideally, of course, we may consider the process of musical analysis as completed only when all aspects of the composition—its formal and motivic design, its harmonic and metric organization, and its

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contrapuntal structure—are thoroughly investigated and when the questions that arise from our investigation are satisfactorily answered. As professionals, we know that such a level is rarely achieved; indeed, we would be hard put to name many published analyses that would qualify. And as teachers we know full well the necessity of readjusting our sights in various ways to accommodate students at different levels of development and sophistication. That is at least part of what teaching is about—learning what questions to ask of our students (or perhaps more appropriately learning how to get them to ask such questions of themselves) at various stages in the educational process.

Thus, at least as far as the *teaching* of musical analysis is concerned, I think we must be careful to view the process not as a single and indivisible task but as a series of stages, each potentially complete as an explanation of certain phenomena, yet open-ended in that it cannot answer all the questions posed and thus must lead at some time to another stage, and so forth, until the process is complete. To a certain extent, what I have just said may be taken as a description of musical analysis as it is commonly taught, but with one exception. I insist that the initial stages, though in some respects self-contained, remain open-ended. Too often these steps are taught not only as mechanical processes, which bothers me no matter what type of analysis is involved, but also as ends in themselves. While I understand the advantage of assigning to a student a task that can be completed satisfactorily, I think it is unfortunate to imply anywhere along the way that there is nothing more to be discovered. I would much rather leave the task with unanswered questions than never to have asked them. My experience is that the process is continuous, each stage offering a solution while uncovering more that needs to be explained. With this in mind, you might understand why I would have little patience with a paper that purports to be a description of one's initial "hearing" of a piece, since such a hearing cannot be equated with what is actually there. Though such an approach is not without interest, it is just the initial step in analysis. But it is no more a completed analysis than the initial rehearsal is a polished performance of a musical work.

I think it is very difficult to specify just how many stages there should be in the analytic process, since that depends to a large extent on the length and complexity of the particular composition. But in general I would identify three major stages, each of which is subject to various subdivisions. First comes a consideration of the formal design of the work, its division into larger and smaller parts (e.g., sections, themes, phrases, etc.) and the appropriate labelling of those parts according to the perceived patterns of repetition and contrast at the musical surface. Concurrent with this process is the identification of key changes and larger-scale harmonic motions in

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relation to these formal divisions, and, where appropriate, the corresponding metric organization. This is a crucial step in analysis, since you must always know where you are in the piece. As one who has taught advanced analysis, I can assure you that many of the problems that arise at subsequent stages are attributable to the age-old problem of losing sight of the forest for the trees, that is, of forgetting where you are in relation to where you have been and where you are going.

The second stage involves coming to grips with the details of the individual parts—the motives, important features of rhythm and meter, including perhaps an analysis of the rhythm, and the harmony. At this stage we are concerned with surface articulations and the familiar task of labelling chords, at least to the extent that we are going to do so. Finally, we must examine the contrapuntal structure of the work, a process that involves several steps, beginning with a metric reduction of the voice leading and ending with our graph of the deep-level structure. In my opinion, all that was done before is preparatory to this stage, since it is here that we really come to grips with how all aspects of the musical composition—the harmony, the voice leading, and the elements of design, such as motive and form—interact to create a unified whole. And, hopefully, it is here that some or all the conflicts are resolved or explained to our satisfaction.

I realize, of course, that what I have just outlined is hypothetical, subject to change according to the demands of the piece and whether or not a comprehensive analysis is intended. Though I recognize the reasons for analysis aimed at elucidating a particular feature of a composition (e.g., its form, the harmony, its rhythmic organization, etc.), it is my intention in the following analysis to aim for and possibly even to achieve a comprehensive view of the work. This is the one reason I have chosen the opening theme of Beethoven's Piano Sonata, Op. 26. Not only is it a familiar work, one that many of you may have given to your students to analyze, but it is short enough to examine in some detail and from several points of view in a reasonable amount of time. The approach I will take is a modification of the three-stage process outlined above. The initial stage, an examination of the formal design and identification of the corresponding harmonic and metric groupings, will remain intact. However, for the purpose of presentation, I have simplified the remainder of the process by combining the detailed harmonic analysis with the metric reduction of the voice leading. Also I will not present a separate rhythmic-metric analysis, but instead will deal with that aspect of organization as I proceed.

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Beethoven Sonata Op. 26 (Theme).

The image displays a musical score for the first movement of Beethoven's Sonata Op. 26, specifically the 'Theme'. The score is written for piano and is organized into four systems, each consisting of a treble and bass staff joined by a brace. The key signature is one flat (B-flat major or D minor), and the time signature is 4/4. The notation includes various musical symbols such as notes, rests, slurs, and dynamic markings. The first system begins with a piano (*p*) dynamic and includes markings for *cresc.*, *sf dim.*, and *p cresc.*. The second system also starts with *p* and features a *cresc.* marking. The third system begins with *p* and includes *sf* markings. The fourth system starts with *cresc.* and includes *p*, *cresc.*, and *sf* markings. The score concludes with a final cadence in the bass staff.

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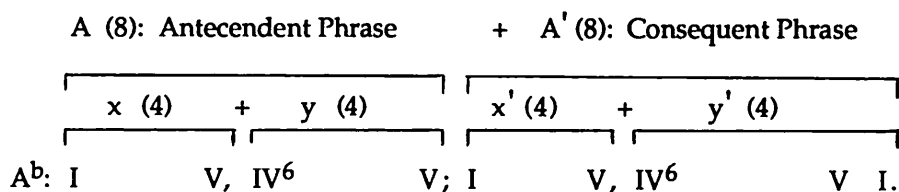


Finally, before turning to the Beethoven theme, I would like to mention a secondary reason for choosing this topic. It happens all too frequently, I think, that individuals perceive there is something mystical, perhaps even magical, about Schenkerian analysis, or, even worse, that it is arbitrary. I'm afraid we have ourselves to blame, at least in part, for this perspective, in that we are not careful under appropriate circumstances to explain the reasons for the choices we make, though, quite honestly, it would be a burden on us all if we were always to do so. Clearly there are times when a lengthy justification of choices is not appropriate. Indeed, a musical graph can tell us a lot: it provides us with an interpretation of the structure of a particular work or part of it. But it cannot tell us why certain choices were made or rejected.² This is what I am hoping to accomplish in the following discussion of Op. 26, namely to provide both an interpretation—which, by the way, is based on Schenker's³—and an explanation. And in so doing I hope to dispel any notion that all this is in any way arbitrary or the result of some magical incantation known only to the select few.

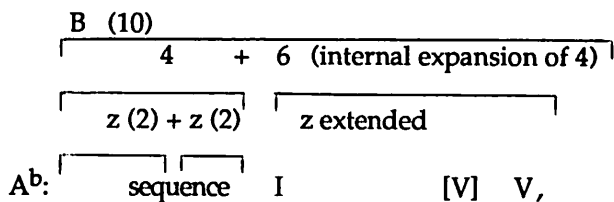
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Table 1.

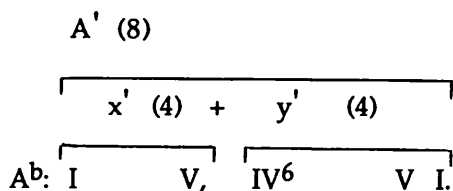
A



B



A'



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FORMAL DESIGN

A diagram of the formal design of the Beethoven theme is provided in Table 1. This diagram is organized visually according to the large-scale ternary plan, where the first part is closed in the tonic (m. 16), the second leads to the dominant (m. 26), and the last, a varied repetition of the consequent phrase of the first part, closes again in the tonic (m. 34). The overall organization may thus be represented as A B A' (I V I). Before discussing the divisions of these sections there are two features of this diagram that require comment. First, the symbol [V] is used to designate a dominant of the following chord—in short, a secondary dominant. Second, you may have noticed by now my use of punctuation symbols at various points of division. Here you must indulge me a bit for my interest in the history of theory. It was a common practice during the latter half of the eighteenth century and beyond to equate harmonic cadences with various punctuation symbols, a natural extension of the commonly accepted parallel between music and rhetoric to the sphere of harmony.⁴ Though the parallel is not well defined, I find the idea of using these symbols useful to represent a hierarchy of cadences within a section, period, or phrase. Certainly the idea would not have been foreign to Beethoven.

As shown in our diagram, the first section consists of an eight-bar antecedent phrase, ending on the dominant harmony, and its varied repetition, closing on the tonic. Thus this first section is really a sixteen-bar period, divided into two parallel phrases: A (8) + A' (8). Each of these phrases is divided in half by an internal cadence, and I have labelled the two parts x and y (or in the consequent phrase x' and y') to represent their contrasting characters. Though eventually we will see that there are strong motivic links between these two parts of the phrase, for now we will focus on their surface characteristics, which are contrasting. Turning now to the harmonic motions corresponding to the various divisions and subdivisions of this period, you will note my use of the semi-colon after the dominant harmony in measure 8 to show it as the major point of division of the sixteen-bar period, the end of which is appropriately marked with a period. Thus I am making a distinction between the dominant in measure 4 (or m. 12), which is the division of the phrase, and the dominant in measure 8, which in the hierarchy is the more important of the two. That is, the dominant in measure 8 is the goal of the phrase (as the tonic in measure 16 is the goal of the consequent phrase), while the dominant in measure 4/12 marks a division of the phrase. This is not at all an insignificant point, since eventually we must understand and explain the role of these dominants in relation to the voice-leading structure. Put a different way, we must come

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to grips with the juxtaposition of dominant and subdominant chords in measures 4-5/12-13 and their function within the phrase. The issue has been raised, but we are not yet equipped to offer an answer. This is exactly what I meant earlier by saying that these initial stages in the analytical process must be open-ended.

Figure 1. Bars 1-16.

Figure 1 displays three staves of musical notation, labeled (a), (b), and (c), representing bars 1-16. The notation includes various annotations and symbols:

- Staff (a):** Shows a melodic line with a '3rd' interval marked. A '3' is written above a note. A '2' is written above a note. A double bar line '||' is at the end. Below the staff, the key signature is 'Ab' and the chord sequence is 'I (div.) IV6 V,'.
- Staff (b):** Shows a melodic line with 'N' and 'P' annotations. Below the staff, the key signature is 'Ab' and the chord sequence is 'I V, IV6 V;'.
- Staff (c):** Shows a melodic line with '1', '2', '3', '4', '5', '6', '7', '8', '9', '10', '11', '12', '13', '14', '15', '16' annotations. Below the staff, the key signature is 'Ab' and the chord sequence is 'I V3 I6 V6 I V, IV6 [V3] V2 I6 V6 07 I V;'.

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Figure 1. con't.

The musical score consists of three systems of staves. The first system shows a melodic line with notes 3, 3rd, 2, and 1, and a harmonic line with chords I, (div.), IV⁶, V, and I. The second system shows a melodic line with notes 6, 6, 8, 7, and 1, and a harmonic line with chords IV⁶, V₄, 7/3, and I. The third system is marked 'Repeat bars 1-4' and shows a melodic line with notes 5, 6, 7, and 8, and a harmonic line with chords IV⁶, [V₅], V₂, I⁶, V₄, 7/3, and I. A box labeled '13' is placed above the first measure of the third system.

From a melodic point of view, we may understand the B section (mm. 17-26) as being generated from repetitions of a new rhythmic-motivic idea (marked *z*), which is characterized by a strongly articulated eighth-note anticipation of the downbeat. The first two statements of this idea (l.h.) and their accompaniments are stated sequentially, forming a four-bar group ending on the tonic harmony. What begins as a third statement with the e-flat octave in the right-hand part on the third beat of measure 20 soon breaks down, and the subsequent material—twice recalling the dotted rhythm

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characteristic of the opening section—is extended until the cadence in measure 26. For the first and only time in this simple theme, we have an irregular metric group, six bars instead of four, meaning overall the B section is ten rather than eight bars in length. At a rather basic level we understand this irregularity—which, by the way creates tension and makes the phrase more interesting—as resulting from avoidance of a perfect authentic cadence in measure 24. Certainly we do not hear the last two bars of this sub-phrase as tacked on, nor would we play it that way, since the goal is not reached until measure 26. Thus I think we must understand this six-bar group as arising from some process of internal expansion, but an explanation of just how this happens must wait until we have an opportunity to examine the voice leading.

BARS 1-16

A tri-level representation of the pitch structure and harmonic organization of bars 1-16, with the levels vertically aligned, is provided in Figure 1. Level c is a metric reduction of the voice leading, below which the progression of harmonies is indicated in the traditional manner by means of Roman numerals. The Arabic numerals between the staves indicate metric groupings, which for this section are very regular: 8 (4 + 4) + 8 (4 + 4). Levels a and b are interpretations of level c, “a” being a simplification and further interpretation of b, which shows both immediate as well as some long-range connections.

The metric reduction is a simplification of the voice leading, where note values represent durations and the direction of stems indicates different parts in a traditional SATB format. Regarding the latter, it should be made clear from the outset that I have not attempted to represent changes in texture as they actually occur, but to indicate what I take to be the most important lines in a particular phrase or subphrase. For example, in the opening four bars I have shown only the outer voices parts, except for the unstemmed e-flat and its relationship to the uppermost voice. However, in the latter half of the phrase I have indicated four parts to represent the voice leading as accurately as possible. Thus, while the metric reduction does indeed show changes in texture, it must be understood that these textures represent different levels of voice-leading complexity but not the actual number of sounding parts in the composition. In this sense and as a simplification of the voice leading, the metric reduction is one full step removed from the musical surface.

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The process of simplification itself is relatively straightforward; it involves elimination of all notes of embellishment, e.g., non-harmonic tones, though I have made two exceptions to this procedure in measure 4 and one in measure 15 for reasons that will become clear in the following discussion. However, the notation of the reduction, that is, the representation of relative duration by means of note values, is not so simple, since it involves two separate, though related, procedures.

First, the duration of a note at this level may represent the time occupied by that pitch plus its embellishment(s) in the actual composition. For example, the *g* in measure 2 is notated as a dotted quarter note in the reduction, since it exerts control throughout the entire measure. Likewise, the vertical third *g/b-flat* in measure 8 is notated by quarter notes, the total value of the embellishing appoggiaturas, this third, and the following sixteenth-note rest.

Second, there are instances where the entrance of a note is delayed in the composition, either by a rest, as in the bass in measure 3, or because the line skips between parts, as in the melody in measure 1. In such instances, the notation in the reduction shows the total value of the note as sounded and its displacement. Thus the bass note *c* in measure 3 is shown in the reduction as if its entrance had not been delayed, and likewise the soprano note *a-flat* in measure 1 is notated as if it had not been displaced momentarily by the *e-flat*, which belongs to an inner part. In summary, then, the basic principle of reduction and notation used here involves the elimination of both melodic and temporal displacements.

There are several special features of this metric reduction that require clarification. Probably the most striking of these, in view of what I have just said, is the inclusion in the reduction of the appoggiatura *d-flat* on the downbeat of measure 4, though by not giving it a stem or durational value, I have attempted to indicate its dependence on the following note for its meaning. My reason for including this appoggiatura is not capricious. It is the initial tone of a clearly articulated statement of the third *d-flat/c /b-flat*, which foreshadows or anticipates an expanded statement of that third in the following measures. The reason for the curly bracket is to identify this third as an important unit and to provide a visual aid for comparison with subsequent statements, as shown in level *b* of this figure. Though less significant, I should also mention the retention in the reduction of the passing note *c* in the upbeat figure to measure 5 and later the passing note *b-flat* as a subdivision of the first beat in measure 15. Neither is necessary, but somehow the parallel gestures seemed incomplete without them.

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The melody in bars 4-8 involves several leaps between what I have shown as an inner line and an outer part. For example, the c on the third beat of measure 5 seems both to continue on by step to the following b-flat, as well as to leap to the high f, thus initiating a series of leaps between lines. I have highlighted these leaps in the reduction by slurs as I have done in the initial four bars, thus showing how this idea carries through the phrase. (This particular use of the slur is unique to this level. In the analytic graphs, they are used to show structural units.) The bracket over the dyad f / e-flat in measure 6 and later in measure 14 has no apparent meaning at this point, but I have indicated this important covering motion here in anticipation of its role later in the piece and at deeper levels within this section.

Finally, I should say a few words about the bass part in bars 4-8, which, like the melody, is formed by two lines. There is a clearly audible registral link between the fs on the downbeats of measures 5 and 7, which is indicated by the dotted line. The intervening notes, which are in a different register, are really part of a separate line, and the "true" bass may be considered as continuing only after the return to the lower register. My use of the dotted line here in the bass and in the corresponding harmonic analysis indicates an analytic decision that exceeds the normal boundary of a metric reduction. Likewise with the curly and square brackets. They result from analytic decisions made at later stages in the process, and they have been included here only because of their importance to what follows. But, in general, I would advise students not to clutter their metric reductions with analytic interpretations of this sort, since they properly belong to some later stage.

Decisions about what to include (or exclude) depend in part on how far one intends to go in the analytic process. For example, I have indicated the harmonic progression in detail here without attempting to show any hierarchical organization, since I know that will come later. On the other hand, I do not think it would be inappropriate for the student to indicate some interpretation of the harmony at this level, particularly if the intent were to go no further with the analysis. Yet I add a word of caution: a proper consideration of harmonic motion at different levels requires an understanding of the voice leading. With that in mind, let us move on to the graph at (b), our first-level interpretation of this material.

The notation at both levels a and b of Figure 1 is intended to reflect analytic decisions regarding structural hierarchies. Note values do not indicate relative duration, as they did in the metric reduction, but relative structural importance, which at deeper levels is also indicated by the lengths of stems. It is possible, of course, for a pitch to belong to more than

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one level, in which case it is given the note value corresponding to the deeper/deepest of the levels involved. Slurs no longer indicate motion between parts, but rather groupings of elements belonging to the same structural level. Let us consider, for instance, my interpretation of bars 1-4 as given at level b. The notation shows that the first three chords are a first-level prolongation of the tonic harmony and that this motion is embedded within a deeper-level prolongation incorporating the first five chords. The exchange of neighboring and passing functions between parts and levels within this prolongation is a very common procedure in tonal music.

What is unusual here—or perhaps I should say potentially problematic for the beginner (as well as for some of my esteemed colleagues)—is that the goal of the ascending third, c^2 , would appear not to be a pitch of deeper structural significance, as I have indicated it to be. In fact, on the surface it appears as a fleeting passing tone within the motivic third d-flat / c / b-flat. But remember that the d-flat is an appoggiatura, a displacement of the c. So we have a real dichotomy here between surface design and structural weight. What, in fact, is stated as a passing surface event is the displaced goal of the deeper-level ascending third a-flat / b-flat / c, and, as it turns out, this goal pitch is the primary tone (scale degree 3) of the piece and thus a member of the deepest structural level. I do not want to belabor the point, but it is crucial to understand that *there is no correspondence between duration and structural significance in tonal music*, and I would take another look at the theoretical literature that makes claims to the contrary. Duration is indeed an important aspect of surface design, but it does not determine or influence structure.

The thirty-second-note figure leading to and including the downbeat of measure 5 is an elaboration of the ascending b-flat / c / d-flat, which may be considered both a reversal of the preceding melodic gesture (the “appoggiatura” motive) and an answer, in diminution, of the middleground ascent of the third a-flat / b-flat / c in bars 1-4. Though these thirds exist at different levels of structure, as reflected in the notation, there is an important parallel between them. The first leads up to the primary tone, which, as already noted, is dispatched by the appoggiatura d-flat, and the second one reaches up to this d-flat, now consonantly supported by the subdominant harmony. The dotted slurs in my graph at level b show the subsequent prolongation of this d-flat and the IV^6 harmony, and the slur, in what I have notated as the tenor voice, indicates that the progression to the I^6 chord on the third beat of measure 6 is embedded within this prolongation. The melodic f and e-flat in measure 6 leads back to the d-flat, and I might well have indicated the covering third f / e-flat / d-flat by a slur in the graph.

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However, I have chosen to indicate the *f* / *e*-flat motion by a bracket, since I know this gesture, which covers the prolonged *d*-flat, becomes an important motivic idea in the B section. In fact, it is important here. The melodic *f* / *e*-flat in measure 6 is answered immediately by the inner-voice chromatic motion *f* / *f*-flat / *e*-flat in the next two bars, as is indicated by another square bracket. And, as shown at level a, both these statements exist within an even larger statement in the bass voice spanning bars 5-8. According to this interpretation, the prolonged subdominant leads to the dominant in measure 8.

But what, then, of the motion through the diminished seventh chord to the tonic in measure 7? How can I ignore it? The answer, of course, is that I am not ignoring it, but assigning it to a lower structural level. Even if we consider these four bars purely from a harmonic point of view, it should not be difficult to understand the tonic chord in the progression IV⁶ I V as connecting the IV and V. The dominant, not the tonic, is the goal. The function of the tonic chord within these measures becomes clearer when we consider its relation to the main melodic voice. It is the harmonization of the *c* within the clearly articulated statement of the third *d*-flat / *c* / *b*-flat in bars 7-8, which, as indicated by the curly brackets in the graph, is embedded within a larger and controlling statement of that third spanning this four-bar subphrase. The function of this tonic chord, then, is to offer consonant support to the passing tone *c* within this motivic third, but at a deeper level we hear both the *c* and its support as passing within the motion *d*-flat - *b*-flat (IV⁶ - V).

As you may recall, I mentioned somewhat earlier that the two halves of this eight-bar phrase are motivically related despite their contrasting surface characteristics. What I meant in part by that statement is that the opening third *a*-flat / *b*-flat / *c* in bars 1-4 is answered by the descending third *d*-flat / *c* / *b*-flat in bars 5-8, a motion that is anticipated by the appoggiatura figure on the first two beats of measure 4. Now, maybe, you can see why I was reluctant to eliminate that appoggiatura in my metric reduction. It initiates a clearly audible gesture that anticipates the deeper-level statement of the same third in the following measures. It is by such motivic connections that the two halves of the phrase are related, thus forming a larger coherent unit.

The graph at level a shows the role of these thirds within the deeper-level structure of the phrase. The initial third leads to 3 of the prolonged tonic harmony, a connection indicated by the diagonal line, and the second one leads to 2 over the dominant, creating a larger-level connection between

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3 and 2, harmonized by I and V. As indicated by the two parallel lines after 2, the motion is interrupted at this point (in measure 8), and we begin again, so to speak, this time closing to 1 over the tonic harmony in measure 16. Since this closure is local, that is, occurring only at the end of the initial section, I have indicated the interruption at a deep middleground level. According to my notation, we might understand this 3 2 // 3 2 1 as prolonging 3, which moves to closure at the deepest level only in measure 34.

Before moving on to a consideration of the B section, there are two important matters that must be addressed. First, we must return to an issue raised earlier, namely the meaning of the dominant harmony in measure 4/12. Clearly it cannot be considered equivalent to the dominant in measure 8. Rather, as indicated in the graph, it divides the phrase while prolonging the tonic. The harmony moves beyond this point to the subdominant, which is subsequently prolonged, and then on to the dominant in measure 8. Thus, the controlling harmonic progression for this eight-bar antecedent phrase is I - IV⁶ - V, with the dominant in measure 4 functioning on a more local level as a means of dividing the phrase.

Second, I would like to point to an apparent inconsistency in my interpretations of bars 15-16. At level b I have indicated by my notation that the third c / b-flat / a-flat forms a structural unit at a higher level. Certainly we hear this third as a unit because of its articulation, and, because of the repetition of the thirty-second-note figure from the beginning of this subphrase to the cadence, we hear a longer-range connection between the d-flat (N) and the c / b-flat / a-flat. However, at a higher structural level, I believe this c is passing, as it was in the first phrase, within the third d-flat / c / b-flat, as indicated at level a. I am suggesting that there is a real difference here between the surface design, which is what we tend to hear more easily, and the underlying structure. What I hear is shown at level b, but what I think this represents in a structural sense is given at level a. I would prefer not to think of these two interpretations as necessarily representing an inconsistency, though in one sense they clearly do. I would rather have you view level a as a reinterpretation of level b at a deeper level.

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Figure 2. Bars 17-27.

(a)

See Schenker, *Free Composition*
Figure 85

(b)

N expansion

further

(c) 17

1 2 3 4 1 2

4 1/2 6 4/2 6 4/5 6 6 6 4 7

Λ^b : [V] ii⁶ V I⁶

$E^b(V)$: IV [06/5] I ii⁶ -V- [07]

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Figure 2. con't.

The musical score for Figure 2 (continued) consists of two staves. The notation includes various musical symbols such as notes, rests, and accidentals. Below the staves, there are Roman numerals and figured bass notation.

Below the first staff, the notation includes: M $\hat{3}$

Below the second staff, the notation includes: expansion 8 7

Below the third staff, the notation includes: 6 6 5 4 3 I

Below the fourth staff, the notation includes: $\text{vi IV} [\text{v}^6] \text{v}$ I $\text{v}^8 - \text{b}^7 \text{I}$

A box containing the number 27 is located above the fifth staff.

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BARS 17-27

My interpretation of the B section is given in Figure 2, which is organized in the same way as Figure 1. I think I need not say much about this organization, except to remind you that level c is a metric reduction of the voice leading, where the notation reflects relative duration after the elimination of melodic embellishments and temporal displacements. The notation at levels a and b, on the other hand, reflects relative structural weight.

Let us look for a minute at the opening bars of this section, which, as was noted previously, is formed by the repetition of the initial two-bar idea (z) a step lower. Though this idea is ostensibly new, its sequential treatment articulates an important motivic component from the previous section, the covering dyad f / e-flat. You will note that the anticipations in the left-hand part—the f on the upbeat to measure 17 and the e-flat on the upbeat to measure 19—have been eliminated in the metric reduction. This does not suggest in any way that these anticipations are unimportant, since quite obviously, our hearing of this dyad is directly related to the strong dynamic and rhythmic articulation of these two pitches.

Perhaps this underscores just what a metric reduction does and does not represent. It is a simplification of the melodic and rhythmic content of the piece, but in no way can it be considered a substitute for the score. Quite obviously our perception of this statement of the motivic f / e-flat is partially dependent on its unique rhythmic articulation. As shown by the brackets in the sketch at level b, I interpret this four-bar sub-phrase as containing two overlapping statements of this dyad, the one in the left-hand part being answered by the highest sounding pitches in the right hand. They are temporally expanded statements of the idea originally stated in measure 6 and again in measure 14.

The harmonic organization of the remainder of the phrase must be viewed on at least two levels. The primary motion is from the tonic (downbeat of measure 21) to the dominant (measure 26), which is transformed into a dominant-seventh chord in preparation for the return of the tonic harmony and the opening material in measure 27. However, at a more local level we hear the progression in relation to the dominant, as indicated by the chord-by-chord analysis below the metric reduction and by my interpretation of this material at level b. All of this is quite straightforward, except possibly for the notation "V" under the six-four chord on the downbeat of measure 23. This cadential six-four is not a tonic harmony but a delay of the dominant—hence the label.

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In place of the expected resolution to the five-three, however, we get a secondary diminished-seventh chord when the bass note changes from b-flat to b-natural, propelling the motion forward to the submediant harmony. It is by this deceptive motion that closure on the dominant (E-flat) is avoided, requiring continuation until a proper cadence is achieved. The result of this avoided cadence is to stretch the phrase to six bars, but to show its genesis as a four-bar idea, I have marked the measures in the metric reduction as follows: 1 2 - - 3 4. I do not mean to suggest that these six bars are really four, just that the six-bar group can be understood as an expansion of four. The implication is clear enough: that a normal four-bar phrase results from elimination of the two bars in the middle. Furthermore, it is only this two-bar group that can be eliminated while maintaining the integrity of the phrase.

My interpretation of the voice leading of this passage is given at level b of Figure 2. The melodic e-flat of measure 21 moves back up to the f, which, according to my analysis, is prolonged until its resolution back to the stable e-flat in measure 26. As indicated, this prolongation results in yet a further expansion of the f / e-flat dyad. In fact, we can now see that the entire B section can be interpreted as successive expansions of this motivic idea. The f in measure 22 is first prolonged by a voice-exchange with the bass, then by a descent through the e-flat to d-natural, the leading tone in E-flat (V). This initial motion and its subsequent resolution is put in parentheses to indicate their role in the expansion of the phrase. (The parentheses correspond to the measures marked by dashes in the metric reduction.) The f is subsequently picked up again at the end of measure 24, and the line descends a second time through the e-flat to d-natural before resolving finally to the e-flat in measure 26. According to this interpretation, the melodic e-flat on the downbeat of measure 23 (and of measure 25) is a dissonant passing note within the third f / e-flat / d-natural.

Though the melodic line appears to hover around the e-flat, we must make a distinction between the e-flats on the downbeats of measures 23 and 25, which are passing notes, and those on the downbeats of measures 24 and 26, which are goals, the second more stable than the one harmonized deceptively. If we are not diligent in this regard, the result might be what I have given as solution A in Figure 3, which, in fact, is a recreation of a sketch done by one of my students, who will remain anonymous. The student's idea was that the cadential six-four is prolonged from the downbeat of measure 23 until its resolution on the last beat of measure 25 and that both the bass note b-flat and the melodic e-flat are prolonged by their upper and lower neighbor notes.

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According to this interpretation, the fourth and fifth bars extend the third bar of the phrase. It is easy enough to understand where this idea might come from, considering the metric stress given to the e-flats and the supporting six-four chord. But once again I throw up the red flag as a warning about drawing a direct parallel between metric placement and structural significance. The e-flats on the downbeats of measures 23 and 25 are dissonances (accented passing tones) that move on to their resolutions. The solution at A ignores this, showing instead the consonantly supported e-flat in measure 24 as part of a prolongation of the dissonantly supported e-flats in the surrounding measures. The only worse scenario I can imagine is to interpret the six-four chords as tonic harmonies in the key of the dominant.

Figure 3.

Solution A

1 2 3 4

$E^b: IV^5 - - 6$ $V^6_4 -$ $M M$ $- 6$ $\frac{3}{1}$ 1

Solution B

1 2 3 4

$E^b: IV^5 - - 6$ V I

[21]

cresc. sf cresc. sf cresc.

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There remains just one important matter to be discussed, namely the large-scale connection between the B section, which leads to the dominant, and the A sections, which are harmonically closed. As shown at level a of Figure 2, one might interpret the dominant that is the goal of the B section as supporting its seventh (d-flat), the upper neighbor note of the primary tone (3), which is reinstated over the tonic harmony before the final descent to closure. This large-scale motion to the d-flat may be viewed as a further expansion of the neighbor-note relationship exploited in the initial section. Such an interpretation, though perfectly correct in my opinion, is rather abstract in that it diverges from the actualities of the musical surface. This d-flat appears only as a passing note in an inner part on the last beat of measure 26; its appearance in this lower register is mandated by the return of the opening material. As I have shown at level b, this section is really controlled by an expanded statement of the f / e-flat dyad. But, as before, this dyad may be viewed as covering or leading to the structurally more important d-flat, as I have attempted to show at level a. The beamed third c / d-natural / e-flat attempts to show a feature prominent in Schenker's graph of this section (*Free Composition*, Figure 85), though quite honestly I do not view the d-natural as passing up from an inner voice but as the lower third of the f.

Possibly the two interpretations are not incompatible, as I have attempted to show. In any event, it is Schenker's contention that this ascending third follows two earlier ascending thirds from the initial section, the a-flat / b-flat / c in bars 1-4 (or bars 9-12) and the b-flat / c / d-flat immediately following. Intriguing as this may be, I think the relationship is somewhat forced, since even after being pointed out, I cannot hear this final third, the c / d-natural / e-flat, as a compositional unit. And in the end I think we must use our ears as well as our minds in making analytic decisions.

This concludes what I have to say about the Beethoven theme, though I would not want to suggest that my comments have covered everything of importance. I do hope I have been at least partially successful in fulfilling my original intentions—to provide a practical demonstration of the analytic process from a Schenkerian perspective and, along the way, to provide explanations of why certain analytic decisions were made. From this point of view, I hope the discussion has been stimulating and perhaps even convincing.

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NOTES

¹A slightly altered version of this paper was read at the meeting of the Central Gulf Theory Society, March 26, 1988, held at the University of Southwestern Louisiana in Lafayette.

²One attempt to address this issue of choices was provided by Carl Schachter in his talk, "Either/Or," given at the Schenker Symposium at the Mannes College of Music, March 15-17, 1985.

³There are several graphs of all or part of this theme in *Free Composition*. See particularly Figure 85.

⁴See for example, Johann Philipp Kirnberger, *The Art of Strict Musical Composition*, trans. by David Beach and Jurgen Thym with an Introduction and Explanatory Notes by David Beach (New Haven and London: Yale University Press, 1982), p. 114.

A SELECTED BIBLIOGRAPHY OF SOURCE MATERIALS FOR CURRENT MUSIC- THEORETICAL SYSTEMS

JAMES BENNIGHOF

PREFACE

I. Purpose

In recent decades, several music-theoretical notions have gained widespread currency. Scholarly discussion has continuously refined these ideas (hereafter loosely called “systems”) and clarified some of the fundamental issues that bear on them. In turn, this process has enhanced the ability of nonspecialists to benefit from the insights afforded by the systems. As Jonathan Dunsby and Arnold Whittall have implied, there seems to be a growing number of “musicians who do not expect to specialize in theory and analysis, but who are prepared to explore the possibility that some general knowledge of the subject might nevertheless do them more good than harm.”¹

This bibliography cites several introductory sources for some of these systems; its intent is to aid students in becoming familiar with the systems. Such students include the non-theorist musicians mentioned by Dunsby and Whittall, but also can include undergraduate or beginning graduate music theory students (these constitute the majority of the students in the class for which I initially began to compile the bibliography), non-music specialists interested in music theory (e.g., as it compares to other types of systematic thought), or even music-theory specialists who are less familiar with some systems than with others. It is particularly intended for use in courses that survey several of these systems, but also provides enough sources to support narrower studies of individual systems (perhaps in a seminar or independent-study setting).

The nature of the sources listed for each system varies: some are important primary writings, others are summaries or condensations written much later, others place a system in its historical context, and still others offer important critical remarks, whether these serve as corrections, refinements, clarifications, limitations, or extensions. Finally, for several systems,

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I have included bibliographies that list many more sources for further study.

The kind of source that is most helpful for a given reader will depend to some extent on the nature of the system and to some extent on his purposes in studying it. The following remarks about each system indicate ways of pursuing some of these purposes. But, in most cases, a combination of sources is desirable to provide an appropriate introduction to a system. In any event, the annotations contained in the bibliography are intended to clarify the nature of each source as it applies to the understanding of a system. In addition, where appropriate, the annotations show some direct relationships between sources, caution about biases or idiosyncratic perspectives, or cite reviews or other additional sources.

II. Contents

The bibliography contains only sources available in English. The systems are listed under the following general headings: "Schenker and followers," "Thematic analysis techniques," "Serialism," "Set theory," "Systems as compositional tools," and "Miscellaneous." These sections are preceded, however, by three important general sections.

The first of these, "Overview sources," lists several works that discuss several or many of the systems in the bibliography. Throughout the bibliography, sections on individual systems are prefaced by citations of appropriate passages in these works, facilitating the use of the overviews as references or textbooks. (One might add to this list the publication in *Music Theory Spectrum* XI/1 (Spring 1989) of the bibliographies and remarks from the 1987 plenary session of the national Society for Music Theory conference; several of the topics addressed there apply directly to the systems in this bibliography.) This section is followed by one on "References" that lists well-known works of interest to the theorist.

The third section addresses the idea of analysis. This idea, obviously not a "system," seems to belong here nonetheless. This is because the majority of the systems in the bibliography have analysis as a primary objective (the exceptions being "Serialism" and the other compositional systems), so it is important for the student to have grappled with the purposes of analysis before studying some of the systems. And I have found that many students who have successfully completed courses that include analysis remain unable to articulate clearly what it is and why it is done.

Use of the remaining sections of the bibliography may be facilitated by a few remarks about the most profitable kinds of approaches to each system.

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First, in teaching Schenker, one might actually desire for students to learn how to do Schenkerian analysis. At present, this seems to be a formidable task, perhaps possible with a text such as Forte/Gilbert (1982), but much more feasible in a tutorial situation with a teacher who has learned the technique well.

On the other hand, it is often quite possible for a student to gain an understanding of the purpose of the system (without necessarily becoming skilled in the analytical technique) by studying, in addition to some of the "Overview" excerpts, such sources as Babbitt (1959) and Forte (1959) (as introductions), some of Schenker's writings ("Organic Structure . . .," some of *Der Freie Satz*, and at least one of the *Five Graphic Analyses* (I have used that of Chopin's op. 10, no. 8 with some success)), and later, for various perspectives, Rosen (1971), Kerman (1980-81), Rothstein (1986), Forte (1988), and Proctor/Riggins (1988).

In the "Thematic analysis techniques" section I have grouped ideas of demonstrating organic unity by showing motivic/thematic connections across traditional sectional boundaries. Several of the "Overview" sources follow a similar grouping in their introductions to these ideas. In studying Keller's "functional analysis" I have found the four-hand playing of "FA No. 1" (while listening to a recording of the piece) to be a useful exercise.

Serialism is, of course, primarily a compositional system, and many teachers have favorite ways of teaching the rudiments of serial composition without using sources such as those listed here. For this purpose, though, Schoenberg's "Composition with Twelve Tones" and Wuorinen (1979) can be useful; some compositional extensions can be found in Winham (1970), Stockhausen (1959), Ligeti (1960), and the Babbitt articles listed under "primary" and "extensions beyond pitch" (several of these are rather difficult); advanced students might also use Morris (1987), listed under "Set theory" (II.D.3.). Some analytical articles are Beach (1976), Lewin (1962 and 1966), and Babbitt's "Since Schoenberg," as well as many others listed in Vander Weg (1979).

A more general historical/philosophical approach, though, might use the following outline: I. One or more of the "Overview" sources; II. Introduction: Schoenberg's "Composition with Twelve Tones" (I have found playing his example-excerpts from the Wind Quintet, op. 26, to be very helpful in conveying the intervallic relationships established by the row); III. Development of ideas: Boulez (1952), Babbitt ("Some Aspects . . .," "Twelve-Tone Invariants . . .," "Set Structure . . ."); IV. Extensions to non-pitch aspects of music: Stockhausen (1959), Ligeti (1960), Babbitt ("Twelve-Tone Rhythmic . . ."); V. Philosophical discussion and reaction: Levi-Strauss (1969), Meyer (1967), Ruwet & Pousseur (1964), Rochberg (all in "extensions beyond pitch" and "supplementary reading"), Cone (1961), and the Stadlen discussion.

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Teaching students the basic operations of set-theoretical analysis is much simpler than teaching them the basics of Schenkerian analysis (although teaching them to incorporate set-theory principles into a sensitive musical interpretation is quite another matter!). One might start with one of the "Overview" sources, or Rahn (1980), but I have found Beach (1979) to be a very useful introduction. Students can start with some short pre-serial Webern pieces (as Beach does), seeing what conclusions can be drawn about intervallic relationships, as well as what elements are not explicitly addressed (such as rhythmic development, contour similarities, set relationships operating through time, etc.).

On the other hand, if one wants to incorporate a historical development and rationale into the study of musical set-theory, the following rough outline might be followed: I. Forerunners: these are summarized in Schmalfeldt (1983), originally pursuing compositional purposes; they are exemplified by the discussion of Gerhard (1952) and Hanson (1960), as well as Martino (1961) and implicitly in much of Lewin (1959, 1960, and 1965) (these last two authors can be quite difficult for students); II. Primary statements: following Forte (1963 and 1964) Clough (1965), Forte (1965), and Howe (1965) came Forte (1973); III. Responses: Benjamin (1974 and 1979), Browne (1974), Regener (1974), Howe (1974-5) (all tempering and adjusting the theory); IV. Refinement (mostly concerned with intervallic similarity issues): Teitelbaum (1965), Lewin ("Forte's Interval . . ."), Morris (1979-80) & Lord (1981), and Rahn (1979-80). Other sources develop these ideas in various directions (e.g., the diatonic developments of Clough (1979 and 1979-80) and Browne (1981)).

The section on "Systems as Compositional Tools," like that on "Serialism," contains examples of pre-compositional systems that can also provide an important foundation for analysis of the music that results from the systems. The composers represented have all done a lot of public, personal systematizing (with the exception of Bartok, who has had the public systematizing done for him after the fact).

The final categories (listed under the inevitable "Miscellaneous") require few comments. Information theory seems to have gone out of fashion, perhaps to be replaced by semiotics, but the articles listed can provide good fodder for classroom discussion anyway. There is a shortage of material in English on semiotics, and, as Dunsby and Whittall have said, "Much of the research in this area has been carried out with no concession to pedagogical needs."² But the "Overview" sources can be helpful.

The last section, on "Phenomenology," may provide a welcome antidote to and/or philosophical perspective on many of the other topics; Clifton's work, in particular, provides an interesting response to many of the systems that are discussed elsewhere in this bibliography.

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The concluding section of the bibliography lists several journals of interest to the music theorist.

Several significant related fields of study are not included in their own right in this bibliography, although many articles in these fields appear here under other headings. Some of these fields are listed here, along with bibliographies or other sources for more information:

1) history of theory (see Palisca, "Theory, theorists," in *The New Grove*; Mark Lindley, "Preface to a Graduate Course in the History of Music Theory," *College Music Symposium* XXII/2 (Fall 1982): 83-102; David Russell Williams, *A Bibliography of the History of Music Theory*, 2nd ed. (Accura Music, 1971), and the major expansion of the latter portion of this work, *Music Theory from Zarlino to Schenker: A Bibliography and Guide*, by Russell Williams and David Damschroder (forthcoming from Pendragon Press); and the bibliographies prepared by Benito Rivera and William E. Caplin, for the 1987 Society for Music Theory plenary session, on "Studies in Analysis and History of Theory: Sixteenth and Seventeenth Centuries" and "History of Theory in the Eighteenth and Nineteenth Centuries, respectively (*Music Theory Spectrum* XI/1, 1989, pp. 24-28 and 29-34, respectively)).

2) rhythm (see Jonathan Kramer, "Studies of Time and Music: A Bibliography," in *Music Theory Spectrum* VII, 1985, pp. 72-106).

3) music theory pedagogy (see Michael Rogers, *Teaching Approaches in Music Theory: A Overview of Pedagogical Philosophies* (cited in the bibliography, section I.B.), pp. 185-218, for a lengthy bibliography; and see the contents of this journal as well).

4) general analysis articles; for sixteenth- and seventeenth-century music, see Rivera (cited above) and the bibliography in Robert Gauldin's *Sixteenth-Century Counterpoint*, Englewood Cliffs, N.J.: Prentice-Hall, 1985, pp. 293-303 (esp. 302-3); for nineteenth- and twentieth-century music, see Arthur Wenk, comp., *Analyses of Nineteenth- and Twentieth-Century Music: 1940-1985* (cited and described in section I.B.).

III. Annotations

Most of the entries in this bibliography are annotated to clarify the

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specific way they shed light on a particular system. Exceptions occur when a) the content is made clear by the title (as in an analysis of a specific piece using a specific system, or a bibliography); b) the source is clearly secondary (as in some of the serialism commentaries and set-theory extensions); or c) the source is one of a very few introductions to a system of very specific or limited interest (as in some of the "Systems as compositional tools," and "Miscellaneous" sections) and thus does not need to be distinguished from other sources. I have surveyed some of the leading journals for reviews of many of the (especially more recent) books, and these are cited in the annotations. Often such a review, especially when treating a very significant work, will have considerable value in its own right; this has been reflected in the separate citation of some of the reviews of Allen Forte's *The Structure of Atonal Music*, but it applies in other cases as well (e.g., the reviews of the translation of Schenker's *Der Freie Satz*). All quotations within annotations are taken from the source being annotated.

IV. Scope and intent

The bibliography is by definition a work in progress. It is obviously not exhaustive; neither, surely, does it contain *all* the best sources on any given topic. On the other hand, I hope the bibliography gathers basic references to help those who would teach or learn about these topics, whether as a survey or as a specific investigation of a particular system. It is offered, therefore, to aid pedagogy, rather than to present a detailed critique or evaluation of the sources. However, it will no doubt reveal many of my own biases and those of the publishing theory community in general. Finally, I hope the bibliography can form a fairly comprehensive basis for further additions, corrections, and revisions, and to that end I welcome any suggestions, improvements, or comments.

NOTES

¹Jonathan Dunsby and Arnold Whittall, *Music Analysis in Theory and Practice* (London: Faber Music Ltd., 1988), p. vi.

²*Ibid.*, p. 218.

CURRENT MUSIC-THEORETICAL SYSTEMS

I. GENERAL, INTRODUCTION

A. Overview sources

Bent, Ian. "Analysis." *The New Grove Dictionary of Music and Musicians*, 6th ed., Stanley Sadie, ed. London: Macmillan Publishers Ltd., 1980.

Opens by discussing what musical analysis is or might be; section II contains a historical survey of analysis; section III outlines current analytical methods. Contains an extensive (six pages of tiny print) bibliography that is good for browsing but limited by its chronological order (and its 1977 termination date). N.B.: The book version, "a revision and expansion" of this article, is *Analysis*, by Ian Bent with William Drabkin (New York: W. W. Norton & Co., 1987) and is improved in the following three ways: 1) discussions have been brought up to date, including the addition of a section on set theory; 2) Drabkin has added a very helpful 34-page "Glossary of Analytical Terms," and 3) the bibliography is updated and better organized (by author, except that some clearly secondary literature is placed under the appropriate primary sources). Reviewed by Bryan Simms, *MA* II/1 (March 1983): 105-7; Judith Lochhead, *College Music Symposium* XXVIII (1988): 121-9; and, briefly, by Michael Rogers, *Journal of Music Theory Pedagogy*, II/2 (Fall 1988): 297-310.

Cook, Nicholas. *A Guide to Musical Analysis*. London: J. M. Dent & Sons, Ltd., 1987.

