

Reviews

Michael Friedmann, *Ear Training for Twentieth-Century Music*. New Haven: Yale University Press, 1990. xxvi, 211 pp.

Reviewed by William Thomson

Imagine a familiar scene: Two well-schooled musicians sit eye-to-eye at a table in an urban restaurant. They are discussing the premier performance, just heard, of the great Keplered Høering's latest work.

"What a piece! Notice the way he permuted his all-combinatorial prime set in the second movement? And how'd you like the clever way he brought in Schoenberg's favorite hexachord toward the end?"

"Incredible ingenuity!" his colleague replies. "The way he manipulates those three invariant pitch classes from trichord 3-4, as constants through the first movement, really holds it all together for me."

"You're right. But I guess harmony impressed me most. The best was the steady organic growth of the third movement—you know, where every third aggregate's interval content is inversionally derived from the one before. That's deep-down structural integrity!"

Regretfully, let us close this efflorescence of pitch-structural hearing. Our two conversationalists would unquestionably have more insights to share from hearing Maestro Høering's music, but a pause for reflection seems timely.

Is the language of our hypothetical exchange exaggerated? Not really. The ideal user of Michael Friedmann's *Ear Training for Twentieth-Century Music* might be expected to speak in much this way, if the book's implicit premises have merit and if its goals are met and absorbed. Most readers have probably examined Professor Friedmann's book at length since its release three years ago. A probing review of it by Elizabeth West Marvin appeared in the Spring 1992 issue of *Music Theory Spectrum*. The volume has been awarded a publications commendation from the Society of Music Theory. For these reasons my remarks need not dwell on what is already known or is readily available from other sources. I'll focus instead on the theoretical and pedagogical tenets that motivated the book, as well as estimates of predictable success for achieving its goals.

The book is a rigorous study that applies the concepts and vocabulary of set theory to hearing music. Its goal is to develop a "confidently aware musician" (p. xxvi), one with a good ear that "goes be-

yond the mechanics of accurate dictation or precisely pitched singing: it enables the listener to perform acts of at least rudimentary analysis without consulting the score" (p. xxiii). In the author's opinion these goals demand a different kind of book. And from this thin volume's introductory pages it is evident that comprehension, for him, is indissolubly tied to the verbalization of identities: First one learns a category; this in due time enables the listener to enact a tripartite event, a bundled co-presence of Identification-Perception-Understanding.

Such an emphasis demands a work that is "theoretical." As Friedmann tells us, "much of the book is therefore devoted to defining and elaborating theoretical concepts as well as exercising them by means of abstract examples and musical illustrations from the literature" (p. xxiii). It leads to a book long on words, short on doing. At stake here as well is the author's conviction of what makes twentieth-century music tick in its own special way. This basis is "the precise articulation of structural relations," and thus it follows that "perceiving them is a precondition for understanding affective content and gesture" (p. xxiii). Admirable convictions. But let us note early on that there is room for the suspicion that twentieth-century music as class is not so peculiar in its experiential demands, that one author's articulation of structural relations may be another's play on extraneous fictions.

Inherited Abstractions of Set Theory

A more careful and thorough presentation of the basic language and concepts of set theory would be hard to find. Friedmann knows the talk well. He capably sets it down here with conviction and a flair for detail. Any musician interested only in reviewing these concepts would find this book a reliable source. In this respect it's an admirable text. Yet I predict that conversations of the kind idealized in our opening paragraphs will not occur, neither soon nor in the remote future. My reasons are several. They are blessedly simple and fundamental.

The most compelling should be mentioned first. It is that we communicate with each other only when what we say is capable of projecting images of perceivable things. If I tell you that "X and Y are within twenty miles of each other," my utterance is not gibberish. It corresponds eminently with the statement "Pitch-class X is inversionally related with pitch class Y." Both claims are syntactically precise. But your understanding—your *conceptualization* of either message—is severely limited by its reliance on inherently intangible things.

