Kostka, Lester, and Straus: Twentieth-Century Materials and Analytical Techniques In Review

by

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As the twentieth century comes to an end, music theorists are codifying the materials of this century's music and are trying to clarify the analytical techniques that may produce structural insights. Three books published within the last two years deal with various approaches to this music: Stefan Kostka, *Materials and Techniques of Twentieth-Century Music*, Joel Lester, *Analytic Approaches to Twentieth-Century Music*, and Joseph Straus, *Introduction to Post-Tonal Theory*.[1] Each book is aimed at advanced undergraduate music majors, in a class dealing specifically with the theoretical aspects of twentieth-century music. Although the books are organized in different ways, none of them attempts the complete stylistic/historical coverage of recent books by authors such as Simms, Watkins and Morgan.[2] Kostka's book

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[1]Stefan Kostka, *Materials and Techniques of Twentieth-Century Music* (Englewood Cliffs, N.J.: Prentice Hall, 1990), 337 pages; Joel Lester, *Analytic Approaches to Twentieth-Century Music* (New York: W. W. Norton, 1989), 308 pages; Joseph N. Straus, *Introduction to Post-Tonal Theory* (Englewood Cliffs, N.J.: Prentice Hall, 1990), 218 pages.

[2]Bryan R. Simms, *Music of the Twentieth Century, Style and Structure* (New York: Schirmer, 1986); Glenn Watkins, *Soundings: Music in the Twentieth Century* (New York: Schirmer, 1988); Robert P. Morgan, *Twentieth-*

is the most general and the least complex, Straus's the most limited in scope. All three authors provide exercises, chapter summaries, bibliographical references, and indices of terms and musical works discussed. They differ in the analytical depth of their discussions, in their pedagogical approach, and in the scope of their musical coverage.

Materials and Techniques of Twentieth-Century Music is an updated version of Dallin's text.[3] Kostka starts with a brief survey of nineteenth-century tonality and then devotes chapters to various parameters: scales, chords, melody, rhythm, timbre and texture (including information on electronic music), and form. Musical examples are all short (almost every one is under ten measures and many are under five) and include a wide range of composers. The "vertical dimension" chapter, for instance, includes twenty examples from one to seven measures by composers ranging from Howard Hanson and Percy Grainger to Ives and Penderecki. Each chapter contains a summary of terms and definitions, elementary exercises, descriptive analytical problems (this section includes more short musical examples) and further reading. The book also includes a bibliography at the end.

Kostka's book is written in straightforward language and many teachers have already found it a useful source for students who are studying twentieth-century music for the first time. As one would expect, this book is designed as a follow-up to the

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Century Music (New York: W. W. Norton, 1991).

[3]Leon Dallin, *Techniques of Twentieth Century Composition: A Guide to the Materials of Modern Music*, 3rd ed. (Dubuque, Iowa: W. C. Brown, 1974).

Kostka/Payne harmony text and follows the format of that text[4]: brief descriptions of musical materials and processes with specific exercises including both visual analysis and original composition. There is little attempt to integrate materials into larger musical structural processes or to suggest deeper theoretical procedures.

The lack of a larger perspective is particularly evident in chapter 7 on form, where Kostka refers the reader to various anthologies. The format of his book precludes long examples (this chapter includes the only complete musical score, the first prelude of Debussy's Book I, "Dancers of Delphi") and Kostka limits his comments to the most general observations. All types of form are "covered" in eighteen pages. The structural pitch connections investigated by Straus's and Lester's multi-faceted discussions are nowhere in evidence here; Kostka focuses primarily on surface features.

Several chapters in the book are more oriented toward stylistic matters: musical influences from jazz and folk music, quotation, minimalism, neoromanticism, and aleatory music are each discussed briefly and illustrated with musical excerpts. Fortunately Kostka has made a real effort to incorporate repertory from the latter part of the century in these chapters and he mentions a rather large number of works from the 1970s and 1980s. Three chapters concentrate on non-serial atonality, classical serialism, and serialism after 1945; they present an introduction to pitch-class set and serial analysis. These topics are treated sketchily, not in the depth of

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[4]Stefan Kostka and Dorothy Payne, *Tonal Harmony with an Introduction to Twentieth-Century Music*, 2nd ed. (New York: A. A. Knopf, 1989).