The author describes this book as "primarily a practical guide to musical analysis as it is." Part I reflects topics similar to those found in this bibliography (e.g., traditional methods of analysis, Schenkerian analysis, psychological approaches to analysis (including Meyer and Reti); "formal" approaches to analysis (including set theory and semiotics); techniques of comparative analysis, and "What does musical analysis tell us?"; Part II demonstrates some analyses, including serial music. No bibliography is included. Reviewed by Matthew Brown and Douglas Dempster, *JMT* XXXII/1 (Spring 1988): 148-58; and Michael Rogers, *Journal of Music Theory Pedagogy* II/2 (Fall 1988): 297-310.

JOURNAL OF MUSIC THEORY PEDAGOGY

Dunsby, Jonathan, and Arnold Whittall. *Music Analysis in Theory and Practice*. London: Faber Music Ltd., 1988.

This book, according to the authors, is "not a textbook: it is an attempt to provide a background to the study of theory and analysis [for] those musicians who do not expect to specialize in theory and analysis." Like Cook's book, its topics are similar to those in this bibliography: after an introduction and survey of the history of theory and analysis, a section on tonal analysis treats Schenker, Tovey, Schoenberg, Reti, and Meyer (among others); a section on atonal analysis includes set theory and serialism; and a closing section treats semiotics. The eight-page bibliography includes those sources cited, and is not annotated. Reviewed by Judith Lochhead, *College Music Symposium* XXVIII (1988): 121-9; and, briefly, by Michael Rogers, *Journal of Music Theory Pedagogy* II/2 (Fall 1988): 297-310.

Forte, Allen. "Theory." *Dictionary of Contemporary Music*, John Vinton, ed., pp. 753-61. New York: E. P. Dutton & Co., Inc., 1971.

Develops a historical account of music theory in the twentieth century, discussing new approaches to the theory and analysis of tonal music (Schenker, etc.); "non-traditional (non-major/minor) music" (Busoni, Schoenberg, etc., and later Salzer, Perle, Howe, etc.); the construction of new pitch systems; the imposition of principles of number and proportion (Lendvai, Hindemith); twelve-tone set theory (Babbitt, etc.); information theory; logical-linguistic approaches; and the use of computers. Thus the article summarizes, from one perspective, many of the categories contained in this bibliography.

Kerman, Joseph. "Analysis, Theory, and New Music," chapter 3 (pp. 60-112) of *Contemplating Music*. Cambridge, Mass.: Harvard University Press, 1985.

This chapter is an extended description and critique of the discipline of "music theory" in the United States as of its writing; gives a historical perspective on many of the streams of thought.

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Palisca, Claude. "Theory, theorists." *The New Grove Dictionary of Music and Musicians*, 6th ed., Stanley Sadie, ed. London: Macmillan Publishers Ltd., 1980.

Begins with a discussion of the areas of current musical knowledge that are commonly categorized as part of music theory today, then embarks on a chronological survey of the work that is commonly considered to be historical music theory (the subject matter of History of Theory courses; not necessarily fitting the categories commonly accepted as music theory today).

B. References

Browne, Richmond, supervising editor. "Index of Music Theory in the United States 1955-1970." *In Theory Only* III/7-11 (October 1977-February 1978).

A "comprehensive index." Not annotated, but the subject index at the end can serve to supplement the categories in this bibliography nicely; also useful are the listings of pieces analyzed and theorists discussed. The obvious limitation is the chronological one, as many writings have been superseded in the years since 1970.

Randel, Don, ed. *The New Harvard Dictionary of Music*. Cambridge, Mass.: Belknap Press, 1986.

Contains many entries of theoretical interest, on a much smaller scale than the *New Grove* (listed below).

Rogers, Michael. *Teaching Approaches in Music Theory: A Overview of Pedagogical Philosophies*. Carbondale, Ill.: Southern Illinois University Press, 1984.

While primarily oriented toward pedagogical issues, this source contains a bibliography (organized according to pedagogical concerns) that is a browser's delight; the section on "Musical Analysis" (pp. 198-205) is of particular interest here. Reviewed by Dorothy Payne, *MTS IX* (1987): 200-204.

JOURNAL OF MUSIC THEORY PEDAGOGY

Sadie, Stanley, ed. *The New Grove Dictionary of Music and Musicians*, 6th ed. London: Macmillan Publishers Ltd., 1980.

Contains many articles of interest and value to the contemporary music theorist.

Wenk, Arthur, comp. *Analyses of Nineteenth- and Twentieth-Century Music: 1940-1985*. Boston: Music Library Association, Inc., 1987.

A bibliography, alphabetized by composer, genre or work, author, and title (in that order), that "contains 5664 entries by some 2400 authors drawn from 132 periodicals and 93 Festschriften, covering 779 composers." The book is supposed to be regularly republished; it includes an author index.

C. Analysis in general; its relation to theory, criticism, composition

1. About analysis

Browne, Richmond, Allen Forte, Carlton Gamer, Vernon Kliever, Carl Schachter, and Peter Westergaard. "Music Theory: The Art, the Profession, and the Future." *College Music Symposium* XVII/1 (Spring 1977): 135-62.

A collection of short papers on the proper role and function of music theory and music theorists. These tend to be somewhat personal in approach and purpose, but they reflect the situation of theorists at an important point of self-awareness—right about the time of the formulation of the Society for Music Theory. While each contribution includes valuable and interesting insights, perhaps Browne's and Forte's most directly address this last-mentioned situation.

Cone, Edward T. "Analysis Today." *Musical Quarterly* XLVI (1960): 172-88. (Also in *Problems of Modern Music*, ed. Lang, and Rosand, vol. 13.)

Sets forth a definition of "analysis," as specifically opposed to "prescription" and "description." The body of the article seeks to show how some twentieth-century works can be analyzed in ways analogous to the analysis of tonal music. This, with Morgan (1977-78) can represent the valid work done in twentieth-century music that is underrepresented in this bibliography because it doesn't

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necessarily use a "system," for example, Cone's famous article on Stravinsky's *Symphonies of Wind Instruments* in *PNM* I. This article, some of the others listed immediately below, and other important writings by Cone on analysis and criticism can also be found in *Music: A View from Delft: Selected Essays*, edited by Robert P. Morgan, University of Chicago Press, 1989.

_____. "The Authority of Music Criticism." *JAMS* XXXIV/1 (Spring 1981): 1-18.

Describes the job of the critic as "to broaden and deepen appreciation, in the best sense of the word." Discusses the way this endeavor combines the musicological, technical (including theory and analysis), and experiential.

_____. "Beyond Analysis." *PNM* VI/1 (Fall-Winter 1967): 33-51.

Discusses aspects of musical value that seem to be beyond the realm of internal relationships that can be shown within a composition. Many of these involve connections between events in the piece and phenomena external to the piece.

_____. "Mr. Cone Replies." *PNM* VII/2 (Spring-Summer 1969): 70-72.

A response to Lewin. More on theory, analysis, criticism, and composition.

_____. "Three Ways of Reading a Detective Story—or a Brahms Intermezzo." *Georgia Review* XXXI (1977): 554-74.

An insightful discussion of the ways that analysis ought to inform appreciation, as the synoptic view afforded by analysis can influence the diachronic experience of rehearsing (or performing).

Kerman, Joseph. "How We Got into Analysis, and How to Get Out." *Critical Inquiry* VII (1980-81): 311-31. (Also in *Rosand*, vol. 13.)

Criticizes limitations of present theoretical approaches, calling for a more broadly-based critical procedure. In particular, discusses the analysis presented in Forte (1959) (see Schenker section, II.A.2.).

JOURNAL OF MUSIC THEORY PEDAGOGY

Kielian-Gilbert, Marianne and Marion Guck, eds. "Reflections on Music Theory." *PNM* XXII/1 & 2 (1983-84): 560-630.

Twenty eight responses from ("mostly younger") theorists to a letter soliciting information about current research topics, influences, and perspectives on important musical issues; the letters range from the very personal to the broadly philosophical.

Lewin, David. "Behind the Beyond." *PNM* VII/2 (Spring-Summer 1969): 59-69.

A response to Cone (1967). Delineates the realms of "theory," "analysis," and "criticism," indicating, as well, the ways these interact with one another and with composition.

Maus, Fred Everett. "Music as Drama." *MTS* X (1988): 56-73.

A discussion of the relationship between what have been called musical "structure" and its "affect" or "expression"; Maus describes a musical passage in dramatic terms and suggests that this dramatic structure incorporates the above elements without distinguishing between them.

Meyer, Leonard. *Explaining Music*. Berkeley: University of California Press, 1973, chapter 1, pp. 3-25.

Focuses on "critical analysis," distinguishing it from Meyer's definition of "music theory" and "style analysis."

Morgan, Robert P. "On the Analysis of Recent Music." *Critical Inquiry* IV (1977-78): 33-53. (Also in Rosand, vol. 13.)

Follows Cone (1960), showing how "analysis" may be applied to recent works that Morgan does not find to be susceptible to the kind of modified-tonal-analysis approaches used by Cone.

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_____. "Theory, Analysis, and Criticism." *Journal of Musicology* I/1 (January 1982): 15-18.

Discusses the three disciplines in turn, cautioning along the way that "theory" rarely addresses questions of "meaning"; "analysis" should appropriately avoid an overemphasis on the location of normative features in a piece, and should deal as well with questions of social context, intentionality, etc.; and that criticism should embody a synthesis of description, analysis, interpretation, and evaluation within the broadest context possible.

Rosand, Ellen, general ed. *The Garland Library of the History of Western Music*, esp. vols. 10 (Twentieth-Century Music), 13 (Criticism and Analysis), and 14 (Approaches to Tonal Analysis). New York: Garland Publishing, Inc., 1985.

A fourteen-volume set that consists exclusively of reprints of significant writings in music scholarship; the topics of the first ten volumes progress chronologically from medieval music to the twentieth century, vols. 11 and 12 deal with opera, and 13 and 14 address analytical concerns.

Treitler, Leo. "Music Analysis in an Historical Context." *College Music Symposium* VI (1966): 75-88.

Discusses the possible uses of analysis, as defined by the author, in the study of music history.

2. Sample book-length analytical approaches

Berry, Wallace. *Structural Functions in Music*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976. (Now available in Dover reprint.)

A book-length treatment of three central issues as manifested at various stages of Western music history: "tonality," "texture," and "rhythm and meter." While acknowledging an extensive influence of others' previous work in the first area, the author comments that "the studies in texture and rhythm have few if any significant, direct antecedents; the work in these two areas . . . is largely in original formulation."

JOURNAL OF MUSIC THEORY PEDAGOGY

Boretz, Benjamin. "Meta-Variations." Ph.D. dissertation, Princeton University, 1970. (Also appears in a serialized version in *PNM*: I. *PNM* VIII/1 (Fall-Winter 1969): 1-74; II. *PNM* VIII/2 (Spring/Summer 1970): 49-111; III. *PNM* IX/1 (Fall-Winter 1970): 23-42 and *PNM* IX/2 & X/1 (1971): 232-70; and IV. *PNM* XI/1 (Fall-Winter 1972): 146-223 and *PNM* XI/2 (Spring-Summer 1973): 156-203.)

A lengthy study that draws on many sources, both music-theoretical and more general philosophical and linguistic, to discuss "ways of thinking about music that would accurately reflect and explicate the content, and ultimately feed back to the advantage, of that thinking in music which is the essential content of every musical activity, compositional, analytic, theoretical, or merely auditional."

Browne, Richmond, ed. *Music Theory: Special Topics*. New York, Academic Press, 1981.

Not a single book-length treatment, but a collection of six essays on various topics: "Pitch-Class Counterpoint in Tonal Music" by William Benjamin; "Poetic and Music Rhythm: One More Time" by Barney Childs; "ET Setera: Some Temperamental Speculations" by Carlton Gamer; "Music as Metalanguage: Rameau's Fundamental Bass" by Allan R. Keiler; "Some Investigations into Foreground Rhythmic and Metric Patterning" by David Lewin; and "Prolongations and Progressions as Musical Syntax" by Charles J. Smith. Much of the material here offers unusual or off-the-beaten-track insights into analytical and theoretical issues. Reviewed by Wilson Coker, *MTS* IV (1982): 125-30.

Cogan, Robert and Pozzi Escot. *Sonic Design*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1976.

Works from a broad range of Western style periods, as well as a few outside the Western tradition, are analyzed in this book under such headings as "musical space," "musical language," "time and rhythm: dimensions and activity," "the color of sound," and "gesture, form, and structure." A pedagogical stance is adopted throughout. Reviewed by William Thomson, *JMT* XXIII/1 (Spring 1979): 125-34.

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Lewin, David. *Generalized Musical Intervals and Transformations*. New Haven: Yale University Press, 1987.

A study of musical relationships, distance and motion across various abstract and concrete musical spaces (in pitch and time). Such intervals and transformations are rigorously formalized throughout with a mathematical model called a Generalized Interval System. A broad range of composers is treated, including Bach, Mozart, Beethoven, Brahms, and Wagner, as well as many of the twentieth century. Reviewed by John Rahn, *JMT* XXXI/2 (Fall 1987): 305-18; Dan Tudor Vuza, *PNM* XXVI/1 (Winter 1988): 258-87; and John Clough, *MTS* XI/2 (Fall 1989), in press.

Rahn, Jay. *A Theory for All Music*. Toronto: University of Toronto Press, 1983.

Attempts to develop guidelines that make possible the interpretation of all music, Western and non-Western (with perhaps an emphasis on the latter), taking as a point of departure Benjamin Boretz's "Meta-Variations" (cited above).

Tovey, Donald Francis. *Essays in Musical Analysis* (five volumes plus supplement). London: Oxford University Press, 1936.

Classic essays on the mainstays of London turn-of-the-century concert fare; excellent examples of form-oriented analysis.

II. PRINCIPAL SYSTEMS

A. Schenker and followers

1. Overviews: Bent article: pp. 356-57, 361-63, 370-71; Bent book: 38-41, 49-52, 81-85; Kerman: 79-90; Dunsby/Whittall: 23-61; Cook: 27-66.

2. Schenker

JOURNAL OF MUSIC THEORY PEDAGOGY

Babbitt, Milton. "Review of *Structural Hearing* by Felix Salzer." *JAMS* V/3 (Fall 1952): 260-65.

Contains an early overview of some of the essential elements of Schenker's system.

Beach, David. "A Schenker Bibliography." *JMT* XIII/1 (Spring 1969): 2-37. (Also in Yeston.)

In addition to the bibliography (which lists many valuable early sources not mentioned here because of their difficulty or lack of availability), this source contains an informative overview of the Schenker situation at the time of writing; be aware, though, that several of the writings listed as not readily available in English have since been translated and/or made widely available, e.g., Jonas and Schenker (1979).

_____. "A Schenker Bibliography: 1969-1979." *JMT* XXIII/2 (Fall 1979): 275-86.

_____, ed. *Aspects of Schenkerian Theory*. New Haven: Yale University Press, 1983.

Bergquist, Peter; William Mitchell; and Felix Salzer. "A Glossary of the Elements of Graphic Analysis." *Music Forum* I (1967): 260-68.

Browne, Richmond. "Initial Readings in Schenker." *In Theory Only* I (April 1975): 4-5.

While outdated because of the number of sources that have become available since its appearance, this brief article contains some interesting thoughts on a neophyte's most profitable approach to Schenker.

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Forte, Allen. "Schenker's Conception of Musical Structure." *JMT* III/1 (Spring 1959): 1-30. (Also in Yeston.)

Provides a good introduction; a small-scale analysis by Schenker is presented and discussed. Forte concludes by enumerating five problems for theorists to address in the future.

_____, and Steven Gilbert. *Introduction to Schenkerian Analysis*. New York: W. W. Norton & Co., Inc., 1982.

A lengthy textbook designed to lead the student from the most basic concepts underlying Schenker's theories (prolongation, species counterpoint, etc.) to an understanding of Schenkerian analysis. Reviewed by James Marra, *MA* II/3 (October 1983): 281-90; Roger Kamien, *JMT* XXVII/2 (Spring 1984): 113-23; Larry Laskowski, *MTS* VI (1984): 110-20; and Joseph Dubiel, *Musical Quarterly* LXX/2 (Spring 1984): 269-78.

Jonas, Oswald. *Introduction to the Theory of Heinrich Schenker*, trans. & ed. by John Rothgeb. New York: Longman, 1982.

Reviewed by Bruce Campbell, *MTS* V (1983): 127-31; and William Rothstein, *JMT* XXVII/2 (Fall 1983): 273-81.

Katz, Adele T. "Heinrich Schenker's Method of Analysis." *Musical Quarterly* XXI/3 (July 1935): 311-29.

A very early account of Schenker's theories.

Laskowski, Larry. *Heinrich Schenker: An Annotated Index to His Analyses of Musical Works*. New York: Pendragon Press, 1978.

Reviewed by Harald Krebs, *JMT* XXIII/2 (Fall 1979): 304-7.

JOURNAL OF MUSIC THEORY PEDAGOGY

Mann, Michael. "Schenker's Contribution to Music Theory." *Music Review* X/1 (February 1949): 3-26.

An early discussion of Schenker's innovations compared with the ideas of other theorists.

Morgan, Robert. "Schenker and the Theoretical Tradition." *College Music Symposium* XVIII (1978): 72-96.

Traces some precursors of Schenkerian reduction in "three principal areas: 1) diminution technique; 2) *musica poetica*, or the theory of musical figures; and 3) functional harmonic theory."

Proctor, Gregory and Herbert Lee Riggins. "Levels and the Reordering of Chapters in Schenker's Free Composition." *MTS* X (1988): 102-26.

Discusses and distinguishes among the concepts of background, middle-ground, foreground, and levels, developing a theory of foreground diminution and laying the groundwork for future, pedagogically-oriented work (see follow-up article in this issue of *JMTP*).

Riggins, Herbert Lee. "Heinrich Schenker's Graphic Notation and Contemporary Variants." Ph.D. dissertation, University of Texas, 1981.

Explicates the prolongational techniques shown in *Der Freie Satz* and *Five Graphic Musical Analyses*, discussing the notation of each technique. This is followed by a critique of the presentation of similar techniques in Salzer's *Structural Hearing*, Bergquist/Mitchell/Salzer's "Glossary" (above), and Gerald Warfield's *Layer Analysis*.

Schenker, Heinrich. *Five Graphic Musical Analyses*, ed. Felix Salzer. New York: Dover Publications, 1969.

Full-blown analyses of five compositions or significant sections, demonstrating the entire range of *Schichten* for each. One in particular, the Bach chorale harmonization "Ich bin's, Ich sollte büßen," is discussed in several of the "Overview" and secondary sources listed here.

CURRENT MUSIC-THEORETICAL SYSTEMS

_____. *Free Composition (Der freie Satz)*, trans. and ed. by Ernst Oster. New York: Longman, in cooperation with the American Musicological Society, 1979.

The concluding portion of Schenker's lifework, *Neue musikalische Theorien und Phantasien* (1906-1935). Many portions of analyses are seen here, but it should be remembered that the purpose of this work is an exposition of the theory (as opposed to the *Five Graphic Musical Analyses*), so analytical examples here do not purport to be complete analyses, only illustrations of particular compositional phenomena and/or analytical concepts. Reviewed by Roger Kamien, *Musical Quarterly* LXVII/1 (January 1981): 113-18; Carl Schachter, David Epstein, and William Benjamin, *JMT* XXV/1 (Spring 1981), pp. 115-73; Michael Musgrave, *MAI* 1 (March 1982): 101-7; and Edward Laufer, *MTS* III (1984): 158-84.

_____, trans. John Rothgeb. "The Largo of J. S. Bach's Sonata No. 3 for Unaccompanied Violin (BWV 1005)." *Music Forum* IV (1976): 141-59 (also in Rosand (I.C.), vol. 14).

_____, trans. Orin Grossman. "Organic Structure in Sonata Form." *JMT* XII/2 (Fall 1968): 164-83. (Also in Yeston.)

An argument against traditional thematic approaches to sonata form (based on sectionalization and contrast) and for Schenker's approaches (based on unity and organic growth); this epitomizes the revolutionary nature of his ideas.

Sessions, Roger. "Heinrich Schenker's Contribution." *Modern Music* XII/4 (May-June 1935): 170-78.

An almost-contemporary summation and critique of Schenker's ideas.

Yeston, Maury, ed. *Readings in Schenker Analysis and Other Approaches*. New Haven: Yale University Press, 1977.

Contains Beach (1969), Forte (1959), Schenker (1968), and three other fundamental articles, as well as four "Analysis Symposia," each of which brings together Schenkerian approaches and others with respect to a particular piece. All of the contents originally appeared in *JMT*.

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3. Followers and respondents

Forte, Allen. "New Approaches to the Linear Analysis of Music." *JAMS* XLI/2 (Summer 1988): 315-48.

Provides some applications of Schenker's ideas to later music, making reference along the way to previous, similar studies, and giving some guidelines for such endeavors.

Kerman, Joseph. (see section I.C.)

Criticizes limitations of present theoretical approaches, calling for a more broadly-based critical procedure. In particular, discusses the analysis presented in Forte (1959).

Narmour, Eugene. *Beyond Schenkerism*. Chicago: University of Chicago Press, 1977.

Eschews some of the premises of Schenkerism in favor of an "implication-realization" model. Reviewed by Allan Keiler and Henry Martin, *PNMXVII*/1 (Fall-Winter 1978): 161-95 and 196-210, respectively; Steven Haflich, *JMT* XXIII/2 (Fall 1979): 287-304; and Jan LaRue, *JAMS* XXXII/3 (Fall 1979): 586-91.

Rosen, Charles. "Art Has Its Reasons." *New York Review of Books* XVI/11 (17 June 1971): 32-38. (Also in Rosand (I.C.), vol. 13.)

A review of Schenker (1969); gives a good overview of the theory; then goes on to compare the "hidden meaning" implicit in the system with those that may be present in various examples of poetry.

Rothstein, William. "The Americanization of Heinrich Schenker." *In Theory Only* IX/1 (March 1986): 5-17.

An "insider's" view of the spread of Schenkerism in America and its state at the time of writing.

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Salzer, Felix. *Structural Hearing*. New York: Dover Publications, 1952.

Intended as an early textbook-introduction to Schenker; notable especially for its attempts to apply the theories to music much earlier and later than that dealt with (or even approved of!) by Schenker himself.

B. Thematic analysis techniques

1. Overviews: Bent article: pp. 365-66, 371-74; Bent book: 54-55, 85-88; Kerman: 75-79; Dunsby/Whittall: 82-85, 88-94; Cook: 89-115.

2. Thematic analysis

Reti, Rudolph. *Thematic Patterns in Sonatas of Beethoven*. New York: Macmillan, 1967.

Application of Reti (1951) to selected sonatas of Beethoven.

_____. *The Thematic Process in Music*. New York: Macmillan, 1951.

Develops a theory (summarized in pp. 3-30) intended to show thematic connections throughout a work, even among "contrasting" themes and movements.

3. "Functional analysis"

Keller, Hans (in chronological order). "K.503: The Unity of Contrasting Themes and Movements." *Music Review* XVII (1956): 48-58, 120-129. (Also in Rosand (I.C.), vol 14.)

Pursues the same goals as Reti (1951), leading up to Keller's development of "wordless functional analysis," detailed in his articles cited below. (This article and Tovey, vol. III, pp. 3-27 (see section I.C. above) are reprinted in the Norton critical edition of the score to K.503, edited by Joseph Kerman.)

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_____. "Functional Analysis: its pure Application." *Music Review* XVIII (1957): 202-6.

This and the remainder of Keller's articles listed here discuss and demonstrate his technique of "wordless functional analysis," in which the thematic connections throughout a piece are demonstrated by specially composed interludes that can be performed, by the forces the piece uses, between movements of a performance of the piece.

_____. "FA No. 1: Mozart, K.421." *The Score* 22 (February 1958): 56-64.

_____. "Wordless functional Analysis: the first Year." *Music Review* XIX (1958): 192-200.

_____. "Wordless functional Analysis: the second Year and Beyond." *Music Review* XXI (1960): 73-6, 237-39.

_____. "Functional Analysis of Mozart's G Minor Quintet." *MA* IV/1 & 2 (March/July 1985): 73-94.

Walker, Alan. *A Study in Musical Analysis*. London: Barrie and Rockcliff, 1962.

A student of Keller's looks for thematic unity (including mirror forms of themes), in the spirit of Reti, Schoenberg, and Keller, and attempts to demonstrate the psychological rationale for this unity.

4. Grundgestalt and Schoenberg

a. Primary

Epstein, David. *Beyond Orpheus: Studies in Musical Structure*. Cambridge, Mass.: MIT Press, 1979.

Includes a discussion of Schoenberg's ideas and an attempt to combine them analytically with those of Schenker. Reviewed by Jonathan Dunsby, *Journal of*

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the Arnold Schoenberg Institute 3 (October 1979): 194-202; Gary Wittlich, *MTS* III (Spring 1981): 150-58; Arnold Whittall, *JMT* XXV/2 (Fall 1981): 319-26; and Jonathan Harvey, *MA* II/2 (July 1983): 225-27.

Phipps, Graham. "Schoenberg's Grundgestalt Principle: A New Approach with Particular Application to the Variations for Orchestra, op. 31." Ph.D. dissertation, University of Cincinnati, 1976.

In addition to the twelve-tone application implied by the title, includes a Grundgestalt-type analysis of the fourth movement of Beethoven's Third Symphony, cutting across the traditional theme-and-variations organization of the movement. See also the letter written by Phipps as a contribution to "Reflections on Music Theory," a collection of responses to a survey of theorists, in *PNM* XXII (1983-84): 601-3 (cited in section I.C.1.).

Rufer, Josef. *Composition with Twelve Tones Related only to One Another*, trans. Humphrey Searle, chap. 3, pp. 24-45. New York: Macmillan, 1954.

This chapter within a book-length treatment of Schoenberg's compositional ideas by one of his students applies the Grundgestalt idea to all three movements of Beethoven's sonata, op. 10, no. 1.

b. Secondary

Carpenter, Patricia. "Grundgestalt as Tonal Function." *MTS* V (1983): 15-38.

An application of the Grundgestalt idea to tonal construction in Beethoven's sonata, op. 57.

Frisch, Walter. *Brahms and the Principle of Developing Variation*. Berkeley: University of California Press, 1984.

An application of a related Schoenbergian principle to Brahms' music. Reviewed by Michael Musgrave, *JAMS* XXXVIII/3 (Fall 1985): 628-36; William Rothstein, *JMT* XXX/2 (Fall 1986): 284-95; John Rothgeb, *MTS* IX (Spring 1987): 204-15; and V. Kofi Agawu, *MA* VII/1 (March 1988): 99-105.

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C. Serialism

1. Overviews: "Serialism" in *New Grove*; Kerman: pp. 90-106; Dunsby/Whittall: 186-200; Cook: 294-334.

2. Primary

Babbitt, Milton. "Set Structure as a Compositional Determinant." *JMT* V/1 (Spring 1961): 72-94.

More about combinatoriality, viewed within the context of group theory; Babbitt details properties of rows as they affect compositional possibilities. Other concerns are mentioned as they relate to Schoenberg's composition: pitch invariance, "aggregate rhythm," etc.

_____. "Some Aspects of Twelve-Tone Composition." *The Score and I. M. A. Magazine* 12 (June 1955): 53-61. (Also in Rosand (I.B.), vol. 10.)

In this early discussion of the system, Babbitt sets forth principles of combinatoriality and derivation, suggesting the importance of these principles in musical structure (including the organization of non-pitch aspects).

_____. "Twelve-Tone Invariants as Compositional Determinants." *Musical Quarterly* XLVI/2 (April 1960): 246-59.

The twelve-tone system is described here as a mathematical group. Ways that pitch classes can be held invariant are shown. Inversion, retrograde, and retrograde inversion are defined mathematically, and implications of these methods are shown.

Basart, Ann. *Serial Music: A Classified Bibliography of Writings on Twelve-Tone and Electronic Music*. Berkeley: University of California Press, 1961.

Although obviously dated by now, contains references to many sources, in particular some that discuss some of the earlier serial composers (like Ernst Krenek).

CURRENT MUSIC-THEORETICAL SYSTEMS

Perle, George. *Serialism and Atonality*, 5th ed, rev. Berkeley: University of California Press, 1981.

A standard work, first published in 1962; begins (after an overview of "tonality, atonality, dodecaphony") with "'free' atonality" and works through serial procedures to twelve-tone serialism, finally considering advanced twelve-tone manipulations.

Schoenberg, Arnold. "Composition with Twelve Tones (1)," in *Style and Idea*. London: Faber & Faber Ltd., 1975, pp. 214-45.

A classic exposition of the rudiments of his system, including a view of the evolution of musical style leading to the system, the way the system takes the place of tonal approaches to structure and unity, and some insights into compositional aesthetic and technique; Op. 26, Op. 25, and Op. 31 are discussed in particular.

_____. "Composition with Twelve Tones (2)," in *Style and Idea*. London: Faber & Faber Ltd., 1975, pp. 245-49.

More observations on twelve-tone music and its structure and form are included in this brief essay.

Vander Weg, John D. "An Annotated Bibliography of Articles on Serialism 1955-1980." *In Theory Only* V/1 (April, 1979): iii-36.

A useful tool, although somewhat limited by inclusion of only journal articles (and therefore not books). Includes cross-references, an author index, and a piece index.

Wuorinen, Charles. *Simple Composition*. New York: Longman, 1979.

A textbook-style introduction to twelve-tone composition; very clearly introduces most important concepts up to the time of its writing. An interesting feature is the exclusive use of specially-composed examples for each concept. Reviewed by Conrad Pope, *JMT* XXIV/2 (Fall 1980): 253-68; and Nicola Le Fanu, *MA* 1/1 (March 1982): 108-12.

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3. Extensions beyond pitch

Babbitt, Milton. "Twelve-Tone Rhythmic Structure and the Electronic Medium." *PNM I* (Fall 1962): 49-79.

Sets forth the timepoint system.

Boulez, Pierre. "Schoenberg is Dead." *The Score and I. M. A. Magazine* 6 (May 1952): 18-22. (Also in Rosand, (I.B.), vol. 10.)

Insists that the twelve-tone system demands new, self-determined forms, saying that Webern points the way to the discovery and use of these.

Cone, Edward. "Music: a View from Delft." *Musical Quarterly* XLVII/4 (1961): 439-53 (also in *Perspectives on Contemporary Music Theory*, New York: Norton, 1972 and Cone, *A View from Delft*).

In the context of a discussion of art as it strives toward a maximal integration of all elements, this article discusses Schoenberg's, Webern's, and Berg's abilities to integrate their musical elements (as compared with the synthesis achieved during the "Golden Age of functional tonality," Bach, Handel, Mozart, Haydn, Beethoven, Schubert), and considers skeptically some of the more recent attempts at deriving rhythmic structure from twelve-tone pitch structure.

Levi-Strauss, Claude. *The Raw and the Cooked*, trans. by John and Doreen Weightman, esp. pp. 14-32. New York: Harper & Row, 1969.

A critique of "total serialism" from an anthropological point of view.

Ligeti, Gyorgy. "Pierre Boulez," in *Die Reihe*, vol. 4: Young Composers, pp. 36-62. Bryn Mawr, Pa.: Theodore Presser Co., 1960.

A description of twelve-tone techniques applied to pitch and non-pitch aspects of Boulez' Structures Ia.

CURRENT MUSIC-THEORETICAL SYSTEMS

Meyer, Leonard. *Music, the Arts, and Ideas*. Chicago: University of Chicago Press, 1967, Part III, pp. 233-316.

A lengthy consideration of serial music, including discussions of four arguments for its value, and of the difficulty of aurally processing this music, given its frequent lack of redundancy.

Pousseur, Henri. "Music, Form, and Practice." *Die Reihe*, vol. 6 (1964): Speech and Music, 77-93.

A response to Ruwet (below).

Rochberg, George. "Indeterminacy in the New Music." *The Score* 26 (1960): 9-19, reprinted in *The Aesthetics of Survival*, also by Rochberg (Ann Arbor: University of Michigan Press, 1984, pp. 3-15).

Presents the argument that highly "organized" serial music will be perceived as indeterminate.

Ruwet, Nicolas. "Contradictions Within the Serial Language," in *Die Reihe*, vol. 6 (1964): Speech and Music, 65-76.

Here Ruwet uses the analogy of language to explain his perception that much serial music is unsuccessful in "building up a pattern of growth."

Stockhausen, Karlheinz. "How Time Passes," in *Die Reihe*, vol. 3: Musical Craftmanship, pp. 10-40. Bryn Mawr, Pa.: Theodore Presser Co., 1959.

An exposition of Stockhausen's system of applying twelve-tone techniques to duration.

4. Supplementary reading

Babbitt, Milton. "Mr. Babbitt Answers." *PNM* II/1 (Fall-Winter 1963): 127-32.

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_____. "Past and Present Concepts of the Nature and Limits of Music." *International Musicological Society: Proceedings of the Eighth Congress I* (1961): 398-403.

_____. "Since Schoenberg." *PNM XII* (1973-4): 3-28.

_____. "The Structure and Function of Music Theory: I." *College Music Symposium V* (Fall 1965): 49-60.

Beach, David. "Segmental Invariance and the Twelve-Tone System." *JMT XX/2* (Fall 1976): 157-184.

Cohen, David. "Anton Webern and the Magic Square." *PNM XIII* (1974): 213-15.

Lewin, David. "On Certain Techniques of Re-ordering in Serial Music." *JMT X/2* (Winter 1966): 276-87.

_____. "A Theory of Segmental Association in Twelve-Tone Music." *PNM I/1* (Fall-Winter 1962): 89-116.

Perle, George. "Babbitt, Lewin, and Schoenberg: a Critique." *PNM II/1* (Fall-Winter 1963): 120-27.

_____. *Twelve-Tone Tonality*. Berkeley: University of California Press, 1977.

Rochberg, George. *The Aesthetics of Survival*, esp pp. 24-45, "Tradition and Twelve-Tone Music," and 46-68, "Reflections on Schoenberg" (the latter originally appeared in *PNM XI/2* (Spring-Summer 1973): 56-83). Ann Arbor: University of Michigan Press, 1984.

CURRENT MUSIC-THEORETICAL SYSTEMS

Schoenberg, Arnold. "Schoenberg's Tone-Rows," in *Style and Idea*. London: Faber & Faber Ltd., 1975, pp. 213-14.

_____. "Twelve-Tone Composition," in *Style and Idea*. London: Faber & Faber Ltd., 1975, pp. 207-08.

Stadlen, Peter. "Serialism Reconsidered." *The Score* 22 (February 1958): 12-27.

A pianist calls into question some basic assumptions of serial composition. The following issue of *The Score* (vol. 23) contains responses by Walter Piston, Roberto Gerhard, and Roger Sessions, while the next one (vol. 24) contains Stadlen's responses to the respondents.

Winham, Godfrey. "Composition with Arrays." *PNM* IX/1 (Fall-Winter 1970): 43-67.

D. Set theory

1. Overviews: Bent article: pp. 366-67; Bent book: 62-64, 100-108; Dunsby/Whittall: 130-53; Cook: 124-51.

2. Generalizations from twelve-tone theory

Eschman, Karl. *Changing Forms in Modern Music* (chapter VI). Boston: E. C. Schirmer Music Co., 1945.

Discusses Hauer's Tropes (as set forth in Hauer's *Vom Melos zur Pauke; eine Einführung in die Zwölftonmusik*, Vienna, New York: Universal-Edition a.G., 1925).

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Gerhard, Roberto. "Tonality in Twelve-Tone Music." *The Score and I. M. A. Magazine* 6 (May 1952): 23-35.

Builds on Schoenberg and Hába in establishing new kinds of "tonality"; lists the "possible chords," after Hába. Then George Perle, in "The Possible Chords in Twelve-Tone Music" (*The Score and I. M. A. Magazine* 9 (September 1954): 54-58), corrected Gerhard's table, and brought Hauer's work into the discussion; finally Gerhard, in "Reply to George Perle" (*The Score and I. M. A. Magazine* 9 (September 1954): 59-60), made a last adjustment to the table.

Hanson, Howard. *Harmonic Materials of Modern Music*. New York: Appleton-Century-Crofts, 1960.

Develops a system for naming any group of notes based on interval content.

Rochberg, George. "The Harmonic Tendency of the Hexachord." *JMT* III/2 (Fall 1959): 208-30.

Discusses Schoenberg's hexachordal techniques in terms of Hauer's tropes and Babbitt's source sets, finding possibilities for new forms of tonality in the interval structures of these collections.

Schmalfeldt, Janet. *Berg's Wozzeck*, chapter 1, pp. 1-28. New Haven: Yale University Press, 1983.

Provides a historical survey of the evolution of set theory as applied to 20th-century music.

Schoenberg, Arnold. "Hauer's Theories," in *Style and Idea*. London: Faber & Faber Ltd., 1975, pp. 209-13.

A short collection of writings that attack Hauer.

3. Primary

Clough, John. "Pitch-Set Equivalence and Inclusion (A Comment on Forte's Theory of Set-Complexes)." *JMT* IX/1 (Spring 1965): 163-71.

CURRENT MUSIC-THEORETICAL SYSTEMS

A response to Forte's 1964 article; in particular, Clough argues in favor of assigning different names to set classes with the same interval content that are not related by transposition or inversion; Forte adopted this amendment in *The Structure of Atonal Music*.

Forte, Allen. "The Domain and Relations of Set-Complex Theory." *JMT* IX/1 (Spring 1965): 173-80.

A response to Clough.

_____. "Pitch-Class Set Analysis Today." *MA* IV/1 & 2 (March-June 1985): 29-58.

A twenty-year retrospective of the field, discussing the varying uses to which set theory has been put, as well as some related issues.

_____. *The Structure of Atonal Music*. New Haven: Yale University Press, 1973.

The first book-length treatment of set theory in music; includes mathematical developments of the concepts and analytical applications.

_____. "A Theory of Set-Complexes for Music." *JMT* VIII/2 (Fall 1964): 136-83.

The first statement of Forte's formulation of set theory as applied to music.

Howe, Hubert S., Jr. "Some Combinational Properties of Pitch Structures." *PNM* IV/1 (Fall-Winter 1965): 45-61.

An early approach to set theory from a non-serial perspective; deals with many of Forte's concerns, and also discusses multiplicative aspects of set relationships.

JOURNAL OF MUSIC THEORY PEDAGOGY

Lewin, David. "Communication." *PNM* IV/1 (Fall-Winter 1965): 182-83.

This and the following three short discussions deal with some topics of continuing interest for Lewin: relationships between collections of notes as defined by the intervals found within and between collections. An early application of these ideas was to invertible hexachords (e.g., in Schoenbergian combinatorial twelve-tone rows), but the principles bear on the intervallic identity of sets in general.

_____. "The Intervallic Content of a Collection of Notes." *JMT* IV/1 Spring 1960): 98-101.

_____. "Intervallic Relations Between Two Collections of Notes." *JMT* III/2 (Fall 1959): 298-301.

_____. "On the Interval Content of Invertible Hexachords." *JMT* XX/2 (Fall 1976): 185-88.

Martino, Donald. "The Source Set and its Aggregate Formations." *JMT* V/2 (Fall 1961): 224-73.

In the context of a discussion of serial music, Martino focuses on sets within a given row. This leads him to an early, detailed examination of the properties of these sets.

Rahn, John. *Basic Atonal Theory*. New York: Longman, 1980.

A pedagogically-oriented text, with careful introductions to mathematical concepts and many exercises; designed for varied learners and learning situations. Contains a substantial bibliography which is cross-referenced but not categorized or annotated. Reviewed by Steven Gilbert, *JMT* XXVI/1 (Spring 1982): 205-07; Robert Morris, *MTS* IV (1982): 138-54; and David Smyth, *PNM* XXII/1 & 2 (1983-4): 549-55.

CURRENT MUSIC-THEORETICAL SYSTEMS

4. Secondary, reviews, critiques, extensions

Beach, David. "Pitch Structure and the Analytic Process in Music: An Interpretation of the Theory of Sets." *MTS I* (1979): 7-22.

A very helpful summary and commentary, with suggestions for the application of the theory to analysis.

Benjamin, William. "Ideas of Order in Motivic Music." *MTS I* (1979): 23-34.

An early discussion of the most fruitful ways of applying set-theoretical concepts to analysis; in particular, Benjamin goes beyond the level of surface phenomena in finding significant long-range sets.

_____. "The Structure of Atonal Music by Allen Forte." *PNM XIII/1* (Fall-Winter 1974): 170-90.

A review that critiques various formal and analytical aspects of Forte's book; discusses the extent to which the system is exhaustive and/or applicable as well as such issues as octave equivalence, the set complex, "R" relations, "bip's," segmentation, large-scale (non-surface) sets, and register.

Browne, Richmond. "Review of *The Structure of Atonal Music* by Allen Forte." *JMT XVIII/2* (Fall 1974): 390-415.

Focuses on assumptions of generalization inherent in the system, especially octave equivalence; many important characteristics seem to be generalized out by the system, which favors number-relationships and their derivative (e.g., the set-complex) over more important ways of hearing pieces.

Howe, Hubert S., Jr. "Review of *The Structure of Atonal Music*." *American Society of University Composers Proceedings IX-X* (1974-75): 118-24.

Questions some of the constructs in the book, including the use of the term "set" to mean both a pitch-class set and what is now commonly called a set class or collection class. More generally, questions the whole segmentation-oriented approach.

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Lewin, David. "Forte's Interval Vector, My Interval Function, and Regener's Common-Note Function." *JMT* XXI/2 (Fall 1977): 194-237.

Generalizes and distinguishes among these three overlapping but distinct concepts. While Regener's construct deals with potential common-note relationships, Forte's and Lewin's address intervallic characteristics from harmonic and contrapuntal perspectives, respectively.

Lord, Charles. "Intervallic Similarity Relations in Atonal Set Analysis." *JMT* XXV/1 (Spring 1981): 91-111.

This source and Morris, "A Similarity Index . . ." (see below) are almost identical attempts to quantify relationships between sets based on interval content.

Morris, Robert. *Composition with Pitch-Classes: A Theory of Compositional Design*. New Haven: Yale University Press, 1987.

In this book the author's concerns are integrated with those of the other leading writers in this field to form an extensive discussion of compositional structure based on pitch-class relationships. Review by John Roeder, *MTS* XI/2 (Fall 1989), in press.

_____. "A Similarity Index for Pitch-Class Sets." *PNM* XVIII (1979-80): 445-60.

See Lord, above.

Rahn, John. "Gentle Reminder #1: Two Common-Tone Theorems." *In Theory Only* I/2 (May 1975): 10-11.

An account of mathematical formulae that show how many common pitch classes will result when a given set is transposed or inverted at various levels.

_____. "Relating Sets." *PNM* XVIII (1979-80): 483-98.

An elegant generalization of the Lord-Morris effort (above) in which all subsets of two sets are taken into account in quantifying a relationship between them.

CURRENT MUSIC-THEORETICAL SYSTEMS

Regener, Eric. "On Allen Forte's Theory of Chords." *PNM* XIII/1 (Fall-Winter 1974): 191-212.

In this impressive mathematical assessment, various ways of generalizing the theory are demonstrated, some mathematical errors are corrected, and the significance of the "R" relation is questioned. The common-note function and the partition vector are developed, and the set-complex idea is further developed with the use of graph theory. Finally, Regener warns against overconstructing the theory to the exclusion of solving simple problems of application to music.

Teitelbaum, Richard. "Intervallic Relations in Atonal Music." *JMT* IX/1 (Spring 1965): 72-127.

An early, computer-aided study of intervallic characteristics based on segmentation; style conclusions are reached as well as observations about individual works.

5. Supplementary, further extensions, etc.

Browne, Richmond. "Tonal Implications of the Diatonic Set." *In Theory Only* V/6-7 (July-August 1981): 3-22.

Chapman, Alan. "Some Intervallic Aspects of Pitch-Class Set Relations." *JMT* XXV/2 (Fall 1981): 275-90.

Chrisman, Richard. "Describing Structural Aspects of Pitch-Sets Using Successive-Interval Arrays." *JMT* XXI/1 (Spring 1977): 1-28.

_____. "Identification and Correlation of Pitch-Sets." *JMT* XV/1 & 2 (1971): 58-83.

Clough, John. "Aspects of Diatonic Sets." *JMT* XXIII/1 (Spring 1979): 45-61.

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_____. "Diatonic Interval Sets and Transformational Structures." *PNM* XVIII (1979-80): 461-82.

_____. "Use of the Exclusion Relation to Profile Pitch-Class Sets." *JMT* XXVII/2 (Fall 1983): 181-201.

Forte, Allen. "The Basic Interval Patterns." *JMT* XVII/2 (Fall 1973): 234-73.

_____. "Context and Continuity in an Atonal Work." *PNM* I/2 (Spring-Summer 1963): 72-82.

_____. "A Program for the Analytic Reading of Scores." *JMT* X/2 (Spring 1966): 330-64.

_____. "Sets and Nonsets in Schoenberg's Atonal Music." *PNM* XI/1 (Fall-Winter 1972): 43-64.

Fuller, Ramon. "A Study of Interval and Trichord Progressions." *JMT* XVI/1 & 2 (1972): 102-41.

Gamer, Carlton. "Some Combinational Resources of Equal-Tempered Systems." *JMT* XI/1 (Spring 1967): 32-59.

Gamer, Carlton and Paul Lansky. "Fanfares for the Common Tone." *PNM* XIV/2 & XV/1 (1976): 229-35.

Gilbert, Steven. "An Introduction to Trichordal Analysis." *JMT* XVIII/2 (Fall 1974): 338-62.

_____. "The Trichord: An Analytic Outlook for Twentieth-Century Music." Ph.D. dissertation, Yale University, 1970.

CURRENT MUSIC-THEORETICAL SYSTEMS

Hoffman, Newton. "Circular Diagrams for Pitch Class Sets." *American Society of University Composers Proceedings* XI-XII (1976-77): 54-59.

Hoover, Mark. "Set Constellations." *PNM* XXIII/1 (Fall-Winter 1984): 164-79.