We cannot *see* the objectifications represented by X's and Y's nor can we *hear* pitch classes; both achieve perceptual meaning only when linked with sensate things. For this reason any system of aural classification of pitch derived solely from the semitonal pitch collection, as groups of twelve permutable and neutral elements, harbors an inherent danger. Both set numbers and interval vectors are unreliable indicators of relative sonance, a condition confirmed by some of the most modest sonorities of history. Major and minor triads possess the same Forte number (3-11) and interval vector $\langle 0,0,1,1,1,0 \rangle$, and yet the history of music has been preoccupied with how they are the veritable Light and Dark of music. In the same way, major-minor seventh chords and half-diminished seventh chords are interval class inversions of each other, as Friedmann dutifully reports on page 97. But *Tristan* would not have been the same if Wagner had mistaken the sound of one for the other, thinking of both merely as tetrachord 4-27, interval vector $\langle 0,1,2,1,1,1 \rangle$.

This leads us to a crucial observation. The necessity for concreteness renders problematic, if not irrelevant, many recent discussions of music insofar as they are intended to refer to an aural experience. They lack verifiable relevance because they engage in language that cannot hook into concrete images. That they may speak of things which exert control in music, as heard, is an even more dubious axiom. These limitations are central to the problem of musical description as it has developed in serialist analytics over the past four decades. They are but magnified when one attempts to construct pedagogical processes of audition around these rarefied tenets, tenets eminently suited for describing things discoverable in notes. So when Friedmann repeatedly refers in his study to interval vectors, or to any other index rooted in pitch class or interval class content, we must be aware of the tenuous ways they bear, when at all, on the musical experience.

Recognizing, perhaps, that the raw pitch classes of modulus 12 are frail underpinnings for aural description, the concept of *Superset* is introduced in the discussion of trichords (Chapter 4). But even the definition of this mega-grouping, which includes such homely pre-post-tonal collections as the diatonic, pentatonic, whole-tone, and octatonic, is abstract to the core.

A superset of a given set class is a set class containing a larger number of pitch classes than the original set class does. Pitch classes forming the original set class can be found amid the pitch classes forming the superset. (p.41)

Note the casual indifference posed by this definition for what is hearable: (1) a *set class* (which as a term occurs four times in the definition) is composed of *pitch classes* and is therefore a second generation abstraction; and (2) the conditions that render a set as an *original set* are undefined. Even this inclination toward the impressionistic is more defensible than the classificatory tedium students are told they "should" endure every time a trichord is heard. The directions for Exercise 4.6 are not inconsistent, so I quote them in full.

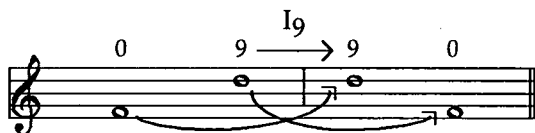
EXERCISE 4.6

Preliminary exercise continued: Interval content of trichords

To define set class types by means of the second route described above [conversion of a heard sound into a Forte number by recognition of interval content], the preliminary exercise on interval content of trichords used earlier in the chapter should be extended to two steps: (a) the three unordered interval types should be put into interval vector form—if we hear a three-note chord the lowest pitch of which we call 0, and that can then be described as $\langle 0, +9, +13 \rangle$ with ip (9), (13), and (4) (=i(3), (1), (4)), the interval vector is $\langle 1, 0, 1, 1, 0, 0 \rangle$; and (b) we should learn to identify the interval content with the set type name of 3-3 (and normal order name [0,1,4]). (p. 47)

Another demonstration of dubious conformity between canon and perceptual probabilities has to do with the invariance property. Example 1 illustrates dyadic invariance under I_9 . Assuredly, invariance is there *in the notes*. But when *heard*, dyadic invariance is perhaps the last thing that comes to mind. What one *hears*, plain and simple, is the repetition of one pitch (d) and the return to another (f). To impose the convoluted notion of pitch invariance on such straightforward aural happenings misrepresents the decoding process that is percep-

EXAMPLE 1. Dyadic invariance under I_9 (Friedmann p. 31, Ex. 3.8a)



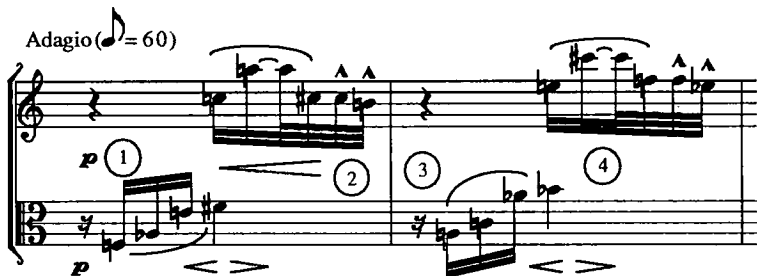
tion. Even more damaging for a textbook, it makes conceptual mountains from aural molehills. The very relevance to audition of pitch class invariance, under permutational operations, is at best tenuous. As Milton Babbitt made clear in his definitive exposition of that property three decades ago, its projection depends on the co-option of other musical properties.¹