Straus's and Lester's books, and also rather casually. "Pitch-class," for instance, is never defined; the term "pitch-class cell" and later "pitch-class set" is applied to groups of notes first described generally by consecutive interval content and later put into "best normal order." Prime forms (e.g. [0247]) are introduced but there is no application of integers to formats other than the "movable zero" format and no reference to a list of set types.

Chapter 13, "Serialism after 1945," illustrates one problem with Kostka's book for anyone wanting to pursue more in-depth study of the specific pieces he mentions. To take one example, Kostka takes quite a bit of space reproducing some of the idiosyncratic tables of Boulez's *Structures 1a* and discussing the piece, including an analytical exercise. A reader would not know that Kostka's reference under "further reading" to Reginald Smith Brindle's book *The New Music*[5] is the presumed source of Kostka's information about Boulez's work, nor that Smith Brindle cites Ligeti's extensive source[6] (a primary source not mentioned at all by Kostka) as *his* source. It would have been helpful for Kostka to cite specific references, particularly when they relate to musical excerpts he discusses, rather than to include a general "further reading" list. Straus and Lester, because of their interest in specific works, are much more helpful in their bibliographical references.

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[5]Reginald Smith Brindle, *The New Music: the Avant-garde since 1945* (London: Oxford University Press, 1975).

[6]György Ligeti, "Pierre Boulez: Decision and Automatism in Structure Ia," *Die Reihe* 4 (1958), trans. Leo Black (1960):36-62.

Anyone wanting more complete information on pitch-class sets and serial techniques, along with these analytical references to specific compositions, should turn instead to Straus's book. *Introduction to Post-Tonal Theory* provides an explanation of analytical terms and procedures used in writings by Forte, Babbitt, Lewin, van den Toorn, Perle, and other writers of the current American "theoretical mainstream." Straus, while attempting to be systematic, avoids most of the symbols and the "mathematical format" (definitions, theorems) of a book such as Rahn's *Basic Atonal Theory*.[7] The exercises for each of Straus's chapters apply the terms and concepts presented and also serve as a summary, since the directions restate basic definitions in rather clear language. These exercises, in contrast to Kostka's and Lester's, are *not* compositional; constructing a twelve-tone series with certain characteristics is as far as "composition" goes in this book. Since most of the exercises have only one short right answer, it would have been helpful to have answers supplied in the back of the book for at least some of the problems, as Rahn does at the end of his book.

After basic definitions, Straus proceeds systematically through pitch-class sets (chapters 2–3) and 12-tone operations (chapters 5–6). Chapter 4 presents concepts of centricity and referential collections. Straus limits the term "tonality" to music which has functional harmony and traditional voice leading; thus his discussions of Stravinsky and Bartók focus on aspects of centricity

[7]John Rahn, *Basic Atonal Theory* (New York: Longman, 1980).

(not tonality) and on certain pitch collections: the diatonic, the diatonic octad, and the octatonic ones. He also defines the cumbersome formation "D-scale on A," although his reasons for using this rather precious term (that modal scale names evoke certain moods and melodic formations) are not convincing. This section of Straus's book, which also describes inversional axes in detail, is one of the more interesting, covering analytical approaches not specifically included by Kostka and diffused in Lester's book.

Between sections on definitions of terms and their applications, Straus includes six analysis sections, each of which applies concepts to two musical examples. Since this book is a discussion only of pitch structures in "post-tonal" music, the excerpts, not surprisingly, are limited to works by Webern, Schoenberg, Berg, Bartók, and Stravinsky—works which occur frequently in the analytical literature. Additionally, brief examples by Babbitt and Boulez occur in the last chapter. Each of these analysis sections discusses the two musical excerpts (scores given range from five to eighteen measures) in detailed terms as far as pitch organization is concerned. Straus suggests strategies for hearing pitch relationships and encourages the student to play and sing the excerpts. He moves from more obvious surface-level structures to the implications of these structures: how they affect larger aspects of the composition. Finally, he gives specific bibliographical references to more extended discussions of these same works.