Lansky, Paul. "Pitch-Class Consciousness." *PNM* XIII/2 (Spring-Summer 1975): 30-56.

Lewin, David. "A Label-Free Development for 12-Pitch-Class Systems." *JMT* XXI/1 (Spring 1977): 29-48.

_____. "On Generalized Intervals and Transformations." *JMT* XXIV/2 (Fall 1980): 243-51.

_____. "A Response to a Response: On PCSet Relatedness." *PNM* XVIII (1979-80): 498-502.

_____. "Some New Constructs Involving Abstract PCSets, and Probabilistic Applications." *PNM* XVIII (1979-80): 433-44.

Morris, Robert D. "Set Groups, Complementation, and Mappings Among Pitch-Class Sets." *JMT* XXVI/1 (Spring 1982): 101-44.

Starr, Daniel. "Sets, Invariants, and Partitions." *JMT* XXII/1 (Spring 1978): 1-42.

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III. OTHERS

A. Systems as compositional tools (in addition to many of the set theory and serialism articles; these are generally more personal systems). Some overviews and additional bibliographical information may be found in the *New Grove* articles on the individual composers.

1. General

Benjamin, William. "Two Conferences, One Culture: A Report on the ASUC and Theory Meetings in Boston." *PNM* XVI/1 (Fall-Winter 1975): 213-21.

2. Bartok

Antokoletz, Elliott. *The Music of Bela Bartok*. Berkeley: University of California Press, 1984.

Reviewed by Pieter van den Toorn, *MTS* IX (1987): 215-22; and Paul Wilson, *JMT* XXX/1 (Spring 1986): 113-21.

Lendvai, Erno. *Bela Bartok: An Analysis of His Music*. London: Kahn & Averill, 1971.

3. Carter

Bernard, Jonathan. "The Evolution of Elliott Carter's Rhythmic Practice." *PNM* XXVI/2 (Summer 1988): 164-203.

Edwards, Allen. *Flawed Words and Stubborn Sounds*. New York: W. W. Norton & Co., Inc., 1971.

Reviewed by Carlton Gamer, *PNM* XI/2 (Spring-Summer 1973): 146-55.

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Kerner, Leighton. "Elliott Carter." *Saturday Review*, December 1980, pp. 38-42.

Schiff, David. *The Music of Elliott Carter*. London: Ernst Eulenberg Ltd., 1983.

Reviewed by Andrew Mead, *MLA Notes* XL (March 1984): 544-470; Robert Morris, *JAMS* XXXVIII/1 (Spring 1985): 183-90; and Charles Wuorinen, *Musical Quarterly* LXIX (1983): 606-7.

Stone, Kurt and Else, eds. *The Writings of Elliott Carter*. Bloomington: Indiana University Press, 1977.

4. Hindemith

Hindemith, Paul. *The Craft of Musical Composition*. New York: Schott, 1942.

Neumeyer, David. *The Music of Paul Hindemith*. New Haven: Yale University Press, 1986.

Reviewed by Robert Gauldin, *MTS* X (1988): 137-43.

5. Messiaen

Johnson, Robert Sherlaw. *Messiaen*. Berkeley: University of California Press, 1975.

Messiaen, Olivier. *The Technique of My Musical Language*, trans. John Satterfield. Paris: A. Leduc, 1956.

Nichols, Roger. *Messiaen*. New York: Oxford University Press, 1975.

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Samuel, Claude. *Conversations with Olivier Messiaen*, trans. Felix Aprahamian. London: Stainer & Bell, 1976.

6. Partch

Partch, Harry. *Genesis of a Music*, 2nd ed., enl. New York: Da Capo Press, 1974.

Reviewed by Richard Wernick, *JMT* XX/1 (Spring 1976): 133-7.

7. Xenakis

Matossian, Nouritza. *Xenakis*. London: Kahn & Averill, 1986.

Reviewed by Ellen Rennie Flint, *PNM* XXVI/2 (Summer 1988): 308-16.

Xenakis, Iannis. *Formalized Music*. Bloomington: Indiana University Press, 1971.

Zaplitny, Michael. "Conversation with Iannis Xenakis." *PNM* XIV/1 (Fall-Winter 1975): 86-103.

B. Miscellaneous

1. Style analysis (in addition to these sources, many exist that discuss the stylistic traits of individual periods (e.g., Leonard Ratner and Charles Rosen on classical music); some of these may be found in the appropriate volumes of *The Garland Library of the History of Western Music* (cited in section I.C.1.).

Godt, Irving. "Style Periods of Music Considered Analytically." *College Music Symposium* XXIV/1 (Spring 1984): 33-48.

CURRENT MUSIC-THEORETICAL SYSTEMS

LaRue, Jan. *Guidelines for Style Analysis*. New York: W. W. Norton & Co., 1970.

Meyer, Leonard. *Music, the Arts, and Ideas*. Chicago: University of Chicago Press, 1967, Part II, pp. 85-232.

_____. *Style and Music: Theory, History, and Ideology*. Philadelphia: University of Pennsylvania Press, 1989.

Discusses how and why styles change; includes a history of 19th-century music and the persistence of Romanticism into the 20th century.

Reti, Rudolph. *Tonality, Atonality, Pantonality*. New York: Macmillan, 1958.

2. Information theory

Coons, Edgar and David Kraehenbuhl. "Information as a Measure of Structure in Music." *JMT* II/2 (November 1958): 127-61.

Hiller, Lejaren and Calvert Bean. "Information Theory Analyses of Four Sonata Expositions." *JMT* X/1 (Spring 1966): 96-137.

Kraehenbuhl, David. "Information as a Measure of the Experience of Music." *Journal of Aesthetics and Art Criticism* XVII/4 (June 1959): 510-22.

Meyer, Leonard. *Music, the Arts, and Ideas*. Chicago: University of Chicago Press, 1967, esp. pp. 5-22 and 266-93.

Youngblood, Joel. "Style as Information." *JMT* II/1 (April 1958): 24-46.

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3. Linguistics (some other approaches are cited in the Forte article, "Theory," in the Dictionary of Contemporary Music [see section I.A. of this bibliography], where Forte links linguistic and logical methods)

Lerdahl, Fred, and Ray Jackendoff. *A Generative Theory of Tonal Music*. Cambridge: MIT Press, 1983.

Reviewed by Joseph Swain, *JAMS* XXXVII/1 (Spring 1984): 196-205; John Peel and Wayne Slawson, *JMT* XXVIII/2 (Fall 1984): 271-94; Edwin Hantz, *MTS* VII (Spring 1985): 190-202; and David Harvey, *MA* IV/3 (October 1985): 292-303.

_____. "Toward a Formal Theory of Tonal Music." *JMT* XXI/1 (Spring 1977): 111-74.

4. Semiotics

Overviews: Cook: pp. 151-82; Dunsby/Whittall: 211-31; Bent article: 368, 377-78; Bent book: 66, 96-100.

Coker, Wilson. *Music and Meaning*. New York: The Free Press, 1972.

Reviewed by John Rahn, *PNM* XI/1 (Fall-Winter 1972): 255-7; Frank Howes, *Music and Letters* LIII/4 (October 1972): 437-8; and Forest Hansen, *JMT* XVII/1 (Spring 1973): 172-4.

Dunsby, Jonathan. "Editorial: A Hitch Hiker's Guide to Semiotic Music Analysis." *MA* I/3 (October 1982): 235-42.

_____. "Music and Semiotics: the Nattiez Phase." *Musical Quarterly* LXIX (1983): 27-43.

Nattiez, Jean-Jacques. "Varèse's 'Density 21.5': A Study in Semiological Analysis." *MA* I/3 (October 1982): 243-340.

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5. Phenomenology

Batstone, Philip. "Musical Analysis as Phenomenology." *PNM* VII/2 (Spring-Summer 1969): 94-110.

Carpenter, Patricia. "The Musical Object." *Current Musicology* V (1967): 56-87.

Chatterjee, Margaret. "Towards a Phenomenology of Time Consciousness in Music." *Diogenes* LXXIV (Summer 1971): 49-56.

Clifton, Thomas. "Music and the A Priori." *JMT* XVII/1 (1973): 66-85.

_____. *Music as Heard: A Study in Applied Phenomenology*. New Haven: Yale University Press, 1983.

Reviewed by Nicholas Cook, *MA* II/3 (October 1983): 291-94; James Tenney, *JMT* XXIX/1 (Spring 1985): 197-213; Charles J. Smith, *MTS* VII (1985): 207-13; and Frederick Mauk, *JAMS* XXXIX/1 (Spring 1986): 205-9.

_____. "Some Comparisons between Intuitive and Scientific Descriptions of Music." *JMT* XIX/1 (1975): 66-110.

Ferrara, Lawrence. "Phenomenology as a Tool for Musical Analysis." *Musical Quarterly* LXX (1984): 355-73.

Smith, F. Joseph. *The Experiencing of Musical Sound: Prelude to a Phenomenology of Music*. New York: Gordon and Breach Science Publishers, Inc., 1979.

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IV. JOURNALS

Each journal is (usually) followed by the abbreviation used for it in this bibliography (if any), the group(s) responsible for its publication, the starting date of the journal (which can sometimes be indicative of its stability, reputation, degree to which its contents can be reliably described or evaluated, etc.), frequency of appearance per year (which is sometimes variable; the current norm is listed), and comments on its interests, contents, quality, etc. Quotations are taken from the journal itself.

CURRENT TOP-LEVEL THEORY JOURNALS IN ENGLISH

Journal of Music Theory, (JMT) Yale University, 1957-, 2x, attempts broad coverage of music-theory topics; has particularly provided a place for early Schenker and set-theory studies, as well as history of theory and other topics (the twenty-fifth anniversary editorial is of particular interest).

Music Analysis (MA), Basil Blackwell Publisher Ltd. (England), 1982-, 3x, a recent English publication, with many American contributors; leans toward analysis (as the title suggests).

Music Theory Spectrum (MTS), Society for Music Theory, 1979-, 1x (2x starting in 1989), the title reflects this journal's aim at a broad spectrum of topics.

Perspectives of New Music (PNM), initiated at Princeton, now partly sponsored by Princeton, UC-San Diego, University of Washington, and Eastman, 1962-, 2x, traditionally thought of as a voice for composers, at least of certain stripes (the twenty-fifth anniversary Boretz-Berger interview is of interest).

CURRENT MUSIC-THEORETICAL SYSTEMS

HIGHLY SPECIALIZED, LIMITED READERSHIP, OR FOREIGN LANGUAGE

Computers in Music Research, University of Wisconsin and The Wisconsin Center for Music Technology, forthcoming, not limited to theory, but many (perhaps the majority) of its subject areas will relate to theory.

Contemporary Music Review, Harwood Academic Publishers (England), 1984-, variable, a forum for the discussion of "new tendencies in composition."

ex tempore, University of Alberta (Canada), 1981-82, 1985-, 2x, "compositional and theoretical research in music."

Interface, Swets Publishing Service (Netherlands) (but usually English language), 1972-, 4x, "devoted to discussion of all questions which fall into the borderline areas between music on the one hand, and physical and human sciences or related technologies on the other."

Journal of Music Theory Pedagogy, University of Oklahoma, 1987-, 2x, focuses on issues related to the teaching and learning of music theory; review by Robert Batt forthcoming in *MTS*.

Music Forum, Columbia University Press, 1967, irregular issue (six volumes, so far, spanning 1967-1987); has particularly championed Schenker.

Music Perception, University of California at Berkeley, 1983-, 4x, sports an impressive multidisciplinary editorial board; concerned with problems of perception.

Musiktheorie, Laaber-Verlag (West Germany—in German), 1986-, 3x, varied topics.

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GRADUATE-STUDENT-RUN, AND/OR REGIONAL SOCIETY PUBLICATIONS

These journals are produced at schools with large graduate programs in theory. While they often contain valuable articles, they also provide a place for some studies and essays that are offbeat, casual, experimental, works-in-progress, etc. Usually the journal appears in a photocopied, typescript form, presumably to keep expenses low as well as to expedite publication.

Indiana Theory Review, Indiana, 1979-, 2x, varied topics.

Intégral, Eastman, 1987-, 1x, "to address the practical applications of music theory."

In Theory Only, Michigan, 1975-, 8x, probably the best-known of this category at this point. •

Theoria, North Texas State, 1985-, 1x, concentrates on history of theory.

Theory and Practice, City University of New York and the Music Theory Society of New York State, 1975-, 2x, varied topics.

IMPORTANT BUT DISCONTINUEDs

American Society of University Composers Proceedings, about twelve years' worth from 1966 on.

Die Reihe, eight volumes in English translation; originally published 1955-62; a voice for the ultra-serialist viewpoint (the title translates as "the series").

CURRENT MUSIC-THEORETICAL SYSTEMS

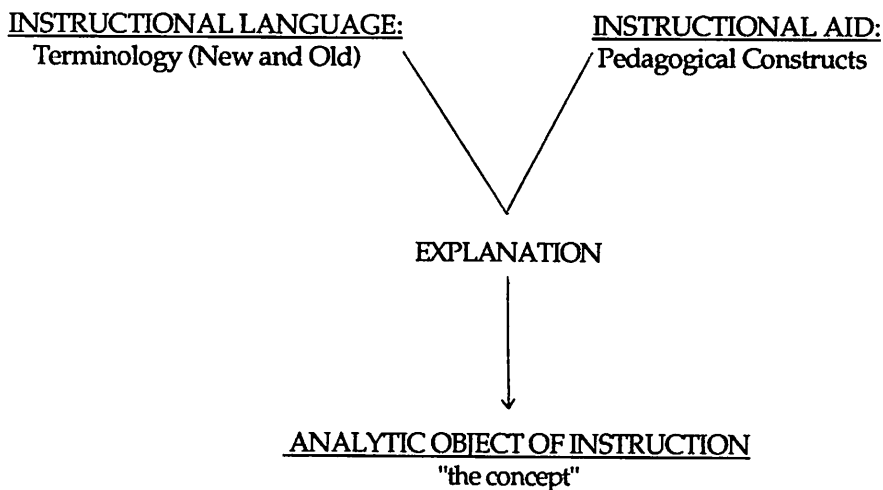
These are the most important journals with a specifically theoretical purpose; others (especially small graduate-student-type) surely exist. However, it is important to remember that many articles that are valuable from the theorist's perspective can be found in journals of somewhat broader scope. Some of the leading ones of these are *Musical Quarterly*, *Journal of the American Musicological Society* (JAMS), *Journal of Musicological Research*, *19th-Century Music*, *Symposium*, *Music & Letters*, *The Score* and *I. M. A. Magazine*, *MLA Notes*, *Music Review*, *Acta Musicologica*, *Critical Inquiry*, *Journal of Aesthetics and Art Criticism*, etc. One might also check a directory of periodicals, such as *Ulrich's International Periodicals Directory* (25th ed: 1986-7, or whatever the latest edition is, New York: R. R. Bowker Co., 1986) or Bill Katz and Linda Sternberg's *Magazines for Libraries* (5th ed., New York: R. R. Bowker Co., 1986).

A CRITIQUE OF CURRENT THEORETICAL PRACTICE: TERMINOLOGICAL MISCUES

GARY DANCHENKA

A central phase of music theory instruction is the habitual use of new and old terminology and occasional application of novel pedagogical constructs in the explanation of some musical concept (see Figure 1). Terms are introduced as a referent to the object of inquiry, intended to transmit a certain clarifying image or to illuminate a given principle. Such terminology is often buttressed by a theoretical construct whose purpose is to facilitate learning by more graphic means. Hopefully, meaningful terms and relevant pedagogical devices will assist in making clear the topic at hand.

Figure 1.



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Often, however, terms introduced to expedite learning are capriciously chosen, sloppily defined, or left vague in meaning. Similarly, a visual construct or design aimed towards assisting in the explanation may be insufficiently realized. In both instances, the account will most likely suffer, creating ambiguity and misunderstanding contrary to intent.

Before discussing examples of faulty terminology, let us first view a standard theoretical construct being used without providing reasons for its implementation. To illustrate (admittedly, with a rather trite example), we shall consider a concept found in every music theory text, the CIRCLE OF FIFTHS. The immediate question: why is the perfect fifth associated with this circular design to the exclusion of all other intervals? Why is the *fifth* singled out as a preferred referential interval; why not "a circle of *seconds*?" Would not a series of minor seconds also complete the tonal cycle in the same number of steps as the fifth?

Of course, there are some obvious reasons why the circle and perfect fifth are chosen to explain tonal relations, and answers to these questions should come easily enough. As an interval, the perfect fifth is unique in its relation to the octave. Extending the interval in either direction results in one encounter apiece for each of the twelve notes within the octave (a complete traversal) before the eventual return (through several octaves) of the initial pitch class. These successive encounters result in a sequence in which the accidentals for each derived key signature increase in number by one. Done similarly for the minor second, the procedure yields no such readily perceived pattern. Hence the choice of fifth over second is clear. In either case, however, the cycle is continuous and closed and this is best represented by a circle, a continuous arc and closed geometrical shape.¹

A related query is the choice of "fifth" over "fourth" in the construct's designation. There is little doubt that the perfect fifth is favored *compositionally* to its interval complement, the perfect fourth. This is evidenced in centuries of musical practice and has been documented *en masse* in theoretical description. (It has long been established that the fourth is recognized as a dissonance in some styles, and an annoying complication to the challenge of writing acceptable voice leading.) Narrowly applied to memorize key signatures, however, *either* interval (perfect fifth or perfect fourth) works equally well. Each is further associated with either of two directional indicators, "ascending" or "descending." The most logical subsequent matchups are "circle of ascending or descending perfect fifths" and "circle of ascending or descending perfect fourths." (It is by habit easier for most people to think "up" rather than "down," and to choose the smaller over the larger interval. This casts further light on the question of which interval to endorse as the preferred choice for interpreting the circle.)

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To some, the account given in the paragraphs above may seem laughably obvious. Yet how often is such an account (or something like it) offered in the classroom as a means to defend the circle's implementation? Not very often, I suspect. Yet the reasons for the construct's adoption *should* be made clear, for the circle's purpose is not evident to most beginning music students. If an interpretation or if such reasons were put forth, surely a degree of clarity not otherwise obtained would follow, with an accompanying greater understanding of key relations and of the tonal system.

Let us now return to the issue of terminology, to which the remainder of this paper is devoted. My purpose will gradually emerge as the account unfolds. Stated flatly, my aims are threefold: 1) to suggest that we need to be careful how we use and define terms commonly adopted in ordinary discourse; 2) to offer some examples of musical situations that for descriptive purposes require a precise word; and 3) to provide some illustrations of mis-usage. Terminological miscues normally occur in discussions that focus on music's primary elements or on concepts relating to analytic practice. Typically, one's view of such concepts will change as we accrue more knowledge. Thus our attitudes toward the terminology introduced to elucidate such concepts also will change—a continual reinterpretation of the meaning of such terms and a refinement on how they should be used. It is to those readers—music theorists and music educators alike—who have yet to experience such change, or who are about to, that this paper is directed. My intent is neither to focus on personal experiences nor to relate any outstanding success story in achievement. Indeed, the purpose of this paper is not to prove anything. I paraphrase a comment by Edward Cone written some twenty years ago on the same topic: my intent is not only to air supportive views but to clarify those of others.²

Perhaps unsurprisingly, one of the more nagging dilemmas found in current music discussion involves the terminological ambiguity in analysis practice. In conjunction with new analytic approaches, a new vocabulary has arisen, accepted with much enthusiasm but often delivered with much abuse. As every discipline has its share of academic jargon, many such examples of "professorial gobbledygook" are harmless enough.³ EVENT is a word used loosely to refer to "anything that moves"—grasped from a score or performance: a melodic progression, chord sequence, rhythmic scheme, or the like. As a catch-all vehicle, it has come to mean so many things that it no longer means anything at all.

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A close companion term is **GESTURE**. As viewed by some, gesture is a more specific term used when emphasizing shape or contour, pointing to how an event is modelled or outlined. Yet this expression is found often in descriptions not related to shape or design. If the fundamental aim of terminology is specificity and precision of language, these two familiarly bland terms have contributed little positive gain.

A third all-purpose buzzword is **PARAMETER**, a term notorious for its frequent mis-use. Originally borrowed from mathematics, it has an exact meaning. For this reason, it is often used in discussions on twelve-tone or serial methods, or used to gain the reader's attention or respect. To most it is a preferred yet inaccurate substitute for terms like element, component, variable, or event—all of which are ambiguous in meaning to begin with.

With respect to harmony, examples of new terminology have appeared as well. Chord and sonority are generic terms, now considered old-fashioned, if not obsolete. In current usage, newer sounding terms have risen to take their place. A vertical formation nowadays is apt to be called a **SIMULTANEITY**, **DENSITY**, **ARRAY**, or **AGGREGATE**. Though the intention is to render a more precise meaning, this is not always the case. For instance, the term aggregate—as viewed by the “twelve-toners”—means a complete sounding of the twelve-note collection. As used by non-serialists, however, it refers to a collection of any size—as in a vertical aggregate of three (four, five, etc.) tones. There is further uncertainty as to whether the term applies to a simultaneous sonority or to notes in some sort of linear succession. Whatever the application or intended meaning, no longer will the word “chord” suffice in theoretical descriptions!

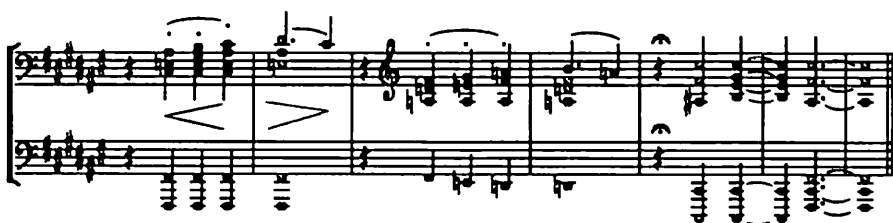
Indicative of a trend in usage towards over-specialization, words such as event, gesture, parameter, aggregate, and simultaneity have lost (paradoxically) much of their initial impact and meaning. On that point, there is little dissension. Even so, many terms in vogue, similarly elitist, carry a more precise meaning; their use requires a careful consideration at all times. Perhaps no word mistakenly refers to so many different situations as **ELLIPSIS**, or its adjective form, **ELLIPTICAL**. The meaning behind the word is precise, however. It refers to a note or chord that is unexpectedly delayed, momentarily omitted and displaced by the insertion of new material. (Figure 2a-b.) Though each of the two excerpts reveals subtle differences in the manner and extent to which the expected chord is delayed, the compositional procedure (or harmonic device) remains basic to each. (Further, in neither instance does the harmonic ellipsis obscure the music's underlying meaning.)⁴

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Figure 2a. Ellipsis. Theme of Final Movement from Beethoven's Sonata Op. 109.



Figure 2b. Ellipsis. Liszt's "Bénédiction de Dieu dans la Solitude," from *Harmonies Poétiques et Religieuses*.



Like elliptical, a term that continues to accumulate much mileage is NESTING. Used in analyses that consider either pitch or duration, nesting is a small unit of pitches within a larger pitch frame, or a short durational pattern within a longer time span. Such embedded configurations are called nested structures. (Figure 3a-d.) Figure 3a is explanatory; it provides an instance of a nested rhythmic structure: an arsis-thesis pattern contained within a larger pattern. Figure 3b is a simplified pitch reduction of the

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opening to Haydn's *Capriccio* in G Major for Piano. The illustration is from *Der Freie Satz* of Heinrich Schenker.⁵ The three-note figure G-A-B in bar 1 is considered to be a nested structure because it is stated within a more elongated G-A-B unit—the beamed notes that encompass bars 1 and 2 (a motivic segment within a motive).

Though deliberately modest, these early examples point the way to more sophisticated uses. For instance, nested structures are an important compositional resource in many serial works from the Viennese school. Figure 3c shows the primary series from Arnold Schoenberg's *String Quartet No. 4*. Nested within the row are several subsets: four occurrences of trichord 0-1-5 (solid brackets), two occurrences of trichord 0-1-2 (slurs), and two successively stated tetrachords of type 0-1-2-5 (dotted brackets). Subsets of the same type unify the collection; more importantly, they provide a source of recurring pitch and interval content presumably manifest in the organization of the composition. The concluding illustration, figure 3d, is a three-staff reduction of three of the instrumental parts from a portion of the third variation from the second movement of Anton Webern's *Symphony Op. 21*. Here both pitch and rhythm are the basis for a symmetrical palindrome: the music moves ahead for four-and-a-half bars (mm. 35-39), then continues backwards for another four-and-a-half (mm. 39-43). Nested within the longer palindrome are several shorter ones.

Figure 3a. Nested Rhythmic Grouping.

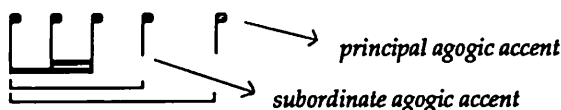


Figure 3b. Nested Pitch Motives. Haydn's *Capriccio* for Piano.



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Figure 3c. Nested Subsets within Twelve-tone Series. Schoenberg's String Quartet No. 4.

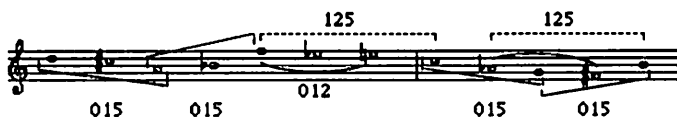
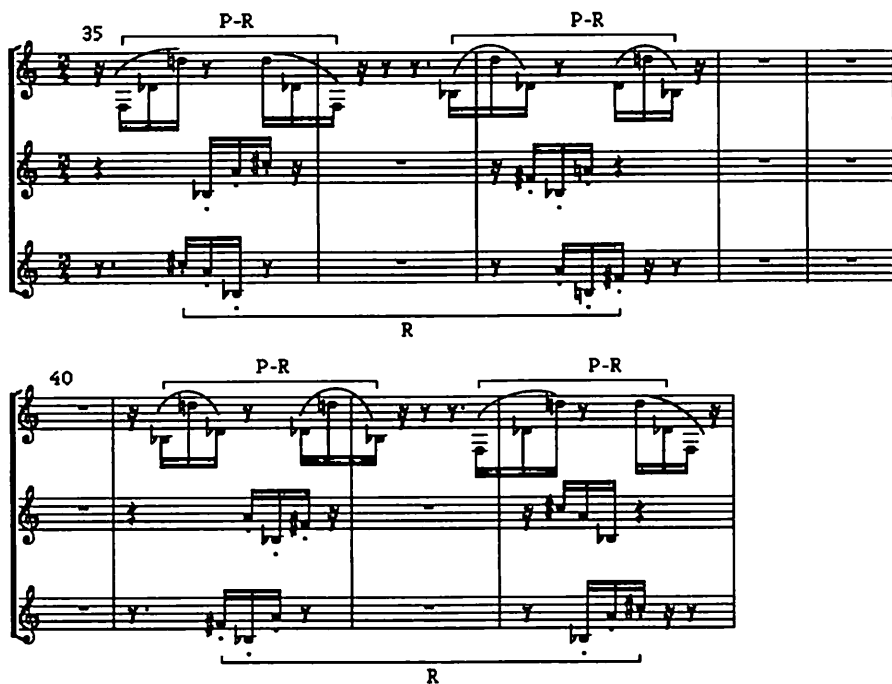


Figure 3d. Palindromic Nested Structures. Webern's Symphony Op. 21, Movement II, Var. 3.



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While every word to some extent is a symbol, serving to bring some condition or thing (musical element, stylistic device) to mind, a term by its very name may risk an incorrect inference. TONALITY implies a system of organization in which "tones" are the chief unifying element. However sophisticated or primitive the approach to such a system may be, the basic property of what we call tonality is the predominance of *one* central tone, or "tonic." As a descriptor, TONICALITY thus seems more apt!⁶

Viewed in this context, ATONALITY carries a similar connotation. Coined by Viennese critics to refer to music without a tonic or key relations, the term ATONAL erroneously suggests a music without tones! Schoenberg disliked it, asking: "What is music without tones?" Calling the term nonsense, he found it equivalent to calling flying "the art of not falling" or swimming "the art of not drowning."⁷ His solution was to furnish two substitute terms: "A-TONICAL," meaning a music without the dominance of one tonal center, and "PANTONAL," meaning inclusive of all tones. Schoenberg's advice, notwithstanding, this innocent terminological misnomer persists in everyday usage.

A more interesting example of a misnomer associated with atonal and with twelve-tone music is DUODECAPHONIC, hereafter referred to by the more common DODECAPHONIC. Strictly interpreted, dodecaphonic—or its noun form DODECAPHONSIM—implies twelve-part writing or a twelve-part texture. Though dodecaphonism historically encouraged the use of idioms borrowed from traditional counterpoint, resultant polyphonic textures were anything but characterized by twelve lines. (It is within each line, of course, that the twelve pitches of the row are deployed.) A more suitable substitute is DODECATONIC (or again, to be more accurate, DUODECATONIC). It suggests (more logically) a music generated from a compositional method based upon twelve different *tones*, not twelve discrete parts (one of the few accurate characterizations we can make about twelve-tone music).

In reference to the ordinal twelve, consider CHROMATIC and DUODECUPLE (or the more common DODECUPLE). Though both the chromatic and dodecuple scales subdivide the octave into twelve equal semitones, they are not identical. The chromatic scale is a series of perfect fifths with functional implications—the fifth being a referential interval to which various tonal relations are defined and located. A product of "Schoenberg's democratization of the chromatic scale,"⁸ the twelve-tone (dodecuple) scale contains no special interval of stability. (Inasmuch as the notes are equivalent in potential structural importance, the scale denies a traditional hierarchy.) Hence, the two scales are alike only with respect to their basic material or pitch elements. Twelve-tone music is not based on the chromatic scale!⁹

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Misleading by name, the words just cited were saved by viable substitute terms. Many terms of vocabulary in need of clarification have no acceptable substitute and perhaps should be dismissed entirely. Let us re-examine the word CHROMATIC. The term has two additional meanings: in its loosest sense, it refers to any pitch alteration by an accidental to the same letter name. Because the chromatic scale exhibits the full array of the most commonly altered or “inflected” notes, it demonstrates such usage. Though the chromatic scale is useful as a reference source for common pitch alterations, it unfortunately furthers a misconception concerning it and diatonic. The problem lies in the advancement of the word “chromatic” to the scale of the same name. The latter is almost always introduced before the diatonic scales in beginning music theory. This inculcates early in a student’s mind the notion of associating accidentals-to-chromaticism (and thus, by inference, lack of accidentals-to-diatonicism). Yet beginners soon learn to their dismay that there is a second meaning to chromatic: a pitch that lies outside of (foreign to) the diatonic scale of a major or minor tonality. For instance, in the key of B-flat major, B-natural and F-sharp are chromatic; so, similarly, in the key of G-sharp minor are A-natural and C-natural. Viewed from a student’s perspective from a keyboard diagram (or to a piano that is close by), white keys are not necessarily diatonic and black keys are not necessarily chromatic—a realization difficult for many! There would be less confusion if, when first introduced, sharps, flats, and naturals were not referred to as chromatic signs, but rather simply called accidentals, or signs of pitch alteration, or signs of mutation. Chromatic is not equivalent to non-diatonic, and diatonic and chromatic are not comfortable opposites.¹⁰

The two notational arrangements of the chromatic scale provide a further opening for obfuscation. We learn it in two forms—ASCENDING (sharps only) and DESCENDING (flats only). Yet in actuality either form can begin on a sharped or flatted tone; even a mixture of accidentals can occur. Presenting the two in this manner may have a pedagogical advantage for demonstrating how accidentals raise and lower pitches, but it incorrectly suggests that all melodic lines favoring semitonal movement conform to one of the two arrangements. This is an untrue assumption and a clear instance of pedagogical intent distorting musical reality.

The same scenario exists for the ASCENDING and DESCENDING FORMS of the MELODIC MINOR SCALE, in addition to their companion, the so-called HARMONIC FORM. We are taught that songs (and, by inference, complete compositions) in a minor tonality are based on some form of minor scale. Such a way of thinking, however, once again rings false. Recall that scales are standardized theoretical constructs, having evolved as preferred pitch determinations extracted from existing music for the purpose of codification. As handy “arrays of convenience,” they suit our

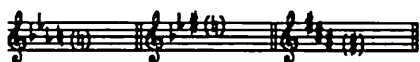
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need to impose some sort of organization onto our musical materials.¹¹ Just as the modes were eventually reduced to two (major and minor), we can reduce the minor scale to one. The case for minor is essentially no different from major: a *single* form exists—a nine-tone inventory of pitches from which various arrangements will be made, according to the compositional need, context (historical and musical), and whims of the composer. With no iron-clad rules for deciding how this selection is to be made (which “form” of the minor is to be adopted), it remains best to simply view all of the so-called forms “as variants of a single scale, one which has optional sixth and seventh degrees.”¹²

In this regard, we should also re-consider how key signatures are presented. We are taught that the simplest way to determine KEY SIGNS FOR MINOR KEYS is to relate them to the signatures for major keys. This unfortunately is to disregard alterations to the submediant and leading tone. In recognition of this lapse, Figures 4a-c present more workable alternatives for the keys of C minor, G minor, and B minor. However new or strange in appearance, such formulations prove useful in the classroom at the most elemental levels of instruction, especially during ear-training sessions in melodic dictation where the full complement of pitch possibilities for minor must be recognized. More than conventional signatures, such novel signs provide a much-needed exactness to the problem of pitch categorization.

Figure 4

C minor. G minor. B minor.



Misnomers also are found lurking in concepts germane to the teaching of musical form. Consider “FIRST-MOVEMENT FORM” and “SONATA-ALLEGRO FORM.” Most movements in sonata form *are* first movements played at moderate or faster speeds. Still, there are many slow movements in sonata form and many opening movements not cast in the sonata design. The sonata structure is neither confined to first-movement stature nor restricted to particular tempos.

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A further salvo can be aimed at the misnomers that improperly characterize the second thematic subject of a sonata as "SECONDARY," "SUBSIDIARY," or as "SUBORDINATE." To say that a theme arrives secondly in presentation is not to say that it is secondary or subsidiary in importance! In many sonata forms the second theme is greater in length and more complex than the first, containing multiple components or more than one melody. (Almost without exception, the second subject contains two or more distinct themes.) Such melodic components typically receive much of the weight of the development. Too, in some sonata movements (mostly of the last two centuries), the second subject returns before the first in the recapitulation to capture most of the interest and subsequent musical treatment.

With our next consideration, we have the ideal illustration of a concept that is easily explained, yet the accompanying term is just as easily misunderstood. RETARDATION is the term given to the displacement tone of a conventional suspension formula that—contrary to its customary movement of direction—*ascends* rather than descends at the point of resolution. Suspension and retardation differ only in the direction of the resolution tone. The expected note of resolution in each circumstance is re-articulated or "suspended" (literally tied over) and "retarded" (arrested or rhythmically withheld). Hence, the two terms are meaningless in pointing to the differences of what they supposedly signify. As a term, "retardation" remains a puzzlement.¹³

While on the topic of nonharmonic tones, view next the brief illustrations in Figure 5. Here some patience for a rather lengthy explanation is required. The example is intended to bring out a curious inconsistency in labeling of two specific nonharmonic tone idioms. Shown are two possible interpretations for the DOUBLE PASSING TONE and DOUBLE NEIGHBORING TONE. Moving across the page, Row A (top) presents a pair of passing-tone idioms, and Row B (bottom) presents two neighboring-tone situations. Though the setting in each of the two excerpts of each row is not the same, their designations are the same by name. Conversely, in each of the two columns the pair of examples contain different idioms by name, but are associated in fundamental ways. Moving down the page, Column A (left) shows each sounding two dissonant tones simultaneously, and Column B (right) shows each with two adjacent dissonant tones moving consecutively.

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Figure 5. Passing Tone and Neighboring Tone Interpretations.

	Column A	Column B
Row A		
Row B		

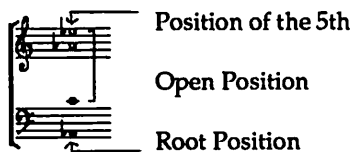
The confusion (and contradiction) lies with the choice of idiom within each category to receive the prescribed designation. The customary interpretations are enclosed in boxes. As shown, the conventionally accepted double passing tone and double neighboring tone lie in different rows and thus are non-associated musically. What is normally accepted as a legitimate double passing tone is marked by two tones sounded simultaneously in rhythmic conjunction. What is normally called a double neighbor (the familiar idiomatic figure from the past) is a single tone ornamented by two auxiliaries sounded on either side in succession. The illogic is laid bare.

In moving away from words that are inferentially wrong or misleading to words that hold two or more meanings or applications, we find that numerous examples fill the latter category. Most examples of such "lingual duplicity" are harmless enough and result in a minimum of confusion when properly explained. INVERSION perhaps is the most notorious; applicable to intervals and chords, it also refers to the device of contrary motion (applied to one or more melodic voices), and to the complete interchange or reversal in position of two melodic lines (termed "invertible counterpoint" or "interchangeable counterpoint").¹⁴ Thus as a concept, inversion can apply to melody, interval, harmony, or texture.

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Chord inversion relates to the concept of POSITION (Figure 6). Depending on which chord member is in the bass, a harmony is said to be in root position, first position, second position, etc. A second meaning to position follows from the chord member that lies in the soprano: "position of the octave" means the root is the top tone, "position of the third" means the third of the chord is the top tone, etc. Finally, a third meaning to position relates to distance. If the registral span between the tenor and soprano voice is more than an octave, the chord is said to be in "open position"; if less, the chord is in "close position." These distinctions are useful but must be carefully explained to avoid confusion.

Figure 6. Meanings to the Concept of Position.



Let us re-examine the common adjectives, "open" and "closed." The terms can be understood and used in three additional contexts in reference to: 1) texture; 2) tonality; and 3) motivic-thematic treatment. Texture can be described as open, meaning a thin disposition of sounds in a relatively wide area of musical space, or as closed, meaning a thick dense disposition of sounds in a small area of space. A formal unit (phrase, period, etc.) is said to be open if the key that is in effect at the unit's close is not the primary tonality; the reference to some formal unit being closed is to suggest that the piece's primary tonality is in effect. As to thematic-motivic control, a closed form is one that concludes with a salient restatement of a prominent (form-engendering) idea presented earlier; an open form lacks such a conclusive restatement. Of the three meanings, the final two bear on the determination of a work's structure or formal design, and, as such, are subjected to daily pounding by music theory instructors. Such distinctions are with an obvious difference, but must be fully understood before the analytical situation to which they might conceivably apply is discussed.

Returning to harmony and to Figure 6, we should recall that such sonorities may function as CADENCES or at CADENTIAL POINTS. Cadence has a double meaning. It refers to either the cadence tone or chord per se—the sole point of termination (resolution) on which a musical phrase

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concludes—or to the notes and chords of the immediate context which identify the *area* of termination—that which immediately precedes such a terminal point (the momentary pause before the resolution). It is the latter understanding of the term that has given rise to various cadential patterns or formulas in use since the common-practice period.

Cadential points are a primary area of aim when deciding if a MODULATION has occurred. Here, too, two meanings exist. Not only does it refer to an actual change of key, but refers to the *process* by which that change is made. By process, I mean the methods used in eliminating the past prominence of one tonic and establishing the new authority of another. In its complete sense, modulation is *both* the change of key *and* the changes made in digressing to that key. If, within an unexpected change of tonality, no transition occurs, it is then possible to speak of a change of key without reference to modulation as a controlling principle.¹⁵ However one uses the term, the distinction in usage and concept must be brought out and made apparent.

Within the area of form, some hazy distinctions apply to CODETTA. (I will avoid staking out a position on clarifying our understanding of the meaning of the companion term, CODA.) A codetta defines the material that: 1) forms a lengthy closing passage of a section (other than the *final* section that concludes the work); or 2) forms a shorter less significant closing passage of a piece. This interpretation, I concede, is open to endless revision and debate. More important is to recognize that the term also is frequently adopted to designate 3) the intervening bars between the subject and answer of a fugue! (Here the term is confused with “episode.” Episodes that occur before the end of the fugue exposition are called codettas; the transitional passages of counterpoint that occur elsewhere are called episodes.) So it is that the two interpretations to codetta remain completely out of sync, applied to two unrelated categories of musical structure.

Another term that exists in a continuing state of elasticity is “SONATA-RONDO FORM.” The term is applicable to that which not only follows a sectional rondo pattern of A-B-A-C-A-B-A, but which displays certain essential traits of sonata form. (Such a piece is a hybrid, a cross-breed, with features common to both traditional forms.) The difficulty lies in the attempt to agree on the conditions critical to differentiating between a seven-part rondo and a true sonata-rondo. To the question, what traits are necessary in elevating a seven-part rondo to the status of a sonata-rondo, the second “B” section must be in the home tonality, and the central “C” section must contain traits of development. As to the extent to which such developmental tendencies must be present to warrant the sonata-rondo designation, countless borderline cases exist.¹⁶

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Some terms adhering to a dual meaning have little connection to the actualities of the situation to which they supposedly refer. DOUBLE FUGUE denotes a polyphonic arrangement consisting of two independent subjects. As the relationship of the second subject to the first may vary, several contrasting arrangements are possible: the two subjects must appear together 1) after the first subject completes its own expositions, or 2) after *both* subjects have completed an exposition, or 3) at the outset, combined in a double exposition. In transmitting a false image, the term is a misnomer for it implies a reference to a piece that contains two fugues; in actuality, the reference is to one that contains two separate melodic statements and two separate fugal expositions (or the aforementioned double exposition). In effect, at any given moment the polyphony will be no more complex than what is expected in a "single fugue" that contains a subject and countersubject.

The final item in the category of double-meaning words bears on the contradictory methods of labeling row-forms hypothetically available in a work of pitch-serialization. Upon examining a serial composition for potential transpositions and permutations, it is useful (if not necessary) to list all possible forms for reference in a row box (matrix). Figure 7 shows such a matrix to a pitch series.¹⁷ This convenient labor-saving device displays each of four set-forms at each of twelve transposition levels. Prime forms (P) are read from left to right, inversions (I) from top to bottom, retrograde forms (R) from right to left, and retrograde inversions (RI) from bottom to top. The set-label for each replica is further associated with an index-number—a numerical subscript advanced sequentially to indicate each succeeding transposition level. The original prime row is designated "P-Zero," the prime row a semitone higher is designated "P-One," etc. In a similar manner, the procedure is done for all inverted rows.

For FORMS R and RI, however, two methods of set-designation exist. I refer to each in turn as Method 1 and Method 2. Under Method 1, the index number is determined by examining the *last* pitch of the row. The retrograde of "P-Zero" concludes on F-sharp, the same as the initial note of the prime row. With Method 1, it is designated "R-Zero." (The last pitch of "R-Zero" is the first pitch of "P-Zero.") "R-One" is the retrograde of "P-One," "R-Two" is the retrograde of "P-Two," and so forth. Similarly, "RI-Zero" is the retrograde of "I-Zero," and "RI-One" is the retrograde of "I-One." This method has the advantage of tying together the "P" and "R" forms and the "I" and "RI" forms.

Figure 7. Labelings for "R" and "Rl" Forms.



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Under Method 2, however, the "R" and "RI" forms are indexed by relating their first note to the first note of the prime row. This means that "P-Zero," "R-Zero," "I-Zero," and "RI-Zero" all begin with the same pitch—here F-sharp.

As no value judgement is placed on either method of labeling (since each has some advantage over the other), my only advice is to be wary of each. Both methods are valid and have been admitted into the main stream of current theoretical literature. (Method 2 appears in sources prior to about 1960; Method 1 dates from the period after.¹⁸) Though Method 1 is more commonly in use, Method 2 is still the preferred choice by some. Thus to the unsuspecting researcher who might encounter two twelve-tone analyses of the same work by two different theorists, each of whom adopts the other method, the resultant confusion can prove to be considerably annoying.

Unlike the eight terms and one word-pair offered above, which contain two or more meanings or uses, each of the six words introduced below illustrates an association with another word to incorrectly infer the same meaning—what could be called a "mistaken interchange." A rather trivial example is THEME and MELODY. That a distinction exists between a theme and a tune is obvious to all who have had recourse to discuss music's linear dimension. Whereas a melody is self-sufficient, a satisfactory entity complete in itself, a theme must contain certain formal properties that can be expanded on with a view towards development.

Likewise, POLYPHONY and COUNTERPOINT should never be aimlessly mixed. Polyphony is a textural distinction made in regards to style; counterpoint is a reference to the technique or compositional means employed to achieve a polyphonic texture. Further, counterpoint assumes some sort of harmonic background (traditional or otherwise) as a guiding factor; polyphony assumes no reference to music's vertical dimension (beyond intervals).

Equally troublesome are two terms borrowed from the area of acoustics, AMPLITUDE and VOLUME. Amplitude refers to the depth of a sound wave and the extent of its back-and-forth motion. Such a series of vibrations we normally call loudness. But loudness is not the same as volume. Volume, strictly speaking, refers to the "bigness" of the sound—an aspect of how sound projects or displaces a three-dimensional area through or within registral space. Analytically, then, volume (or voluminosity) is an aspect of texture, and product of the way musical sounds distribute thickly or thinly in textural density. (An acoustician would make a further, finer distinction between volume and voluminosity!)