Additional examples of excessive conceptual complexity, without redeeming aural payoff, are sprinkled through the book's exercises. Is aural cogency gained by observing in Example 2 that sets 1 and 3 and 2 and 4 are related by T or that 1 is transformed into 2 by intervallic inversion (I7)? (See Friedmann's questions on p. 101.) These are means used by the composer to derive pitch content; aurally, rhythm, contour, and imitative texture project structure here. The *particular* pitches engaged are of negligible consequence, except that they don't project pitch focus.

Exercise 4.8 (p. 50) deals with the identification of trichordal combinations of the type [0,1,4]-3-3 within a range of two octaves. One must realize that just fixing in mind the six potential transpositionally related series derivable from this model is no small task. Once accomplished, then the charge is to identify each melodic or chordal sounding of such sets as per its respective *rip*<(>) index. Let us presume that these terminological and configurational hoops are, in time, negotiable. One must then ask "Why should a musician learn to categorize triads by such a cumbersome system? If I hear the figure repre-

EXAMPLE 2.

Schoenberg, *String Quartet* No. 3, second movement,
mm. 92-3, first violin and viola (Friedmann p. 161, Ex. 134)



¹Milton Babbitt, "Twelve-Tone Invariants as Compositional Determinants," *The Musical Quarterly* 46 (1960): 254.

EXAMPLE 3.

Schoenberg, *String Quartet No. 3*, second movement,
mm. 1-3, first and second violins (Friedmann p. 163, Ex. 138)

Adagio (♩ = 60)

EXAMPLE 4.

Schoenberg, *String Quartet No. 3*, second movement,
mm. 6-9, first and second violins (Friedmann p. 163, Ex. 139)

Adagio (♩ = 60)

sented by $rip<1,8>$ I don't wish to be burdened with its clumsy numerical icon. Should I need a conceptual underpinning, I possess simpler means absorbed from the age of five years." Students in an age-range for this text will come similarly equipped.

Exercise 3.15 (p. 33) has students examine Examples 138 and 139 (shown here as Examples 3 and 4) to discover how the latter is derived by transformation from the former. The notation makes the trans-

formation apparent: *b* and *b'* are inversionally transposed versions of *a* and *a'*. So much for note reading. Is this relevant to successful listening? Upon coming to this realization, have I satisfied the "precondition" mentioned in the *Introduction* "for understanding affective content and gesture?" Must one really believe it makes a difference—that it *should* make a difference—to the listener, to know that these exacting pitch transformations are therein incorporated?

I wager that any *structural* and/or *affective* punches thrown by this flyweight passage will be derived from far more accessible properties than from attention to—much less realization of—IT relationships. Even if these two excerpts were temporally adjacent, the phenomenal message would still be a product of the contrasting melodic contours (disjunct vs. conjunct), of the direct and easily assimilated rhythms, of the dynamics, and perhaps even of the cadential sonances (4ths and 5ths). They are explicit. Why depend on a deeply embedded abstract relationship, such as exact pc inversion, when eminently accessible cues are there for the hearing? I have heard this Schoenberg Quartet at least three times in live performance, as many as five times in recordings. I must confess that I had never missed knowing these esoterica were lurking there in that second movement. I earnestly doubt that my future receptions will be enhanced by knowing it. (Granted, I may be simply a comparatively poor listener.)

Other exercises suffer inconsistencies by swinging from monumental busywork to the pedestrian. Exercise 4.15 (p. 54) incorporates inversionally symmetrical trichord types. After a melodic form is played, students are to sing back an improvised transformation (an inversion or transposition) demonstrating pitch class invariance. Readers who try this procedure will find it an agonizingly slow process, an agony unaccompanied by great advances in learning. The virtue tested is patience, not confident audition. But no wonder. The problem posed is not actually aural; the problem is matching an improvised response to a conceptual model. It's a problem in filling a prescription rather than in diagnosing an illness.