For students who wish to investigate current analytical methods of twentieth-century pitch structure, Straus's book offers a good introduction. The book might be especially appropriate for

beginning graduate students interested in theoretical writings but with little background in the terms which many writers of journal articles assume are common parlance. The limits of the book, however, suggest that it would not be helpful for a twentieth-century class studying aspects other than pitch, or for a teacher who wanted to include a diversity of music since 1945.

Straus includes three extensive appendices which are valuable reference tools for anyone doing detailed pitch-class set analyses. Appendix 1 lists set classes in prime form, with Forte's pitch-class set names and interval vectors; it also includes the degree of transpositional and inversional symmetry for each set and the types of combinatoriality for each hexachord (see Rahn's Table II).[8] Appendix 2 is a "simplified set list." It is extensive; almost four thousand entries list strings of three to nine pc integers in ascending order, followed by the normal form, prime form, and Forte name of the string. If, for instance, one isolates a string of pitch classes, 13489TE (T = ten, E = eleven), this list tells you that the normal form is 89TE134 and the prime form is 0123578 [7-14]. Appendix 3 gives index vectors (twelve-place numbers) for each set class, both in prime form and for the set related by T_0I (and thus by rotation for every member of the set class). One can then calculate possible common tones for various transpositions and/or inversions of a set. Appendices 2 and 3, according to the preface, were prepared by Alexander Brinkman.

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[8]Ibid., 140-143.

Straus's book tries to synthesize and clarify terms and procedures used by some current theorists to describe pitch relationships in a limited compositional style; Lester's book is less structured and more idiosyncractic. He begins, as does Kostka, with a brief description of tonality before the twentieth century and continues with short chapters on rhythm and meter, texture and timbre, and form, each of which briefly introduces a few twentieth-century procedures and compares them with pre-twentieth-century examples. Lester's last unit (only one rather short chapter) resembles the end of Kostka's book, ranging briefly over music since World War II with comments on extended serialism, electronic music, aleatory music, and minimalism. The bulk of Lester's book, however, like Straus's work, concerns pitch structures. Unit 2 covers pitch-class sets and Unit 3 serial music.

Lester's approach is quite different from Straus's. Although both authors deal with many of the same musical compositions, Lester presents material in a spiral, using a "discovery approach." Thus instead of defining terms, applying them, and then looking at more extended musical examples for further application of the terms (the way that Straus proceeds), Lester introduces pieces first as general listening in the earliest chapters ("familiarize yourself with these pieces"), then discusses parts of their structure throughout the book, referring back to earlier discussions and often guiding the student to discover more structural connections through a series of leading questions. Although this method has advantages in the classroom, building on the student's gradual uncovering of musical relationships, it is often awkward in a text and difficult for anyone

trying to find a "complete" discussion. Take, for instance, Straus's discussion of Bartók's *Mikrokosmos* No. 101 ("Diminished Fifth") occuring on pp. 98–99. The entire piece is reprinted and the three octatonic collections used are bracketed and summarized in a chart, showing their symmetrical layout as related to the sectional divisions of the piece. Lester mentions or discusses the same work on pp. 32, 54, 63, 112, 116, 131–132, 136, 146, 157, 163, and 239. After the general opening chapters, we first learn that the piece includes two fragments of a diatonic scale (A minor and E♭ minor), with no pitch-classes in common, and later that the fragments contain an [025] set, like other pieces of Bartók, Debussy, and Stravinsky. Then the piece is reprinted in full as an exercise for Chapter 8, with various leading questions for the student to answer (pp. 135–136). Finally, Lester presents pitch-class regions ("larger pitch-class sets containing all the pitch-classes in a given passage"—p. 146) and introduces the octatonic scale and its three "transpositions." (His three transpositions are <u>not</u> equivalent to Straus's three collections.) Lester also gives a form diagram on p. 163 which differs somewhat from Straus's.