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These are perhaps frivolous distinctions to some, but to the discerning analyst who must demonstrate melodic developmental procedures, discuss sixteenth-century polyphony, or measure the strength of vertical relations, such verbal clarifications are obligatory. Along those same lines, PULSE and BEAT rate the same consideration. As listeners, we tend to organize sound durationally by seeking out accented points of differentiation that periodically recur at uniform points in time. Such recurring points are heard at different rates of speed—at different rhythmic levels of regularity. From amongst several levels of felt regularity, we typically choose the one that is moderate in speed and we designate it as the beat level, or, simply as the beat. It is the felt unit of counting and (as we tell students) that which we associate with those movements designated by a conductor's hand. Hence, the need exists to differentiate between pulse—a generic term meaning *any* perceived stimuli—and beat—a specific term meaning a particular type of pulse that is referential, perceived as the normal felt unit of counting. Once again, the distinction is hardly overdrawn.¹⁹

Unclear terminology continues to find its way into discussions on musical form. Witness the case of ROUNDED BINARY versus INCIPIENT TERNARY, two terms applicable to countless simple song forms as well as to larger form. "Binary" acknowledges the apparent division created by the double bar and repeat signs; such a design *looks* to be in two parts. "Rounded" refers to the point of restatement at the end of the contrasting central section; the reprise in effect "rounds off" the form. "Incipient" admits the presence of the brief middle section; the effect is one of a primitive three-part design in the making. "Ternary" acknowledges the return of the first part in the tonic key in the final phrase. As suspected, theorists disagree on the criteria to be adopted in deciding what must be present to establish a true three-part structure. Though most agree that pieces which display the above formal properties are ternary in effect, both terms continue to exist side-by-side, interchanged in everyday analysis.²⁰

Two words, related in meaning but frighteningly vague in usage, are TRANSFORMATION and CYCLIC. Of the two, the one with the clearest application (though not necessarily clearest meaning) is cyclic. As a label, it refers to an extended composition whose formal parts (movements) are identified at some location by the same motive or theme. The theme occurs at least once in each of two (or more) movements; it most often occurs at the very beginning but may occur near the middle or end. As the number of thematic statements will vary from piece to piece, the extent to which coherence is achieved will fluctuate wildly. Unity is further generated by the amount of variation accorded each subsequent announcement. When such events are subjected to development and change, the label "transfor-

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mation" is invoked as a referent to the overall compositional process. The themes then are said to be transformed, having occurred within a cyclical context.

Suffice it to say that the sort of variation just described is not the same as that which occurs in a traditional theme-and-variations form. There, the variations are successive or else periodically delivered and spaced apart at pre-chosen locations. In contrast, transformations are non-successive and occur irregularly within wider arcs of time.

Unfortunately, in today's usage the term transformation extends to cover a diverse group of musical possibilities outside of cyclical procedure. Indeed, the settings in which motives and themes undergo change are many. Just to mention some, modification can occur: 1) systematically in a context of organic development; 2) freely in a nondevelopmental context; 3) throughout a single section or movement; or 4) within separate and unrelated (or nonadjacent) movements. Change can be subtle or obvious, ranging from a mere passing reference to fixed material to a genuine development of ideas previously presented. (The orchestral repertoire of the late Romantics is especially exemplary of the final three listed formal tendencies.)²¹

In summary, transformation has several meanings in formal description, is used indiscriminately with its two companion terms, variation and development, and often appears with cyclic in reference to large-scale constructional unity. Such terms exist mainly to acknowledge the mere observation that parts or movements of a composition are identified by derivatives of the same theme. And the extent to which unity and continuity are achieved in two works designated cyclic will vary considerably.

The final two word-pairs to be discussed are distinct from those above, often grouped together in discussion to infer an opposite meaning. Let us first consider MODAL-TONAL and MODAL-DIATONIC. Viewing the latter first, each of the traditional seven modes (Ionian through Locrian) is a different incarnation of the others, based on an ordering of whole-and-half steps unique to one family of scales only—what is called the diatonic scale system. Wedded by the same immutable intervallic organization, diatonic and modal scales are inherently more alike than unlike. The true distinction lies with compositional usage: music which is described as modal typically carries a stylistic connotation in which the usual tone hierarchies of the major-minor scale forms are absent. (For instance, in modal jazz, the outstanding feature is not the use of non-diatonic scalar patterns but rather the suppression of traditional harmonic root movement over long durational stretches.)²²

In this connection, MODALITY and TONALITY are terms that likewise deny mutual exclusivity. Each mode impacts the attribute of tonality in the sense that in actual practice one of the seven tones of the scale emerges as a preferred, aurally recognizable pitch. However different the technique or compositional means chosen to achieve such an effect may be, and regardless of stylistic circumstances, the basic principle of conferring a superior status to a single pitch remains common to both major-minor and modal music. As John Vincent so aptly puts it: "All the modes possess tonality; it [tonality] is no longer considered to be uniquely an attribute of major-minor."²³ The confusion in regarding such terms as antithetical follows from the distinction made between music of the diatonic major-minor period and earlier (or later) music that conforms to strict modal usage. The terms "modal" and "tonal" are associated with those contrasting eras—thus the tendency to consider the terms as opposites. But again, individual stylistic differences seldom transcend those fundamental and more general principles by which tones interact and tonics are established.²⁴

Let us next consider PHRASE and PERIOD. Both have precise meanings, but their application as formal descriptors is largely uneven. To illustrate, refer to the initial eight bars in Figure 8; the piece is the scherzo from Beethoven's *Piano Sonata No. 15* in D Major, Op. 28. The question is to decide whether the basic phrase length is four or eight bars. Two interpretations are possible: 1) the passage is a two-phrase period with phrase one (mm. 1-4) followed by phrase two (mm. 5-8); or 2) the passage is a single phrase with no further structural divisions. The dual interpretation is possible due to the lack of standard criteria for determining such formal groupings. We are taught that a phrase must "terminate at either a point of full or partial repose," and that it must "convey a more or less complete musical thought."²⁵ Do bars 1-4 fulfill these two conditions? Is "point of repose" synonymous with cadence? Must a traditional cadence be present to have a legitimate phrase? Such troublesome questions persist when we search for the meaning of period. Traditionally, a two-phrase period conveys an antecedent-consequent relation: some sort of a clear two-part structure. Usually (though not always) the antecedent effect of the opening phrase is created by a point of harmonic incompleteness (usually a half-cadence) that delineates the two parts. Do bars 1-8 fulfill these questions? Must the question-answer effect be generated by *both* harmonic and melodic contrast? Does the lack of a half cadence in bar 4 argue against it being a period? And what about rhythm: should tempo be considered a main criterion in this decision? (In a fast tempo, a phrase can consist of eight bars and a period can consist of sixteen.) Clearly there is plenty of space for argument, and the situation will continue where one musician's phrase will be another musician's period.²⁶

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Figure 8. Phrase Structure in Beethoven's Sonata Op. 28.



The words introduced in the final classification stem from concepts or theoretical situations in need of a concrete term—principles for which no term of description presently exists. For instance, consider the accepted descriptors for compound time (Figure 9). “Six-eight” time is designated duple-compound: six secondary beats of pulsation (“subbeats”), two primary beats of pulsation, each primary beat divisible into a group of three. Similarly, “nine-eight” time is designated triple-compound; “twelve-eight” time is designated quadruple-compound (usually reduced to duple-compound). Remaining is “THREE-EIGHT” time, almost always mistakenly expressed by the misnomer “triple-compound.” Following the reasoning of the earlier designations (according to the beat-subbeat premise), it is illogical to follow this classification. Comprised of three subbeats, “three-eight” time contains a single accented beat of pulsation. As labels, “SINGLE-COMPOUND” or “UNI-COMPOUND” more accurately reflect the quality of accentuation and pulse division. (Or, as in the case for “three-four” time, TRIPLE-SIMPLE can be adopted to indicate the further subdivisions of each of the three notes into two shorter notes.)

Figure 9. Compound Time Designations.

Triple-Compound		3 Beats, 9 Sub-beats
Duple-Compound		2 Beats, 6 Sub-beats
Single- (Uni-) Compound		1 Beat, 3 Sub-beats

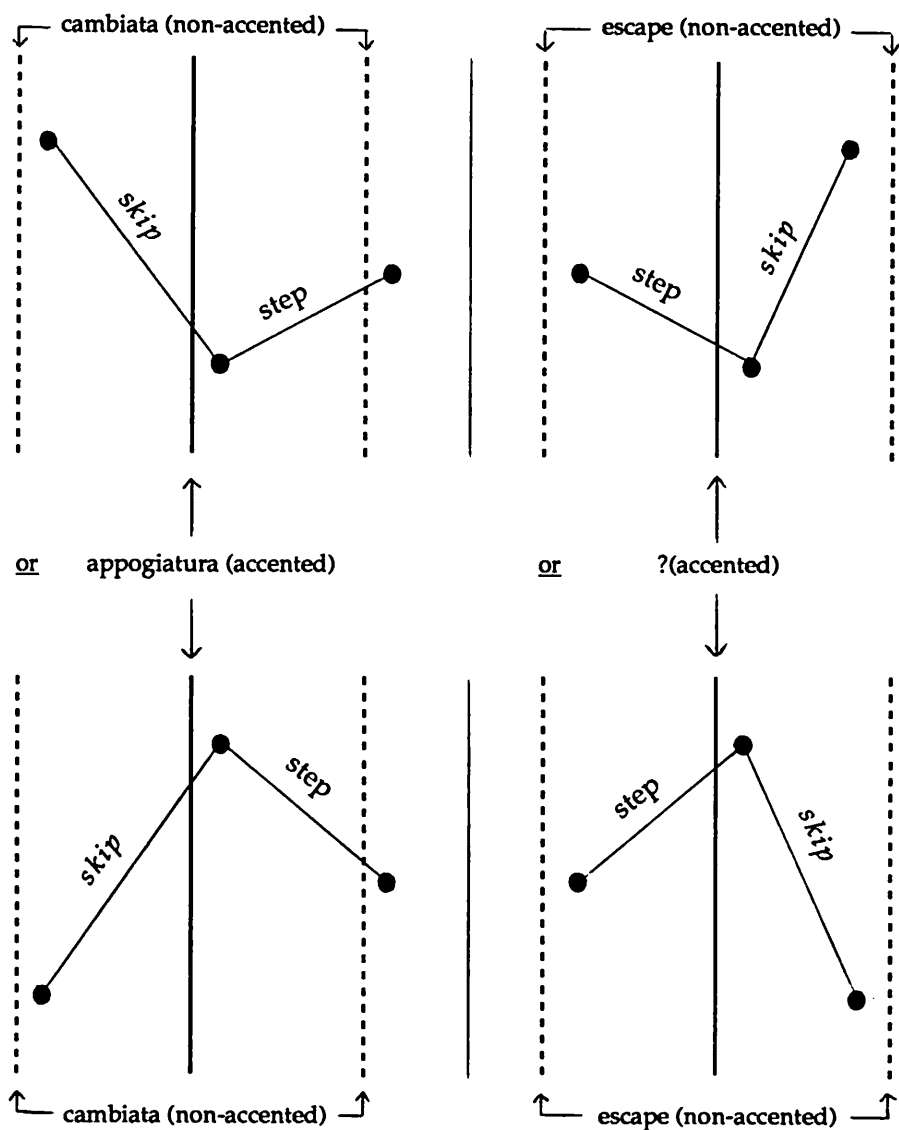
In the final four illustrations, attention is directed to kinds of motion encountered in melodic writing. The models presented in Figure 10 are based on the premise that non-harmonic tone idioms are best identified and understood by three criteria: 1) order of intervallic change; 2) registral position; and 3) metric location. For instance, in viewing the *cambiata-appoggiatura* (Figure 10a), note that each follows a skip-step sequence in support of the line's overall movement (whether it be an ascent or descent). The difference lies in the location within the bar where the dissonant tone occurs (note the shifted barlines): whereas an *appoggiatura* is metrically stressed (occurring on a strong beat), a *cambiata* is not. The distinction is logical and clear, allowing for the recognition and labelling of two distinct metric patterns.

By corollary, a second model can be proposed (Figure 10b). The escape tone and companion idiom are alike in that each follows a step-skip sequence in opposition to the direction of the line. Once again their dissimilarities are drawn on the basis of metrical placement. Yet, as it happens, no name or descriptive label (other than "free tone") exists for the strong-beat dissonance. This is so because the dissonant "free tone" is abandoned by skip on an accented portion of the bar—by no means a common occurrence within traditional melodic-harmonic-metric practice. Still, the musically improbable is the theoretically obtainable; this dissonance deserves a more concrete classification beyond its present overlooked status.

Now let us proceed to Figure 11, a scheme making a plain analogy between sequence and melodic inversion. As the basic source of criteria in deciding how a melodic sequence is to be classified, the distinction between interval quantity and quality is curiously lost in reference to mirror inversion. Beyond the observation that "free inversion" correlates to "modified sequence," the similar correlation to "real" and "tonal" sequential imitation exists in principle only. Like "sequence," "mirror-symmetry" is too broad in meaning to account for all the nuances in melodic expression. As shown, the proposed qualifiers stemming from the analogy—"REAL INVERSION" and "TONAL INVERSION"—easily refer to the twofold distinction, thus directing the way to greater clarification.

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Figure 10. Non-harmonic tone models.



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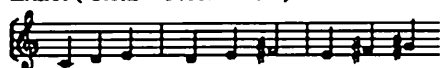
Figure 11. Melodic Sequence-Mirror Inversion Analogy.



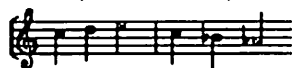
SEQUENCE:

MIRROR-SYMMETRICAL INVERSION:

Exact ("Real"- "Non-tonal").



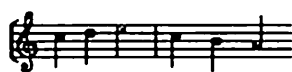
"Real (Non-diatonic)."



Tonal ("Diatonic").



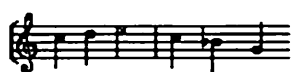
"Tonal (Diatonic)."



Modified.



Free.



The point I wish to make next also relates to spatial motion and likewise follows from analogical thought. Consider the association between parallel and contrary motion (Figure 12). The diagram is explanatory: like the twofold distinction for inversion, a comparable distinction holds for similar motion. Analogous to "tonal" and "free" inversion are "TONAL SIMILAR MOTION" and "FREE SIMILAR MOTION." (Whereas "parallel motion" holds the intervallic relation between both lines throughout, the two proposed types of "similar motion" allow for a varying degree of modification.)

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Figure 12. Similar-Mirror Motion Analogy.

LEVELS OF CONGRUENCE for Parallel-Similar Motion:



Parallel Motion.



"Tonal (Diatonic)" Similar Motion.



"Modified" or "Free"
("non-diatonic") Similar Motion.

LEVELS OF OPPOSITION for Inversional Motion:



Real or Exact ("Non-diatonic") Inversion.
(*reflective symmetry*)



Tonal ("Diatonic") Inversion.
(*distorted symmetry*)



Free ("Non-diatonic") Inversion.
(*non-reflective symmetry*)

Whether these particularities of spatial motion will be accepted for widespread use remains to be seen. Extended to their logical extreme, such concepts are perhaps too specific and limiting to be of any real instructional value. Too, perhaps I, like others, have unnecessarily stumbled into the domain of theoretical jargon in my choice of new descriptive terminology such as "real inversion" or "free non-reflective symmetry!" Nevertheless, in analysis the situation often dictates the sort of descriptive language we adopt. To that end, the distinctions made here are reasonable and merit some small consideration. To punctuate this point, my final example will carry this way of thinking a bit further. In its inclusion of the word "parallel," the principle of PARALLEL OCTAVES AND FIFTHS has led to much misunderstanding, not to mention frustration and student suspicion. The predicament arises from a near-blanket disapproval by theorists on the use of forbidden parallel octaves or fifths in traditional part-writing. The misleading inane description by early American theorist, Percy Goetschius, of consecutive octaves or fifths creating a "blundering impression"²⁷ is emblematic of the still-prevailing opinion unfortunately held by many that such a pitch arrangement is to be avoided in a voice-leading context because it somehow sounds bad, and thus simply is wrong. Dismissing the assertion that parallel fifths sound bad (most musicians claim the converse—indeed, early and recent compositional practices bear this out), the reasons for their prohibition are clear enough: "The perfect octave and perfect fifth are the

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most [acoustically] stable of intervals, and to link two voices through parallel motion at such intervals interferes with their independence much more that would [say] parallel motion at thirds or sixths."²⁸ The perfect fifth presents a further special case in "its ability to define a triad and, by extension, to suggest a key."²⁹ Two (or more) in succession not only weaken the effect of independence between parts but create a momentary impression of tonal ambiguity. (Such is the *special* significance of the fifth as a strong key-defining interval.)

Figure 13. Levels of Distinction for Parallel Motion.

Least objectionable

	Nonadjacent: Nonsuccessive Strong/Weak Beats (1 and 4) ("syncopated 5ths")
	Nonadjacent: Successive Weak Beats (2 and 4) ("afterbeat" of "nonaccented 5ths")
	Nonadjacent: Successive Strong Beats (1 and 3) ("accented 5ths")
	Adjacent: Successive Strong/Weak Beats (2 and 3 or 4 and 1) ("syncopated 5ths")
	Adjacent: Successive Weak Beats (2 and 4) ("afterbeat" or "nonaccented 5ths")
	Adjacent: Successive Strong Beats (1 and 3) ("accented" or "open 5ths")

Most objectionable

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Still, to maintain that parallel fifths or octaves cancel or ruin the independence of voices is—to quote Arnold Schoenberg—“surely a pedantic exaggeration.”³⁰ The objection lies not so much in the pitches themselves as in their *placement* within the bar. The concept is more easily explained and much more clarifying when approached from the viewpoint of metric accentuation. The series of citations in Figure 13 illustrates. For sake of clarity and for purposes of comparison, each illustration shows the uppermost voice carrying the weight of the melodic activity, with both voices approaching the objectionable interval (here, a perfect fifth) from the same direction. As evidenced, the concern is more with metrical stress than with pitches and intervals.

In concluding this discussion on bogus musical terms and terminological miscues, I must answer to a general skepticism that undoubtedly will arise in some quarters. This doubt will perhaps take the form of three objections: 1) that the overall explanation was cursory and too limited in scope (too few examples); 2) that my style of presentation was discursive and unstructured; and—most important—3) that the ramifications of what was said were (and remain) of less consequence than intimated. I shall briefly respond to each objection, and then finish with some closing comments.

1) To the charge that my critique did not probe deeply enough, my only response is that I consciously and deliberately chose to limit myself to only a few remarks on each item. At the same time, having tapped only a small number of issues relating to the topic, the account necessarily was selective and limited to a modestly small number of examples but one which I believed was properly illustrative of the problem.

2) In choosing to chronicle my disfavor with ambiguous terms of description in piecemeal fashion, I was obliged to nitpick my way through an account that to some may indeed appear to have resembled an unplanned “shopping list” rather than an orderly disquisition. I would answer that since my intent was to present a large overview of the main issues pertaining to terminology, it proved useful, if not imperative, to place each term in a category based on abstract, conceptual similarities of classification rather than in generalized, concrete musical-analytic categories.

3) Finally, there is the inevitable objection that such quibbling over language is largely unnecessary and immaterial, that it deflects attention away from the real focus of concern, which is the music. Of course, I agree

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with others that "the label is far less important than the music itself," that since we are analyzing the music and not the label, the latter is ultimately inconsequential.³¹ To be pinned down to one classification or to a particular term of vocabulary is to gain little or nothing. I further admit that when seen in isolation, each topic of contention addressed here is only marginally problematic. Still, words carry a message all of their own; hence, the question of proper terminology is hardly an idle one. Taken as a whole, my remarks on the issues advanced here disclose a problem that is diffuse and of concern to anyone assigned to music theory instruction. When carelessly managed, much of the accepted "verbal baggage" and musical impedimenta in use today can easily curb or obstruct learning. Though it is true that theoretical concepts are easy enough to comprehend in many instances, it is equally true that many of the words and descriptors put forth in reference to such concepts take on an extended use, applicable to many situational possibilities. The hard fact is that many terminological distinctions remain blurry, begging to be resolved. Perhaps most important, my major point is that there is much to gain by weighing the question of which term is best suited for a specific classification. Like it or not, specific designations and labels will continue to be chosen and adopted for classroom discussion in musical description. By thoughtfully *considering* the term or label that *best* applies to a specific musical object, we will undoubtedly come to better understand that object.

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NOTES

¹How ironic that "nature's perfect shape" is used to visually show a quality or aspect of a system as imperfect as the scale forms representative of major-minor tonality!

²Cone's brief and often witty examination was an inspirational source for the present paper. See Edward T. Cone, "A Budding Grove," *Perspectives of New Music*, Vol. 3, No. 2 (Spring-Summer 1965): 38-46.

³The phrase "professorial gobbledygook" is from an entertaining and informative book by Donna Woolfolk Cross entitled *Word Abuse: How the Words We Use Use Us* (New York: Coward, McCann and Geoghegan, Inc., 1979), p. 59. As a descriptor for the verbal elitism allegedly practiced by "professional work abusers" in the ranks of academia, it is apt.

⁴Extracted intentionally from two disparate sources in which the accompanying written description in each makes direct use of the word "elliptical," the selection of the two musical examples is neither fortuitous nor original with me. Figure 2a stems from Edward Cone, "Analysis Today," in *Problems of Modern Music*, ed. by Paul Henry Lang (New York: W.W. Norton and Company, Inc., 1960), p. 37. Figure 2b originally appears in Wilfrid Mellers, *Man And His Music: The Story of Musical Experience in the West, Part Four: Romanticism and the Twentieth Century* (New York: Schocken Books, 1969), p. 38.

⁵Heinrich Schenker, *Der Freie Satz*: Vol. III of *New Musical Theories and Fantasies*, trans. and ed. by Ernst Oster (New York: Longman Inc., 1979). See *Supplement: Musical Examples*, Fig. 102, 1.

⁶This "semantic uncertainty" was (as far as I know) first acknowledged in writing by Rudolph Reti; it is noted parenthetically in the introductory remarks to his *Tonality in Modern Music* (New York: Collier Books, a division of the Crowell-Collier Publishing Company, 1962), p. 25. He surmises: "The word tonality was probably chosen merely as a linguistically pleasant abbreviation of tonicality (thus also presaging atonality instead of the tongue-twisting atonality)."

⁷Arnold Schoenberg, *Style and Idea: Selected Writings of Arnold Schoenberg*, trans. by Leo Black, ed. by Leonard Stein (New York: St Martins Press, 1975), p. 210.

⁸This memorable characterization is by Anthony Burgess. See his *This Man and Music* (New York: McGraw-Hill Book Company, 1982), p. 92.

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⁹The fact that the scales are considered dissimilar is a consequence of their adoption in two antithetical musical styles, each of which is based on a dissimilar constructional method. In recognizing the distinction between "tonal" and "atonal," some have chosen nonetheless to de-emphasize the divergent scalar applications: "Tonal music utilized the twelve existing tones from its beginning; and neither atonality nor the twelve-tone technique has added quantitatively to this material in any way. He who would insist on talking about the 'twelve-tone scale' must clearly understand that nothing but the chromatic scale, long since known, is identified by that term." See Ernest Krenek, *Music Here and Now* (New York: W.W. Norton and Company, Inc., 1939), p. 171.

¹⁰Identifying the problem, one noted theorist-musicologist suggests that the meaning of "diatonic" and "chromatic" should be limited 'to describe relationships among, rather than intrinsic qualities of, tones [scales, etc.]' (Italics mine.) See Lloyd Hibberd, "Tonality and Related Problems in Terminology," *Music Review*, Vol. 22, No. 1 (February 1961): 13. His comments on the "outmoded word-meanings" of tonality-atonality are further instructive. An interesting and recommended study.

¹¹This suitable phrase is from David Butler, "Music Theory, Theories of Music, and Systematic Musicology," *College Music Symposium*, Vol. 22, No. 1 (Spring 1982): 114. The brief passage from which the remark was drawn elucidates the topic of scale discovery and presentation as well as any. Butler's expression is reminiscent of one advanced years earlier by James L. Mursell: a scale "is simply an arbitrary array of pitch determinations, set up by social agreement." See his "Psychology and the Problem of the Scale," *Musical Quarterly*, Vol 32, No. 4 (October 1946): 568.

¹²Armand Russell and Allen Trubitt, *The Shaping of Musical Elements*, Vol. I (Honolulu, HI: By the Authors, University of Hawaii at Manoa, 1983), p. 165.

¹³Since the twin actions of retarding and suspending are common to each idiom of the same name, perhaps "retardation" should be eliminated entirely since it misleadingly infers that rhythm is a critical factor. In those relatively few instances where the resolution tone enters *above* the suspension tone, a simple qualification—like that given for an "anticipation" that *ascends*—would suffice.

¹⁴The latter term originates with Kent Kennen. He observes: "In an effort to avoid confusion, some theorists have substituted 'interchangeable counterpoint' for 'invertible counterpoint.' Logical as the former term is, it has, regrettably, never come into general usage." See his *Counterpoint Based on Eighteenth-Century Practice* (third ed.; Englewood Cliffs: Prentice-Hall, Inc., 1986), p. 111.

¹⁵Here it is not irrelevant to note that contemporary composer John Adams refers to changes of tonality in his most recent full-scale work not as modulations but rather as "gates—abrupt transitional points of tonality." See liner notes on Nonesuch 79115, to *Harmonielehre* (San Francisco: Nonesuch Records, 1985).

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¹⁶A relatively well-known and often-cited example is the third and final movement of Beethoven's *Piano Sonata No. 8* in C Minor, Op. 13.

¹⁷The row is genuine. It is the pitch source and constructional basis of Song No. 1, "Wie bin ich Froh!" ("How Happy I Am!") of Anton Webern's *Drei Lieder* (*Three Songs*), Op. 25. See Bruce Benward, *Music in Theory and Practice*, Vol. 2 (3rd ed.; Dubuque, IA: Wm C. Brown Publishers, 1986), pp.343-350.

¹⁸This assertion is based on a single statement, but one that I am certain is credible. See Gary E. Wittlich, "Sets and Ordering Procedures in Twentieth-Century Music," in *Aspects of Twentieth-Century Music* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975), p. 393.

¹⁹Several levels of regularity are normally felt in a performance of any traditionally composed music. In that only one can be designated the "beat level," therein lies the quandary. If the beat is the name given for the basic rhythmic pulse, what name shall be given to those pulses heard at faster and at slower rates of speed? There is no agreement on this. Wallace Berry suggests "intermensural," and "intramensural" as terms suitable in reference to "classes of structural level." See his *Structural Functions in Music* (Englewood Cliffs: Prentice-Hall, Inc., 1976), pp. 318-319. Another source cites 'superior,' "primary," subprimary," and "inferior" as the names by which the various "architectonic levels" will be called. See Grosvenor W. Cooper and Leonard B. Meyer, *The Rhythmic Structure of Music* (Chicago: The University of Chicago Press, 1960), p. 2. Additional suggestions are found in other sources as well.

²⁰In reference to such pieces, the duple division that marks off the piece into two halves is a holdover from compositional practice of the past. Repeat signs customarily appear in most part-forms of the Baroque era as a standard, if not mechanical, practice. Though the second and third parts can be joined for purposes of repetition (when the repeats are observed in performance), the essential three-part pattern remains.

²¹Three quite dissimilar works (listed together on a hypothetical concert program) reveal these tendencies and make an instructive comparison. In Debussy's *Prelude to the Afternoon of a Faun*, several melodic-harmonic transformations are applied to the main theme at various times in a nondevelopmental setting. In Richard Strauss's *Horn Concerto No. 1*, the opening theme of Mvt. I is brought back once only in a transformed version to initiate Mvt. III. Cyclical treatment is demonstrated in the final two movements of Bruckner's *Symphony No. 4* when a pronounced reference in the horns is made to the main theme from the first movement.

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²²The manner in which the two terms are often presented together as topics for discussion furthers the impression that they are to be regarded as opposites or as a referent to two compositional procedures, one of which employs techniques exclusive to the other. A most recent case in point is a planned special session for last year's Society for Music Theory National Conference. As designated by the 1988 SMT program committee, the session is meant to air views relating to the general category of "modality and tonality."

²³John Vincent, *The Diatonic Modes in Modern Music* (Revised ed.; Hollywood, CA: Curlew Music Publishers, Inc, 1974), p. 51.

²⁴Upon listening to a modal work from the fifteenth or sixteenth centuries, the identification of a tonic is not always an easy matter. As one may not always be certain of which pitch is the tonic, the choice of mode likewise becomes problematic. In such circumstances, the conventional hierarchy of tone functions and scale degrees associated with traditional common-practice tonality may be absent. Though an analysis will usually disclose a preferred choice for tonic and mode, the listening experience is real and points to a felt stylistic difference between music of the two periods. Because of these *perceived* differences, the inclination to separate "tonal" from "modal" and mark them as contradictory in meaning is made in the minds of many.

²⁵John D. White, *The Analysis of Music* (Englewood Cliffs: Prentice-Hall, Inc., 1976), p. 34.

²⁶I believe the opening passage should be regarded as a phrase. Though a period relationship is manifest at a lower level, and though a two-part feeling is generated by melodic contrast, no clear-cut contrast in cadence exists. (Perhaps the material in bars 1-4 and in bars 5-8 should be called sub- or semi-phrases.) The rapid tempo further argues against *hearing* the passage as a period. At the tempo of a dotted-half equals 96, the passage gallops by in a mere five seconds. This furthers the impression that it be heard as one musical unit.

²⁷Percy Goetschius, *The Theory and Practice of Tone-Relations: An Elementary Course of Harmony* (New York: G. Schirmer, 1892), p. 21.

²⁸Stefan Kostka and Dorothy Payne, *Tonal Harmony With an Introduction to Twentieth-Century Music* (New York: Alfred A. Knopf, Inc., 1984), p. 75.

²⁹Felix Salzer and Carl Schachter, *Counterpoint in Composition: The Study of Voice-Leading* (New York: McGraw-Hill Book Company, Inc., 1969), p. 16.

³⁰Arnold Schoenberg, *Theory of Harmony*, trans. by Roy E. Carter (Berkeley and Los Angeles: University of California Press, 1978), p. 63.

³¹White, *The Analysis of Music*, p. 53.

EAR TRAINING AND INTEGRATED AURAL SKILLS: THREE RECENT TEXTS¹

GARY S. KARPINSKI

This is the second in a series of three articles. In the first article,² I reviewed five recent sight-singing texts. In this one, I review three recent ear-training and integrated aural-skills texts. The line of division between these first two articles is slightly blurred; two of the three texts reviewed here—although they are both touted as integrated texts—consist largely of sight-singing materials, so that many issues raised in my last article will surface again in this one. Finally, I will have raised a number of issues in both articles that can only be fully addressed in a third article on aural-skills acquisition in general, which will appear in an upcoming issue of this journal.

The three books under examination here,³ in fact, represent three different breeds of text. Bruce Benward's *Ear Training: A Technique for Listening* is purely an ear-training manual, in the sense that its activities include only those traditionally and directly associated with music-listening skills. Earl Henry and James Mobberley's *Musicianship: Ear Training, Rhythmic Reading, and Sight Singing* is truly an integrated text: it includes a nearly equal split between listening and performance skills. Robert D. Levin and Louis Martin's *Sight Singing and Ear Training Through Literature* contains mostly performance-oriented materials with barely more than suggestions for ear training in the text, but the *Teacher's Manual* does contain a large number of excerpts for ear training.

Ear Training and *Sight Singing and Ear Training Through Literature* are each organized in an integrated fashion. Every chapter or unit of these books presents new materials in various areas of pitch, rhythm, harmony, etc. In contrast, *Musicianship* separates these activities into three large sections—Ear Training, Rhythmic Reading, and Sight Singing—and even subdivides the Ear Training section into Rhythm, Melody, and Harmony. There are at least two consequences of these different forms of organization: 1) users of the first two books *need* not page back and forth (for the most part) among various sections of the books; and 2) users of the first two books *can* not page back and forth (for the most part) among various sections of the books. *Musicianship*, therefore, seems at first awkward to use since at any

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given time in the curriculum, elements of rhythm, melody, harmony, ear training, rhythmic reading, and sightsinging will be spread about various sections of the book; yet this very feature allows for some reordering of those elements. On the other hand, *Ear Training* and *Sight Singing and Ear Training Through Literature* both require that their various materials be presented in order. In Benward's words, "For best results... assignments in Melody Unit 1, Harmony Unit 1, and Rhythm Unit 1 should be made during the first week of the semester or the quarter and continued in like fashion throughout the year."⁴

All three of the books introduce the complexities of rhythm and pitch in roughly the same order. The rhythmic materials progress from simple meters with only a few durations, through compound meters and various beat divisions, to complex and changing meters; the pitch materials progress from stepwise motion and skips within the tonic triad, through diatonic chordal configurations, to chromaticism and some atonality. Each book is accompanied by an instructor's manual that describes its contents and sequence, provides excerpts for ear training, and offers guidelines for classroom presentation and pacing.

The authors of these texts rely to varying degrees on music literature to accomplish their goals. The greater part of the music in *Musicianship* has been newly composed by the authors. Approximately half of the music in Benward's *Ear Training* is excerpted from music literature. Levin and Martin, although they do include self-composed exercises, lean even more heavily on literature. They write, "This text is based upon a belief that the best way to stimulate the ear is with real music and the actual difficulties encountered in performance and listening. Literature spanning eight centuries has been chosen with painstaking care to inspire and to promote continuous progress."⁵

EAR TRAINING: A TECHNIQUE FOR LISTENING

Bruce Benward's *Ear Training: A Technique for Listening* is divided into 16 units (i.e., chapters), each of which contains one or more sections devoted to each of the topics melody, harmony, or rhythm. To coordinate these sections, Benward suggests that, "For best results, material from all three [topics] should be presented concurrently." (*Instructor's Manual*, p. xi) This locks the user into Benward's sequence of study.

The book is intended to be used in two semesters—and in that it differs from the other two books, which are meant for a two-year sequence—but Benward advises that some instructors may wish to spread the book over three or four semesters. Still, in discussing the coordination between aural

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skills and theory books, Benward recommends that *Ear Training* "is designed to accompany most first-year theory texts" (*Instructor's Manual*, p. xi). Instructors who wish to continue beyond *Ear Training* might choose Benward's *Advanced Ear Training*.⁶

Benward justifies the study of aural skills by the following statement: "the vast array of tonal configurations found in music comprises the basic material of the art, and the ingredients are digested to produce aesthetic pleasure. Thus, listening for recognition of musical devices and structures should not hinder aesthetic enjoyment, but should, on the other hand, enhance it considerably" (p. xi). He continues, "Intelligent listening is the most important thing a musician does. No matter what high level of dexterity and accuracy is achieved with an instrument or voice, success is inevitably limited and regulated by the ability of the ear to discriminate and guide the musical performance" (p. xiii).

Benward also discusses his text's point of departure: "The book must begin at the beginning. The most basic elements of music are intervals, simple melodies, simple triads, scales, and simple rhythms" (p. xi). But are these truly the "most basic elements" of music? For that matter, should they necessarily be taught first in the curriculum? He asserts that "Until the basics are mastered, the complex idioms of composition cannot be undertaken" (p. xi). To what manner of "complex idioms" is Benward referring? I have taught business majors to hear the difference between open and closed cadences while music majors struggle to distinguish between tritones and minor sixths. He states his case most fully in the *Instructor's Manual*: "The author cautions that thorough training in the fundamentals is a prerequisite for the study of larger relationships, the structural forces in music. Students who cannot identify a perfect fifth are incapable of perceiving a modulation to the dominant in a two-part or three-part composition" (*Instructor's Manual*, pp. xi-xii). I think that this is not necessarily true. There are "naive" listeners who hear and understand such musical structures without learning their labels and without connecting them to "fundamentals" such as perfect fifths. We must have a better idea of what the fundamentals are to teach meaningful aural skills in a more successful sequence. Although the matter is far from being resolved, the notion of interval and chord training as a prerequisite to contextual study has been seriously and, I believe, correctly challenged.⁷

Benward lays out the goals to be achieved by the student who successfully completes the text. These include mastery of the following: 1) Interval identification; 2) Melodic dictation; 3) Chord progression identification; 4) Identification of rhythmic patterns; and 5) Recognition of "larger patterns" such as "sequences, rhythmic repetitions, harmonic rhythm, phrase extensions, cadence types, and so on" (pp. xi-xii).

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The final levels of difficulty reached in the text incorporate the recognition of short two- and three-part forms, harmonic identification of non-dominant seventh chords, modulations, secondary dominants, augmented-sixth chords, and the rhythmic detection of "subtriplets," syncopations, and changing meters (*Instructor's Manual*, p. xi).

Ear Training incorporates the following types of activities: mode identification from melodies or scales; error detection (melodic, contrapuntal, and harmonic); melodic dictation; multi-voice dictation; interval identification (melodic and harmonic); chord-function identification; chord-quality identification; chord-position identification (i.e., chord member in the soprano voice); chord-inversion identification; rhythmic dictation; scale-degree identification; mode identification (from scales and melodies); identification of harmonic vs. non-harmonic tones; melodic-figure identification (e.g., sequence, rhythmic repetition); harmonic dictation; cadence-type identification; identification of phrase relationships; identification of small forms. That is a rather long list of activities, but one of the advantages of using a text for ear training is that it forces an instructor to present a variety of drill and testing environments and forces a student to use his ear in a variety of ways.

An issue which I must address concerns how some of the above activities are carried out. Benward directs the student taking melodic dictation to memorize the entire melody, sing it, then write it down (p. 2). I have a few guarded reservations concerning this procedure. First, students should be made aware that, at times, remembering an entire musical passage will not be possible or practical. Thus, students should develop the skills required to focus on and remember portions of a heard event—a process similar to that presented in Unit 7B (more on that in a moment). Second, there seems to be no indication of how students should bridge the gap between memory and notation. Certainly, most students must be taught how to understand what they remember of a dictation. Benward suggests attention to this all-important stage only in Unit 7B, which covers two-phrase melodies. There he recommends that students "try to memorize each phrase" and to "Think of the scale degree each pitch represents by including solfeggio syllables or numbers" (p. 78). This, to me, is a more practical description of the kind of intelligent music listening these books aim at developing.

Benward makes other recommendations in the *Instructor's Manual*, where he indicates that it "might be wise" to help the students "have the scale well in mind," through singing it, before playing a melodic dictation (p.4). It seems to me that an important and basic skill (more basic than identifying intervals or triad quality) is the ability to infer the tonic (and scale structure or mode) from the context of a heard musical passage. After

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a listener remembers a particular passage, that listener ought to be able to determine which pitch is the tonic and thereby determine the functions of the other pitches in the passage. Along those same lines, Benward's practice of providing the student with a starting pitch written on the staff moves the aural-skills classroom one more step away from actual experience. Benward is not alone in this practice—it appears in many aural-skills textbooks and classes—but he even doubles it in two-phrase dictations. In them, Benward provides pitches for the beginning of each phrase (see, for example, p. 78), thereby revealing two "basic" pieces of information: the rhythmic placement and pitch level for the beginning of each phrase. It is precisely such information that students should learn to infer from listening. Once again, a basic skill in aural perception is the identification of all pitches in a passage, even (perhaps especially) the starting pitch.

Benward also directs the student to "count the meter" as the preparatory measures are heard (p. 9). What preparatory measures? He seems to assume that all instructors would naturally count aloud a measure or two before beginning to play a dictation—a fair assumption based on many of the aural-skills classes I have observed, but this is another routine that separates the classroom from real life. Even more drastically, Benward urges, "In extreme cases . . . tapping the meter during dictation, or drastically emphasizing the accented meter beats often helps" (*Instructor's Manual*, p. 13). Once again, meter should be inferred from the musical experience, not laid upon it by the theory teacher. Does this make things harder for the student? Perhaps at first, but this is one of the "basic" skills that must be developed if we are to begin truly at the beginning.

Many of the preceding criticisms might be leveled at almost any ear-training text. *Ear Training: A Technique for Listening* bears the brunt of those criticisms in this article for two simple reasons: 1) it is the only one of the three books reviewed here devoted entirely to ear training; and 2) it happens to be the first book in this article. *Ear Training* is a fine text; it has continued to improve in its second and third editions, and is remarkably free of errors.⁸ Most instructors will find that *Ear Training* can meet their needs in a number of ways. Even after careful consideration of my caveats, you may wish only to white out all of those starting pitches . . .

MUSICIANSHIP: EAR TRAINING, RHYTHMIC READING, AND SIGHT SINGING

Earl Henry and James Mobberley claim that *Musicianship: Ear Training, Rhythmic Reading, and Sight Singing* is "three books in one: a complete course in EAR TRAINING, RHYTHMIC READING, and SIGHT SINGING" (vol.

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I, p. ix). *Musicianship* is published in two volumes, and each volume is divided into three sections: Ear Training, Rhythmic Reading, and Sight Singing, but the Ear Training sections occupy more than half of each of the volumes.⁹ Most exercises in the book appear in two sets. Set I is intended for classroom use; Set II (also available on tape) is intended for individual use outside of the classroom.

Coordination among the three sections of the book (Ear Training, Rhythmic Reading, Sight Singing) is problematic. The authors provide some tables (*Instructor's Manual*, pp. 2-9) that suggest pacing and coordination of the book's materials, but these suggestions raise some pedagogical questions. As an example, consider the authors' recommendations for study during week eight of the freshman year. They recommend working on Ear Training exercises R-4, M-8, and M-9 while covering Chapter 6 in Rhythmic Reading and Chapter 14 in Sight Singing. While assuring the reader that I have chosen this particular correlation at random, I would like to point out certain inconsistencies and difficulties in coordinating such activities. First of all, merely finding each of these places in the text is rather awkward. Page footers are often nonexistent, occasionally incorrect (for example, in vol. I, p. 168—the second page in the Rhythmic Reading section—is labelled "Ear Training"), and never indicate the number of a chapter; one must constantly refer to the table of contents when moving from one section of the book to another. Secondly, the materials found in each of these sections do not always correlate with one another. In the above example, R-4 contains rhythmic dictations in only compound meters, M-8 and M-9 involve scale degree recognition, Chapter 6 "introduces" the dotted quarter note (although it has already appeared in R-2), and Chapter 14 drills the singing of seconds through an intervallic approach entirely in simple meters. While it might be argued that this approach provides a certain amount of variety, it seems to me that there is little or no coordination to it. For example, the two sections entitled Ear Training and Rhythmic Reading are not well coordinated. The very first set of rhythmic dictation exercises (R-1) contains duple divisions of the beat; such division is not introduced in Rhythmic Reading until after extensive exercises consisting of rhythms one beat and longer. Similarly, the dotted beat in simple meters is introduced immediately after compound meters in the Rhythmic Reading section whereas there is a delay of several chapters between the two in the Sight Singing section.

Musicianship is intended for use over a two-year course of study, and (as mentioned above) the *Instructor's Manual* includes various tables containing recommended pacing for those two years. The book was designed to accompany Earl Henry's *Music Theory*,¹⁰ but the authors claim that it is "compatible with most any theory text" (*Instructor's Manual*, p. 1).

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Similar to Benward, Henry and Mobberley justify each of the activities contained in their text. Unlike *Ear Training* however, the Preface of *Musicianship* contains little of this information. For example, *Musicianship's* Preface explains the purpose of rhythmic study by saying, "One of the greatest obstacles to the appreciation of twentieth-century music is an inability to perform the often complex rhythms" (vol. I, p. ix). The Preface says little more to assert the necessity of studying rhythms. On the basis of this Preface, a student might wonder what warrants devoting a separate quarter of the book to unpitched rhythmic reading. Only later in the book do the authors give more encouragement: "Whether practicing exercises, performing rehearsed works, analyzing, or composing, musicians benefit from increased proficiency in the recognition of musical [rhythmic] patterns" (vol. I, p. 167). Also later in the book, Henry and Mobberley tell the student that "Sight singing is one of the most important skills any professional musician can possess. No matter what instrument they play, performers can improve their reading ability by studying sight singing. For composers, performers, teachers, and researchers, sight-singing proficiency is crucial; the ability to read a musical pattern and mentally 'hear' it as it would sound if played is an indispensable tool" (vol. I, p. 245). Curiously, the authors never discuss the purposes of ear-training study. At best, they tell the student of the difficulties he may encounter and then describe the manner in which *Musicianship* will present the subject (vol. I, p. 1). All of these platitudes, along with Benward's, amount to little more than cheering the student on. Perhaps an aural-skills text is not the place for it, but I would like to see more justifications on the basis of logical principles related to learning theory.

Musicianship begins at about the same level of difficulty at which Benward's *Ear Training* does. However, since it is intended to span two years, it deals with more complex material at the book's end. In addition to the material covered in Benward's *Ear Training*, Henry and Mobberley's *Musicianship* explores metric modulation, graphic notation, and various pitch constructions including extended chords, quartal harmony, tone clusters, whole-tone harmony, polytonality, and atonality. Although the sightsinging of these more advanced materials is quite difficult, the advanced pitch constructions are handled in a rather elementary fashion when it comes to ear training. With the exception of a few pages of atonal melodic dictation, the student is merely asked to identify which of the above constructions he has heard. In fact, none of the books reviewed here goes beyond this level.¹¹ Volume II of *Musicianship* also provides appendices for "Jazz and Popular Styles" (vol. II, pp. 349-63) and "Music Before 1600" (vol. II, pp. 364-78).

Henry and Mobberley adopt an attitude toward the sequence of ear

training that is similar to Benward's. They write, "Ear training generally refers to the development of aural perception through the study of intervals, triads, and scales, and their combination into motives, chord progressions, and complete melodies" (vol. I, p. 1). Like Benward, they have made an assumption about what is "basic" in aural skills. I think that this assumption is, in part, false. It is often more difficult for a student to identify intervals out of context than to understand and notate a melody. And playing a scale instead of a melody removes from mode identification the most fundamental of procedures involved in that activity: aural detection of the tonic.

Musicianship presents intervallic and contextual drills in what the authors call "two complementary routes: traditionally, from the standpoint of implied scale and harmonic structure, and at the same time, through the study of individual intervals as abstract materials. This dual emphasis permits students to begin with the music they know best (from the common-practice period), master these materials, and *at the same time* begin building a competency in twentieth-century idioms" (vol. I, p. x). All three texts attempt to include intervallic as well as tonally functional approaches to sightsinging and ear training. *Musicianship*—while still primarily tonally functional like the other texts—includes intervallic study both in and out of tonal context. The titles of Chapters Fourteen and Fifteen are representative: "Sixths and Sevenths in Tonal Contexts" and "Sixths and Sevenths in Intervallic Patterns." In *Musicianship*, this intervallic approach is restricted for the most part to the sightsinging chapters, and does not affect the progression of ear-training materials.