Yet, immediately following, Exercise 4.16 is so transparently soluble that its heuristic utility is hard to defend. Students are to identify invariant transformations incorporated into a pair of melodic fragments. They know from the assignment's directions that invariance is present, and whether the second fragment contains *same* or *different* pitches will be apparent as soon as it sounds. If they are not the same, T is automatically the only possible answer. What is *heard* is not the property of invariance but the presence or absence of transposition.

Most troubling of all, procedures such as those of Exercise 4.20 (p. 58) can lead to contradictions for the listening process. Students listen to a trichord, say *c' g' b-flat*, then determine and sing the whole-tone scale into which at least two of the trichord's pitches fit. Thus the whole-tone scale containing *B-flat* and *C* would be sung, pitting its *G-sharp* against the trichord's *G-natural*. My point? This conjunction runs cross-grained to the goal. The only scale that fits the prescription is jarringly non-conformable with the sounded trichord.

Language and Order of Learning

By the time students get to this book they will have been occupied with music on a formal basis for a decade or more. They will have absorbed a good bit of the nomenclature and conceptualized metabolism of some kind of music. For them, language is most effective when it conforms to the norms of their accrued conventional wisdom. When it does not, cautious provisos and adjustments must be injected by an author or teacher to justify the discrepancy. When variances with absorbed understanding go unjustified, the new and untested will either be discarded automatically or, even worse, added to the unsuspecting student's mounting tangles of confusion.

The book introduces a number of terms (with their accompanying conceptual apologia) for which I predict less than promising futures. Some are obsolete before their time, others of questionable utility for the listening musician. Among these are *contour class*, *contour interval*, *modal order*, *modal interval*, *modal inversion*, *modal sequencing*, and *modal transposition*. A few may at first seem to be extensions from the traditional lexicon. They are not.

Since the author has written extensively about contour, and especially of its nature and utility in the music of Schoenberg, his expertise is especially welcome in an aural skills text. The study here is exacting and exhausting. Indeed, *Contour* provides Friedmann with a field day. He coaxes from it the additional properties of *Contour Class*, *Contour Adjacency Series*, and *Contour Interval*. It is possible to be excessively creative in cultivating rubrics of classification.

Contour adjacency has to do with whether a pitch rises or falls relative to its predecessor. From it grows a *Contour Adjacency Series* (represented as series of pluses and minuses denoting those relative higher/lower relations). Then a *Contour Class* attaches a specific high/low number value to each pitch, still fastidiously avoiding recognition of particular pitches or of tonal hierarchy within the collection. And finally, a *Contour Interval*, to distinguish it from just a plain old

everyday *interval*, is best known within a *Contour Interval Series (CIS)*. It is “a *relative* description of the space between elements of a Contour Class” (p. 35). So if a Contour Class (CC) consists of the series $\langle 1,4,5,3,0,2,7,6 \rangle$, then the Contour Interval Series (CIS) consists of $\langle +3,+1,-2,-3,+2,+5,-1 \rangle$.

The post-baccalaureate value of such elaborate mappings and symbolisms for contoural abstractions, which, after all, are pretty simple things, is not immediately evident. Furthermore, they are defined in a way that will inevitably lead to frictions with previously held ideas and definitions. On page 35 we read that “a small contour interval does not necessarily designate a small pitch interval.” All of this is meaningful (and understandable) in the light of the author’s recent definition of a *contour interval*, but it will arouse an unresolved dissonance with what a student tucked away some years earlier as “large” and “small” intervals. And there is an even more disruptive element hidden here. As pedagogy, this elaborate focus on contour occurs out of sync with a rational learning sequence. Without doubt, its recognition is desirable in developing receptivity for pitch collections as trajectories in time, but that comes before grappling with the benumbing specificities of actual pitch successions. In this study it is introduced at a time when most students will have more trouble ignoring discrete pitch content than in recognizing a generalized melodic sweep.

Equally rich in classificatory prose is the book’s treatment, toward the end of Chapter 6, of *Modal order*. The thrust of this discussion can be gathered from the following two statements pertaining to intervals within a mode. They may at first not ring clear.

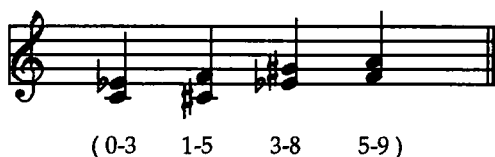
1. The modal treatment of a pitch collection “is always characterized by a ‘*flattened*’ treatment of the intervals: in modal motion and processes, the intervals between the scale steps of the mode are treated as if they were equivalent” (p. 117). Stravinsky’s Russian Dance from *Petrouchka*, for instance, “treats the diatonic set modally by ‘equalizing’ the set classes 3-10 [0,3,6] and 3-11 [0,3,7], by moving among the scale degrees of the mode without differentiating between half-steps and whole-steps” (p. 117).