As this example demonstrates, the reader of Lester's book should be alert to a number of things. First, although the author continually refers *back* to previous examples, he does not refer *ahead*; without looking at the index, one does not know if further discusssion of a particular musical example might reveal a different interpretation of its structure (with the Bartók, the difference is the diatonic vs. the octatonic framework). Second, the exercises in this book often include extensive musical examples (unfortunately, as in

the case of the Bartók, sometimes without measure numbers) with accompanying analytical questions to lead the student to discover various relationships. Thus the "exercises" are not additional material which can be skipped but are equivalent to Straus's analytical interludes. Third, Lester often uses terms which are somewhat different from those found in other analytical literature.

A translation guide is occasionally in order: Lester's "lowest ordering" of a pitch-class set is Straus's "prime form," while Lester's "prime form" is the "original form" of the set (in contrast to its inversion). Straus's invariants and referential collections are Lester's common elements and pitch-class regions. In other cases, there is a somewhat different meaning for the same word: aggregate for Straus is "a collection containing all twelve pitch-classes" (pp. 69, 153); for Lester it is "twelve-tone collections other than those stated in the ordering of the series of that passage or work" (p. 178). Lester uses "tonality" in a broader sense than Straus and retains the less cumbersome E Phrygian labeling (in contrast to E-scale on E); compare both of their discussions about the opening of Stravinsky's *Symphony of Psalms* (Lester pp. 166–167; Straus pp. 100–101).

Another contrast with Straus's book is Lester's "movable zero" notation throughout. Like Kostka, Lester does not include a complete list of pitch-class sets and interval vectors (although he has one appendix listing the combinatorial hexachords) and adopts a more informal approach to determining sets and their relationships. Although "interval vector" is not a hard concept, Lester uses quite a bit of space throughout the book to list each vector mentioned in

any discussion with the names of the interval classes and the number of occurrences of each; for example, the content of the pentatonic scale is shown on page 104 as:

Interval-class: 1, 11	2,10	3,9	4,8	5,7	6
No. of Instances: 0	3	2	1	4	0

Each of these three books may be useful for a different type of student, teacher, and class situation. Kostka's survey is general and quite superficial, introducing a wide variety of materials and compositional techniques in various musical styles. Any study of deeper structures, theoretical applications, or formal connections will have to come from amplification by the teacher. His exercises and compositional problems are helpful for basic drills and for short guided work on the more obvious specific musical aspects. Straus's book is concerned only with pitch; in this dimension it summarizes terms and approaches used in much current American theoretical literature and presents model analyses which could be extended to more complete study. As the title implies, it is an introduction to a specific body of music and theoretical concerns. Lester's book is perhaps the most interesting, as he intersperses insightful comments about various aspects of twentieth- and pre-twentieth-century music throughout the book. This more dispersed approach, however, and

the uneven coverage of topics would make the book difficult to use in many teaching situations.

As we review these three texts and decide how best to teach twentieth-century music, larger questions may appear for the theoretical community to consider. Can we move beyond the superficial descriptions of aspects such as rhythm and timbre, integrating their structural functions into large-scale shaping processes? Are the details of pitch in "post-tonal music," to which we devote so much analytical energy, really the most important materials of twentieth-century music? Some signs of disenchantment are present: composers who were earlier committed to serialism have now renounced it, perception studies suggest that pitch-class set relationships exist more in abstract tables than in musical reality, and critics and audiences, never widely enamored of music such as Schoenberg's, are becoming more vocal in their opposition.[9] These three books are serious attempts by three well-known theorists to present guidelines for the study of twentieth-century music. Each teacher should realize, however, that there are many more areas to help students to explore. We will probably not have answered all of our questions about this century's music before we start considering the music of the *next* century!

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[9]For a particularly outspoken view, see Donal Henahan, "And so we bid farewell to atonality," *The New York Times*, 6 January 1991, 25 (section 2). A representative sentence: "Atonal theorists, it must now be apparent to all, have been unable to develop a system of musical rhetoric that would transcend the mundane pleasures to be had from the mere shuffling and arranging of pitches."