As I did with Benward's *Ear Training*, I will list the types of activities prescribed by Henry and Mobberley in *Musicianship*. The Ear Training activities include: rhythmic dictation; error detection (rhythmic and melodic only); interval identification; major/minor and modal recognition in scalar and melodic context; scale-degree recognition; pitch-pattern dictation; melodic dictation; chord-quality recognition; chord-inversion recognition; cadence-type identification; harmonic dictation (using only Roman numerals or in actual music notation); identification of non-harmonic tones; chord position (soprano) recognition; two-part dictation; four-part dictation.

The Rhythmic Reading and Sight Singing activities are each divided into patterns (syntactic fragments), exercises (small didactic passages), studies (longer passages, complete with performance indications), excerpts from the literature, and ensembles. The authors feel that the study of rhythm is as important as the study of pitch, and have thus allocated an equally large section of the book to it.

When it comes to rhythm and meter, the authors' pedagogical focus is on notation rather than perception. This is displayed particularly in certain

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chapter headings from the Rhythmic Reading section such as "The Quarter-Note" and "The Eighth-Note." In the latter chapter, both duple division of the beat in quarter-note meters and the entire notion of eighth-note meters are introduced. In a similar fashion, the chapter entitled "The Dotted Quarter-Note; The Dotted Half-Note" presents both compound meters and the dotted beat in simple meters. This method of organization is problematic. The introduction of new materials ought to be predicated on their position in a well-defined learning sequence and grouped with other materials which are performed and/or perceived in a similar fashion. In this way, various types of compound meters (based on eighth, quarter, and sixteenth notes) might follow a thorough grounding in triple meters (also based on various note values). My point here is that a particular symbol changes its meaning in various contexts, and it is these contexts—and not the symbols—that should determine their own order of presentation. Along these same lines, the book uses very few beat units other than the quarter note in simple meters and the eighth note in compound meters. Even the twentieth-century excerpts (which should offer a rich choice of meters) seem to suffer from this metric prejudice.

The Ear Training sections of the book use a programmed format, in which the correct answers appear directly to the right of the student's response blanks. In practice, the student must cover these correct answers with paper or some other object to avoid seeing them. The authors admit that "this procedure will be more convenient to the left-handed than the right-handed" (vol. I, p. 1).

As Benward does, Henry and Mobberley make very specific recommendations as to how ear training should be drilled. Their instructions to the student concerning melodic dictation include the following:

Listen to the phrase and memorize it by singing it back (silently) one or two times; only then should you actually begin notating. The first pitch is always given, and metronome taps set the tempo. Students generally develop their own individual styles and approaches to melodic dictation. For beginners, however, the following may be helpful.

Listen before writing.

Keep the tonic pitch in mind.

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Compare the first and last pitches (often they will be the same). If you know the last pitch, you can usually work backward when problems arise.

Expect patterns to be either scales or triad outlines.

Expect an anacrusis to be dominant in function.

Draw on your knowledge of theory to anticipate harmonic and melodic idioms (a leap to the fourth scale degree, for example, will often be followed by stepwise movement to the third scale degree) (vol. I, p. 69).

The instruction to begin notating only after singing back is a sound one, but once again the student is left without a clue as to how to translate that musical memory into notation. At this point, students should be receiving rigorous training in understanding pulse, beat, meter, proportions of rhythms (as opposed to absolute values—e.g., quarter notes), the tonic, modes, and scale degrees (as opposed to absolute pitches) as heard events. In other words, they should be able to understand what they hear without regard to a particular key or meter. One might suspect that Henry and Mobberley are driving at something like this when they tell the instructor that “Students might be advised to develop a personal system of shorthand rhythmic notation”; perhaps using only note stems, or other abbreviated rhythmic symbols (*Instructor’s Manual*, p. 19). The problem with this approach is that it only substitutes one form of absolute rhythmic notation for another: a quarter note without a note head is still a quarter note (it’s only faster to write). My worry here is that we might turn our students into musical shorthand-takers, thinking little about what they are writing, only trying to get it down on paper as fast as possible. On the contrary, the best ear-training students listen, think, and then write; the worst students try to write frantically while the music is sounding and then wait nervously for the next playing. In the aural-skills class, getting the right notes is not necessarily all that matters. In fact, if all a student learns is to write down what he hears, there are few applications for this skill in the musical world. We shouldn’t train a world of dictation-takers; we should educate a world of musicians who can think with their ears.

I also have some concerns about Henry and Mobberley’s recommendations to the instructor about the manner in which dictations should be given. They write, “To establish the key on the taped performances, a scale precedes many of the melodic dictation exercises. Likewise, a progression

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is heard before many of the harmonic dictation drills." The Manual goes on to recommend that a similar procedure should be adopted if the exercises are to be performed live by the instructor (*Instructor's Manual*, p. 17). This procedure seems valid to me only in the case of exercises consisting of small melodic or harmonic fragments that could be ambiguous as to their key. Any music that clearly defines a key should not have to be preceded by anything. As discussed above, an important aural skill is the inference of a tonic from musical context; a student who can not identify the tonic of a musical passage had better work on developing *that* skill first before moving on to the exercises in these volumes. *Musicianship* also provides starting pitches for melodic and harmonic dictations. My concerns expressed with regard to this practice in *Ear Training* apply here as well.

Similarly, Henry and Mobberley define the parameters for rhythmic dictation: "Small notes preceding each frame tell the student how many metronome taps will be heard on the tape. These cues are included in the instructors manual and should be used for class dictation as well" (*Instructor's Manual*, p. 16). It should be obvious to the reader by this point that musical pulse and meter should be inferred by the student and not provided by the instructor. Finally, when presenting rhythmic dictations in "mixed" or changing meters, the authors even give answer spaces containing blank measures with all of the meter changes written in (vol. II, pp. 43-45; 47-48). This precludes teaching a fundamental skill involved in hearing changing meters: the ability to determine just when and how the meter does change.

Frequent errors and omissions appear in the first printing of *Musicianship*.¹² Errata are listed in the appendix to the *Instructor's Manual*, pp. 225-227, and are followed by four pages of corrected musical examples. These errors and omissions are often significant, frequently introducing errors in musical notation or misdirecting the reader with regard to section or item numbers.

However, there are many more errors beyond those corrected in the errata. These include missing notes (e.g., vol. II, p. 103, Exercise 2), missing rests (e.g., vol. I, p. 293, Exercise 6), and missing barlines (e.g., vol. I, p. 284, Exercise 1), as well as shading of highlighted notes to the point of illegibility (e.g., vol. II, p. 62, Exercise 6). A discussion of how a half note tied to a quarter may be replaced with a dotted half note (vol. II, p. 217) is turned into a confusing mess through the omission of the dot. Debussy's fifth Prelude is incorrectly identified as "Les collines d'Anacori" (vol. I, p. 222). There are many other such typographical errors in *Musicianship*, far too many to list here.

On many pages of my review copy, the printing is flawed to the point of garbling the music. Staff lines are occasionally broken or faded (e.g., vol. II, p. 63, Exercises 1-3), note stems have disappeared (e.g., vol. I, p. 170, first

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example), and extraneous blotches appear in some musical examples (e.g., vol. I, p. 174, Exercise 3). In sum, regardless of how well this book might meet your teaching needs, its numerous flaws would severely cripple its effectiveness.

I hope that, after extensive editing, Prentice-Hall releases a second printing of *Musicianship*. The book offers an enormous amount of ear-training material and combines it with a variety of rhythmic and sight singing exercises. It would be a shame for all of that to remain in its current condition.

SIGHT SINGING AND EAR TRAINING THROUGH LITERATURE

Robert D. Levin and Louis Martin have divided *Sight Singing and Ear Training Through Literature* into forty lessons. The table of contents (pp. vi-xv) appears as a detailed ten-page chart outlining the rhythms, meters, keys, melodic intervals, pitch groups, harmonic progressions, ear-training materials, clefs, and transpositions that are introduced in each of the forty lessons. The chart also suggests how these materials might be spread over four semesters. The text itself is organized around a semester schedule, being arranged into "four groups of ten lessons each, with a review after every fifth lesson" (*Teacher's Manual*, p. 1).

Sight Singing and Ear Training Through Literature takes a slightly unusual approach by separating the introduction of new concepts from the introduction of new contexts in which those concepts might occur. Thus, for instance, although the major mode is introduced in Lesson One, the various major keys are introduced over thirty-four lessons. In a similar fashion, basic rhythms of one beat or longer are presented in lesson one, yet meters with the quarter note as a beat unit are used exclusively for the first three lessons, followed by the introduction of half-note and eighth-note meters. The authors' philosophy in this matter is to introduce each new context in a slow and gradual manner, since "students need time to assimilate visual symbols into their reflexes" (*Teacher's Manual*, p. 1). They make no claims or suggestions regarding coordination of this approach with a written theory text.

Levin and Martin's argument for the study of sightsinging is as follows: "your ability to play, sing, and enjoy music will be improved immeasurably as you learn to hear music internally, *before* it is played. Just as you can read a newspaper without having to pronounce the words, you will learn to read a musical score and hear the sounds come alive inside your head" (p. xvii). The authors never discuss how the purposes of ear training

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might differ from those of sight-singing.

Sight Singing begins at a level of difficulty comparable to those in the other two texts, but (as noted above) it introduces the various keys and meters in a gradual fashion. The final levels of difficulty the book achieves fall between the other two texts, but (as I will discuss below) it addresses more aspects of music reading than they do. Chromaticism is dealt with through secondary dominants and the Neapolitan and augmented-sixth chords, and although *Sight Singing and Ear Training Through Literature* does not present such complexities as graphic notation and tone clusters, it does include polyrhythms, changing meters, and whole-tone, octatonic, and 12-tone materials. Clef and transposition studies are included throughout.

The types of materials to be covered are explicitly listed in the table of contents and in chapter and section headings; however, this information refers almost exclusively to the sight-singing materials. The ear-training materials are included mostly in the *Teacher's Manual*, and one must look in the final chapters to determine where these materials lead. The text itself contains almost exclusively performance activities. These include rhythmic patterns and exercises, scalar and sequential studies, intervallic and triadic patterns, improvisatory drills, clef and transposition studies, and solo and part music from the literature. The few ear-training activities presented in the text are mostly various "self ear-training" exercises, which usually involve singing and often look suspiciously like more sight-singing practice. The *Teacher's Manual* contains a wealth of traditional dictation-type materials: intervals; chords; rhythmic, harmonic, and melodic dictation.

Having chosen not to include actual materials for dictation in the text, the authors have inserted in each lesson a few paragraphs with headings such as "Taking written melodic dictation" or "Taking harmonic dictation." While these paragraphs often provide helpful suggestions about the process of dictation, they just as often place unnecessary restrictions on instructors and students alike. Some of my concerns about these restrictions are similar to those I expressed in relation to *Ear Training* and *Musicianship*. For example, Levin and Martin tell the student that, when taking melodic dictation, "Key, meter, and starting pitch will be announced" (p. 17; see also *Teacher's Manual* pp. 16-17). I am, however, more deeply disturbed by other more specific guidelines given in the text.

The textbook itself implies a certain procedure for taking (and therefore giving) melodic dictation. It tells the student, "Listen to the melody as it is performed once in its entirety. Then notate the melody as it is presented in two-measure fragments" (p. 17). The *Teacher's Manual* is quite specific regarding this procedure:

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"The text assumes the following procedure for melodic dictation:

A. Preliminaries:

1. Announce the key, meter, and starting pitch.

2. Play the dictation in its entirety to establish musical identity, tonal shape, character, and length.

B. Notation of the Dictation:

3. Perform the dictation in two-measure fragments. All fragments except the last end with a "link" - the first note of the following fragment.

4. Play each fragment three times: the student concentrates on the pitches the first time and the rhythm on the second. (This may seem an artificial distinction, but students work far better when each hearing has a specific goal.) The third playing connects onward to the following fragment. This allows the student to check over the old fragment and prepare for the new one.

5. Having students conduct and sing back each fragment after the second hearing provides an opportunity for the voice to check the ear before making a final decision on notation.

C. Polishing up

6. Play the entire dictation without interruption to allow a final check and to reaffirm the continuity of the music.

D. Correction

7. Collect the papers or call on students to give notes, rhythm, or both for each fragment. Alternately, correct the dictation fragment by fragment after the two playings, dispensing with the final playthrough. In either case a student (or a series of students if the fragment-by-fragment correction technique is used) may be put at the blackboard.

E. Performance

8. Have the class sing the melody"
(*Teacher's Manual*, pp. 16-17).

Of all three books, *Sight Singing and Ear Training Through Literature* does the most to overlook the importance of musical memory as an important listening skill. If every heard musical event is broken into small

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fragments by an instructor, students will never learn to focus their attention and develop their memory beyond those small fragments. My comments with regard to the previous texts regarding memory in the context of dictation apply here in the extreme, and Levin and Martin are so specific and restrictive that one must practically abandon their guidelines altogether to remain pedagogically sound. I know that some readers might be comfortable with a method of presenting dictations that is similar to Levin and Martin's, but I ask you to examine your goals—how can two years of patching two-measure fragments together develop a musician who can listen intelligently in the concert hall, to a colleague or student, or even to recordings (without stopping them every few seconds)?

In addition, they recommend: "On the first hearing, sketch the pitches rapidly using dots to represent note-heads. Develop the habit of writing while each fragment is played" (p. 17). This is inadvisable for at least two reasons: 1) most beginning students can not do this and can not develop this skill by simply working harder at it; 2) even for the best students, the habit of writing while listening downplays the extremely important process of musical memory. My worries about turning students into musical shorthand-takers have been compounded by Levin and Martin's advice.

Similarly, their injunction in the *Teacher's Manual* to concentrate on "the pitches the first time and the rhythm on the second" is questionable. This injunction is presented to the student thus: "Do not attempt to write in the actual note values (like quarter notes) at this stage [when sketching in dots for note heads]" (p. 17). It seems to me that taking pitch dictation without first sketching down rhythms is like trying to hang up flesh without a skeleton—the result is amorphous and can not stand on its own. In taking melodic dictation, one ought to be certain of what one has remembered, then establish a rhythmic framework, and finally place the pitches in that framework. By establishing a rhythmic framework first, a student can place pitches in that framework in the order in which he understands them, working from beginning to end, or from the end backwards, or only with the fragments he can master at any given time. Without first establishing a rhythmic framework, the student is restricted to working sequentially from the first note or he will end up with chicken-scratched pitches in no particular metric location.

Yet part of the problem lies in our system of musical notation: rhythmic values can not be placed on a staff without specifying their pitches. However, if the sketching process is redefined as an intermediary stage that develops musical understanding, it is possible to write down some form of shorthand that represents the rhythmic and pitch functions of what has been heard without resorting to the complexities of standard notation. For instance, the student might write down rhythmic and solmization syllables,

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or he might sketch out horizontal lines that represent the relative durations of the rhythms and then write in numbers for the scale degrees.¹³

In Lesson One, Levin and Martin introduce a section entitled "Pitch memory," which I reproduce in its entirety:

Use a tuning fork (A=440) in order to be able to sing without reference to a musical instrument. When practicing these exercises always sing A440 first. Check against the tuning fork. Then sing A B C and check. This will enable you to find the tonic of C major directly from A440.

Over a period of time you will discover that your accuracy will improve until you have virtually 'memorized' the sound of A440. This is the foundation upon which a good sense of relative pitch is built (p. 10).

How practical is this? I have heard of it being tried in several places, but I have also heard of little success derived from it. I have seen students riding the New York City subways striking their tuning forks on the way to a class. Some students hold informal "A" competitions in which the one who sings closest to A440 wins. Most students can often get close (within a major second), but very few achieve any kind of consistent accuracy. I know of no study that proves that this form of long-term musical memory is teachable. What, then, is the point? It seems to me that "a good sense of relative pitch" measures distances between *heard* tones, especially between various tones and the tonic. Why should I want to hear each pitch in, say, Db major as it relates to A440 (which would be dreadfully awful to dredge up in that context anyway)? Musicians with true absolute pitch have the ability to recognize every pitch without reference to another. Musicians without absolute pitch ought to concentrate on developing their true relative pitch—the ability to hear the relationships between the actual pitches they hear—and not try to compare those pitches to some absolute point of reference that they may or may not remember. Fortunately, only a small portion of each lesson in *Sight Singing and Ear Training Through Literature* is devoted to this approach, asking students to establish each of the various keys from a starting pitch of A440.

About a third of the lessons in the book incorporate a few paragraphs usually entitled "Interval studies," which attempt to integrate an intervallic approach to sightsinging into the text. The book's primary pedagogical focus is on tonal function, but these studies—like those in *Ear Training* and *Musicianship*—provide a different point of view.

Sight Singing and Ear Training Through Literature generally demonstrates the highest levels of musicianship and scholarship. This is especially

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apparent in the frequent discussions of notational conventions. For example, Levin and Martin present several extensive and rather complete explanations of repetition signs: the double bar repeat (pp. 13-14); *Da Capo al Fine* (p. 23); *Dal Segno* and Coda signs (p. 39); and shorthand repetition signs [e.g., "/"] (p. 50). I know of no sightsinging text that approaches the completeness with which Levin and Martin treat this important aspect of music notation. Another such discussion addresses changing meters and metric modulation. Their treatment of this topic (pp. 437-440) is detailed, scholarly, and musical.

They also discuss certain idiosyncratic details of notation that are neglected by many other texts. For instance, with respect to vocal notation they tell the student:

Note how flags and beams reflect the setting of the text. In a *syllabic* setting—one syllable per note—an eighth note (or shorter note value) is isolated by means of a flag. In a *neumatic* setting—one syllable prolonged over several notes—a beam is used to group eighths and shorter durations. The grouping is also shown by a slur, regardless of note values.

Some 20th century composers use beams for syllabic and neumatic settings alike (p. 64).

The authors also present the traditional system of indicating multi-measure rests of from one to nine measures by printing combinations of symbols standing for rests of one, two, and four measures respectively and printing an Arabic number above the staff; they go on to show how longer rests are indicated by a single large rest symbol combined with an Arabic number. They also note how modern practice often uses the latter system for all multi-measure rests (p. 67). This kind of attention to detail is one of the features that sets this book apart from every other aural-skills text I have examined.

Levin and Martin even offer a few brief discussions of performance practice such as double dotting in the French overture, and they quote from Quantz's *On Playing the Flute*, and C. P. E. Bach's *Essay on the True Art of Playing Keyboard Instruments* in reference to this (pp. 346-7). Where appropriate, they also include information about word origins. This is a venerable procedure—it reinforces learning of a term, links that term with its past, demonstrates our own culture's ties to the past and to other cultures, and shows the importance of understanding terminology and language in general. Examples of this practice in *Sight Singing and Ear Training Through Literature* include the following: "*Syncopation* (from the Greek 'cutting up')"

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(p. 13); "The word *clef* comes from the French word for 'key': a clef gives the key to the identities of notes on the staff" (p. 17); "The word *chromatic* comes from the Greek *chroma* (color), and refers to any pitches not found within the scale of a given key" (p. 106, footnote).

Sight Singing and Ear Training Through Literature trains its readers in two related disciplines that many other texts either slight or neglect: clef reading and transposition. In an approach similar to the way they present keys and meters, Levin and Martin introduce new clefs gradually over the course of the two-year sequence. Treble and bass clefs are used from the outset; alto, tenor, and soprano clefs are introduced in the second, third, and fourth semesters respectively. When each C-clef is first introduced, it is related to its position within the grand staff by writing the grand staff first and continuing only those lines used by that particular C-clef, with a dotted line representing middle C. This technique is used only to introduce each new C-clef (pp. 115, 197, and 328 respectively); it is never used as a pedagogical tool for actual clef reading.¹⁴ Transposition studies are tied to each of these clefs. Thus, transposition by third is presented in Lesson Five (pp. 42-43), wherein music written in the bass clef is transposed down a third by substitution of a treble clef, and music written in the treble clef is transposed up a third by substitution of a bass clef. As each of the succeeding clefs is introduced, the various transpositions it may accomplish are also presented. Charts are included in the text and in an appendix showing which clef substitutions result in which transpositions. In addition, the sticky problem of transposition involving accidentals is dealt with thoroughly (beginning on pp. 235-239). Levin and Martin handle the complications of which accidentals to alter in the new key by reference to the circle of fifths, in a discussion that is written clearly and methodically. The technique of transposition by clef has been used for centuries, but it is refreshing to see it presented in such a straightforward manner in this text.

Levin and Martin treat one subject in a manner that might cause a bit of confusion among students. When introducing the symbol C to represent 4/4 meter, they refer to the "late medieval system of metrical notation, which has its basis in the following symbols: O triple meter C quadruple meter C duple meter" (p. 3 footnote). This is correct in the context of mensural notation, but can lead to misunderstanding when the third symbol (*alla breve*) is encountered in modern notation because, in certain instances, that symbol can also represent 4/2 meter. Levin and Martin include at least one such example themselves: the *Benedictus* from Palestrina's *Missa Brevis* (pp. 434-436). The *alla breve* symbol appears here in a transcription with four half-note beats in every measure, seemingly contradicting their earlier definition of the symbol. Indeed, many transcriptions of mensural notation retain the *alla breve* symbol while transcribing the beat

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unit as a half note and barring every fourth beat, resulting in 4/2 meter. The symbol has also been used in modern notation to represent both 2/2 and 4/2 meters. In two passages in *A German Requiem* (1866), Brahms used the symbol ♩ to indicate a quadruple meter with the half note as beat unit (i.e., 4/2): 1) "Der Gerechten Seelen sind in Gottes Hand" at the end of the third movement; 2) "Herr, du bist würdig" from the end of the sixth movement. Schubert used two *alla breve* symbols ♩ ♩ to represent 4/2 meter, an example of which is included in *Sight Singing and Ear Training Through Literature* without explanation (p. 293). Some Baroque compositions also use the *alla breve* symbol for 4/2; see, for example, the motet *Credo quod Redemptor meus vivit* (1733) by Jan Dismas Zelenka. Some transcriptions beg the question of meter and use the *alla breve* symbol merely as an indicator that the half note is the beat unit while using *mensurstriche* or placing barlines at various spots in the music.¹⁵ In truth, we can only teach our students that ♩ means that the half note is the beat unit and the metric organization should be inferred from the music. To be fair to Levin and Martin, neither Benward nor Henry and Mobberley treat this subject with any more scholarly precision. Benward makes no statements concerning the *alla breve* symbol, but his book uses the symbol to represent only 2/2. Henry and Mobberley define the symbol as representing only 2/2, but not 4/2.¹⁶

Sight Singing and Ear Training Through Literature is an uncommon aural-skills text. The sheer amount of sightsinging materials it contains from the Western tradition (the book is 474 pages long, most of which is devoted to sightsinging) set it apart from other sightsinging texts. Much of the ear-training material in the *Teacher's Manual* is drawn from the literature as well. Its attention to detail is, I think, unique among such texts. This is an aural-skills book that teachers of theory and music history will praise. Aural-skills teachers should also welcome it, even if they find it necessary to pass over the "Pitch memory" sections and ignore the authors' instructions for presenting dictation. Despite these concerns, and the absence of supporting materials such as tapes or software (discussed below), *Sight Singing and Ear Training Through Literature* deserves careful consideration.

OTHER ISSUES

A number of issues that bear on all three texts must be discussed at this point. The first of these involves the availability of taped examples for ear training. The *Instructor's Manual for Ear Training* contains all of the correct answers to be played for the student. Wm. C. Brown also sells tape recordings of about half of these exercises. Thus, the materials in *Ear Training* may be used individually, in the classroom, or as a combination of

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both.¹⁷ All of the exercises in *Musicianship* labeled "Set II" have been recorded (on a variety of instruments) and are sold by Prentice-Hall. These (like Benward's) allow for home, laboratory, and classroom use.¹⁸ No collected recordings of the aural materials in *Sight Singing and Ear Training Through Literature* are available at this time.

Wm. C. Brown also offers optional software for the Apple II computer to accompany *Ear Training*.¹⁹ Apple II software for *Musicianship* is available from the Wenger Corporation.²⁰ No software that is specific to *Sight Singing and Ear Training Through Literature* is currently available.

Each of the three texts includes an index. Benward's is an "Index of Sections by Type,"²¹ which groups together the sections devoted to melodic dictation, chord function, etc. Henry and Mobberley include indexes in both volumes;²² these are helpful references to definitions or initial discussions in the text. Levin and Martin provide two types of indexes: 1) an "Index of Literature,"²³ which alphabetically lists composers' works and where they appear in the book; 2) an index of "Terms and Where They are Defined."²⁴ Benward also includes a glossary of eighty-one terms.²⁵ Some of the definitions in this glossary are slightly peculiar (e.g., "Arpeggiated bass: A type of 6/4 chord that is part of an arpeggiated bass figure."²⁶), and one wonders what criteria were used for inclusion (e.g., the bass clef is defined—only by its symbol and not its position on the staff to set it apart from the baritone clef—but the treble clef is not). Henry and Mobberley's glossary contains 130 "Foreign Terms of Rhythm and Tempo."²⁷

Praise is due to Wm. C. Brown for printing *Ear Training* on relatively good paper stock. Both *Musicianship* and *Sight Singing and Ear Training Through Literature* are printed on paper that approaches the low quality of newspaper stock. This paper tears easily (especially from the metal ring bindings used on all three books), and deteriorates and discolors rather quickly. I suspect that students reaching even the middle of the books' suggested two-year sequences will find that their copies are falling apart through normal undergraduate use.

The pages of *Ear Training* are perforated for what turns out to be less-than-easy removal from the book's ring binding, with the idea that students may tear completed pages from the binding (thereby mutilating their texts) and turn those pages in to their instructor who will then spend hours removing tiny scraps of paper from the furniture. An instructor might just as easily request that students hand in pages from Henry and Mobberley's *Musicianship*, which is also ring bound but lacks any real perforation (although perforations are referred to on p. 16 of the *Instructor's Manual*); the results will be the same. However, a more elegant solution is suggested by Prentice-Hall: "if *Musicianship* is adopted as a required text, Prentice-Hall will grant permission to photocopy pages from the Ear Training Section.

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Either single pages or packets of several pages may be reproduced and given to students."²⁸ In addition, Prentice-Hall has reduced the mutilation factor by printing *Musicianship* so that "text and exercises are never run back to back."²⁹ Levin and Martin's *Sight Singing and Ear Training Through Literature* contains no answer blanks at all thus requiring students or their instructors to supply their own music manuscript paper for dictation purposes.

CONCLUSION

Both Benward's *Ear Training* and Levin and Martin's *Sight Singing and Ear Training Through Literature* are worthy of consideration. Instructors who want separate texts for sight singing and ear training might couple Benward's *Ear Training* with his *Sightsinging Complete*.³⁰ For those who seek an integrated text, *Sight Singing and Ear Training Through Literature* is appropriate. Henry and Mobberley's *Musicianship* will also be a strong contender in this category if and when Prentice-Hall releases a carefully edited second printing; until then it is not a candidate.

NOTES

¹I am indebted to Stephen J. Paul for his helpful comments on an earlier version of this article.

²Gary S. Karpinski, "Five Recent Sight Singing Texts," *Journal of Music Theory Pedagogy* 2 (1988): 275-96.

³Bruce Benward, *Ear Training: A Technique for Listening*, 3rd edition (Dubuque, IA: Wm. C. Brown, 1987); Earl Henry and James Mobberley, *Musicianship: Ear Training, Rhythmic Reading, and Sight Singing*, 2 volumes (Englewood Cliffs, NJ: Prentice-Hall, 1986); Robert D. Levin and Louis Martin, *Sight Singing and Ear Training Through Literature* (Englewood Cliffs, NJ: Prentice-Hall, 1988).

⁴Benward, *Instructor's Edition Dictation Manual for Ear Training: A Technique for Listening*, p. xi. Hereafter referred to as Benward, *Instructor's Manual*.

⁵Levin and Martin, *Sight Singing*, p. xvii.

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⁶(Dubuque, IA: Wm. C. Brown, 1985.)

⁷For more information along these same lines, see the comments by William Thomson, Ann K. Blombach, and the Editor's note in "Reader's Response: What is an Interval?" *Journal of Music Theory Pedagogy* 2 (1988): 321-25.

⁸Only one small mistake was apparent to me: in the *Instructor's Manual* on p. xiii, Paul Daley is incorrectly identified as "Paul Delay."

⁹The numbers of pages occupied by the various sections are as follows: Volume I: Ear Training=166; Rhythmic Reading=77; Sight Singing=76; Volume II: Ear Training=198; Rhythmic Reading=76; Sight Singing=74.

¹⁰(Englewood Cliffs, NJ: Prentice-Hall, 1985.)

¹¹For more comprehensive treatments of twentieth-century techniques, see Lars Edlund, *Modus Novus* (Stockholm: AB Nordiska Musikforlaget/Edition Wilhelm Hansen, 1963); chapters 11-13 of Gary E. Wittlich and Lee Humphries, *Ear Training: An Approach Through Music Literature* (New York: Harcourt Brace Jovanovich, 1974), pp. 189-285; or the later chapters of Thomas Benjamin, Michael Horvit, and Robert Nelson, *Music for Sight Singing* (Boston: Houghton Mifflin, 1984).

¹²Prentice-Hall promises a corrected second printing.

¹³More on this in the third article in this series.

¹⁴A similar device is used by Anne Marie de Zeeuw and Roger E. Foltz in *Sight-Singing and Related Skills* (Austin, TX: University Stores, 1973), pp. 89-91; 94-95; 97-99, in which they present each clef in a manner similar to Levin and Martin, but proceed with clef reading exercises which omit the C-line throughout the entire staff.

¹⁵As an example of this type that might fall in front of an undergraduate singer, consider Heinrich Schutz's settings of the *Psalms of David* (1628) as edited by Robert E. Wunderlich in the *Easy Choral Classics Series*. In many transcriptions in this edition barlines appear only at the ends of phrases, creating "measures" of 6/2, 5/2, and such.

¹⁶Henry and Mobberley, *Musicianship*, vol. I, p. 229.

¹⁷Benward, *Instructor's Manual*, p. xii.

¹⁸Henry and Mobberley, *Instructor's Manual*, pp. 10-12.

¹⁹Benward, *Instructor's Manual*, p. xiii.

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²⁰Henry and Mobberley, *Instructor's Manual*, pp. 13-15.

²¹Benward, *Ear Training*, pp. 201-2; Benward, *Instructor's Manual*, pp. 251-52.

²²Vol. I, pp. 323-24; vol. II, pp. 382-83.

²³Levin and Martin, *Sight Singing and Ear Training Through Literature*, pp. 461-70, but more comprehensive in Levin and Martin, *Teacher's Manual*, pp. 150-64.

²⁴Levin and Martin, *Sight Singing and Ear Training Through Literature*, pp. 471-74.

²⁵Benward, *Ear Training*, pp. 203-7.

²⁶Benward, *Ear Training*, p. 203.

²⁷Henry and Mobberley, *Musicianship*, vol. II, pp. 379-81.

²⁸Henry and Mobberley, *Instructor's Manual*, p.10.

²⁹*Ibid.*, p. 16.

³⁰Fourth edition (Dubuque, IA: Wm. C. Brown, 1986). Reviewed in Karpinski, "Five Recent Sight Singing Texts."

CORRECTIONS

The following correction should be made in the article by Rosemary Killam, "Solmization with the Guidonian Hand: A Historical Introduction to Modal Counterpoint," *JMTP* (Fall 1988):

The 4th line of page 265 should read "...any b-natural..." *not* "...any b-flat..."

The following clarification of music notation should be made in the article by Gary S. Karpinski, "Five Recent Sight-singing Texts," *JMTP* (Fall 1988):

On page 290, the half notes and whole notes did not print clearly; the musical examples should read as follows:



The *Journal of Music Theory Pedagogy* regrets these inadvertent errors.

CONTRIBUTORS

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David Beach is chair of the Music Theory Department at the Eastman School of Music of the University of Rochester. His research interests include eighteenth-century theory and tonal (Schenkerian) theory and analysis. He is currently working on two articles: "The Six-Four as Support for Scale Degree Three of the Fundamental Line," and "The Influence of Harmonic Thinking on Counterpoint Instruction in the Eighteenth Century."

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Gregory Proctor has been Associate Professor of Theory and Composition at The Ohio State University since 1978. He holds the MFA and Ph.D. degrees in Theory from Princeton, the M.A. in Theory from Queen's College, CUNY, and a B. S. in Composition from the Mannes College of Music. He has previously taught at Texas, Yale, Oberlin, and Mannes. His current areas of research involve books on Schenkerian theory, 19th-century chromaticism, and a textbook dealing with transitional harmony of the late 19th and early 20th centuries.

H. Lee Riggins

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THE UNDERGRADUATE CORE MUSIC CURRICULUM AT INDIANA UNIVERSITY

MARY H. WENNERSTROM

The theory faculty at the Indiana University School of Music has long considered the undergraduate core music curriculum to be of great importance. This curriculum is at the center of ongoing discussions and is constantly changing, although sometimes in only small ways. Underlying the changes, however, are basic goals, philosophies, and procedures that have been established by both conviction and necessity. This article establishes a historical perspective for two major theory curriculum developments at Indiana: one in the early 1960s, leading to the publication of *Materials and Structure of Music* (first edition 1966), and one leading to a different curriculum plan in the 1970s. A modified version of this second curriculum is still in operation; its process of development, its various problems, and several strong points are described in some detail. Our experiences may be of interest to any faculty planning a curriculum revision.

BACKGROUND

The Indiana University School of Music came into existence in 1921, the year in which the Eastman School of Music was founded.¹ Only four people have been Dean of the I. U. School: B. Winfred Merrill (1921-1938), Robert L. Sanders (1938-1947), Wilfred C. Bain (1947-1973), and Charles H. Webb (1973 to the present).² The continuity provided by the leadership of these men has allowed the faculty to build a consistent music program. Under Dean Merrill, I. U. developed from a very small department to around 120 music degree students—three-quarters of them undergraduate public school music majors. By 1949 the total had jumped to 425: 330 undergraduate and 95 graduate majors. Undergraduate candidates were divided into 50% music education majors, 35% performance majors, and 15% Bachelor of Science or other degree candidates.

Around 1950 music faculty members were appointed for the first time with full-time responsibility for theory. The curriculum at that time

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reflected European (especially German) music school models and was influenced by the Eastman theory program; in fact McHose's text³ was in use at Indiana in the late 1940s. The required sequence of courses included five semesters (four credits each) of "a correlation of aural, visual, and vocal experience," focusing on various harmonic and tonal materials. Also required were two semesters of music literature and two semesters of music history, each three-credit courses. Performance majors took two additional semesters of analysis, which included a study of representative works from the various periods of music history. The total number of hours for the music core curriculum thus ranged from 32 to 38, a large percentage of the 120 hours required for the undergraduate degree.

CORE CURRICULUM AROUND 1950:

Theory (harmony, ear training, sightsinging)	
5 semesters, 4 credits each	20 hours

Music Literature	
2 semesters, 3 credits each	6 hours

Music History	
2 semesters, 3 credits each	<u>6 hours</u>

Total: 32 hours

Analysis of Form and Texture in Music (for performance majors)	
2 semesters, 3 credits each	<u>6 hours</u>

Total: 38 hours

Other advanced courses required of specific degrees

The burgeoning growth of the school and the advent of an active graduate program in music theory (the first Ph.D. in theory was awarded in 1951) suggested a pedagogical format that is still in use. The first two years of theory classes are arranged in a lecture-drill format: one faculty member in charge of lectures to the entire class two or three times a week, alternating with small drill sections taught by graduate students. Other basic ideas

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were also established in the 1950s by the firm convictions of several faculty members and the Dean: 1) all students, regardless of performance area or degree, need a basic core of musical knowledge and abilities; 2) this core should include theoretical written skills and a familiarity with the main composers and compositions of Western concert music; and 3) the core should include a strong emphasis on the hearing of music (both isolated materials and contextual listening), on music reading, and on piano skills. Every student still has a piano proficiency requirement; keyboard work, although taught primarily by the secondary piano department, is also part of theory courses. Sightsinging (music reading) is included not with the goal of developing solfege ability as such but of increasing musical skills in performing and listening and as a way for a student to demonstrate an understanding of musical structure.

CURRICULUM DEVELOPMENTS OF THE 1950s AND 1960s

During the 1950s the theory faculty, now a separate group of professors, evolved a curriculum design and a set of teaching materials (through large quantities of handouts!) that incorporated some of the same goals as the Literature and Materials of Music courses at Juilliard⁴ and as the subsequent Comprehensive Musicianship programs of the 1960s.⁵ Instead of the previous emphasis on harmony and on Bach chorale style, the faculty decided that students should study many elements of music, using examples from a broad historical spectrum including the twentieth century. The approach was not chronological nor especially stylistic; it depended on integrating a study of melody, counterpoint, harmony, and form from the beginning. The core curriculum published in the bulletin first in 1964 (although it had been developing for a number of years before this time) was:

CORE CURRICULUM AROUND 1950:

Theory (written, ear training) 4 semesters (3, 3, 4, 4)	14 hours
Keyboard and sightsinging (1, 1)	2 hours
Counterpoint or 20th-century analysis or both (degree requirements varied)	3-7 hours

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Music Literature

2 semesters, 3 credits each

6 hours

Music History

2 semesters, 3 credits each

6 hours

Total: 31-35 hours

Other advanced courses required of specific degrees

The differences in philosophy and content in the freshman theory courses of 1950 and 1964 are evident in the titles and course descriptions:

1950:

T111, T112 (4 credits each). Theory I and II.

A correlation of aural, visual, and vocal experience based on a study of the major and minor scales; major and minor triads, inverted and uninverted. In the second semester: continuation of the musical approach of the first semester; diminished triad, contrapuntal development of soprano and bass.

1964:

T113, T114 (3 credits each). Materials of Communication in Music I and II.

I. Open to students throughout the University; consists of a study of the syntax of music, the elements which make music aurally and visually comprehensible, and work dealing with the application of those elements, including analysis of the patterns which comprise the language of music.
II. Continuation of the study of the syntax of music with further emphasis on the development of aural and visual perception, and the organization of musical materials through analysis and written work.

T115, T116 (1 credit each). Applied Keyboard and Music-Reading Skills.

To be taken by music majors concurrently with T113 and T114. Intensive training in keyboard facility and in sightsinging of material introduced in T113-T114.

These curricular ideas were formalized in the publication of *Materials and Structure of Music* (two volumes of text, two workbooks, first edition

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1966, 1967) by William Christ, Peter DeLone, Vernon Klierer, Lewis Rowell, and William Thomson, all members of the theory faculty during the early 1960s. The texts included not only an integrated approach to musical materials and a broad historical coverage but also an emphasis on creativity; several of the authors were also composers who felt that writing music was an important activity for beginning music students. The arrangement of materials was innovative: students began by analyzing melody and continued through two- and three-part counterpoint, arriving at four-part harmony only in the second semester. This ordering also incorporated reductive analytical approaches, some of them based loosely on Hindemith's ideas from the *Craft of Musical Composition*. Concepts such as basic pitches, melodic step progression, and two-voice framework contributed an underlying structural foundation to both analysis and composition.

By 1964 the enrollment had grown to around 1060 music majors, 665 undergraduates and 395 graduates. The distribution of undergraduates by degrees was approximately the same as in 1950; in fact the BME student population had increased to around 57%. This large number of undergraduate students suggested the continuation of the previous lecture-drill format established earlier as the most practical arrangement. Necessity also fostered a spirit of cooperation among the theory faculty. Since the core curriculum courses were consecutive, having specific prerequisites, the teachers worked especially hard to maintain continuity within and among the courses. Weekly meetings of a faculty member and the graduate assistants for each course, and of the various faculty teaching the sequence of core courses, became essential, and are still part of our routine activities.

Several curriculum matters influenced course structure and sequence during this period, and many of these issues continue to present challenges in our current program:

1. Since the goals and scope of the new curriculum were more ambitious than the older set of courses (and the first course began at a higher level), many entering students did not have sufficient preparation. Thus around 1960 Rudiments in Music (T109) was developed as a prerequisite review for music majors and as a basic course for majors in related fields such as scenic design and ballet.

2. T109 as a prerequisite course created the need for an off-semester sequence of at least the first four semesters of core courses.

3. To better serve brighter students, honors sections (but not a separate honors sequence) were established. In addition qualified students were encouraged to exempt courses.

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4. To concentrate more on skills such as sightsinging and keyboard, the faculty developed separate courses in these areas. The former four-credit block was divided into three-plus-one credits.

The curricular and theoretical ideas set forth in the *Materials and Structure of Music* text (and in later skills sources such as the ear training and sightsinging books by William Thomson and Peter DeLone) began to influence other textbook authors and other theory curricula in the United States. For example, more recent texts by Benward and Henry also combine the study of several different musical elements and at times employ analytical terminology similar to that in *M & S*.⁶

CURRICULUM DEVELOPMENTS IN THE 1970s

In the late 1960s several of the Indiana University theory faculty had become involved in comprehensive musicianship projects. I.U. was chosen as one site for an experimental arrangement of courses. The music literature and music history courses (each arranged chronologically, covering music from antiquity to the present [although sometimes the present meant 1900!]) had become almost the same course, taught twice as a required sequence. In addition, much material in these courses overlapped parts of the theory curriculum, especially in the sophomore year where major tonal compositions were studied in some detail. Members of the musicology and theory faculties worked together to develop a set of sophomore music literature and theory courses that would complement each other. They found that the students were enthusiastic about the interaction between a historical and an analytical approach, and those involved decided that the experiment was successful.⁷

As a result of faculty discussions generated by these pilot programs, the I.U. core curriculum was changed in the 1970s. Several factors had created a different situation in the School of Music; pressures from outside the School for more required general education courses (especially for BME students) had resulted in a reduction to 27 hours for the core music courses: 15 hours of written and aural theory; 2 hours of sightsinging and keyboard; 4 hours of music literature; and 6 hours of music history. By the time Charles Webb became Dean (1973), the enrollment was almost 1600 music majors, around 1000 of them undergraduates. An increase in foreign students, a growing emphasis in the School on high levels of performance, and an extremely wide diversity in entering freshmen abilities presented the faculty with challenges of size, level of musical preparation, and of lan-

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guage skills. These challenges, in fact, remain in 1990 as we look ahead to future curricular changes.

To consider these problems, six faculty members (three each from the musicology and theory departments)⁸ spent two or three weekends in a retreat off campus for intensive brain-storming sessions. The faculty began by establishing goals and by suggesting a sequence of courses that would meet these goals. Pairs of faculty then developed specific syllabi for various semesters of the core curriculum, and the entire package was discussed in detail by both departments and by the School of Music Academic Council.

The goals of the undergraduate music core curriculum were stated as a set of abilities that students should develop satisfactorily during their undergraduate study:

1. The ability to place music in its proper cultural context.
2. The ability to form ideas related to the theoretical and historical development of music and to express them clearly both verbally and in prose.
3. The ability to recognize specifically and describe appropriately a number of representative compositions from the major periods and styles of Western art music.
4. The ability to recall important names, dates, works, sources, and specific stylistic aspects of major periods, styles, or composers of Western art music.
5. The ability to describe appropriately and to classify according to likely period and style of composition works not previously heard or studied, both aurally and/or visually.
6. The ability to apply standard analytical techniques and some more advanced techniques to works of music from various periods.
7. The ability to write music which demonstrates satisfactory solutions to specific compositional or stylistic problems, or which demonstrates an understanding of theoretical terms, symbols, or concepts.
8. The ability to read at sight vocally and/or instrumentally moderately difficult music of all periods, including the twentieth century.
9. The ability to notate after a limited number of hearings music of

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moderate difficulty and moderate length from all periods, including the twentieth century.

10. The ability to realize at the keyboard (or through other appropriate instrumental or vocal performance media) music which effectively demonstrates certain theoretical terms, symbols, or concepts.

The curriculum that was developed (Core 1974 listed below) is compared with the core program in 1972; each totals 27 credit hours.

CORE 1972

<u>Skills</u>	<u>Theory Written</u>	<u>Literature</u>	<u>History</u>
(2 x 1 hr) 2 (SS, key)	(5 x 3 hr) 15 (written, ET)	(2 x 2 hr) 4	(2 x 3 hr) 6

CORE 1974

<u>Skills</u>	<u>Theory Written</u>	<u>Literature</u>	<u>History</u>
(4 x 1, 2, 2, 1) 6 (SS, key, ET)	(5 x 3 hr) 15 (written, literature)	(0)	(2 x 3 hr) 6

The new curriculum was different in several respects from the previous one:

1. All musical skills (sightsinging, ear training, keyboard) were placed in separate courses and thus were given separate grades. The content of these courses, however, was coordinated with the companion theory/literature course and most students were expected to take the courses simultaneously.

2. A separate music history sequence was retained at the junior/senior level. However, the music literature courses were eliminated. The five-semester theory/literature sequence ("I" courses) was organized as follows:

I101. (3) An overview of musical elements; a general introduction to musical literature and style.

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I102. (3) Music before 1600. Contrapuntal writing and beginning harmony study.

I201. (3) Music 1600-1800. Diatonic and chromatic harmony; fugue; more detailed study of form.

I202. (3) Music 1800-1900. Chromatic harmony, continued; larger forms and more detailed analytical methods.

I301. (3) Music in the 20th century: analysis and literature.

3. T109 (Rudiments of Music) became a three-credit course that entering students took together with I101 if they did not pass an entrance exam. Passing both I101 and T109 was prerequisite to I102 and the first skills course. This arrangement permitted the elimination of off-semester offerings of the theory/literature courses (I102 and I201 were offered only in the fall, I102 and I202 only in the spring).

4. The last skills course and the last written theory/literature course (I301) covered music only of the 20th century, providing a new emphasis on more recent material. Although at first I301 was taught in a lecture/drill format, it soon was offered instead in classes limited to 30 in size, meeting five days a week as a group.

5. The activities of the theory/literature courses were broadened from the usual written theory exercises to include also some assignments every semester in writing: both writing music and writing cogent English prose about music. In the upper level courses basic ideas of selected analytical methods were introduced and in all I courses specific listening assignments and listening tests were included.