2. Modal steps, regardless of their comparative size, “act as though they span equal intervals” (p. 117).

Take the collection {0,1,3,5,8,9} and treat it modally. Because of this equal-interval behavior of modal pitches, when pitch class simul-

taneity {0,3} (which is enacting the modal roles of degrees 0-2) moves to {1,5} (enacting 1-3), then to {3,8} (enacting 2,4), and finally to {5,9} (=3,5), paranormal things are said to happen (see Ex. 5). Because these pitches have been used in a way that keeps "the modal interval M.I. (n) constant," the passage enacts what is known as *parallel thirds* (p. 117).

EXAMPLE 5. Modal flattening: parallel thirds in the collection {0,1,3,5,8,9}



Quite a trick. But there is more to come. On page 118 we read of the "flattening of pitch and pitch class space." This happens only to "modal intervals," but what Friedmann has in mind is not what his readers have understood by *flattening* since their first lessons on the fiddle or clarinet a decade ago. The revised conception grows even more disreputable when it is applied to *pitch class space*, in that a pitch class is by definition incapable of being described as "higher/lower" or "larger/smaller." A better term for *flattening*—assuming that the term is at all worth rescue—may be *neutralized*. But *flattened* it is. And to make bad matters worse, the parent concept of *Modal interval* is expanded into unique operations called *Modal inversion*, *Modal sequencing*, and *Modal transposition*. Readers intrigued by these additions to the budding grove of twentieth-century music theory can find them within pages 118-119.

Polymodality is defined as "the superimposition of two different modes with the same tonal center" (p. 116). This doesn't fully conform with what I think is widespread use, in which bimodal or polymodal relations need not be confined to pitch collections with the same tonic. Expanding this narrower sense of the concept, Friedmann goes on to hold that even the melodic form of the minor scale, as distinct from the "natural" form, is best conceived of as a polymodal combination, as "superimpositions of M.O. [modal order] <0,2,3,5,7,8,10> and M.O. <0,2,3,5,7,9,11>" (p. 116). This complicating new twist, two scales for one, ignores the conception of those scales' contents as *alter-*

natives within a single hierarchical system, one that finds some pitches fixed (such as tonic, mediant, dominant), others movable. This latter conception is far simpler, yet richer in its explanatory potential. It ties tonal music of modern times together with ancient Greek theory (the *hestotes* and *kenoumenoi* of the Greek Greater Perfect System) and ancient Chinese theory's *liü* system (the *wu sheng* and *p'ien* tones). The more confining option is of less long-term utility to the student.

The Perils of Systemic Inconsistency

Friedmann's examples from the twentieth-century repertoire may seem unnecessarily selective for some musicians. Confined to the music of Schoenberg, Stravinsky, Debussy, and Bartók, they nonetheless fit admirably his perspective of what makes music worthwhile. They lend themselves to the sort of analytical fragmentation of pitch organization his pedagogy celebrates. As I commented earlier, his sense of appropriate repertoire is colored by the conviction that twentieth-century music is fundamentally and unequivocally different from the music of preceding centuries. Held hostage by this popular fiction, he nonetheless doesn't consistently honor it, thereby weakening the theoretical integrity of his pedagogy.

"Set class," he tells us, "is the fundamental harmonic structure of post-tonal music. . . . No sound is consigned a priori to dissonant status" (p. 39). These are words well-calculated to enunciate the stark contrast of New from Old. The Old way had us grading sonance "according to linguistic rules established between the fifteenth century and the eighteenth century," rules that were "threatened only by modest ambiguities in the nineteenth century" (p. 69). These rules are only "tenuously applicable" in the twentieth-century repertoire. Friedmann's emphasis, furthermore, is "on the aspects of twentieth-century musical languages that radically depart from the structuring tools of tonal music" (p. 9).