The program was initiated in the fall of 1974. By 1978, the faculty and students had identified various problems and another series of discussions and retreats began, this time with the entire theory and musicology faculties and representative groups of teaching assistants. The discussion centered around issues such as:

1. How can we deal with the problem of remedial students, both in aural skills and written work? (We had tried various remedial options and were finding that over 70% of our entering students were not passing the entrance exams.)

2. How can we deal with music before 1600? The chronological sequence in the I courses had been established to parallel the previous music literature sequence; the theory faculty felt that the study of harmony was

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not beginning early enough and the music history faculty felt that music before 1600 was not getting enough attention. Everyone agreed that the weakest course in the sequence was I102. Students and teaching assistants both complained that the detailed study of Medieval and Renaissance music in the freshman year led to frustration. Despite the efforts of several different highly qualified and enthusiastic teachers, this approach, at least in our large group situation, simply did not work.

3. How can we balance breadth and depth of coverage? I101, an overview course, appeared to lack a specific focus, since it attempted to cover all periods and styles and to introduce students to a variety of musical elements. In fact, lack of depth was a problem in all courses, since broad literature coverage was combined with the development of many theoretical skills.

4. Who is in charge of the I courses? Which department makes teaching assignments, evaluates course results, and appoints teaching assistants?

5. How can we evaluate if these courses are successful? Possible strategies discussed included student comments, outside evaluators, and a comprehensive senior-level exam.

6. What pedagogical materials can we use, since no text series is appropriate to the diversity of the I courses?

THE 1980s AND THE FUTURE

Around 1980 the enrollment of the School of Music peaked at over 1600 music majors; it is now being contained at fewer than 1500 students. The constitution of the group, however, has changed dramatically; graduate students now represent over 50% of the enrollment and fewer than 20% of the undergraduates are BME majors. These changing enrollment patterns and our discussions about content and format have produced several modifications in the curriculum. The current arrangement of the core is:

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CORE 1990

Remedial course if necessary T109		3 credits
Written Theory/Literature Courses (I101, I102, I201, I202, I301)	(5 x 3 hr)	15
Skills Courses (T132, T231, T232, T331)	(4 x 1 hr)	4
Music History (M401, M402)	(2 x 4 hr)	8

Other advanced courses required of specific degrees

These courses are described in Appendix I. The 27-hour core is required for everyone; performance majors select various options from the additional upper-division level courses. Appendix III lists the current text materials of the courses.¹⁰

The following comments report how we addressed some of the objections raised in the late 1970s and highlight some of the strengths and weaknesses of the curriculum.

A continuing problem is the entrance level of the freshman. Students are particularly ill prepared in aural skills and sight-singing, and T109 has concentrated heavily on these areas, becoming, in effect, a first course in musical skills. We are dismayed that over half of our entering class take T109 and I101 together; we realize it is hard to make satisfactory progress in a written harmony/literature class without basic preparation. The positive aspects of the current arrangement are that we no longer have off-semester written courses (we found the "slow" students were indeed second-class citizens!) and that the intensity of work in the first semester forces students to become serious about the study of music quickly. We are considering how we could better advise students before they come to the university about the expected level and how to suggest a better sequence of courses when they do enroll. This year we are giving musicianship tests to all prospective undergraduates, and hope that a combination of stricter admission criteria, better advising, and somewhat revised course structure may solve this perennial problem. The real solution, of course, lies in music education before the college level, and it is encouraging that high school

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teachers call regularly to inquire about theoretical materials to give to their students. All college theory teachers, however, probably need to explore more aggressively ways of improving pre-college musical preparation.

One very successful part of the revised curriculum is the sequence of skills courses.¹¹ Although each of the four courses is now only one credit hour (for a total of four credits rather than the original six), we have maintained since 1974 the general plan of separate courses, ending with a semester devoted to 20th-century skills. In 1979 the entire music faculty approved a requirement that every student must receive a grade of C or better in these courses, a stipulation that insures the students take these courses seriously. Because of this provision, we offer all of the skills courses every semester and can thus individualize instruction somewhat more easily, although some students, of course, are not taking the T courses simultaneously with the parallel I courses. We expected a great deal of rebellion about the required grade level and about the difficulty of some of the dictation and music reading examples. Instead, students often report that they find these courses most directly relevant to their work as practicing musicians. Many graduates have commented that professional instrumental and vocal ensembles expect applicants to be able to sight read literature, even 20th-century compositions, with fluency. The sequence of T courses attempts to give students the tools they will need for any future musical activities.

A skills program, however, requires continuing dedication from a number of people. Ours is arranged with one faculty member (Professor Gary Potter) in charge of the entire sequence of courses. The actual lecturing and supervision of T109, T132, T231, T232 and T331 are carried out by five doctoral theory majors (skills coordinators). The group meets regularly to work out exactly the material and approach for each semester. The teachers have decided on common texts in sightsinging and rhythm. For ear training and supplemental materials, each coordinator has developed an organized set of materials that interrelates with the corresponding I course. The 20th-century course particularly has demanded new pedagogical materials and approaches since text sources in this area are far less numerous. Extensive taped materials and CAI lessons continue to be revised and expanded. We have also had success with guided listening assignments involving substantial musical excerpts and believe that this transfer of skills from isolated materials to contextual listening can demonstrate to the students how essential these skills are.

Ideally students could work at their own pace through this series of courses without the threat of grades. At present we allow exemption from the courses (a rather large number of freshmen receive free University credit by passing skills exemption tests) but otherwise do not segregate classes

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into ability groupings. By meeting four days a week (two in a large group, two in a small) and using a fifth day for individual hearings and tutorials, the students receive a great deal of guided practice, although, of course, some students do not take advantage of all the help available!

Teaching the skills sequence has been successful as teacher training for our doctoral students. For several of them it provided experience they are now using in faculty college teaching positions.

The I courses (theory/literature sequence) have been changed more dramatically since the 1974 curriculum was adopted, especially in the freshman year. After discussion with the musicology faculty, we decided to eliminate any extensive coverage of music before 1600 from the I courses and instead increase the music history sequence from six credits to eight. We also significantly changed the content of the freshman courses.

Materials and Structure of Music is no longer used as a text; instead Winold's *Harmony: Patterns and Principles* provides the theoretical structure. This change of texts reflects a different pedagogical approach: harmony is now covered extensively in the first semester and, in fact, the basics of both diatonic and chromatic harmony are covered in the first year. In addition, however, I101 and I102 include units on melody, counterpoint, and form, so the long-standing philosophy of early integration of materials is still maintained.

I201, I202, and I301 have changed less. We found these courses, especially I301, to be successful and we have maintained the general format established in 1974. Three semesters concentrate basically on 18th-, 19th-, and 20th-century music, emphasizing detailed analysis of specific compositions and combining a study of larger structure with reinforcement of basic harmonic and tonal materials. These courses in many ways are similar to the last three semesters of the older curriculum, although the inclusion of specific literature recognition is new.

The most problematic area continues to be music literature. The faculty believes that the undergraduate students need to be exposed from the beginning to a survey of musical compositions, so that they can relate study of theoretical materials and their own performance to a larger framework. We now include Kerman's text *Listen* into the freshman year, dividing the chapters between I101 and I102. Studying a variety of works has been very popular with the students and we want to continue this pedagogical approach in some form. It is difficult, however, to integrate detailed harmony study with an overview of music literature; we may need to separate these two activities in some way.

We also have continuing discussions about which music, and how many compositions, to include. I.U. has traditionally emphasized Western art music and the theory faculty has decided not to broaden the core

curriculum to include a detailed study of non-Western music. Within the history of Western music, however, we have different ideas about what to cover. A unit on jazz is now included in the second semester, and sometimes in I301, but, of course, such study can be only an introduction to the subject.¹² Some theory faculty feel we should include more music by women and minority composers and/or more 20th-century vernacular music, concentrating less on the traditional European canon. As we enter the 21st century, we will have to give priorities to various kinds of music, emphasizing the development of appropriate study methods rather than complete literature coverage. Information about all musics, from ancient Greek through the variety of styles of 1990, has increased greatly, and students cannot be expected to be acquainted with everything. We struggle continually with the problems of musical breadth and depth and hope, through discussions with the musicology faculty, to establish logical guidelines for any future package of theory/literature/history courses.

Another content issue is the degree of analytical depth. Our written courses are not based specifically on any one analytical system, but we do try to introduce some of the general principles of reduction and of twentieth-century atonal analysis throughout the sequence. In addition to part-writing assignments and quizzes, each of the I courses includes some guided work in writing analytical essays (and some stylistic music writing assignments). In I202 and I301 these essays usually take the form of a six to eight page paper, or alternatively an essay written in class on a composition studied in advance. The music history courses (which also meet every day in a lecture-drill format) require more extensive research papers, often with several drafts. We have been quite pleased with the results of such essays, an activity we did not include systematically in our old curriculum. With guidance students have learned to formulate their thoughts with some precision and often produce interesting analytical insights. This fall a member of the English faculty worked with the core curriculum faculty and teaching assistants on effective ways to develop writing skills. We found these ideas very helpful; since our university is emphasizing "writing across the curriculum," we feel our efforts to sharpen the students' thoughts are worthwhile and productive.

Because of our expanded analytical writing assignments and our increased number of individual skills hearings, we have made a special effort to develop consistent student evaluation methods. With nine theory faculty, five theory skills coordinators, and 35 theory teaching assistants, agreement on grading methods is crucial, especially within one course. Reviewing expectations and grading procedures, however, is useful for faculties of two—or even for individual teachers! My own acquaintance with systematically "equating the graders" (in a setting outside my own

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class) first came from work with the Educational Testing Service on grading music essays, dictation, and part writing on the Music Advanced Placement exam, and more recently on grading the dictation, counterpoint, and partwriting sections of the new Music Graduate Record Exam. At I.U. the discussion about grading took the form of a whole semester devoted to sightsinging evaluation: listening to sample performances and discussing the criteria for evaluation. We also regularly involve both faculty and associate instructors in discussions of objectives for each assignment and test, in several independent readings of sample papers, and in sightsinging hearings by more than one person.

These exercises have helped us formulate more specific questions and more precise expectations. In fact, we usually inform the students ahead of time exactly what sort of skills will be considered important in any activity. We have faced questions such as: Is singing accurately with little musicality better than conveying expression with little accuracy? Is keeping tonic in a dictation exercise better than retaining contour? Is a creative counterpoint example that breaks some "rules" better than a dull, but accurate, one? We have found such discussions stimulating, if frustrating, and continue to search for better and clearer ways of helping students reach their potential in all areas.

As we search for better instructional methods and the most relevant curriculum, we are also considering our changing student constituency. We search for more opportunities to work with students in smaller groups, and, of course, have found that the small upper-level courses, honors projects, and independent study possibilities can be especially rewarding for serious students. At the moment we feel that we have a generally workable curriculum and that the problems with the literature content can be worked out in a course framework similar to the one we have. Although often frustrating and time consuming, a detailed study of curriculum design can be invigorating and pedagogically stimulating. If one can approach it with an open mind, ready to have every idea challenged, I recommend it for any theory faculty!

Note: The faculty at Indiana University at present is: Marianne Kielian-Gilbert, Vernon Kliever, David Neumeyer, Gary Potter, Benito Rivera, Lewis Rowell, Mary Wennerstrom, Allen Winold, and Gary Wittlich. Everyone teaches some undergraduate course(s) during the year; those who have taught the first two years of the core curriculum most recently are Professors Kielian-Gilbert, Neumeyer, Potter, Wennerstrom, and Winold. Gary Potter and Allen Winold are especially active in supervising the curriculum and in suggesting modifications and improvements; much of the curriculum activity reported here is a direct result of their efforts.

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APPENDIX I: Indiana University School of Music Core Curriculum Courses and advanced undergraduate courses in theory and history

1. I courses: music literature/written theory

- I101. Literature and Structure I. 3 cr. Introduction to the history, literature, and analysis of music with emphasis on literature before 1850. Study of diatonic harmony through analysis, part-writing, figured bass, soprano harmonization, and stylistic composition assignments. Introduction to single-movement and multi-movement forms.
- I102. Literature and Structure II. 3 cr. P: I101; grade of C or better in T109 or equivalent as demonstrated on entrance examination. Introduction to the history, literature, and analysis of music with emphasis on literature since 1850, including jazz. Study of chromatic harmony through analysis, part-writing, figured bass, soprano harmonization, and stylistic composition assignments. Two-part counterpoint in 18th-century style. Analysis of sectional variation forms.
- I201. Literature and Structure III. 3 cr. P: I102. Study of music in the 17th and 18th centuries. Aural and visual stylistic recognition of major composers, compositional processes, and genres of this period. Continuation of the study of harmony and counterpoint. Study of dance forms, sonata, rondo, fugue.
- I202. Literature and Structure IV. 3 cr. P: I201. Study of music in the 19th century. Aural and visual stylistic recognition of major composers, genres, and compositional processes of this period. Chromatic harmony, modulation, and study of large forms; more advanced structural analysis.

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- I301. Literature and Structure V. 3 cr. P: I202. Study of music in the 20th century; new compositional and analytical procedures.

2. M courses: music history/literature

- M401. History and Literature of Music I. 4 cr. P: I202. Study of music in its socio-cultural and historical context from the early Christian era through the end of the so-called Baroque (c. 1750). Style analysis, visual and aural, of representative compositions in a variety of genres. Formal research paper required.

- M402. History and Literature of Music II. 4 cr. P: M401 or equivalent. Study of music in its socio-cultural and historical context from the so-called Pre-classic period (c. 1725) through the post World War II period (c. 1950). Style analysis, visual and aural, of representative compositions in a variety of genres. Formal research paper required.

3. T courses: music skills (ear training, sight reading, keyboard)

- T109. Rudiments of Music. 3 cr. Fundamentals of notation (scales, key signatures, meter signatures, rhythmic notation, etc.). Ear training and music reading are emphasized to a large extent. Entering students may show proficiency in these areas by taking an exam; transfer students who have had at least 6 credits of theory including work in dictation with a grade of C or better, do not need to take the exam. Anyone who scores below C will be required to take the course. A grade of C or better is required in the course for admission into I102 and T132.

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- T132. Music Reading and Ear Training I. 1 cr. P: grade of C or better in T109 or equivalent as demonstrated on entrance examination. Dictation, sightsinging, keyboard skills, emphasizing diatonic melodies, functional harmonic progressions, and two-voice counterpoint. To be taken with I102.
- T231. Music Reading and Ear Training II. 1 cr. P: T132. Melody and 2-part examples: dictation and sight reading. Addition of chromaticism and more complicated rhythmic patterns. Diatonic harmony through secondary dominants. Dictation and some ability to play chord progressions harmonize simple melodies, realize figured bass, etc., at the keyboard. To be taken with I201.
- T232. Music Reading and Ear Training III. 1 cr. P: T231 Chromatic melody, contrapuntal materials, modulation; dictation and sight reading; chromatic harmony and modulation. Dictation and ability to realize progressions and modulations at the keyboard. To be taken with I202.
- T331. Music Reading and Ear Training IV. 1 cr. P: T232. 20th-century materials, including pitch sets, more complicated rhythmic problems, aural recognition of compositional materials and processes, and sight reading of contemporary musical excerpts. To be taken with I301.

4. Advanced undergraduate courses

- T412. Advanced Aural and Keyboard Techniques. 3 cr. P: I202 and T232 or consent of instructor. Listening in context to music of various style periods. Keyboard skills (e.g., figured bass, harmonization, score reading).

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- T416. Counterpoint in Tonal Music. 3 cr. P: I202 and T232. The techniques of harmonic counterpoint with emphasis on eighteenth-century style.
- T417. Analysis of Tonal Music. 3 cr. P: I202 and T232. Analytical techniques for the study of tonal music of the eighteenth and nineteenth centuries.
- T418. Music and Ideas. 3 cr. P: I202 and T232 or consent of instructor. An introduction to the philosophy of music and the history and problems of musical aesthetics.
- M410. Composer or Genre. 3 cr. Life and works of representative composers in historical context or survey of a major musical genre and its historical evolution. Emphasis on stylistic development in the music literature studied.

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APPENDIX II: Material covered in the T courses in musical skills

	METER/RHYTHM	CLEFS	SCALES/MODES	INTERVALS & MELODIC PATTERNS
T109	Common simple & compound meters; common rhythmic patterns.	Treble, bass.	All major & minor. No modes.	All melodic & harmonic intervals to the 8ve.
T132	Simple & compound meters with denom. of 2, 4, 8 & 16; more syncopated patterns, triplets & duplets.	Treble, bass, alto.	All modes & M/m scales.	All intervals to 12th. Melodic patterns 4-6 meas.
T231	Continue T132 & more complicated rhythmic patterns & smaller sub-divisions.	Treble, bass, alto, tenor.	Same as T132	Mel. patterns up to 8 meas. incl. modul. to nearly-related area.
T232	Continue T231; more work on small sub-divisions & irreg. beat divisions (5s etc.).	Same as T231.	Same as T231.	Mel. patterns up to 8 meas. incl. all mod. & mode changes.
T331	Other meters added (5, 7, 3+2+2, etc.). Polymeter and/or irreg. groupings.	Same as T232.	Same as T232, plus whole-tone, octatonic, 12-tone, etc.	Mel. patterns up to 8 meas. (possibly based on tone row or or clear pc set).

Type of music used: T109 & T132: basically common-practice tonal melodies and progressions (1600-1850)

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TWO-PART	FUNCTIONAL HARMONY	CHORD TYPES
None.	Recognition of simple cadence patterns.	Triads
Up to 4 meas.- use of imitation & switched patterns.	Diatonic triads and common 7ths; common inv.; some secondary dominants.	4 types of triads, all inv., Mm7 & all inv.; other 7ths.
Continue T132. Up to 6 meas. invertible counterpoint. nearly-related mod.; secondary dominants.	All diatonic triads & inv.; all diatonic 7ths & common inv.; some contextual.	Triads & inv. 7ths & inv. (Mm, MM, mm, ø7, 07).
Continue T231.	Continue T231 plus sec. dim. 7ths, aug. 6ths, Neap., some work with 9th & 13th (V) contextual.	All triads, 7ths. dom. 9ths & 13ths.
Continue T232.	"20th-century functional" patterns, set types.	Extended tertian: quartal, secundal, whole-tone, etc.

T231: emphasize 1600-1800

T232: emphasize 1800-1900

T331: emphasize 1900 to present.

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APPENDIX III: Texts used in the core curriculum (1989-90)

For the I courses:

Winold, Allen C. *Harmony: Pattern and Principles*. Two volumes and two workbooks. Englewood Cliffs, N.J.: Prentice-Hall, 1986.

Wennerstrom, Mary H. *Anthology of Musical Structure and Style*. Englewood Cliffs, N.J.: Prentice-Hall, 1983.

Kerman, Joseph. *Listen* (Brief Edition). New York: Worth, 1987.
(For first year courses)

Other anthologies and sources selected by individual professors.

For the M courses:

Grout, Donald J. and Claude V. Palisca. *A History of Western Music*. Fourth regular edition. New York: W. W. Norton, 1988.

Palisca, Claude V., ed. *Norton Anthology of Western Music*, two volumes. New York: W. W. Norton, second edition 1988.

Additional readings selected by individual professors.

For the T courses:

Hall, Anne C. *Studying Rhythm*. Englewood Cliffs, N.J.: Prentice-Hall, 1989.

Ottman, Robert. *Music for Sight Singing*. Englewood Cliffs, N.J.: Prentice-Hall, third edition 1986.

Ear training materials is packets printed for each course.

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NOTES

¹For a history of the Eastman School, see *The Eastman School of Music, its First Quarter Century* (1921-1946) by Charles Riker, Rochester, N.Y.: The University of Rochester, 1948.

²Information about the history of the Indiana University School of Music, about degree requirements and course descriptions, and about numbers of music majors has been taken from the official Indiana University Bulletin of the School of Music, published annually until 1983 and biennially thereafter.

³McHose, Allen Irvine. *The Contrapuntal Harmonic Techniques of the 18th Century*. New York: Appleton-Century-Crofts, 1947.

⁴See the *Juilliard Report on Teaching the Literature and Materials of Music*, with introduction by William Schuman, New York: W.W. Norton, 1953.

⁵For a description of the ideas of comprehensive musicianship, see *Comprehensive Musicianship: An Anthology of Evolving Thought* (Washington: Contemporary Music Project, Music Educators National Conference 1971), CMP5, and *Comprehensive Musicianship and Undergraduate Music Curricula* by David Willoughby, Washington: Contemporary Music Project, Music Educators National Conference 1971, CMP6.

⁶Texts mentioned in this paragraph are:

Christ, DeLone, Kliever, Rowell, Thomson. *Materials and Structure of Music*. Two texts, two workbooks. Englewood Cliffs, N.J.: Prentice-Hall. 1st edition 1966, 1967.

Thomson, William and Peter DeLone. *Introduction to Ear Training*. Belmont, CA: Wadsworth, 1967.

Thomson, William. *Introduction to Music Reading*. Belmont, CA: Wadsworth, 1966.

_____. *Advanced Music Reading*. Everett Books, 1968.

Benward, Bruce. *Music in Theory and Practice*. Two texts, two workbooks. Dubuque, IA: W.C. Brown, 1st edition 1977.

Henry, Earl. *Music Theory*. Two texts, two study guides. Englewood Cliffs, N.J.: Prentice-Hall, 1985.

⁷This program is described briefly in *Comprehensive Musicianship and Undergraduate Music Curricula* (see note 5 above), pp. 40-41 and 62-63.

⁸The six faculty were Professors Malcolm Brown, Austin Caswell, and Thomas Noblitt (Musicology) and Professors Vernon Kliever, Mary Wennerstrom, and Allen Winold (Theory).

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⁹*An Introduction to the Literature and Structure of Music* by David Neumeyer and Mary H. Wennerstrom (Prospect Heights, Illinois: Waveland Press, Inc., 1980) was a text that grew out of class notes for I101. Some of the series of anthologies, *The Comprehensive Study of Music*, by William Brandt, Arthur Corra, William Christ, Peter DeLone, and Allen Winold (New York: Harper's College Press, 1976 and 1977), were used in the I courses for several years. None of these books is now in print. Other texts and anthologies were planned but not published. For a list of texts used in the present curriculum, see Appendix III.

¹⁰Anyone who is interested can send for a brochure that describes the content of each course and curriculum procedures in more detail; specific course syllabi are also available.

¹¹The content of these courses is described in some detail in Appendix II.

¹²The jazz department at I.U. teaches several detailed history of jazz and stylistic courses, but they are not required of every undergraduate student.

FLEXIBILITY IN THE THEORY CLASSROOM: STRATEGIES FOR THE MANAGEMENT OF DIVERSITY

DAVID A. DAMSCHRODER

Josephus, whose lively pursuit of music's foundations is documented in Fux's *Gradus ad Parnassum* (1725), shared an admirable and congenial rapport with his teacher Aloysius. Notably absent from their interactions is a timetable for completing each species of counterpoint; the two are willing to continue until a concept is understood, rather than until a specified date. Though we should not assume that student/teacher relationships were maintained in quite so pleasant a manner throughout the Baroque, we may well imagine that Fux would reject our modern classroom format for theory instruction as hopelessly unresponsive to students' needs.

It would be absurd to suggest that all performance majors should be subjected to the same level of artistic and technical demands on their instrument or voice, even if they enroll under the same course number. Some are ripe for mature and challenging works; others require selections that build a foundation for those works. At most of the world's conservatories and universities, private instruction in performance is the norm. Students are offered engaging and appropriate repertoire chosen to accommodate their backgrounds, talents, and aspirations. Why, then, has this strategy been neglected in the teaching of music theory?

Though significant previous training in theory is uncommon among entering music majors, several factors—including innate talent, motivation, fluency in both treble and bass clefs, and keyboard facility—affect student success. Whereas weak performance in a course on Renaissance music history may have little effect upon a student's progress in later terms of a history sequence, problems in theory tend to multiply as each successive term builds upon the previous terms' work. By the time chromatic tonal procedures are introduced, lingering insecurities regarding diatonic practice can be devastating, plunging students into a state of confusion from which they may never recover. In such cases, reporting a failure in the course is sometimes unavoidable. Admissions committees occasionally err in their assessment of an applicant's potential and motivation, while

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student declarations of interest in a music major are not always accompanied by the necessary commitment. However, the rigid apportionment of study into ten- to fifteen-week segments arranged in unyielding curricular schemes inevitably clashes with the learning patterns of some students and contributes to the frustration that unfortunately often accompanies the completion of undergraduate theory requirements.

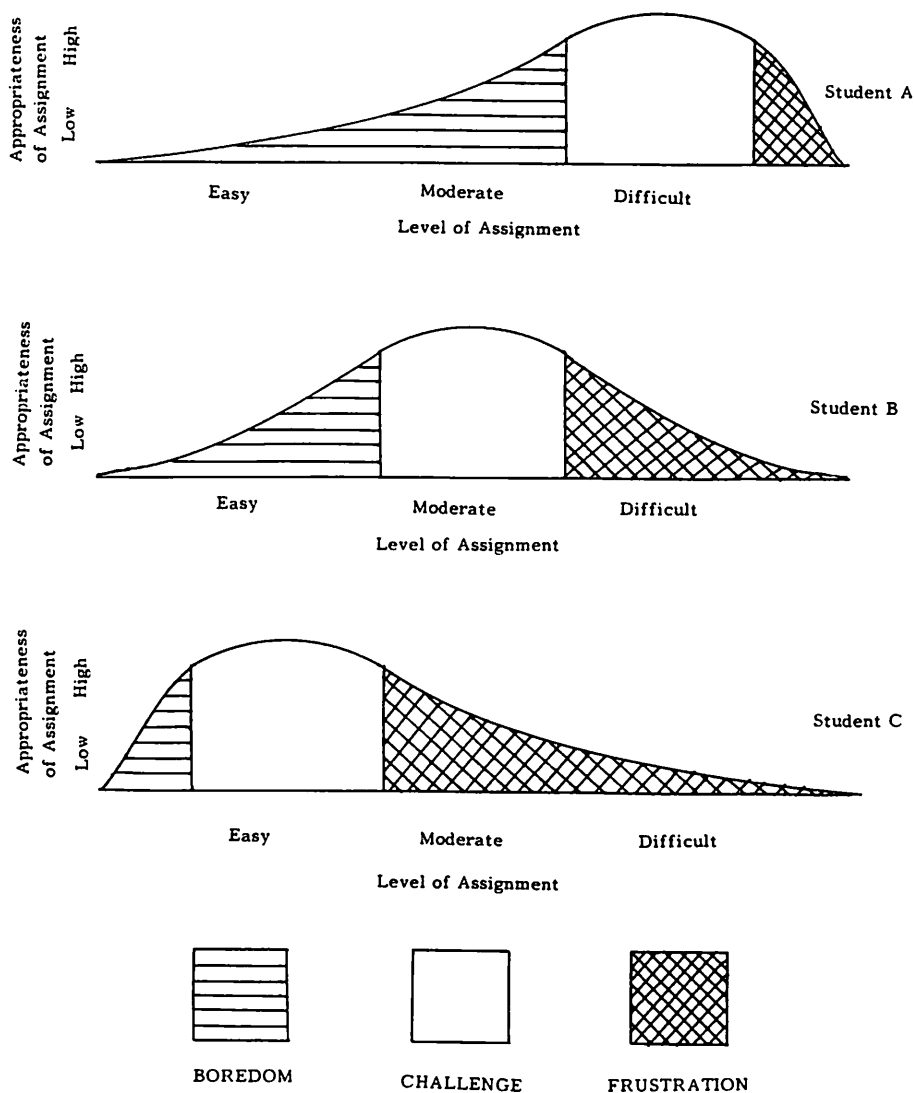
THE BASIC PREMISE

After several years of observing student frustrations mount over the weeks of my course on chromaticism and after grading countless disastrous tests, I began to challenge the pedagogical tradition that fosters uniform accomplishment among all students through identical homework and test requirements. I rebelled against establishing a syllabus consisting of some assignments that my most advanced students would regard as simplistic (and therefore useless) and others that my least advanced students would find unattainable (and therefore both useless and demeaning). Were I to maximize the number of appropriate challenges for some students, I would directly counter the prescription for improvement I should be offering to others. (See Figure 1.) By acquiescing to a pervasive yet horrendous pedagogical situation, I was guilty of mismanaging my students' time resources—of requiring a part of their effort to be devoted to work that neither challenged nor rewarded, but instead bored or frustrated and inevitably countered my vigorous attempts to promote a positive regard for the study of theory.

The mind can attain states of intense concentration during which minutes—even hours—pass swiftly as the mental energies are fully (but not excessively) absorbed. An instructor might experience this phenomenon when presenting a lecture, which might seem to pass in only a few minutes and to offer a synthesis far surpassing the prepared lecture notes. I propose that this state of peak mental utilization is desirable both for learning, for creativity, and for motivation, and that the strategies with which one organizes and conducts a course can foster it and thereby maximize the benefit derived from study and participation. Frustration and boredom are the chief antagonists of this positive state (as well as factors in the deterioration of general mental and physical health) and therefore should be minimized.

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Figure 1.



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STRATEGY 1: ADMISSION TO A COURSE

An important step in coping with diversity is to distinguish between the inevitable variability of potentials among students and an avoidable panorama of student abilities caused by careless attention to standards of preparedness. One should not condone in the name of diversity those remediable handicaps that a more dynamic program of advising or more rigorous set of prerequisites could eliminate. For example, if keyboard instruction ("Class Piano") is required of undergraduates, it should be a co-requisite of the first year of theory—with the regulation all students will possess a rudimentary capability for hearing their homework creations and text examples by playing them at a piano; without it some of them must cope with a pointless lacuna and increased frustration. Likewise ear-training and sightsinging should not be postponed. Not only does "saving" skills courses for later years make them more difficult, it also denies students useful supplementary exposure to the materials of the theory course and delays the assessment of their endowments in one of the *sine qua nons* of artistic success. Finally, the capacity to monitor student progress in the various terms of a theory sequence should be guaranteed through judicious grading (including "D" and "F" evaluations when warranted) and through careful assessment of transfer students' capabilities.

STRATEGY 2: COURSE SCHEDULE

The rigidity of university calendars is a primary deterrent of student success. To accommodate the many thousands of students who seek collegiate degrees, scheduling offices have established a variety of systems whereby the year is chopped into semesters, trimesters, quarters, and the like. Common to each of these systems is the expectation that every student in a course will attain proficiency at the same pace and be prepared for examination at the same time. Students have few options: if they withdraw from a sequence of courses, it is usually a year before they may reenter it; and by exiting they confound the exacting system of pre- and co-requisites upon which most music curricula are dependent and may deny themselves, in the process, the opportunity to enroll in other courses or even to graduate when they had anticipated. It is surprising, then, that few students who experience problems in music theory voluntarily withdraw and repeat a course later?

Faculty can, in some instances, design curricula that offer options for those students furthest from the norm: accelerated sequences for the best

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qualified students; pre-established remedial routes for the least qualified. For example, schools with large enrollments often maintain an honors class that traverses core materials of theory at a quicker rate. This strategy not only provides the necessary challenge to generate maximum progress among the exceptionally gifted students, it also allows the instructor of the normal sequence to respond to a more homogeneous pedagogical environment.

The other end of the spectrum deserves even more attention: whereas the honors student can usually find other ways to utilize the time saved through swifter mastery of theory, the student who finds theory extraordinarily challenging often requires individual guidance and benefits from a "safety net" built into the curriculum. Again large schools are at an advantage in such situations. Most cases of severely deficient progress could be resolved, once detected, if two separate sequences, one lagging a term behind the other, were offered (often called the "trailer" option). For example, a sequence that normally transpires as Fall-Winter-Spring-Fall could be complemented by the same courses offered Winter-Spring-Fall-Winter. In that way a student enrolled in the normal Winter course, for example, would have the option of repeating the course the following term (rather than the following year, when much of the prerequisite knowledge will have faded), or could transfer to the preceding course of the sequence *during the same academic term*.

Even if, due to enrollment, or fiscal constraints, these possibilities are impractical in a given situation, instructors can retain some of their benefits by reserving one class session per week for more basic assignments and questions, excusing certain students from attendance if their homework record displays sufficient mastery.

STRATEGY 3: DIVERSIFICATION OF HOMEWORK

Homework is the battlefield upon which mastery of theory is won. Whereas tests allow students the opportunity to demonstrate their accomplishment, the preceding weeks of struggle and refinements are fought with students' lead and instructors' red ink.

Homework is useless if not confronted wholeheartedly. Students who view any homework submission—regardless of how carelessly completed—as a means for improving their standing in the class are neglecting the essential role that quality of achievement plays in the attainment of mastery. Yet instructors who assign work for which students lack sufficient facility are equally guilty of emphasizing quantity of effort at the expense of quality. Students confuse their preoccupation with filling in endless pages of

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assignments on the one hand with the perseverance and depth of penetration that produce true progress on the other. Keeping busy is easier than stretching one's limits.

One strategy for maximizing the usefulness of homework is to classify it according to three categories as follows: a) assignments of Type I reinforce basic, introductory concepts and are usually quite short; b) those of Type II are somewhat more sophisticated in their challenges and are of moderate length; and c) the most demanding and intense work constitutes Type III. The range of difficulty should match the facility possessed by students enrolled in the course. Students should be free to select assignments of any of these types, so long as they attend the class hour during which they are discussed. Some students may complete a large number of easier assignments over the course of a term, while others may prefer to focus upon a smaller selection of more difficult assignments. In any case, this freedom allows students to customize their workload in response to their individual needs and can result in a general improvement in the quality of submissions. Students who neither demonstrate proficiency on tests nor produce adequate results on homework should be put on probation and assigned specific exercises.

Coordinating with these gradations of assignments, one could establish specific contents for each class hour. Two sessions per week could focus upon Type I assignments, including, occasionally, exercises culled from previous terms of the sequence so that transfer students and others might benefit from a systematic review. Two sessions per week could be devoted to homework of Type II. One or two sessions per week could be reserved for Type III assignments. Though students should be permitted to attend any of these sessions, they will likely gravitate towards the three or four classes that focus on the types of assignments they are pursuing.

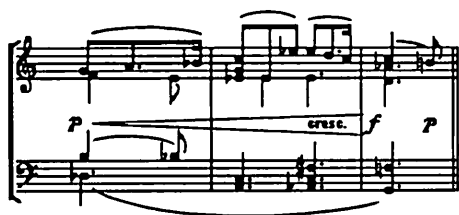
STRATEGY 4: TESTS WITH OPTIONS

In my view, students who acknowledge that their command of the material is not superior (and who therefore do not wish to stand as candidates for an "A" grade) might as well be spared the necessity of putting their weaknesses on display. My tests begin with basic questions and advance progressively to more difficult ones. I instruct my students to complete each page as carefully as possible before moving on to the next. In that way, any errors detected in their answers to the most straightforward questions can be attributed to insufficient mastery of the basic material, rather than to the time limit imposed.

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During my tests those students whose attainments warrant consideration for an "A" pass swiftly through the first page, on which they might be asked to spell and resolve a French augmented-sixth chord, for example, and proceed through various other questions, eventually reaching the last page, where they might be asked to analyze the augmented-sixth resolution shown in Figure 2. At the same time, some of their classmates might spend the entire period completing the first page or two. Students who cannot yet spell augmented-sixth chords need not devote some of their limited time to the exceptional Wagner passage. In fact, I advise them that making random guesses on the harder questions will be less beneficial to their evaluation than leaving them blank. By tolerating haphazardly conceived answers, one fosters neither artistic integrity nor scholarly responsibility; by requesting that students acknowledge their limitations, one replaces greed for an unwarranted high mark with increased self-awareness.

Figure 2.



Tests are, to a certain extent, an alienating situation for students. The experience is not replicated in their daily pursuit of knowledge. To remedy this condition I incorporate "take-home" segments to supplement the classroom tests. The first part of such a take-home might be a straightforward figured-bass exercise (Type I-II); the second a challenging melody for harmonization (Type III). As with the classroom tests, some students may elect not to complete both segments of the take-home. To assure that the work presented—rather than the reputation of its author—is being evaluated, I have devised a means for anonymous grading of all tests.

STRATEGY 5: BANISHING RIGIDITY FROM GRADING

Term grades, based on the questionable assumption that learning should be organized in chunks ending on specified dates, are inherently inimical to sequential courses. Students who earn a "C" in Term One are

not forever deficient in the materials of that course. By the time they have completed another term (with its further reinforcement of basic materials), one would hope that the attainment in the concepts of Term One would have risen to "B" level or even "A" level. Grades are, then, a representation of a student's level of accomplishment at a specific, yet arbitrary, point within a much longer program of study.

There are advantages to a straightforward numerical formula for determining term grades, especially for junior faculty, who may be more susceptible to abusive complaints and other hostility from individual students than would be their established senior colleagues. Yet preoccupation with points should not be a deterrent to student progress. Nor should the completion of homework for its point benefits replace, for some students, its role as facilitator of learning.

Having determined thousands of student grades using a precise numerical formula, I have recently turned to a less rigid system that offers me greater participation in each student's evaluation. Allow me to suggest the following scheme. Instead of recording numerical homework scores, develop a more vivid profile of each student's progress by monitoring three factors: 1) the number of assignments submitted; 2) the difficulty of the assignments selected (i.e., Type I, II, or III); and 3) the quality of accomplishment (which I rate using the symbols +, =, -, and o, recorded along with the type, as in III+ or II-, etc.). For each test award a raw grade and modify it in accordance with the homework record for that portion of the term. These modified grades can then be consulted at term's end in determining the final grade. The homework thus has a unique effect on each student's work. Someone whose raw test grade is "A" might retain that rating even if few assignments were submitted. But the same level of commitment to homework might lower a "C" grade to "D", since in that case the neglect of homework was injurious to progress. Each student should visit with the instructor after each batch of test has been graded to go over the results and receive advice on how best to make improvements.

STRATEGY 6: COPING WITH ENTERING TRANSFER AND GRADUATE STUDENTS

The dilemma of catering to incompatible needs can be ameliorated to a certain extent through the strategies outlined. Strong students become stronger, since they are not held back by a syllabus geared to the median student; weak students learn the foundational elements well, rather than everything poorly. At some point, however, the enormous differences of accomplishment among students must be reckoned with. Typically that

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point is the juncture between undergraduate and graduate degree programs. Students may satisfy one school's undergraduate requirements acceptably, but on advancement to what is often a more sophisticated graduate program, may find that various of their shortcomings in theory and skills are detected and deemed unacceptable. The review theory and review ear-training courses that are prescribed serve both to remedy lacunae in previous training and make amends for the years that may have intervened since the undergraduate course elections. Unfortunately review courses possess few of the components that might lead to a pleasant learning experience: students are often displeased by the additional requirement, which typically does not carry graduate credit; instructors are confronted with a dizzying array of backgrounds and aptitudes among their students in a course that must move at an extraordinarily rapid pace. Ideally these classes invite students to advance beyond their undergraduate accomplishments; instead they often promote frustration and self-doubt.

There is no easy cure for the deficiencies of some students. One can expect improvement; one cannot anticipate mastery. With the moral support of performance faculty, fiscal backing of administrators, and adequate staffing, one *could* devise a workable assortment of courses to accommodate the needs of graduate students. Yet none of these three prerequisites is to be found in abundance at most schools. So students must choose between a catchall review course of questionable efficacy and the humbling, yet often more effective, solution of returning to the undergraduate sequence for a second and more penetrating exposure to each topic.

STRATEGY 7: RETHINKING SKILLS TRAINING

Another monster confronting instructors is the relationship, in terms of academic credit and contact hours, between theory and skills (sightsinging and ear-training). Students in my course earn what is probably the national norm—three credits in theory and one credit in ear-training and sightsinging. Yet certainly attaining mastery of skills is neither one-third as challenging nor one-third as time-consuming as theory. It is significantly more! As a result students tend to lag in skills proficiency and reach the termination of their undergraduate course sequence in a significantly lopsided state that favors the mental as opposed to the sound-oriented components of their training.

The rigidity of modern assembly-line educational practices produces some *bona fide* graduates barely functional in the most rudimentary of musical skills. Instructors can exert some influence in the name of quality control, but they would face censure were they to detain as many students

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in the initial terms of skills instruction as they perhaps should. The problem has less to do with quality of instruction or access to supplementary materials for drill than with the basic fact that too little time is earmarked for this essential study. The result, to which I can testify after having administered at least one thousand placement examinations to entering transfer and graduate students from a wide variety of schools, is that the American educational system is producing degree-holding musicians very few of whom possess what might appropriately be labeled "competence" in the skills component of their musical training.

Despite the grim situation, instructors can do some good. As in the teaching of theory, skills training ought to incorporate a variety of options and could be strengthened through multiple course offerings during a given term. For example, many students would benefit significantly from the option of following a weak performance in Skills I with a *concurrent* enrollment in Skills II (for credit) and Skills I (as an auditor). Students still incompetent in such basic skills as the discrimination between major and minor thirds should not be admitted to the later terms of a sequence. Their presence there would not fall within an acceptable range of diversity but instead would deprive the better-prepared students of the full attention they deserve. Their enrollment would represent a total collapse of an instructor's efforts to maintain quality through the occasional use of low grades.

The skills situation benefits from exercises completed outside of the classroom environment. For example, since most of the sounds will be generated by a piano during class, it is useful to develop a set of audio tapes containing orchestral and vocal excerpts. Students should listen to the selections as often as is necessary, while a wide range of difficulty levels among the selections would ensure that appropriate challenges are available for each student. In recent years, computer programs have been created to provide similar opportunities. As these machines' capabilities in mimicking acoustic sound improves, the medium will likely assume far greater significance.

Sightsinging is a refreshingly straightforward and wonderfully useful pedagogical device, yet the blanketing of the same assignments on all class members yields results that are far from satisfactory. Certainly when, in earlier times, the Guidonian hand guided the development of pitch awareness, the master saved some of the harder intervallic relationships for students he felt were prepared for the challenge. It is neither reasonable nor effective pedagogically to assign difficult melodies to students barely competent in singing the basic intervals. My students meet privately with an auditor seven times per term. The list of potential assignments is long: there are over thirty graduated sets of exercises. Upon completion of the

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first assignment, a score of 1 (lowest) to 5 (highest) is awarded. The student adds this rating to the number of previous assignments to determine which set to practice next. Thus the most adept students might study assignments 1, 6, 11, 16, and so on, earning a total of 36 points in sightsinging. On the other hand, a very weak student would advance more slowly (assignments 1, 2, 3, and so on). In this manner, each student practices *appropriate* exercises, while the incentive of the points encourages them to progress as rapidly as possible over the course of the term.

CONCLUSION

The instruction that Aloysius/Fux offered to Josephus has been displaced, not surprisingly, by efficient yet compromising teaching methods geared for training large numbers of students using a small number of instructor hours. Given the general state of American education today—and the low priority of the arts within most universities—significant improvements in student/teacher ratios are unlikely. It is therefore incumbent upon instructors to utilize their resources in the most effective manner possible. As I have suggested, a measure of indignation concerning the prevailing state of affairs can lead to some interesting alternative methodologies.

Some students will not succeed in their pursuit of music, despite their—and our—best efforts. Defeat, if inevitable, is better faced after a term or a year than after a degree has been earned and tuition funds exhausted. We can do no better than help each student realize his or her potential, regardless of its dimensions. Our ability to orient our instruction to individual needs profoundly influences our success in this endeavor. Indeed there is hope.

TEACHING THEORY AS COMPOSITION

THOMAS BENJAMIN

The purpose of this brief paper is to share some ideas about and strategies for the teaching of theory as composition. This may well be preaching to a choir.

We might all agree that “theory” is an inaccurate term for what we teach, at least what we teach to undergraduates. What we are concerned with is not so much “theory” as *music*. Theories of music, metatheories, field theories of cognition or musical structure may implicitly underlie our teaching; but what we are really teaching is, as Sessions suggests, musical *practice*. The more we can convince our students that we are engaged in the practice, the actual *doing* of music, the better. This involvement with the Thing Itself pays large dividends in the commitment of our students to the learning process and insures that the classroom will be a lively place. The performance, analysis, and composition of real music are central to this process.

We are all familiar with those days in the classroom when it just isn’t fun to be there. Having fun isn’t a prerequisite for learning. But teaching is so draining when you, and they, aren’t enjoying the experience. When this happens, it usually means we’re not hearing and performing enough music—or applying what we know (and think and feel) in an analytic or creative context. The creation of contexts and connections is, I think, the essence of effective teaching. Only connect. If we can manage to connect the specifics of technique with the aesthetic principles they embody then we should be going a long way toward invigorating the classroom. What too often happens is that the details of techniques, the individual operations, somehow become ends in themselves. Facts tend to replace principles, instead simply of *embodying* them. These principles are not merely musical but invoke larger issues of aesthetics, psychology, and anthropology.

For instance, periodic structure embodies the fundamental call-and-response pattern indigenous to all cultures. It also invokes the binary nature of much human experience, and ultimately the origins of musical structure in the dance. We are, after all, bi-pedal beings. This thinking leads easily to the notion that meter, periodic structure, and large-scale form are all expressions of the same simple sets of relationships. So the identification of

periodic structures in Mozart or Bach can lead naturally to some useful global thinking about what we loosely call "form," and its origins in human experience. Or, to take another example, it would be a mistake to discuss the dominant triad without reference to its form-building properties, its structural functions as intermediate harmonic goal or divider. Likewise, it would be a mistake to ignore the way in which it embodies the tension-release principle.

Figure 1 informally suggest the natural flow of these connections. What these flow-charts intend to show is a movement from specifics through generalizations to principles and finally to useful outcomes. These outcomes might include better informed hearing, more sensitive performing, or finer composing. Each level of the chart represents the same logical flow, somewhat variously stated.

Figure 1.

- a. Basic skills —————→ Intermediate exercises —————→ Composing (writing and analysis)
- b. Observations → Generalizations → Principles → Outcomes
- c. What → How → Why → How → What (outcomes)

When the connection between technique and principle is made clear in the classroom, theory study becomes less abstract, less separated from the experience of the practicing musician. Every technical point needs to be reinforced as soon as possible, by hearing, performing, analyzing, and finally by composing. And it is to the latter that we should now turn.