These manifestos of revolution make all the more curious the use of several old bottles for newly vinted wines, such as a reference (p. 97) to the dominant seventh and half-diminished seventh chords as potential sonic paradigms (for example, the 4-27 tetrachord). After all, if what is said in the final paragraph of the *Introduction* is meant, there can be no *dominant* (V) seventh chord in a post-tonal context. This pesky paradox hardens in musical examples where obviously tonal implications are hard to ignore, yet go unmentioned. For instance, melodies 4-26 and 4-27 twine through a B V7 in E and a Bb V7 of Eb respectively. An experienced listener would readily grasp these tainted

pre-post-tonal gestalts, so why not comment on them, as mnemonic guides, when they have been endorsed as such earlier?

Since twentieth-century interval classes cannot be consigned a priori sonance status, they must be *contextualized* before they have meaning (as consonant or dissonant). There are twelve trichord types, each separately neutral in structural potential. They are among the emancipated aggregates of our Schoenbergian heritage.

Credibility for this position of neutrality is severely tested internally on several occasions. Three families of sonance are introduced (p. 40) in an attempt to simplify the roster of trichords one's ears might confront. These three-element collections are to be identified roughly in the hearing experience "according to *conspicuous* [my italics] interval characteristics." The families consist of (1) trichords with a minor second; (2) trichords with a major second but no minor second; and (3) trichords with neither a minor second nor a major second. These indexed generalizations provide reasonable and helpful means for sonance identification and differentiation, so it's a pity they don't resonate well with the author's sworn neutrality in such matters. Indeed, they raise the specter of—of all things—an a priori classification of sonance, one derived from non-linguistic sources. If sonance classifications from the fifteenth through the eighteenth centuries were mere linguistic rules, as per the discussion on p. 69, then how can the minor second and the major second play such pivotal roles in the aural detection of non-contextual sonority types? Indeed, it does seem strange that the octave, that most axiomatic of all axioms in the world of modulus 12, could be described as a mere remnant of an archaic linguistic convention.²

Similar inconsistencies hide just below the skin of discussions and exercises, where things we've been assured don't mix well are mixed. They color the introduction of the four supersets: the *diatonic*, subsuming what Friedmann calls "the major and natural minor scales and the common medieval modes" (p. 41); the *pentatonic*; the *whole-tone*; and

²This idea that designations of dissonance in earlier centuries were a priori absolutes and not context-bound is a specious interpretation of what was meant by the elaborate tables in theoretical tracts. Any theorist who belabors, as many pre-Baroque theorists did, such fussy categories as "perfect consonance," "imperfect consonance," "pluperfect," "imperfect dissonance," and "perfect dissonance" clearly has something less than absolutes in mind. I have no doubt that, if consulted, Tinctoris of the fifteenth and Rameau of the eighteenth century would both heartily agree with this book's *comparative* system for identifying trichords out of context—by whether they do or don't contain major or minor seconds.

the *octatonic*. Since the first two of these supersets have been hopelessly tainted by several centuries of fraternization with *centrist* music, their inclusion as crutches for learning the sounds of post-tonal configurations is at best questionable. But this is just one of the several gaps in the jerry-built fence erected here between the twentieth century and its past. In fact, the author seems unsure about just where the *centrist* and the non-*centrist* twains may (or may not) meet. His text is sprinkled with reminders that the pitches of twentieth-century music are the neutral monads of modulus 12. Q.E.D. But then he confides on page 116 that the languages of modes, centrality, and sets are really not all that irreconcilable.

Pedagogical Anamolies

A book marketed for its didactic value should meet a few requirements beyond those demanded of books for other functions. Learning is difficult. As any experienced teacher knows, it is not an automatic response to indifferent presentation. Textbooks are used principally by persons who are just forming their individual perspective of the world, not merely adding to it. This sensitive developmental facet imposes a special consideration: Narrow conceptualizations make weak supports for later development.

This is a difficult book to understand. Its problem is not format; that is derived from an effortless progression from dyads (Chapter 2) through "Sets of More Than Four Elements" (Chapter 6). Even its subdivisions, into a succession of *Definitions* and *Exercises*, make the process as obvious and user-friendly as the operatic pairings of *recitativo-aria*. The difficulty lies in the book's language, not just in its prolixity but also in its reliance on the hard-core vocabulary and syntax of set theory. The writing has a distinctly Euclidean ring to it, a special irony in view of the author's expression of concern, in his *Introduction*, for the analytical and linguistic trenches that separate musicians today. But an additional barrier is the recurring sense that definitions may be less cogent to actual listening than imagined, that many exercises are better suited for gaining conceptual fluency in a private language than in flexing auditory muscles.

In this vein, Exercise 3.1 is a tedious exercise in keeping track of numbers rather than in recalling and imaging pitches; the exercises dealing with contour class and its derivatives swerve off into the slow lane of abstract rubrics. There is arguable relevancy for a listener in knowing that the fourth pitch of a melody is 3 in a <1-4-5-3-0-2-7-6> contour class relationship, as one learns to learn on page 34. These

are clusters of knowing that, although reeking of precision and irrefutable "truths," soar way beyond the decoding of sensory cues.

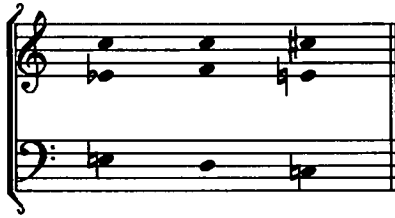
Exercise 3.19 is challenging fun for two skilled old pros in improvisation, but it pits *hearer* against *heard* in a disturbing way because it deals only with *contour* classes. In fact, the barrier to be vaulted in this exercise is that of avoiding actual pitch matches between heard line and improvised response. Other exercises demand operations that are redundant or beside the point, in view of presumed previous understandings and skills.

Exercise 4.1 asks students who have heard a trichord to first name pitch class numbers; then identify the three pitch intervals contained in the collection; and finally to "assess the unordered pitch class intervals represented by these three pitch intervals [heard in the trichord]" (p. 40). The charge of excessive emphasis on conceptual doctrine seems all the more warranted when we observe something of the processes entailed. If a listener can do steps #1 and #2, then the need for delving into unordered pc intervals seems specious. If I hear collection $c' a' c\#\prime$ and I can identify its components by names (or notational symbols), and interval names, all else bears shaky relevance to my hearing comprehension.

Some exercises conceal snags that probably weren't anticipated. For instance, a particular trichord is to be identified by the superset to which it belongs. But this misleads novice readers into believing that every trichord will therefore belong to only one of the defined supersets, which is not true. Still, the text makes clear that "a trichord that is a subset of the octatonic mode will be referred to as an 'octatonic trichord,' a trichord that is a subset of the diatonic mode as a 'diatonic trichord,' and so on" (p. 42). So students may be distressed to find that some trichords belong to more than one superset. Trichord $Eb D F$ [0,1,3], for instance, belongs to both diatonic and octatonic supersets. This presents some discomfort for the student, who, upon hearing such combinations, must go through the additional process of choosing between one or the other for a "correct" answer.

Even keyboard exercises project an aura of dull musical irrelevance. In its barebones simplicity, Exercise 4.17 is reminiscent of what we used to endure at the keyboard in our grapplings with the manifold permutations of I-IV-V-I. But the harmonic templates provided are, alas, even less conducive to realizations of musical sentiments. One is shown in Example 6. Even strict behavioral rules are imposed, making the *déjà vu* all the more piquant. For this set of exercises, one must 1) not move any voice more than ip (2) in any succession, 2) avoid crossed voices, 3) observing rules 1 and 2, keep one common pitch,

EXAMPLE 6. Keyboard improvisation on trichords
(Friedmann p. 55, Ex. 4.13d)



and 4) observing the three previous rules, retain when possible two common pitches between voice movements.

The book's pedagogical inconsistencies, contradictions, and nonsequiturs arise in part, I believe, from the inherent tensions imposed by its title—its acknowledged subject matter—and what the book is in fact really about. The musical repertoire, the heuristic content and processes, and the thorny language of the six chapters and their ancillary pages provide clues that ear training is perhaps more vehicle than destination, that the book's core issue is the development of fluency in the language of *Setspeak*.

Exercises such as 5.11b support this conclusion. Students are asked to listen to a four-measure excerpt;³ then to write down the series of pitch intervals within the first two measures; and then to identify the transformational operations that relate the two pairs of segments. But if students can identify the intervals present, why aren't they merely required to write down the pitches themselves? The transformational derivation of the pairs of segments was of more concern for the composer than it will be for his listener, reminding us of Schoenberg's injunction to his brother-in-law Rudolf Kolisch that, given a musical statement, one should be concerned with "What it is," rather than with "How it was made."⁴

³Schoenberg, *String Quartet No. 3*, II, mm. 92-95. Measures 92-93 are given in Example 2.