For many students there exists a substantial gap between their study of counterpoint, part-writing, and harmony, and the realization of such studies in a musical context—a context in which style, expression, and technique are fully integrated. The bridging of this gap concerns all of us who teach theory. It is in part bridgeable, as already suggested, if we insist that the experience of the classroom be practical and musical, an experience in which listening, performing and the analysis of whole musical works is central. But the gap is, perhaps, best bridged by composing. And one need not wait until the latter stages of theory study to insist on solid musical values in the written work. This can be done almost from the outset by

TEACHING THEORY AS COMPOSITION

carefully structuring the written exercises. Figures 2 -15 are samples of the exercises I use with my Theory I and Theory II students, from the first semester on. These formats are the basis for a good deal of the written work; they may also be worked out in class, individually or together at the board or piano. Some also lend themselves especially well to improvisation or dictation. Working out compositional problems at the board together is, as you know, an especially productive use of class time. It can serve as a way of introducing the compositional process. This modeling demystifies and objectifies composing. One might well object to the reduction of an essentially mysterious creative process to a series of problem-solving routines, but I would rather not deal with this issue in the present context.

Figures 2-15 offer a variety of writing formats, moving from the very restrictive, in which most of the details are specified, to the more open-ended, providing progressively more opportunities for compositional decision-making. These exercises are limited to courses concerned with tonal practice, but a similar range of formats can be used with almost any technique or style. They are drawn from various books of mine,¹ simply because I'm familiar with how they work. Such exercise formats represent a practical middle-ground between preliminary part-writing work and composition in the tonal manner. It should be understood that in most courses there will have to be a certain amount of preliminary work in counterpoint, part-writing and harmonization, including figured and unfigured basses, as well as a good deal of analysis. It's important that the analytic work include all aspects of the musical structure, not merely the description of discrete surface events in the music.

The formats given in Figures 2-15 represent a mixture of Theory I and Theory II exercises. In the Peabody Conservatory's program, these courses deal with tonal counterpoint, harmony, and small forms. Figures 2-6 are tightly structured exercises: form, harmonic content, and style are givens. These exercises include figured and unfigured basses in the Baroque manner, a Romantic piano piece, and an exercise in ensemble writing. Incidentally, they all work well as improvisation exercises.

Figure 2.



Figure 3.

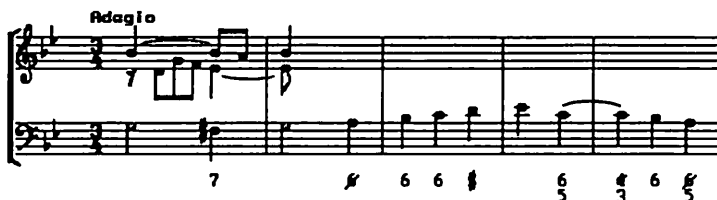


Figure 4. Complete the realization of the following figured bass in the given texture. Then compose an *espressivo* solo line for an instrument available in class.

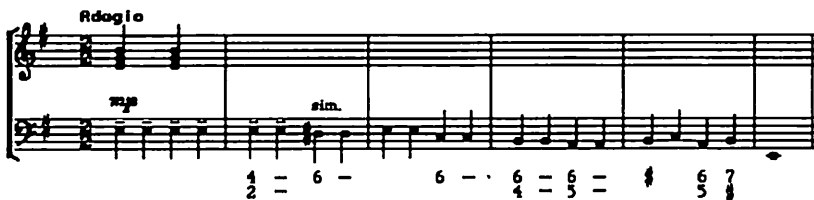


Figure 5. Harmonize the following melody in the indicated texture, using linear diminished seventh chords where indicated by an asterisk:



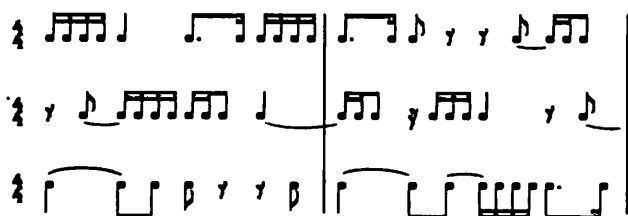
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Figure 6.



Figure 7 is a rhythmic outline for three-voice counterpoint; Figures 8 and 9 are part-writing frameworks. Such frameworks give, in effect, middle- and foreground structural pitches, asking the student to fill in the motivic and rhythmic surface. They can be worked out in any appropriate style.

Figure 7. Compose an eight-to-twelve measure example of three-voice counterpoint based on the following rhythmic model for mm. 1-2.



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Figure 8. Articulate the next two two-voice frameworks, mainly in eighth notes. Be attentive to motifs, rhythmic continuity, and nonharmonic activity.



Figure 9.



Figures 10-15 continue the loosening-up process, giving an opening for continuation, a chord-phrase format (for improvisation, writing, or dictation), formal outlines, and a bass for a passacaglia. Sectional variation forms are, of course, an excellent basis for the introduction of compositional thinking, as they avoid some problems of form and allow the student to focus on the foreground level.

Figure 10.



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Figure 11.

Andante (I.A.C.) (P.A.C.)

D major: $\frac{3}{4}$ I | vi | ii | V7 | I | iii | vi | V7 | I ||

♩ ♩.

Figure 12. Analyze simple examples of nonimitative counterpoint as suggested by the instructor. Compose a simple two-voice Baroque binary suite movement as follows:

(measures) I.A.C. P.A.C. H.C. P.A.C.

||: 1-4 5-8 9-12 13-16 :||

Figure 13.

Courante:

HC PAC HC PAC

a 1-4 a' 5-8 :|| b 9-12 b' 13-16 :||

c: → Eb: → c:

Gavotte:

IAC PAC PAC PAC

a 1-4 b 5-8 :|| c 9-16 c 17-24 :||

g: → Bb: → d: → g:

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Figure 14. Compose a passacaglia on the following bass. Refer to Part V, Unit 19, on counterpoint.



Figure 15. Following the given structural-pitch format, compose a 16-measure piece for instruments and/or voices available in class. Use only the harmonic vocabulary discussed so far.

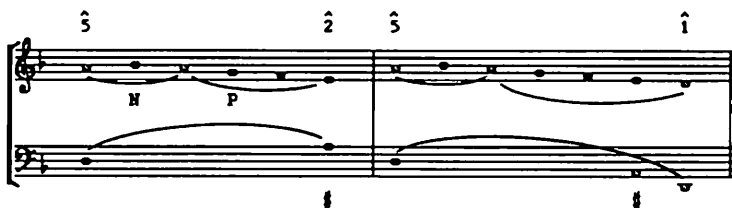


Figure 16 suggests some ways of assigning open-ended composition projects, which will tend to vary considerably according to the course and the instructor. I usually assign two such projects in a semester, depending on the course and the capabilities and interests of the students, and on the size of the class. Some classes are simply more interested and talented in composition than others, though all classes should get to do some composing. It may be wise to specify that these projects be written in stages or drafts, and that each draft be shown to the class or at least the teacher. This allows one the opportunity, in effect, to give a series a public compositions lessons in class, or private ones during office hours. As time permits, one should ask the class to participate in the process of critiquing and revising, permitting them to confront a variety of musical issues, and sharpening their critical listening abilities.

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Figure 16.

Some possible free-composition assignment instructions (which will, of course, vary greatly with the instructor):

1. Choose any short, rhyming, metrical text and set it for voice and piano (or any instrumental combination available in class). Check choice of text with the instructor before composing the song. Let instructor (class) see at least one preliminary draft and one complete draft before the final version. Then copy out the work cleanly and clearly, with complete performance instructions (editing). Rehearse before performing in class.
2. Compose a work for any instrumental combination available to you during the class meeting time. Use only the technical vocabulary discussed thus far in the course. The overall formal structure may be assigned or may be freely chosen. Present one preliminary draft and one complete draft to the class; the drafts should be fully analyzed. The final version should be clearly copied, edited, and rehearsed before performing in class.
3. Present to the class a ground-plan of a composition. This may be a verbal sketch and/or a formal graph of the proposed work. Include in your sketch an indication of its affect (character, mood, feeling). Then compose the work, following the ground-plan as far as possible but abandoning it when the musical materials suggest otherwise.
4. Study the choral writing of Mozart. Then set a text of your choosing, or one assigned by the instructor, making it sound as much as possible like Mozart. Be sure to check all aspects of your text-setting with the instructor, including affect, accentuation, prosody, and so on. Analyze your preliminary drafts and show them to the instructor. Copy the work clearly, edit it, and rehearse it before performance in class.

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Here the teacher runs into the potential problem of over-directing, of imposing on the student one's own taste and ear. This is after all a central problem in teaching composition, and if one is simply alert to it, the danger will be minimized. Several related issues should be raised now. First, how restrictive should one be regarding style? My tendency is to be quite open, as long as the techniques used in any student work are appropriate to its style. I always ask that the musical materials reflect those studied in the course. When a student uses musical language far outside that on which the course is based, I ask that the work be re-thought or at least adjusted.

Some students may be limited in their exposure to "classical" music. They will naturally write what they are familiar with, often in a pop-ish idiom. This seems to me fine, as long as the results are congruent with the course content. If, on the other hand, a student's intuitive grasp of the materials exceeds the course content, it may be wise to accept the result, assuming it makes musical sense and relates in a general way to the course materials.

Originality of expression may be a non-issue in student compositions. Student pieces will often vaguely resemble the work of some well-known composer, or even a specific work. This does not become a problem as long as the student work is not too literally based on some other piece. The issue is somewhat delicate, and must be handled case-by-case by the teacher.

A more serious issue is that of class size. It is, in fact, time-consuming to write and perform composition projects. With classes larger than 25 or so, it may be impractical to assign more than one project in a semester. For lecture classes of 30 or more, it may simply be impossible. Administrators responsible for class sizes need to be made aware that theory teaching involving any degree of composition cannot be done properly in a large class setting.

The project instructions given in Figure 16 insist on clear, neat, fully edited score and parts, and specify that what we hear in class be a performance and not just a reading. This avoids wasting class time in correcting parts, and allows sufficient time for two performances of each work, separated by a brief discussion. All works are taped, as students love to have a taped record of their pieces.

Figure 17 is an informal checklist of some fundamental aesthetic issues or principles. This list is developed early in Theory I through analytic work; its items tend to get written often on the board, and are constantly discussed and applied in listening, analysis, and written work, and especially in the evaluation of student compositions. This list, or some version of it, forms the bottom-line basis for all my theory teaching, regardless of the course.

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Such lists are very personal; all teachers naturally develop their own version. The importance of developing some such list of principles in class, through hearing and analysis, I feel, can't be overstressed.²

Figure 17.

A tentative (and constantly changing) list of basic musical principles and aesthetic issues derived from analytic work and applied to student writing:

- Expression/character/affect is clear
- Convincing overall dramatic shape
- Clarity and proportion of form
- Concinnity of all musical elements
- Coherence (motivic, harmonic, textural)
- Harmonic/linear directionality and consistency
- Confirmation of all main ideas
- Options for continuation explored
- Fundamental gesture at all structural levels (Grundgestalt)
- Organicity (gesture, shape, motive)
- The Big Line
- Strong outer-voice framework
- Strong part-writing
- Idiomatic writing for all instruments/voices
- Some dualities:
 - Unity/Variety
 - Continuity/Articulation
 - Tension/Relaxation
 - Exposing/Developing
 - Static/Dynamic
 - Regular/Irregular
 - Directed/Undirected

Central to the development of compositional thinking is the working out in class of various exercise types. Figures 18 and 19 give two formats and two realizations, as they might be worked out together at the board or piano. Figure 18 suggests one possible realization process for a chord-phrase format, moving from outer-voice framework through part-writing, articu-

lated part-writing, and finally to something approximating free composition of a phrase. Figure 19 does the same in a Baroque context. Students seem to find such handouts, and comparable class work at the board, useful both for clarifying technical details and for the modeling of the composition process. It may reasonably be argued that this step-by-step conscious-process model does not approximate a real composer's way of working. This may be true, but pedagogically most students seem to need a rational procedural algorithm, even those most intuitively gifted in composition. Besides, if all students had their instinctual musical capacities in working order, we'd hardly have to require several years of theory study.

Figure 18. The following procedure may be used for expansion and elaboration with the chord-phrases formats and figured or unfigured basses:

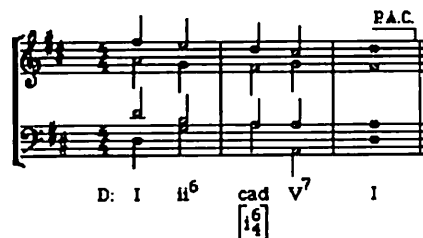
D major: $\frac{4}{4}$ I ii⁶ | ^{cad.} [I⁶₄] V⁷ | I ||

I. Provide outer voices.



D: I ii⁶ | ^{cad} [I⁶₄] V⁷ | I ||

II. Complete the basic part-writing.



D: I ii⁶ | ^{cad} [I⁶₄] V⁷ | I ||

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III. Further expand the basic part-writing.

IV. Finally, use more textural expansion, a new soprano line, a more linear bass line, and fuller harmony. Edit fully.

Andante

P.A.C.

mf

mp

D: I I⁶ ii⁶₅ vii⁰⁷ cad $\left[\begin{smallmatrix} 6 \\ 4 \end{smallmatrix} \right]$ V⁷ I

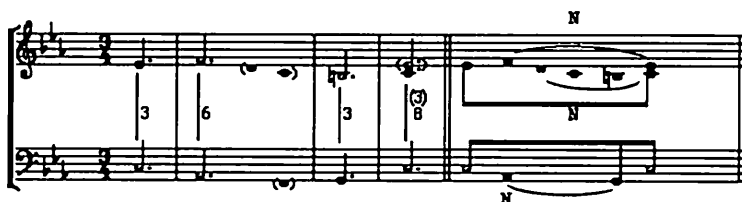
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Figure 19. Chord-Phrase Format (Harmonic Framework).

1. Spell the chords and compose a two-voice framework.
2. Articulate the framework in the usual way, and check thoroughly.

Given problem: $c: \frac{3}{4} \quad i \mid iv^6 \mid V(7) \mid i \parallel$

1. Framework:



2. Articulation: checking:

c: i (i⁶) i iv⁶ iv iv⁶ V pt V⁶ i

To sum up, I strongly urge the teaching of basic theory courses as composition, or at least with a substantial composition component. As I suggested earlier, there are demonstrable outcomes, in terms of engagement and excitement in the classroom. An involved student is one who is learning, and who is likely to retain a good deal of what has been learned. Students always enjoy composing. There is an obvious aspect of ego-gratification in the process. Students rarely have their egos fully involved in classroom studies—nor are they often placed in academic settings that validate their intuitive, instinctual, creative side. They will tend to put a lot

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of effort into such work, and the payoffs of learning, retention, and an exciting classroom atmosphere are considerable.

Above all composing can help bridge the gap between mere technique and actual music-making. It can help to connect skills with concepts, and lead the student to understand how specific operations are simply instances of underlying principles. These understandings should have a distinct impact on their overall musicianship, as listeners, performers, composers, teachers.

NOTES

¹The musical examples are all drawn from: Benjamin, *Counterpoint in the Style of J.S. Bach*, Schirmer Books, 1986; and Benjamin, Horvit, Nelson, *Techniques and Materials of Tonal Music*, 3rd edition, Houghton Mifflin, 1986.

²See my article, "On Teaching Composition," in *Journal of Music Theory Pedagogy*, 1/1 (Spring 1987): 57-76.

Acknowledgement: Thanks go to my colleagues Jack Carton, Fred Schock, and Eileen Soskin for their reading and comments of this paper.

USING SPECIES COUNTERPOINT IN THE UNDERGRADUATE THEORY CURRICULUM

DAVID L. MANCINI

Much debate has arisen in recent years regarding the place of species counterpoint in the undergraduate music theory curriculum. To many teachers, especially those of a Schenkerian orientation, no modern pedagogical device can rival the traditional disciplines of figured-bass realization and species counterpoint. No one would argue that these two teaching devices do not possess a long and highly respected history in the teaching of tonal music theory. Today, for instance, we can still study the counterpoint exercises of Beethoven and the teaching notes of Mozart. Nevertheless, no modern pedagogue would claim that historical tradition alone justifies the use of a particular teaching device. In this regard I am reminded of Schoenberg's decidedly negative opinion of figured-bass realization. In his *Theory of Harmony*, he states that teaching figured bass "serves no purpose and is a waste of time, hinders more important work, and fails above all to make the pupil self-reliant."¹ As his own textbook on basic counterpoint suggests, Schoenberg apparently held this discipline in much higher regard than figured-bass realization.² Whether or not he simply considered the practice of counterpoint an inherently more creative activity is not at issue here. Of greater interest to us is Schoenberg's faith in the usefulness of counterpoint for the music student.

If we indeed believe in the value of counterpoint training for undergraduate music students and grant it a place in the undergraduate theory curriculum, then three issues immediately arise: chronology, content, and relevance. We can perhaps clarify and best address these issues in terms of the following questions: 1) when should we introduce the study of counterpoint; 2) what should we include in our discussion of counterpoint for students in the standard two-year course sequence in music theory; and 3) how can we relate counterpoint studies to other aspects of theory instruction, such as training in harmony and analysis, and the development of aural skills. The second of these questions is far too broad to deal with in this paper. I have chosen instead to limit my discussion of curriculum content to the traditional species, almost universally recognized as an appropriate starting place for training in counterpoint. This paper is divided into three

parts. In the first part, through a survey of some recent articles and theory texts, I will present the opposing arguments in the debate surrounding the inclusion of species counterpoint in the undergraduate theory curriculum. In the second part, I will discuss the teaching approaches of Johann Philipp Kirnberger and Mozart, as well as some species exercises of Mozart and Cherubini. Finally, I will show how these older approaches to training in species counterpoint suggest a compromise between opposing modern views of its place in the undergraduate theory program—a compromise I will illustrate with specific suggestions regarding teaching strategies.

A forceful advocate of the strict Schenkerian view of species training is John Rothgeb.³ The theory curriculum that Rothgeb proposes begins with an entire year devoted solely to species counterpoint and figured bass with no reference whatsoever to harmonic theory. Rothgeb cites two reasons for deferring the study of harmony until the second year: the advanced nature of harmonic theory itself and its susceptibility to misunderstanding and misapplication.

Rothgeb's first point can be summarized as follows: harmonic theory is the product of several generations of theorists; we therefore cannot expect beginning students to cope with a set of concepts whose precise formulation has eluded numerous musicians of the past. To this argument one might respond that as contemporary practitioners of tonal harmony, we stand before a fully developed and well documented theory of common-practice harmony. We are not asking our students to resynthesize or recreate the theorizing of several generations; we are simply asking them to grasp our distillation of certain basic facts about harmonic syntax. As an example of the misapplication of harmonic theory, Rothgeb cites the use of Roman numerals to describe chords generated by melodic rather than harmonic processes. Although I will not dispute the existence of this all-too-common error, it seems to me the potential for a misunderstanding should be more an impetus to help the student "get it right" than a rationale for completely avoiding an admittedly difficult task.

Somewhat less controversial than Rothgeb's curriculum is Leo Kraft's pedagogical approach to species counterpoint.⁴ Kraft espouses the Schenkerian view that the species present us with "many of the basic factors that make tonal music work."⁵ In developing his integration of harmony and counterpoint, Kraft introduces the student to the species after a discussion of melody but before any discussion of harmony.⁶ The final stage in his presentation of first-species counterpoint serves as the link between harmony and counterpoint: this stage consists of four-part progressions guided by purely linear, as distinct from harmonic, considerations.

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On the opposing side of the species debate are a number of beginning theory texts that relegate counterpoint to the stylistic pigeonhole of Renaissance and Baroque compositional practices. These texts, in contrast to traditional "harmony" texts, generally reflect the tenets of "comprehensive musicianship" and exhibit the following characteristics: 1) a more or less chronological approach to the presentation of musical materials up to and including the 20th century; 2) coverage of stylistic traits of the various historical periods; 3) the inclusion of extensive compositional exercises; 4) coverage of stereotypical musical forms; and 5) (an admittedly subjective observation) an impatience with "theory" for its own sake coupled with an emphasis on practical skills. Before briefly surveying three representative texts, I should mention here that Kraft's *Gradus* is unusual among the "comprehensive" texts in its separation of stylistic elements from basic counterpoint instruction.

Bruce Benward's widely used *Music in Theory and Practice* contains no mention of species counterpoint but includes in its second volume separate chapters on stylistic counterpoint of the 16th and 18th centuries as well as extensive analyses of a Lasso motet and a Bach fugue.⁷ In his *Perspectives in Music Theory*, Paul Cooper includes a presentation of the species within a larger discussion of Baroque contrapuntal procedures such as canon and fugue.⁸ Cooper attempts to relate the species to actual musical practice by using as illustrative material short musical examples exhibiting the rhythmic relationships of the species. In contrast to Cooper's approach, a more recent text, Earl Henry's *Music Theory*, locates the species within the realm of 16th-century modal counterpoint.⁹ What the above three "comprehensive" texts have in common is a relatively late introduction to counterpoint, occurring after the student has acquired basic harmony skills. Moreover, the view of counterpoint expressed in these texts is quite narrow: rather than as a force equal to or arguably more significant than purely harmonic relationships in the generation of tonal events, these texts present counterpoint as a set of specific compositional procedures that form one of the many elements in a composer's technical arsenal.

As I mentioned earlier, one crucial factor in the pedagogical use of the species is their chronological position in the course syllabus: more specifically, whether we place them before, during, or after the presentation of harmonic concepts. Of course, student attitudes and reactions play a significant role in a decision of this kind. Put species counterpoint (especially in three or more voices) before harmony and run the risk of drowning students in a sea of abstraction. They may dutifully memorize a set of rules, but, through lack of experience with actual music, they will be unable to see these rules in operation. Moreover, after spending several weeks or more in rudiments training, students are anxious to forge ahead in "real music"

to apply the fundamentals they have just learned. Most students who come to our college-level theory courses with any pre-college theory background at all most likely will have had some introduction to harmony. Ideally students should be called upon to relate course material to what they themselves bring to that course. Delaying harmony training too long will inevitably result in increasing impatience and eventual frustration. Besides, teaching chord progressions from a *totally* linear perspective merely shifts the bias away from harmonic theory. What is needed in the teaching of tonal harmony is the eventual *integration* of the harmonic and contrapuntal principles.

Introducing the species after an extensive coverage of harmony often leaves students wondering about the purpose of such an apparent digression. Why, they might ask, should we retrace voice-leading concepts in two parts, away from actual music, when these principles have already been thoroughly covered? The third option, teaching harmony and the species concurrently, presents the formidable challenge of relating the two disciplines and thereby avoiding unnecessary instructional fragmentation. This task is made even more difficult by students' often limited experience with harmony at the time the species are first introduced.

Regardless of where in the curriculum the species appear, to effectively use them as an instructional tool, the instructor must consistently emphasize the links between the species and harmonic theory. In contrast, some writers, adhering to Schenker's distinction between voice leading and harmonic progression, exclude from their discussions of the species any consideration whatsoever of harmonic relationships. Felix Salzer and Carl Schacter, in their *Counterpoint in Composition*, write that "the student must not concern himself with chord relationships of harmonic direction."¹⁰ This point is also emphasized by Allen Forte and Steven E. Gilbert in their *Introduction to Schenkerian Analysis*.¹¹ Students are reminded that

Specifically excluded from all the species is any reference to harmony in the sense of organized harmonic progression, harmonic scale steps . . . , melodic statements of harmonies (arpeggiations), or patterns such as sequence, which might suggest an underlying harmonic scheme. Voice leading is the primary determinant of tonal motion in the species exercise.¹

According to Rothgeb, attempts to incorporate characteristics of free composition into the species would "sacrifice certain features of the theory of counterpoint which lie at the very heart of the study of voice leading. . . ."¹³

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A look at some of the historic treatises of the tonal period suggests their authors did not share the more recent view of a counterpoint devoid of harmonic relationships and implication. In Johann Philipp Kirnberger's treatise, *The Art of Strict Musical Composition* (1771-76), nine chapters on various aspects of harmony and harmonic progression precede any discussion of counterpoint.¹⁴ Kirnberger states that "... the melodic progression of a voice is subject to certain harmonic rules, even when it is considered without reference to other voices."¹⁵ First among Kirnberger's requirement for correct and strict counterpoint is the necessity for chords to progress according to harmonic principles: in his opinion it is impossible to write even good two-part counterpoint without a thorough knowledge of four-part writing.¹⁶ From his musical examples, it is clear that to Kirnberger four-part writing meant chorale-style writing.

Another significant document in the history of theory pedagogy consists of Thomas Attwood's composition studies with Mozart.¹⁷ Attwood began his studies with Mozart in August of 1785. After a complete treatment of harmony using the figured bass model, Mozart began lessons in free composition in the autumn of 1785. Lessons in two- and three-part species counterpoint took place the following winter; Mozart and Attwood may have resumed exercises in free composition at the same time or, at the latest, in the spring of 1786.

A number of the species exercises that Mozart composed as models for Attwood exhibit a strong harmonic orientation. Figure 1 shows a counterpoint in first species below a cantus firmus in C major.¹⁸

Figure 1. Mozart, Attwood Studies, p. 46.



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I have added to the exercise Roman numerals showing the strongly functional harmonic progression suggested by the counterpoint voices. Note also the traditional first species cadence consisting of the third (or sixth) moving by step to the unison (or octave) on the tonic pitch.

Figure 2 shows Mozart's demonstration of consonant suspensions in fourth species.¹⁹

Figure 2. Mozart, *Attwood Studies*, p. 61.



The obvious sequential nature of the exercise is interesting in light of the usual contemporary restrictions against sequential passages in species exercises (see the above quote from Forte and Gilbert). Note especially Mozart's abandonment of the traditional descending stepwise cadence in the cantus firmus; instead he incorporates the descending fifth as a clear reference to the harmonic cadence. Moreover, this authentic cadence is prepared by the implication of dominant preparation harmonies (VI, IV, and ii) in measures 6 and 7.

We shall now turn to species exercises by Luigi Cherubini that, like Mozart's, exhibit a strong harmonic orientation.²⁰ The first, in Figure 3, is a third species exercise in three voices with cantus firmus in the upper voice.²¹ Note the motion toward the mediant chord beginning in measure 5 with the dominant of III. The exercise closes with a perfect authentic cadence, as does the Mozart exercise shown in Figure 2. Although most modern texts forbid the use of the leading tone in the minor mode before the cadence, Cherubini uses it in measure 3 as part of a dominant-tonic progression.

The four-voice exercise in third species shown in Figure 4 provides an example of the harmonic generation of chromaticism.²²

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Figure 3. Cherubini, *A Treatise on Counterpoint and Fugue*, p. 24.

The first system of Figure 3 consists of two staves. The top staff (treble clef) has a measure number 5 in a box above it. The bottom staff (bass clef) has the label v^6/III below it. The second system also consists of two staves, with the bottom staff labeled 111 below it.

Figure 4. Cherubini, *Treatise*, p. 32.

The first system of Figure 4 consists of two staves. The top staff (treble clef) has a measure number 6 in a box above it. The bottom staff (bass clef) has the label v/v below it. The second system also consists of two staves, with the bottom staff labeled v below it.

In measure 6 of the exercise Cherubini uses F-sharp as part of the dominant of V, which enters in the following measure. This exercise, as do the other

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exercises already discussed, closes with a strong cadential progression incorporating dominant preparation harmonies.

The concept of embellishment is integral to the treatment of suspensions in fifth-species counterpoint. All of us are certainly familiar with the standard suspension decorations found in any counterpoint text. Mozart, in fact, devoted an entire page to decorated suspensions in the Attwood papers.²³ It is less common, however, to think of passages in the more rhythmically active species as embellishments or elaborations of first or second species structures. Yet I believe that, in several examples from the Attwood studies, this is exactly what Mozart had in mind. Figure 5 shows exercises in second and third species above the same cantus firmus.²⁴

Figure 5. Mozart, Attwood Studies, pp. 49 and 53.



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The exercise in third species is clearly an elaboration of the exercise in second species. The alignment of the counterpoint voices in Figure 6 demonstrates this relationship.

Figure 6.



The elaborative process in this case involves the addition to the second species line of neighbor tones, passing tones, and chordal skips.

Also from the Attwood studies, the next two examples demonstrate even more convincingly that Mozart conceived of the more rhythmically active species exercises as elaborations of simpler structures. Figures 7 and 8, in third and fifth species respectively, show that he added numerical figures to highlight the basic contrapuntal framework in these exercises.²⁵ Although in neither case a strict first- or second-species structure, the underlying contrapuntal framework in the above examples exhibits characteristics of several species. In the first two measures of figure 6 for instance, Mozart has indicated dissonant passing figures typical of second species. Notice how in measures 3–6 he has used slurs to indicate the voice exchanges comprising the intervals of a sixth and tenth. Figure 8 incorporates decorated suspensions, although in measures 6, 8, and 10 we might disagree with Mozart as to the exact points of resolution. (The first figure of measure 8 is obviously an error.) Before leaving these examples, we should also note the strong harmonic orientation of Figure 7 and the authentic cadence at its close.²⁶

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Figure 7. Mozart, Attwood Studies, p. 58.

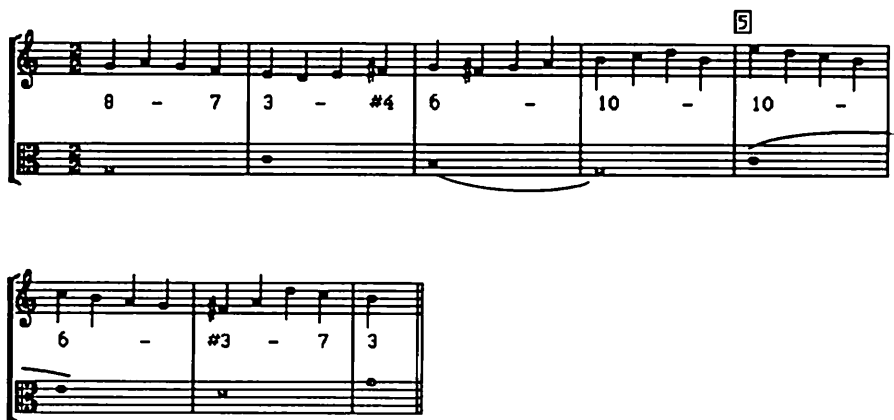
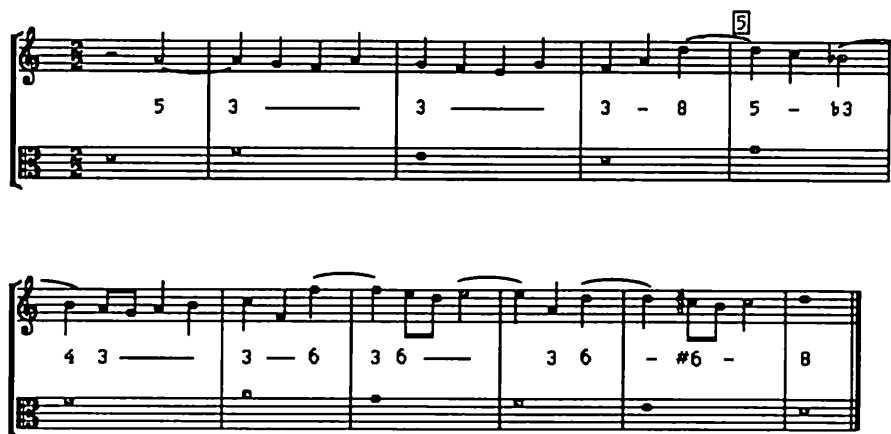


Figure 8. Mozart, Attwood Studies, p. 61.



In the remainder of this paper, I will outline a strategy for incorporating species counterpoint within the standard beginning undergraduate theory program. This strategy, the most important element of which is the integration of harmony and the species, has a historical basis in the peda-

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gological approaches of Kirnberger and Mozart that I have described above. I believe, along with Kirnberger, that a study of at least diatonic harmony should precede the undertaking of species study. This means that most classes would begin the species in the second or third semester of theory instruction.

Figure 9 represents a first-species exercise that, as I will demonstrate, could serve as the basis for a set of harmonically conceived species exercises.

Figure 9.



Figure 11.



The added embellishments include chordal skips, passing, and neighbor tones. After these stages in the exercise process, the student could be allowed greater freedom in applying embellishments; one could move into a strict fifth species version or directly into an even freer approach. Figure 12 gives a further elaboration of our exercise with some deviation from the standard rules.

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Figure 12.



Note the unprepared seventh on the second beat of measure 3, which could be considered an incomplete upper neighbor, and the quarter-note suspension at the beginning of measure 4. In addition, the last five measures provide an example of compound melodic structure. This stage of the exercise can serve to bridge the gap between strict counterpoint and free composition. Practically speaking, this approach ensures that the student's compositional attempts always have a harmonic-contrapuntal framework as guide, thereby avoiding the common problem of harmonically incoherent elaborations. Another advantage of these exercises is that they provide a more objective, teachable approach to the composition of tonal melody. Creative compositional activities do have a place in the undergraduate theory curriculum, but at the early stages, when students must assimilate common-practice techniques and not concern themselves with developing a compositional style, carefully structured and guided exercises are more pedagogically efficient.

In classroom analytical discussions we need to take advantage of opportunities to relate species counterpoint and free composition. The short passage from a Handel minuet shown in Figure 13 will serve to demonstrate the kind of contrapuntal relations I think we should try to help our students understand.

Figure 13. Handel, Minuet (*Händelgesellschaft* II/iii, 7).

The first beats of the initial three measures contain the first-species interval progression 8-10-10, which coincides with the harmonic progression I-V-I. Compound melodic structure is explicit in these measures with the descending leaps on the second beat of measures 1 and 2. Chordal skips elaborate the initial bass notes of these measures. The melody note A on the first beat of measure 3 moves to its lower neighbor G, itself elaborated on beats 2 and 3, and returns on the first beat of measure 4. Assuming the bass C on beat 3 of measure 3 results from a chordal skip, the first species progression here comprises parallel 10ths, which continue through measure 4 to the first beat of measure 5; the embellishments in measures 4 and 5 are incomplete neighbors (escape tones). The parallel 10ths serve as a connective between the tonic chord at the beginning of measure 4 and the dominant chord of measure 5. The entire first-species framework of this passage, shown in Figure 14, may not be very interesting from the perspective of intervallic diversity, but it does focus attention on the usefulness of species counterpoint in understanding techniques of compositional elaboration. The student with sufficient background could easily attempt such freer elaborative procedures at a later stage of theory study.

Figure 14. Handel, Minuet: First species contrapuntal structure.



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Shorter versions of the exercises I have proposed could also provide material for dictation practice. Although the typical two-part dictation exercises might begin with strict species, more beneficial to the student, in my opinion, would be a series of exercises based on an unembellished harmonic progression. This harmonic progression would be analogous to the harmonized first species exercise shown in Figure 10. Successive stages of elaboration could then be dictated, beginning with the rhythmic relationships of the species and proceeding to embellishments more characteristic of free composition. This approach unites two traditional dictation exercises—the harmonic and contrapuntal—that in many aural skills classes are often separate and unrelated in purpose.

Although the followers of Schenker have most often been at the forefront in advocating the species approach for the teaching of tonal music theory, recognizing the value of this traditional discipline does not depend on one's particular theoretical or analytical philosophy. At the very least, the species provide a systematic introduction to consonant and dissonant embellishing techniques. With guidance from some of the great teachers of the past, however, I believe we can use the species within a comprehensive program of elementary composition, analysis, and activities directed toward the training of the musical ear. Using harmony as a starting point, I believe it is possible to teach counterpoint so that, in the student's mind, it is not the antithesis of harmony, but its equal partner in the formation of structurally coherent tonal events.

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¹Arnold Schoenberg, *Theory of Harmony* (1911), translated by Roy E. Carter (Berkeley: University of California Press, 1978), p. 14.

²Arnold Schoenberg, *Preliminary Exercises in Counterpoint*, edited by Leonard Stein (London: Farber and Farber, 1963).

³"Schenkerian Theory: Its Implications for the Undergraduate Theory Curriculum," *Music Theory Spectrum* 3 (1981): 142-149.

⁴*Gradus* (New York: W.W. Norton, 1976), and "A New Approach to Species Counterpoint," *College Music Symposium* 21/1 (Spring 1981): 60-66.

⁵*Gradus*, p. 117.

⁶Kraft modifies the traditional species ordering by placing the fourth before the third species.

⁷Bruce Benward, *Music in Theory and Practice*, 2nd ed. (Dubuque: Wm. C. Brown, 1982).

⁸Paul Cooper, *Perspectives in Music Theory*, 2nd ed. (New York: Harper and Row, 1981), pp. 258-261.

⁹Earl Henry, *Music Theory*, p. 22. Henry idiosyncratically presents an introduction to counterpoint (chapter 2 of volume 2) after a chapter on fugue.

¹⁰New York: McGraw-Hill, 1969, p. 26.

¹¹New York: W.W. Norton, 1982.

¹²*Ibid.*, p. 42.

¹³"Strict Counterpoint and Tonal Theory," *Journal of Music Theory* 19/2 (Fall 1975): 260-284.

¹⁴Translated by David Beach and Jurgen Thym (New Haven and London: Yale University Press, 1982).

¹⁵*Ibid.*, p. 151.

¹⁶*Ibid.*, p. 159, 187.

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¹⁷Erich Hertzmann and Cecil B. Oldman, editors, *Thomas Attwood's Theorie und Kompositionsstudien bei Mozart*, in *Mozart, Neue Ausgabe sämtlicher Werke*, X:30-31 (Basel: Bärenreiter Kassel, 1965). The background information on these studies provided in this paper is based largely on Daniel Hertz, "Thomas Attwood's Lessons in Composition with Mozart," *Proceedings of the Royal Musical Association* 100 (1973-74): 175-183. See also Rosalie Athol Schellhous, "Voice Leading in Mozart's Figured Basses for Attwood," *Journal of Music Theory Pedagogy* (Fall 1988):187-223.

¹⁸Attwood Studies, p. 46. In the following counterpoint exercises, I have changed some of the original clefs to accord with more usual contemporary practice.

¹⁹*Ibid.*, p. 61.

²⁰Luigi Cherubini, *A Treatise on Counterpoint and Fugue* (1835) (London: J.A. Novello, 1854).

²¹*Ibid.*, p. 24. Cherubini wrote all of his counterpoint exercises on separate staves. For ease of reading I have rewritten the exercises on the grand staff.

²²*Ibid.*, p. 32.

²³Attwood Studies, p. 68.

²⁴*Ibid.*, pp. 49 and 53. The cantus firmus is by Fux.

²⁵*Ibid.*, pp. 58 and 61. The cantus firmus of example 7 is the same as that of example 5.

²⁶Since this example is not followed by a double bar and its counterpoint voice does not conclude with the tonic pitch, Mozart may not have intended it as complete exercise.

USING BLOOM'S TAXONOMY TO DEVELOP AN APPROACH TO ANALYSIS

JAMES CALDWELL

The technique in this article grew out of my experience teaching an upper-division undergraduate course in analysis. I was faced with a particular pedagogical problem, and this technique was a workable solution to it. This is not a major theoretical construct, but rather a systematization of a way of thinking while doing analysis.

The class was small, only seven students. They ranged widely in ability and background, though most were above average students. In class I lectured some, but mostly guided discussions. Our primary source of music for analysis was the Turek Anthology.¹ The students had frequent written assignments, answering Turek's questions or my own. I also had them write a series of more formal analysis papers.

In many regards the class shined: they became quite adept at answering questions, and were sometimes insightful. They were prepared for class discussions, fielded unexpected questions with a minimum of stammering, and sometimes disagreed with each other about the meaning or interpretation of an event. All in all they seemed to demonstrate a grasp of the principles we were working on, and seemed to be thinking.

Despite their good classroom work and written exercises, their longer papers were disappointing. Students were often bewildered about how to begin, and would plaintively ask, "What should I do?" The papers suffered from a lack of focus or a thesis—they were not about anything. Two extremes were common—wild generalizations unsupported by evidence from the score, or opaque progressions of mind-numbing detail. The travelog was used far too frequently—"First he does this, then that comes in, and then he modulated there." Michael Rogers, in *Teaching Approaches in Music Theory*,² draws a distinction between "description," which answers what? and where?, and "analysis," which is concerned with explanations, connections, relationships, patterns, hierarchies, and comparisons—a distinction ignored in these papers. Even though we hope students would learn from model questions and analyses, most students simply do not make the connection between the types of questions they have been asked and the kinds of analysis they should do on their own.

I found this inability of good students to write a coherent paper rather disturbing. I rejected a couple of possible solutions. One, I could gnash my teeth and mumble about their inability to write a thesis sentence, and what are they learning in English 101, and they have no business in college, and how did they even graduate from high school, and they are all headed for careers at Burger King; and then give them Ds. Not very productive. Two, I could write more detailed paper assignments; I knew they were good at answering questions. But that would not solve the problem—simply circumvent it somewhat. Not only that, but such a solution fails to nurture, and even discourages independence and initiative. The importance of a critical spirit to thinking is a theme that runs through much of the research on critical thinking,³ and musical analysis seems to be a ripe field for encouraging such a cognitive style.

I decided that learning to ask the right questions would go a long way toward solving the problem. Since my students were not learning how to ask questions from answering them, I would have to teach them. The literature on questioning is quite extensive. It is widely understood that to encourage critical thinking teachers must ask “divergent” questions (open-ended, with many correct answers) rather than “convergent” questions (closed, with one right answer and emphasis on recall). Unfortunately, the literature stresses teaching teachers to ask questions, rather than teaching students to question.

I found my approach in what has generally come to be known as Bloom’s Taxonomy, more precisely the *Taxonomy of Educational Objectives: The Classification of Educational Goals; Handbook 1: Cognitive Domain* by a committee headed up by Benjamin S. Bloom.⁴ Anyone taking education courses has probably run into the Taxonomy; it is widely summarized and referenced. Its division into lower- and upper-level skills and abilities has been influential in various definitions of critical thinking and has shaped much of the recent discussion about the nature of thinking and learning. The structure of the Taxonomy is summarized in Figure 1.

BLOOM'S TAXONOMY

Figure 1. SUMMARY OF BLOOM'S TAXONOMY WITH ASSOCIATED VERBS

KNOWLEDGE

- 1.00 Knowledge—Behaviors that emphasize remembering; recognition; or recall.
 - 1.10 Knowledge of Specifics
 - 1.11 Knowledge of Terminology
 - 1.12 Knowledge of Specific Facts
 - 1.20 Knowledge of Ways and Means of Dealing with Specifics
 - 1.21 Knowledge of Conventions
 - 1.22 Knowledge of Trends and Sequences
 - 1.23 Knowledge of Classification and Categories
 - 1.24 Knowledge of Criteria
 - 1.25 Knowledge of Methodology
 - 1.30 Knowledge of Universals and Abstractions in a Field
 - 1.31 Knowledge of Principles and Generalizations
 - 1.32 Knowledge of Theories and Structures
- >>> list, recall, remember, define, identify, label, recognize

INTELLECTUAL ABILITIES AND SKILLS

- 2.00 Comprehension—Ability to make some use of “communication” in a form somewhat different from remembering.
 - 2.10 Translation
 - 2.20 Interpretation

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2.30 Extrapolation

- >>> explain, illustrate, describe, summarize, convert, measure, translate, extrapolate, predict

3.00 Application—Use of abstractions in concrete situations.

- >>> demonstrate, apply, use, construct, perform, solve, use abstractions, show

4.00 Analysis—Breaking down a “communication” into its constituent parts; making clear the relationship between parts.

4.10 Analysis of Elements

4.20 Analysis of Relationships

4.30 Analysis of Organizational Principles

- >>> analyze, differentiate, generalize, distinguish, determine, diagram, inventory

5.00 Synthesis—Putting together parts to form a new whole.

5.10 Production of a Unique Communication

5.20 Production of a Plan, or Proposed Set of Operations

5.30 Derivation of a Set of Abstract Relations

- >>> design, plan, relate, formulate, organize, compose, construct

6.00 Evaluation—Making qualitative or quantitative judgements about value; use of criteria and standards

6.10 Judgements on Terms of Internal Evidence

6.20 Judgements on Terms of External Criteria

- >>> compare, decide, judge, evaluate, conclude, contrast, appraise

BLOOM'S TAXONOMY

The Taxonomy recognizes six classes in the cognitive domain: knowledge; comprehension; application; analysis; synthesis; and evaluation (each defined in a specific way that is not necessarily common-sensical). Most of the main classes are further broken down into smaller subdivisions. The Taxonomy was intended to organize behavior objectives with the idea that simpler behaviors from the lower categories are combined to generate more complex or higher-level behaviors. This hierarchy has been criticized, and it does have some disadvantages. Richard Paul, the director of the Center for Critical Thinking and Moral Critique at Sonoma State University in California, points out that a one-way view of the hierarchy relegates behaviors in the knowledge class to products of "right answer inculcation," which is antithetical to the idea of knowledge as a product of "rational assent," a necessity in the global process of critical thought.⁵

Other lists of critical thinking skills, the College Board's Project Equality guidelines, and the New Jersey Taskforce Taxonomy of Thinking Skills, are explicitly not hierarchical,⁶ an implicit criticism of Bloom. Further, Bloom himself is rather tentative in his assertion of the hierarchical order, and his discussion of evaluation, the highest-order cognitive ability, is specific in pointing out that "it is not necessarily the last step in thinking or problem solving."⁷ The Taxonomy is meant to be a classification of objectives and behaviors, not a description of thinking and learning processes; thinking does not necessarily begin at the bottom. That said, the hierarchy is still quite useful. A thorough comprehension of the Taxonomy and the ability to apply it by classifying objectives or questions can help students understand the difference between sophisticated analysis and mere description.

A most useful aspect of the Taxonomy is a list of verbs, not explicitly part of the Taxonomy, but which can be extracted from the objectives and test questions (incorporated in Figure 1).

The technique I used in class began with a verb session. I introduced the Taxonomy, its levels, and the verbs in a very short lecture. Then we practiced generating questions about pieces we had already studied (it is easier to ask a question whose answer is already known). To generate questions we just read down the list of verbs in each category: "define _____"; "explain _____"; "differentiate between _____"; and so on. Not all verbs seemed applicable, but many were fruitful. Next we generated questions by applying the verbs to non-musical situations—baseball and current affairs: "Predict whether a manager will choose a left- or right-handed relief pitcher to go against a particular batter in the bottom of the ninth" (extrapolation, 2.30); "Distinguish between premises and

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conclusions in Edwin Meese's concept of strict construction of the constitution" (analysis of elements, 4.10). Analyzing and classifying the questions in the Turek Anthology is a good exercise, and finally I provided students with model questions (Figures 2 and 3). The explicit goal of the verb session is comprehension and application of the Taxonomy. Not attempting to answer the questions frees the students from only asking questions they think they can answer. This session took one class period.

Figure 2. An example of successively higher order thinking skills applied to the orchestration of Handel, Concerto Grosso, Op. 6 No. 1.

1.00 Knowledge

List the instruments called for in the score.

Define "concertino," "ripieno."

2.00 Comprehension

Explain why violins have four staves.

Explain the purpose of the little numbers that are found with the Basso Continuo.

3.00 Application

Use your comprehension of concertino and ripieno to locate passages that feature the concertino.

Locate passages in which concertino and ripieno play different material together.

4.00 Analysis

Differentiate between the material (melodic style, texture, dynamics, etc.) of the concertino sections and the ripieno sections.

Can you generalize about the distinctions?

BLOOM'S TAXONOMY

5.00 Synthesis

Relate the formal pattern articulated by the alternation of concertino and ripieno with the tonal and harmonic scheme. (You may have to go through a similar progression through the cognitive levels while examining tonality and harmony to consider this question.)

6.00 Evaluation

Evaluate the relationship between orchestration and progressive/recessive tendency (Berry) at various points in the piece, and *compare* that relationship to the relationship between tonality/harmony and progressive/recessive tendency.

Contrast the relationship between concertino and ripieno in this concerto grosso with the relationships between the piano and orchestra in Mozart, Piano Concerto, K. 466.

Figure 3. An example of successively higher order thinking skills applied to the texture in Brahms, Clarinet Quintet, Op. 115.⁸

1.23 Knowledge of Classifications and Categories

Define density-number, density-compression, and diversity value (Berry).

Define homophony, polyphony, heterophony, monophony, counter-melody, accompaniment.

2.10 Translation

Measure the density-compression of every beat in the exposition. (Translating the information in the score to a numerical or graphic representation.)

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3.00 Application

Use the abstraction diversity value in the concrete situation of the exposition by *determining* the diversity value of the texture on a measure by measure or beat-by-beat basis. (One or more lines that are relatively interdependent in direction, interval, rhythm constitute one “real voice”; diversity value is represented by the number of lines per real voice arrayed in a vertical stack. This involves judgement about similarity and dissimilarity, but not judgement about value, which would be 6.00 Evaluation.)

4.20 Analysis of Relationships

Differentiate between the real voices in terms of function—melodic, countermelodic, accompanimental, rhythmic, conventional horizontal filler, etc. (In other words, *make clear the relationships* between the elements of texture.)

Generalize about any relationship between density-compression and diversity value.

5.30 Derivation of a Set of Abstract Relations

Devise a scheme of *classification* for types of textures found in the first movement. (The standard types—homophony, polyphony, heterophony—may not be sufficient.)

Formulate a set of criteria for determining the intensity value of textural relationships in this piece. (Berry’s criteria may or may not be sufficiently detailed or complete.)

6.10 Judgements in Terms of Internal Evidence

Evaluate the role of texture in determining the intensity value of various passages, and compare it to the roles of rhythm and harmony.

Appraise the appropriateness of particular texture types for various formal processes (Berry).

BLOOM'S TAXONOMY

Next came the three stages of the technique proper. The first stage is to generate questions. The questions should be limited to one aspect of the piece to be analyzed—orchestration, phrase structure, harmony/tonality, texture, rhythm, and so on. At least two questions should be generated at every level. Questions at low levels are rather easy to write with a little practice, but questions at the higher three levels require more imagination and initiative. Students should be reminded that the point is to question, and not to answer; hard questions should not be repressed.

The second stage is to critique the questions and help students put their questions in the right categories. I found especially that low-level questions end up in higher-level categories. "Distinguish between the tonic and dominant triads in the first phrase," uses a level 4 (analysis) verb, but in the context of a knowledge or comprehension activity. The reassigning of questions leaves holes in the upper-level classes, so new questions must be generated to fill in. This stage—critiquing the questions—is important. Students must recognize that certain kinds of analysis are low-level and not sufficient for a sophisticated analysis, a fact that is not at all obvious to many of them.

The third stage is to select some of the most promising questions and answer them. Questions can be selected that match a student's ability and background. During the selection process students should be helped to see that finding answers to the higher-level questions may require first answering the lower-level questions and generating and answering more, similar lower-level questions. To "differentiate between the material of the concertino sections and the ripieno sections" requires first answering the lower-level questions about locating appropriate passages (see Figure 2). Comparing the lines of intensity (à la Berry) in orchestration with those in tonality requires generating and answering lower-level questions in the element of tonality. The three stages are cyclical or global, rather than strictly linear.

I was pleasantly surprised by the results of using this technique. I did not, of course, run this as a research project with a control group and so on, so the results are my subjective impressions (reflected by an improvement in grades). The papers were undoubtedly better. They had a point of view. They were soundly organized. They had evidentiary support for assertions and conclusions—a result, I think, of recognizing the need for low-level answers to arrive at high-level answers. Finally, they were more sophisticated, primarily because their authors had a firmer grasp of what is sophisticated analysis.

A result I did not anticipate was the control my students felt over their papers. They faced none of the bewilderment of earlier efforts, and were

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somewhat more enthusiastic about the assignments. They felt less imposed on, and more that this was their own choice. They felt, in short, more independent.

The goal of analysis, when I used the technique, was to write a paper. I hope that other goals of analysis might include performance, composition, or involved listening to synthesize and evaluate. The ultimate goal of any approach to analysis should be to instill in the analyst a questioning spirit.

NOTES

¹Ralph Turek, *Analytical Anthology of Music* (New York: Alfred A. Knopf, 1984).

²Michael R. Rogers, *Teaching Approaches in Music Theory* (Carbondale: Southern Illinois University Press, 1984).

³Stephen P. Norris, "Synthesis of Research on Critical Thinking," *Educational Leadership* 42/8 (May 1985): 44.

⁴Benjamin S. Bloom, and others, *The Taxonomy of Educational Objectives: The Classification of Educational Goals; Handbook 1: Cognitive Domain*.

⁵Richard W. Paul, "Bloom's Taxonomy and Critical Thinking Instruction," *Educational Leadership* 42/8 (May 1985): 38.

⁶Edward A. Morant and Anita Ulesky, "Assessment of Reasoning Abilities," *Educational Leadership* 42/1 (September 1984): 72.

⁷Bloom, *Taxonomy*. p. 185.

⁸This set of questions was prepared for a Graduate Analysis class, after we had studied some of the material in the chapter "Texture" in Wallace Berry, *Structural Functions in Music* (Englewood Cliffs, N. J.: Prentice-Hall, 1976).

EXPLAINING INVERSION IN TWENTIETH-CENTURY THEORY

LORA L. GINGERICH

A general intuitive meaning for the term inversion is not particularly difficult to explain or to understand. In music, inversion is the “substitution of higher for lower tones, and vice versa.”¹ The student of tonal theory is usually acquainted with both harmonic and melodic inversion, and normally comfortable with the distinction between the two types. Often, however, the concept of inversion commonly used in twentieth-century theory—the inversion of a pitch-class set or a twelve-tone row—is difficult to understand intuitively for both the student and instructor. Pitch-class inversion is more closely related to the traditional notion of melodic inversion than harmonic inversion, and is often equated with strict or real melodic inversion. When the instructor or student of twentieth-century theory relates pitch-class inversion to strict melodic inversion, however, confusion and misunderstanding may arise, for there are important distinctions between them. A clearer understanding of the abstract process of pitch-class inversion used in twentieth-century theory may be reached first by examining the assumptions underlying the various types of inversion, second by exploring the different assumptions required to explain pitch-class inversion, and finally by utilizing and building on those assumptions to give an informal definition of pitch-class inversion. A brief survey of the literature concerning pitch-class inversion, examining several representative definitions of pitch-class inversion and methods for finding the inversion of a pitch-class set or twelve-tone row, concludes the discussion.

In a harmonic inversion the lowest member in an interval or chord moves to become the upper member or an upper voice in the interval or chord; a higher tone substitutes for a lower tone. The resulting interval or chord is said to be an inversion of the original interval or chord. Two assumptions underlie this definition of harmonic inversion: 1) the pitches are sounded simultaneously or are otherwise *temporally* unordered; and 2) the pitches also have a specific *registral* ordering, at least to some extent.

In a melodic inversion the direction of each interval in the melodic line is reversed; an ascending interval becomes a descending interval and vice

versa. Again, a higher tone substitutes for a lower tone. Melodic inversion may be strict or tonal, depending on whether or not the exact size of the interval is preserved when the direction is changed. The resulting melodic line is said to be the inversion of the original melodic line. Two assumptions underlie this definition of melodic inversion: 1) the pitches occur in a specific *temporal* order; and 2) they are also *registrally* ordered, to the extent that each interval in the melody has a registral direction.

To fully understand the inversion of a pitch-class set, an unordered collection of pitch-classes without register, or to understand the inversion of a twelve-tone row, an ordered collection of all twelve pitch-classes without register, requires different assumptions. The assumptions made when describing a strict melodic inversion are not appropriate. Discarding these and replacing them with different assumptions allows an explanation for the process of inversion that does not rely on the specific register or specific order of the elements in the collection being inverted.

For the beginning student of twentieth-century theory, the most critical and frequently overlooked aspect of pitch-class inversion is the axis of symmetry. If two ordered or unordered collections of pitch-classes are related by inversion there must be an axis of symmetry. Understanding and explaining pitch-class inversion without reference to the axis of symmetry is difficult if not impossible. As stated earlier, pitch-class inversion is related to strict melodic inversion. The axis of symmetry in a pitch-class inversion is analogous to the center of inversion in a strict melodic inversion. The distinction in terminology between a center of inversion, for a strict melodic inversion, and an axis of symmetry, for a pitch-class inversion, is important as it provides a useful way to distinguish the concepts.

A strict melodic inversion has an inversional center, which is a single pitch, or a pair of pitches forming a half-step, in a specific register. The inversional center for a strict melodic inversion can be found by superimposing the two melodic lines that are related by inversion, and finding the pitch, or pair of pitches that lies exactly halfway between each corresponding pitch in the ordered melodic line. Figure 1 demonstrates the technique using several simple melodies and their inversions. This aspect of a strict melodic inversion is rarely considered. Since the relationship between the intervals in the inverted melodic line and the intervals in the original melodic line is clear, the definition of melodic inversion given above is sufficient, and thus the concept of inversional center is unnecessary. The concept, however, of an inversional center in a strict melodic inversion can be generalized to lead to the concept of an axis of symmetry in a pitch-class inversion, thereby providing a useful way to introduce that concept.

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Figure 1.

Center Bb4

Center G#3-A3

Center F4

An alternative definition of strict melodic inversion could be formulated if we consider that each pitch in a melodic line lies a certain interval above or below a specific inversional center. The strict inversion of a melody around the given center is the related melody whose pitches lie an equal distance from the center, but in the opposite direction. Once again, higher tones substitute for lower, and vice versa. The assumptions underlying this definition of melodic inversion are that the inversion has a center, and that the pitches have a specific registral position in relation to the center. Note that the exact order of the pitches in the melody is no longer a critical factor in this definition. In fact, a single pitch has a theoretical melodic inversion around a given center according to this definition.

A pitch-class inversion by assumption involves pitch-classes without specific register. Thus, the definition just presented must still be modified.

Rather than a center of inversion, a pitch-class inversion will have an axis of symmetry with no specific register, and consisting not of a single pitch-class or pair of pitch-classes, but represented by two pitch-classes or two pairs of pitch-classes separated by a tritone.

A convenient visual model for explaining pitch-class, axis of symmetry, and pitch-class inversion, is a circular diagram resembling a clock face, as shown in Figure 2.² The clock-face can be drawn with either letter names for pitch-classes, or integer names for pitch-classes. To understand how the entire spectrum of pitches in register can be represented in theory by a clock-face diagram, use the following steps. First, imagine a long string of wire, divided into equal parts and with pitch names, thus representing the entire spectrum of pitches in register. Next, imagine wrapping the string or wire into a spiral, matching points on the string with the same letter names, so, for example, C3, C4, and C5 are aligned. Finally, imagine looking at the spiral from the end, so it appears to be a circle. There is a position on the circle for each of the twelve chromatic pitches, yet no particular register can be isolated when the spiral is viewed from the end. It is important to remember that from one perspective the string or wire is still a spiral and contains marks representing the entire range of pitches in register, theoretically infinite in number. But by looking at the spiral from a different perspective, it is a closed circle, or considering the collection of all possible pitches without reference to specific register, there are only twelve distinct pitch-classes. Different aspects of the spiral are visible when viewed from different perspectives, just as different aspects of the fundamental musical materials are revealed when different assumptions are given.

An axis of symmetry can be represented on the clock-face diagram by using a single straight line that passes through the center of the clock, passing also through two antipodal "hours" representing pitch-classes on the clock, or through two antipodal "half-hours" representing pairs of pitch-classes on the clock. Figure 3 shows several different clock-face diagrams each with a specific axis of symmetry drawn. The process of pitch-class inversion around a specific axis of symmetry involves matching each pitch-class with its reflection across the line drawn to indicate the axis of symmetry. Figure 4 shows a clock-face diagram, with an axis of symmetry drawn, and with additional parallel lines drawn to indicate how the pitch-classes are matched for one specific axis of inversion. If the axis of symmetry is D-G-sharp, as shown, D-sharp will invert to C-sharp, E will invert to C, F will invert to B, and so forth. Or using pitch-class integer notation and the same axis of symmetry, the pitch-class set (1, 2, 3, 5, 7, 10) will be reflected into the pitch-class set (3, 2, 1, 11, 9, 6). Thus, the clock-face diagram provides an easy method of finding the pitch-class inversion for a pitch class set or twelve-tone row.

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Figure 2.

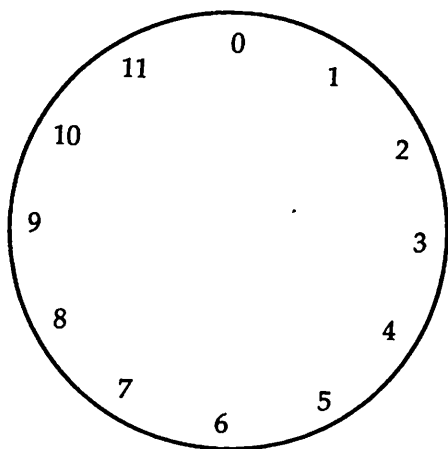
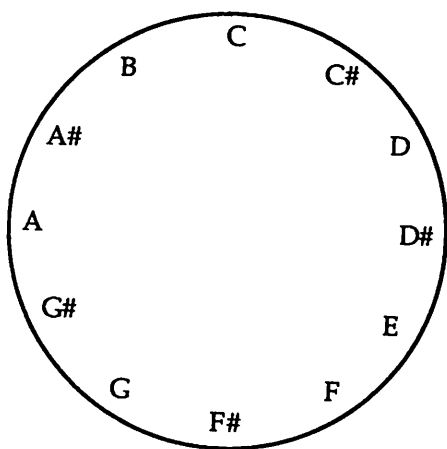
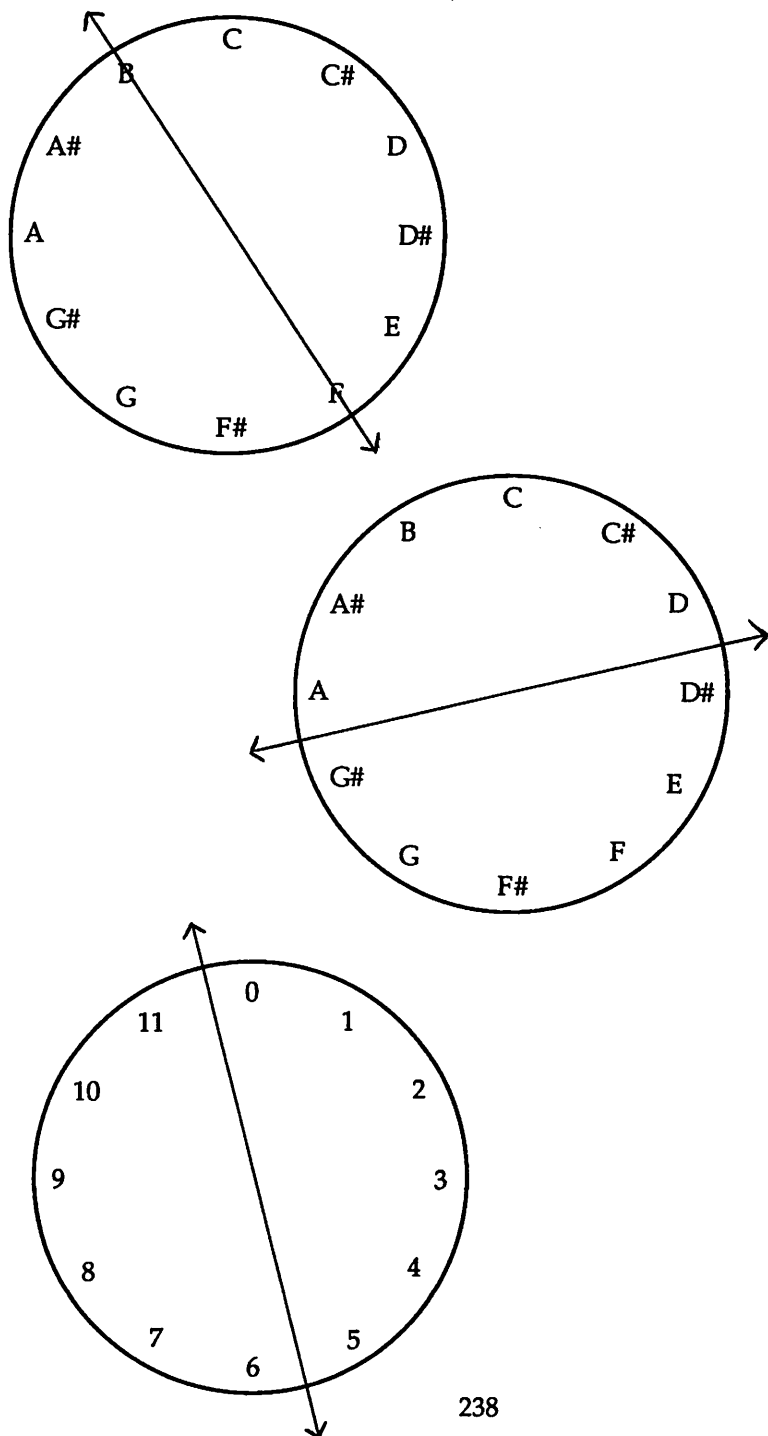
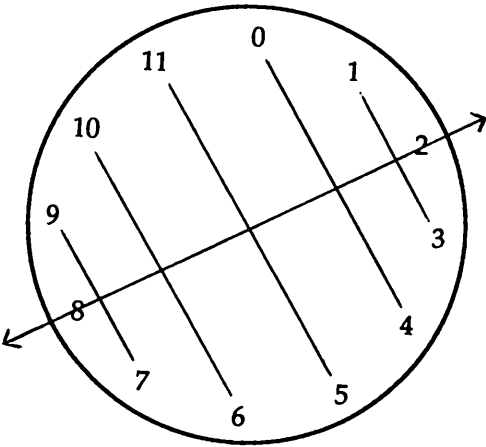
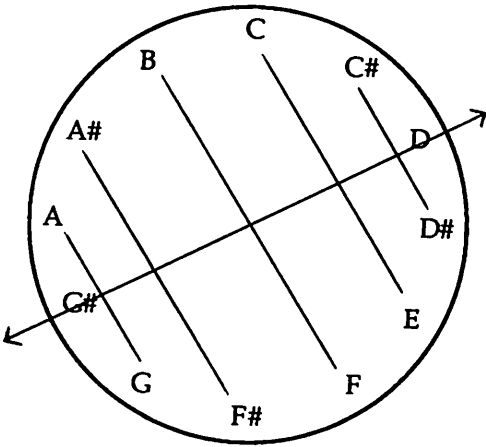


Figure 3.



INVERSION IN TWENTIETH-CENTURY THEORY

Figure 4.



The clearest way to define or describe the process of pitch-class inversion is to give the axis of symmetry. Since there is no specific register for each element in the set or order for the elements in the set, the assumptions for strict melodic inversion will not make sense. A new assumption, that the inversion must be around some specific axis of symmetry is required. Consider first the inversion of a single pitch-class. The inversion of a pitch-class "x" around a specific axis of symmetry is the pitch-class "y," which is the same distance from the axis of symmetry as the original pitch-class "x" but in the opposite direction, or on the opposite side of the clock-face. The inversion around a specific axis of symmetry of a pitch-class set, X, will be the pitch-class set, Y, whose members are the pitch-class inversions around a specific axis of symmetry of the members in the original set.

The literature contains many different definitions of pitch-class inversion, all of which depend on the explicitly or implicitly stated concept of an axis of symmetry. David Lewin defines pitch-class inversion informally when he writes "there are twelve ways of inverting the total chromatic into itself; one can fix any one of these inversions and regard the total chromatic as 'balanced' with respect to that inversion. Thus, e.g., the inversion that leaves D fixed also leaves A-flat fixed, and balances C-sharp with E-flat, C with E, B with F, etc. . . . We may think of these pitch-class inversions as possessing "axes"; each may be regarded, also as having a pair of antipodal 'centers.'"³ Elsewhere, Lewin gives a formal definition of inversion: "We can . . . define inversions independent of pc labeling. We shall do so by stipulating a pair (u, v) of pitch-classes such that the inversion is to reflect u into v, and we shall denote the inversion operation that does so by, " T^{uv} ." Let us consider such an inversion: given a sample s, . . . (where) s is n hours clockwise from u, the inverted image of s will appear reflected as n hours counterclockwise from v, the reflected image of u."⁴ In each of Lewin's definitions the concept of an axis of symmetry is explicitly stated, and recognizing the assumption of a particular axis of symmetry for each inversion enables the reader to understand Lewin's definitions quickly.

George Perle gives a more concise definition for pitch-class inversion when he writes: "Where transpositionally related sets show the same difference for every pair of corresponding pitch classes, inversionally related sets show the same sum."⁵ Perle represents pitch-classes utilizing integer notation, and performs addition and subtraction modulo 12. Perle's definition relies on an implicit assumption of an axis of symmetry. For when two pitch classes are related by inversion around a particular axis of symmetry, they will add modulo 12 to an integer that is twice the value of either of the two opposite poles of the axis of symmetry modulo 12. Note that if the axis of symmetry is made up of two pairs of pitch-classes the

INVERSION IN TWENTIETH-CENTURY THEORY

integers representing inversionally related pitch-classes will sum to an odd number, while if the axis of symmetry is made up of two single pitch-classes the integers representing inversionally related pitch-classes will sum to an even number. This definition and method for determining the inversive relationships among pitch-class sets and twelve-tone rows is very convenient, but without an understanding of the implicit axis of symmetry, may be confusing.

John Rahn, following Milton Babbitt and Allen Forte, considers inversion "as the compound operation *transposed inversion*."⁶ His definition for pitch-class inversion, called $T_n I$, is easy to manipulate given pitch-class integer notation. He writes: "For any pc x and pc interval n , $T_n I(x) = -x + n \pmod{12}$."⁷ The formula is easy to remember, and the modular arithmetic is easy to perform, but the notion of an axis of symmetry is not so easy to extract from this definition. The danger of considering inversion as a compound operation, fixing a single center, and transposing that inverted form to produce twelve other inverted forms is that one may forget there are indeed twelve different axes of inversion, independent but analogous to the twelve transpositional levels.⁸ Later in his discussion of pitch-class inversion Rahn refers to the "two centers of symmetry 6 semitones apart."⁹ These centers of symmetry are "always one-half the index, n , of each operation $T_n I$. . . $1/2n$ can be either $1/2n$ or $1/2(n+12)=1/2n+6$."¹⁰ Rahn's "centers of symmetry" correspond to my axis of symmetry. The danger of considering inversion as a compound operation can be avoided if the student is frequently reminded to find the center of inversion using Rahn's formulas as well as the actual inverted form of a set or row.

These definitions of pitch-class inversion represent some of the many different methods for explaining pitch-class inversion found in the literature. Each method has strengths and weaknesses, each is appropriate in some analytic or theoretic situations but not all, and each is more easily understood if an intuitive meaning of pitch-class inversion is also presented. An intuitive understanding of a new concept is not always as practical or as easy to explain as a concrete formula that works to produce the correct answer. The student, however, who has both an intuitive grasp of a new concept, as well as a workable formula for practical applications, will certainly have the potential to gain a deeper understanding of that concept.

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NOTES

¹Willi Apel, "Inversion," 2nd edition., revised and enlarged (Cambridge: Belknap Press of Harvard University, 1977), p. 422.

²David Lewin, "Inversional Balance as an Organizing Force in Schoenberg's Music and Thought," *Perspectives of New Music* 6 (1968): 1-21.

³Ibid.

⁴David Lewin, "A Label-Free Development For 12-Pitch-Class Systems," *Journal of Music Theory* 21/1 (1977):35.

⁵George Perle, *Twelve-Tone Tonality* (Berkeley: University of California Press, 1977), p. 2.

⁶John Rahn, *Basic Atonal Theory* (New York: Longman Inc., 1980), p. 45. See also Milton Babbitt, "Twelve-Tone Invariants as Compositional Determinants," *The Musical Quarterly* 46 (1960): 252. Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973), pp. 7-11.

⁷Rahn, p. 47.

⁸David Lewin, "A Label-Free Development For 12-Pitch Class Systems," *Journal of Music Theory* 21/1 (1977) : 29-48.

⁹Rahn, p. 50.

¹⁰Ibid.

REPORT ON THE INSTITUTE FOR MUSIC THEORY PEDAGOGY STUDIES II

ROGER E. FOLTZ

ALICE M. LANNING

(University of Oklahoma)

The second institute for Music Theory Pedagogy Studies (June 12-16, 1989, in Boulder, Colorado) was sponsored by The College Music Society and hosted by the University of Colorado College of Music. Organizers were Roger E. Foltz, University of Nebraska at Omaha, who also served as Director for the Institute, and Gary Wittlich, Indiana University. Bruno Amato, Peabody Conservatory; Bruce Benward, University of Wisconsin; John Buccheri, Northwestern University; Maureen Carr, Pennsylvania State University; and Michael Rogers, University of Oklahoma, served as faculty members. Guest performers were Dale Moore, Indiana University, and Robert Spillman, University of Colorado.

The primary subject for discussion during the week was "Problems of Undergraduate Music Theory Instruction with an Emphasis on the Relation of Theory and Performance." This theme was selected after the 1988 Institute participants agreed that undergraduate music theory teachers are continually confronted with questions regarding the relevance of theory classes to applied lessons. According to the initial announcement for the second institute, "It is challenging for theory teachers to counter the students' view that theory studies are unimportant or detract from their performance studies." Throughout the week, the relationship between theory classes and performance at the undergraduate level was a recurring topic addressed by faculty members and participants alike. It was apparent that many undergraduate music students do not readily see the connection between these two areas in typical undergraduate music curricula.

Maureen Carr presented the first session, "The Rule of Melodic and Cadential Patterns in Sight Singing and Ear Training." Many of the examples were drawn from her forthcoming sightsinging book and concentrated on specific patterns and their reductions. Bruce Benward then shared some of his experiences and examples regarding positive aspects and challenges in using music literature as a source for ear training class

materials. Professor Carr's afternoon session was devoted to ideas on the use of voice-leading patterns (diatonic and chromatic) in ear training and sightsinging with paradigms and instructional suggestions for daily classroom use. Professor Benward provided a list, drawn from his years of classroom teaching experience, of eleven common problem areas found in aural theory courses. This list formed the basis for a faculty panel discussion with questions and experiential insights added by Institute participants. The remainder of the day was devoted to small group meetings where participants discussed these problem areas with faculty members and with each other.

The second day of the Institute began with presentations by Benward and Carr on the topics of "Unifying Factors such as Melodic and Rhythmic Motives, and Harmonic Progressions through Sight Singing and Ear Training," "Impressionistic Devices Explored Through Sight Singing and Ear Training," and "Twentieth-Century Techniques in Sight Singing and Ear Training." Each speaker incorporated practical drills and exercises and included instructions for teachers who might wish to use these drills in daily classroom activities. Participants then divided into small groups according to institutional type for discussion of the topic: "What is the Appropriate Content of an Undergraduate Ear Training and Sight Singing Curriculum?"

Since this institute was based on a commitment to performance, Dale Moore and Roger Spillman, featured artists, performed a recital of art songs on Tuesday evening. Their program consisted of the following selections: Six Heine Poems from *Schwanengesang*, D. 957 by Franz Schubert; *Trois Ballades de Francois Villon* by Claude Debussy; Eight Lieder by Hugo Wolf; and Three Poems from James Joyce's *Chamber Music*, Opus 10 by Samuel Barber. The Monday and Tuesday Institute sessions conducted by Professors Benward and Carr often referenced this recital repertoire in the creation of ear training and sight singing materials for classroom use.

On Wednesday morning, Professors Foltz, Moore, and Spillman discussed analysis and performance considerations of the recital songs. Professor Moore emphasized the need for *gestalt* hearing as a primary goal for undergraduate aural theory classes, and Professor Spillman stressed the importance of building basic musicianship skills in beginning ear training and sight singing classes, primarily because development of these skills is often neglected in secondary school training. Following the discussion, participants heard Gary Wittlich's paper, "Relating Theory and Performance," read by Professor Foltz, which summarized many of the problems, as well as solutions, generated by ear training and sight singing courses. Reading materials for upcoming sessions were distributed, and participants were asked to become familiar with these materials before the Thursday sessions started.

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Michael Rogers began the fourth day with two presentations: "Functional Labels and What They Tell Us" and "Making Up Meaningful Questions for Class Discussions, Homework Assignments, and Exams." His article, "A Brief Guide to Functional Tonality: Terms and Concepts," formed the starting point for the first session and gave participants a model for terminology appropriate for undergraduate courses. The second session provided practical information and stimulated considerable discussion, especially regarding the literature from the Moore/Spillman recital.

"Using Visual Imaging and Rapid Scanning Techniques to Improve Analytical Skills" was the topic addressed by John Buccheri on Thursday afternoon. This presentation focused on techniques developed by Professor Buccheri to enhance the analytical reading process and included some of the handouts his students receive as they learn to use these techniques in theory classes at Northwestern University. Both Buccheri and Rogers emphasized philosophical reasons for analytical study as well as various learning processes that might be effective for different students.

The final morning of the Institute was devoted to the topics of text-setting in twentieth-century music and analysis of Samuel Barber songs from the Tuesday night recital repertoire. Bruno Amato was ably assisted in this presentation by institute participants who performed the Barber songs during the session. This provided an ideal classroom model for the connection of analysis and performance with Professor Amato's analysis influencing the following performance and the performance, in turn, influencing analytical commentary.

Faculty members served as moderators for small group discussions on Friday afternoon. Two topics were of primary concern: first, the problems of selecting relevant and effective theory textbooks and second, how twentieth-century literature can be incorporated into the lower-division curriculum.

During the course of the institute, a questionnaire was administered to gain insights and information from the participants about the teaching of music theory in the undergraduate curriculum. Questions were submitted by participants as well as faculty members. Some of the questions posed, along with the percentage distribution of responses, are as follows:

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1. What knowledge do you expect, in a realistic sense, the students to have before beginning the theory sequence?
 - a. scales—key sig. (61%)
 - b. intervals (29%)
 - c. triads (29%)
 - d. lines and spaces of one clef (88%)
 - e. basic rhythmic durations and meters (77%)
2. If students do not meet the expectation, how are they prepared to enter the theory sequence?
 - a. individual tutoring (19%)
 - b. non-credit rudiments course (17%)
 - c. credit rudiments course which counts only as elective (24%)
 - d. rudiments course for credit (21%)
 - e. other (19%)
3. At the end of the theory sequence in sightsinging, students are expected to:
 - a. sing at sight a melody which modulates to a CRK (62%)
 - b. sing at sight a melody which contains much chromaticism (53%)
 - c. sing at sight a melody which has no tonal center (18%)
 - d. sing melodies in four clefs (24%)
4. At the end of the theory sequence in ear training, students are expected to:
 - a. write a two-phrase melody containing chromaticism (50%)
 - b. identify phrase relationships (53%)
 - c. write two or more parts of a four-part chorale-style phrase which includes only diatonic harmony (33%)
 - d. write two or more parts of a four-part chorale-style phrase which includes some chromatic harmony or modulation (73%)
 - e. write a transcription from a recording (8%)
5. Do you have a written policy at your school as to exit requirements in theory?
Yes (24%)
No (76%)

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6. **What best describes the size of your music major population?**
 - a. No majors (1%)
 - b. 50 majors or under (42%)
 - c. 51-100 majors (27%)
 - d. 101-150 majors (12%)
 - e. 151 or more majors (18%)
7. **What percentage of your music faculty teaches music theory?**
 - a. Under 25% (55%)
 - b. 26-50% (34%)
 - c. 51-75% (5%)
 - d. 76-100% (6%)
8. **What percentage of your music faculty teaches music theory and applied music?**
 - a. Under 25% (55%)
 - b. 26-50% (26%)
 - c. 51-75% (5%)
 - d. 76-100% (14%)
9. **Do you require computer-assisted instruction along with your music theory curriculum?**

Yes (57%)
No (43%)
10. **If you require computer assignments for your theory class, how are they monitored?**
 - a. instructor checks individuals (28%)
 - b. occasionally in class (26%)
 - c. through a teaching assistant (18%)
 - d. through a tutor (4%)
 - e. other (24%)
11. **In sightsinging classes, how much individual recitation do you require?**
 - a. each class session (44%)
 - b. occasionally in class (37%)
 - c. periodically a cassette tape (3%)
 - d. at the end of the semester only (1%)
 - e. other (15%)

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12. If you use the moveable “do” system in singing, what transition do you employ to introduce contemporary music?
 - a. practice with letter names on individual intervals (33%)
 - b. practice with interval numbers (10%)
 - c. other (57%)
13. In sightsinging class do you use:
 - a. moveable do (44%)
 - b. fixed do (8%)
 - c. scale-degree numbers (22%)
 - d. a combination (21%)
 - e. other (26%)
14. If written and aural skills are under one course number and students receive only one grade, what percentage of the grade does the ear training and sightsinging play in the final grade?
 - a. 50% - approximately (23%)
 - b. 33% - approximately (23%)
 - c. 25% - approximately (28%)
 - d. other (26%)
15. Are you currently involved in developing a theory-related course for non-music majors?
 - a. we are currently developing a course (3%)
 - b. we already have a course (48%)
 - c. we do not have or not planning such a course (49%)
16. If you have or are planning such a course, which best describes the course?
 - a. more advanced theory/analysis course, i.e., a follow-up to the fundamental course (19%)
 - b. introduction to music composition and/or music performance ensemble (16%)
 - c. introduction to pop song writing or jazz improvisation (3%)
 - d. interdisciplinary course integrating theory and/or performance and/or non-music course such as art or literature (8%)
 - e. other (54%)

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- 17. Does your program have a preparatory division?**
Yes (35%)
No (65%)
- 18. If you have a preparatory program, does it incorporate theory classes?**
Yes (59%)
No (41%)
- 19. Do you required C clef proficiency of your sightsinging students?**
a. during the freshman year (52%)
b. not until the sophomore year (34%)
c. at no point during the course of study (14%)
- 20. Within a fifty-minute class period, how much time would be devoted to either melodic or harmonic dictation on the average?**
a. ten minutes or less (16%)
b. fifteen minutes (34%)
c. twenty minutes (27%)
d. more than twenty minutes (23%)
- 21. Do you have teaching assistants or tutors within your theory program?**
Yes (56%)
No (44%)
- 22- 28. If you answered NO to question 21, do not answer question 22-28. Otherwise, respond with YES or NO to each of the following if you use assistants or tutors.**
- 22. Tutor individual students.**
Yes (89%)
No (11%)
- 23. Lead drill or "help" sessions outside of the regular class meeting time.**
Yes (59%)
No (41%)

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- 24. Lead drill sessions in aural skills (ear training) in the absence of the primary instructor during the class meeting time, either occasionally or regularly.**
Yes (54%)
No (46%)
- 25. Assist in theory instruction with the primary instructor during the class meeting time either occasionally or regularly.**
Yes (30%)
No (70%)
- 26. Teach theory sections in the absence of the chief instructor either occasionally or regularly.**
Yes (54%)
No (46%)
- 27. Assist in the grading of papers.**
Yes (46%)
No (54%)
- 28. Are there responsibilities other than those mentioned?**
Yes (41%)
No (59%)
- 29. Which answer best describes the way you assess sightsinging progress?**
a. weekly assigned melodies tested individually in class (18%)
b. weekly assigned melodies tested outside of class individually (16%)
c. assigned melodies which are tested by jury at designated intervals (12%)
d. a combination (45%)
e. other (12%)
- 30. The following aspects are included in our theory curriculum (indicate all that may apply):**
a. actual sightsinging of unassigned materials in class (82%)
b. actual sightsinging of unassigned materials in a jury situation (16%)
c. actual sightsinging of unassigned materials in individual appointments (12%)

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31. Do you use Kodaly handsignals in conjunction with sightsinging classes?
Yes (9%)
No (91%)
32. Do you use a conducting pattern in conjunction with sightsinging?
Yes (69%)
No (31%)
33. What percentage of your students in theory classes are music majors only?
a. 90-100% (48%)
b. 80-89% (15%)
c. 70-79% (17%)
d. less than 70% (20%)
34. What percentage of your students in theory classes are music minors?
a. above 50% (17%)
b. 40-50% (14%)
c. 25-39% (23%)
d. below 25% (46%)
35. What percentage of the students in your theory classes are *not* music majors?
a. above 50% (10%)
b. 40-50% (5%)
c. 25-39% (8%)
d. below 25% (77%)
36. The materials I use for sightsinging are (indicate all that apply):
a. in a text (91%)
b. written by me (44%)
c. examples I bring from the literature (52%)
37. My teaching load includes (indicate all that apply):
a. written theory classes (67%)
b. aural skills classes (56%)
c. composition classes (18%)
d. analysis classes (35%)
e. a comprehensive theory course that includes a.-d. (32%)

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- 38. My teaching load includes (indicate all that apply):**
- a. music fundamentals classes (39%)
 - b. studio teaching (61%)
 - c. performance ensembles (36%)
 - d. music history (24%)
 - e. class voice or instrumental classes (17%)
- 39. My teaching load includes (indicate all that apply):**
- a. conducting classes (2%)
 - b. literature classes (23%)
 - c. music "101" or Basic General Education classes (21%)
 - d. other (52%)
- 40. The number of contact hours I spend in classes (excluding studio teaching) per week is:**
- a. 0-5 hours (3%)
 - b. 6-10 hours (85%)
 - c. 11-15 hours (38%)
 - d. 16-20 hours (21%)
 - e. 21 or more hours (2%)
- 41. How many semesters does your theory sequence cover? (Those on the quarter system please adjust accordingly.)**
- a. 2 semesters (2%)
 - b. 3 semesters (3%)
 - c. 4 semesters (66%)
 - d. 5 semesters (14%)
 - e. 6 semesters or more (15%)

There were 86 participants this year, 37 of whom attended the 1988 Institute. The informal consensus among those attending the second institute was that the week had been a most successful event and met a definite need among music theory teachers. After receiving input from participants and faculty members, the decision was made to hold a third institute with a different emphasis. The "Institute for Music Theory Pedagogy and Technology" will be held June 9-13, 1990 at Copper Mountain, Colorado. As the title implies, these sessions will focus on various

INSTITUTE FOR MUSIC THEORY PEDAGOGY

aspects of technology, including computer-assisted instruction. Teachers whose specialties are in music education, music history and literature, and music appreciation are invited to join music theory teachers for this institute. For information regarding the third institute, please contact:

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CORRECTIONS

The following corrections should be made for the Contributors' page of *JMTP*, Volume 3/1 (Spring 1989): 151.

James Bennighof

James Bennighof, Assistant Professor of Music Theory at Baylor University, earned the B.M. degree at the University of Richmond and the M.A. and the Ph.D. at the University of Iowa. An article of his on compositional set theory appears in the *Journal of Music Theory*. More recently he has been interested in the analysis of music from various perspectives; one example has been a comparison of music by Elliott Carter with poetry by Hart Crane.

Gary Danchenka

Gary Danchenka is a full-time lecturer at the University of North Carolina at Charlotte, where he teaches Structure and Style, Ear Training, Class Piano, Music Appreciation and lessons in Jazz Piano. He received a B.A. in Music History from Case Western University, a B.M. in Theory from the Cleveland Institute of Music, an M.A. in theory from SUNY at Buffalo and his Ph.D. in Theory from the University of Miami. He has published articles on musical analysis in the *Indiana Theory Review* and the *Journal of the Science and Practice of Music*. He has received grants to establish computer-aided instruction at the University of Hawaii, where he formerly taught. A current on-going research interest is to develop new pedagogical approaches to melodic dictation and pitch-pattern recognition.

CONTRIBUTORS

Thomas Benjamin

Tom Benjamin received his degrees from Bard College, Brandeis, Harvard, and Eastman, studying composition with Carlos Surinach, Ernst Kr  nek, Arthur Berger, and Bernard Rogers. Dr. Benjamin has composed works for all media, including concertos for violin, piano and viola, orchestral pieces, oratorios, cantatas, three operas, many song cycles and a great deal of chamber and choral music. More than 25 of his works have been published, and several have been recorded. Additionally, he is author of two books on counterpoint, published by MacMillan (Schirmer Books), and co-author of three music theory texts, published by Houghton Mifflin. He has won prizes in a wide variety of composition contests here and abroad, and has received numerous grants, awards and commissions, from the National Endowment for the Arts, ASCAP, Meet-the-Composer, the National Music Theater Network, the Barlow Foundation and many others. He is a Fellow of the MacDowell Colony, the Corporation of Yaddo and the Virginia Center. Also active as a performer and choral conductor, Dr. Benjamin taught for many years at the National Music Camp (Interlochen), at the University of Houston School of Music, and is now teaching theory and composition at the Peabody Conservatory of Johns Hopkins University.

James Caldwell

James Caldwell is Associate Professor of Music and Head of the Theory/Composition Area at Western Illinois University. He holds a B.M. from Michigan State University and M.M. and D.M. in Composition from Northwestern University. His research interests include rhythm analysis and relationships between music and painting. He is co-director of W.I.U.'s annual New Music Festival.

JOURNAL OF MUSIC THEORY PEDAGOGY

David Damschroder

David Damschroder is an Associate Professor at the University of Minnesota School of Music, where he teaches courses in tonal theory and analysis and is coordinator of music fundamentals. His *Music Theory from Zarlino to Schenker*, co-authored by David Russell Williams, will be published by Pendragon Press early in 1990. He is currently at work on a music fundamentals text, to be published by Schirmer Books in 1991, and will then embark upon a large-scale study of the history of harmonic theory.

Lora L. Gingerich

Lora L. Gingerich is Assistant Professor of Music Theory in the School of Music at The Ohio State University. She holds Ph.D. and M.Phil degrees from Yale University in music theory, and a B.A. from Wellesley College in music and mathematics. Her research and teaching interests include tonal and atonal analytic techniques, music of twentieth-century American composers, mathematical models of music, and music theory pedagogy.

David Mancini

David Mancini is Assistant Professor of Music Theory and head of the Department of Music Theory and Composition at Southern Methodist University. He holds graduate degrees from Yale University and the University of Cincinnati. Professor Mancini's teaching duties range from the undergraduate theory and aural skills program to graduate-level analysis and pedagogy courses. In addition to pedagogical topics, his main research interests include the analysis of 20th-century music and the development of computer software for aural skills training.

Mary H. Wennerstrom

Mary H. Wennerstrom is a Professor of Music Theory at Indiana University (Bloomington) and is chair of the department. During her long association with I.U. she has participated in many of the curriculum revisions described in the article. She has been chair of the Test Development Committee for the Advanced Placement test in Music Theory and Music Literature and recently participated in constructing and evaluating the new GRE Music Exam. In addition to her work in twentieth-century music, she teaches courses in theory pedagogy, which include substantial components on curriculum design. She was a member of the faculty for the first summer institute in theory pedagogy offered by the College Music Society.

CONTRIBUTORS' GUIDELINES

1. Articles on any aspect of teaching or learning music theory will be welcome. Contributions will be judged on originality, relevance, interest to a diverse audience, and clarity of writing.

2. Manuscripts should be typed double-spaced (including footnotes, references, and quotations) on 8 1/2 x 11 paper with at least one-inch margins. Please submit the original and four additional copies. All tables, figures, musical examples, etc. and footnotes should be placed at the end on separate sheets with an indication of where they fit in the text. Long musical examples and complex diagrams or charts should be avoided when possible or used in moderation. Please also avoid musical symbols (i.e., notation) within the running text.

3. Manuscripts are accepted on the condition that they are unpublished and are not presently being submitted for publication elsewhere. Since all submissions are reviewed anonymously, please include the author's name and address only in the cover letter. On most matters of form and style, *JMTP* will follow *The Chicago Manual of Style*.

4. Please address all correspondence to:

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