⁴Arnold Schoenberg, *Letters*, ed. Erwin Stein and trans. Eithne Wilkins and Ernst Kaiser (London: Faber and Faber, 1964), 164. Letter to Rudolf Kolisch, 27 July 1932: "You have rightly worked out the series in my string quartet [Third String Quartet]. . . . But do you think one's any better off for knowing it? . . . I can't utter too many warnings against overrating these analyses, since after all they only lead to what I have always been dead against: seeing how it is *done*; whereas I have always helped people to see: what it *is*!"

Other exercises reinforce, in their own ways, the same conclusion. Even the catch-all approach to tetrachordal identifications implies that system and nomenclature are the tails wagging this pedagogical dog. Each new tetrachord is to be compared with no fewer than seven potential rubrics: tetrachordal number (Forte number), unordered pc content, interval vector, trichord subset content, sonance family (i.e., presence or absence of ic 1 or ic 2), whole-tone group, and, finally, any other appropriate subsets such as "diatonic" or "octatonic" (see the discussion above about diatonic and octatonic trichords). Then later, in Chapter 6, with an introductory discussion of the "important and relatively easy to recognize" (p. 104) seven-pc sets, sixteen set paradigms are exposed, including the eleven "important ones" introduced earlier. Some of these are given names that test one's sense of ontological propriety, such as "nearly octatonic" septad, "almost whole-tone" septad, and the "diminished seventh plus one" pentad (pp. 107-108). But names seem trivial when we realize that this is a smothering by riches, teaching in which categorizing the bouquet replaces smelling the roses.

In closing this regrettably negative review, let us observe that our little opening dialogue reveals as much by what *is not* said about Maestro Høring's music as by what *is*. The super-listeners of our make-believe conversation report nothing about the timbral, loudness, rhythmic, nor textural properties of what they have just heard, implicitly pointing a finger at one of the limitations of descriptive analytics conventionally derived from set theory. *Ear Training for Twentieth-Century Music* perpetuates this sin of omission. It is inconceivable that a course focused on the aural interception of twentieth-century music could ignore the peculiarities and pitfalls of rhythm that inhabit the repertoire. At one point we read that "music segments are structures delineated by contour, register, rhythm, and set class characteristics" (p. 69). The last one is very important to Friedmann. But one of them—the one without which the other three cannot exist—plays not even a supporting role in this unfolding drama.

The book comes by its flaws naturally. Its problems are but tributaries of a fissure that has deepened in academic considerations of music over the past forty years. Music is approached as a conglomerate of profoundly intricate parts, parts not readily apprehended nor explained yet which are held to be crucial to adequate comprehension. In this perspective, ties that bind are sought mainly in sources that can be demonstrated as operational causes: The listener somehow must retrace each step of the composer's creative process. The analyst's searches are guided by an established doctrine, whether one based on

pre- or post- or whatever- tonal strictures. And thus what Friedmann thinks of as "precise articulation[s] of structural relations" becomes the bottom line "precondition for understanding affective content and gesture."

This academic infatuation for arcane interpretation, for complexity in the face of yawning simplicities, is not new. Bernard Shaw satirized another outcropping of the same quaint foible in his *Caesar and Cleopatra*. At the beginning of Act IV, Cleopatra approaches the local musical pundit, "the old musician," to ask if he can teach her to play the harp. Assured by him that he's uniquely suited to the task, that indeed "all the other teachers are quacks," she asks: "How long will it take?"

Musician: . . . only four years. Your Majesty must first become proficient in the philosophy of Pythagoras.

Cleopatra: Has she [indicating the slave who as they speak plays the harp] become proficient in the philosophy of Pythagoras?

Musician: Oh, but she is but a slave. She learns as a dog learns.

Hearing this, the Empress lets the old musician know that, since the slave girl plays better than he does, she prefers a mongrel pedagogy. She adds emphatically that he will teach her, and that furthermore,

whenever I strike a false note you shall be flogged; and if I strike so many that there is not time to flog you, you shall be thrown into the Nile to feed the crocodiles.

Their dialogue ends with the old musician, shocked by this impudent demand for educational accountability, saying: "But true art will not be thus forced."⁵

⁵Bernard Shaw, *Caesar and Cleopatra* (New York: Brentano's, 1906), 77-78.