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articles

From the Singer's Point of View: A Case Study in Hexachordal Solmization as a Guide to *Musica Recta* and *Musica Ficta* in Fifteenth-Century Vocal Music

By Daniel Zager

A treatise by the sixteenth-century Papal musician Ghiselin Danckerts preserves the details of an interesting controversy among some professional singers in Rome. Presuppositions concerning modal purity together with certain ambiguities of unspecified accidentals in a Lamentation setting by the Spanish composer Juan Escribano combined to provide these performers with some difficulties in the matter of the pitches to be sung. In his discussion of this episode, Lewis Lockwood observes that "many performers of the time must have found the problem as difficult as we do today."[1] Our difficulties in such questions of pitch, and in the concomitant consideration of editorial accidentals, derive from at least two considerations.

First, modern editors have not always made a consistent conceptual distinction between *musica ficta* and *musica recta*. The term *musica ficta* has frequently been used incorrectly to embrace all of the editorial accidentals added to modern scores of Renaissance music. In fact, many of these editorial accidentals, specifically many B♭s, may be explained and should be understood in terms of the standard system of *musica recta* as delineated in the gamut, the theoretical framework by which the fifteenth-century composer and singer defined musical space.[2] *Musica ficta*, on the other hand, refers only to pitches outside of the gamut. The distinction is crucial, for while the fifteenth-century singer, and, by implication, his modern counterpart, would normally avoid entering *ficta* hexachords unless necessary, there was simply no reason to avoid the B♭s of *musica recta*. Thus, all editorial accidentals are not equal, and it is critical that the modern editor make a conceptual distinction between editorial accidentals representing *musica ficta* pitches and those representing *musica recta* pitches.

Second, editors and performers too rarely approach these difficult problems of pitch from the point of view of the individual Renaissance singer. Margaret Bent has emphasized that it is we as twentieth-century musicians who add precise indications of accidentals when we prepare and perform

from scores, our means of representing visually an entire polyphonic complex.[3] By contrast, singers of the Renaissance did not perform from scores nor did they rely on complete and explicit written indications of accidentals. Rather, they determined *musica recta* and *musica ficta* according to well-known conventions which they applied to the performance of their individual vocal lines. As these individual lines were combined in rehearsal and vertical problems of counterpoint exposed, singers would adjust their parts wherever necessary by semitone on the basis of an aural comprehension of the entire polyphonic texture. Thus, for modern editors and performers, a primary consideration must be the conventions applied by fifteenth-century singers as they rehearsed musical compositions. Given the standard training of singers as described by Renaissance theorists, we must identify the assumptions and procedures that they would have brought to the music and attempt thereby to recreate the perspective of the individual singer. Through a case study of the "Et resurrexit," from the Credo of Ockeghem's *Missa l'homme armé,* this paper focuses on hexachordal solmization—the cornerstone of the singer's training—as a valuable means for understanding how the Renaissance singer determined *musica recta* and *musica ficta* within an individual vocal line and within the overall polyphonic context.

Hexachordal solmization, originally conceived for monophonic chant, had to be extended from the twelfth century on in order to deal with the wider pitch demands of polyphony. The necessity for vertical intervals to be perfect led, for example, to the need for E♭, a pitch unavailable as *musica recta,* in vertical combination with the *recta* B♭. In recognizing these needs, theorists rationalized semitones other than B to C, E to F, and A to B♭ by transposing hexachords to pitches other than G, C, and F. Such new hexachords may be referred to as *ficta* hexachords. The *musica ficta* pitch E♭, for example, became available as *fa* of a *ficta* hexachord on B♭.

Having rationalized needed pitches not available in the gamut, theorists were quick to point out, however, that *musica recta* was always preferred to *musica ficta.* Bent cites Prosdocimus and Ugolino among other theorists who articulate this preference:

> Prosdocimus allows the use of musica ficta "provided the consonance could not be coloured in any other way than by *musica ficta*" and says that it is never used "except where the context requires." Ugolino tells us not to use ficta "except in places of cogent necessity." *Musica ficta,* according to the theorists, is a last resort.[4]

We may think of this principle as the first of two important guidelines applied by singers as they determine *musica recta* and *musica ficta* through solmization. The second guideline pertains to mutation, the process of moving

from one hexachord to another by way of a pitch common to both. Theorists from the thirteenth century, such as Johannes de Garlandia, through the sixteenth century state that mutation should be avoided as far as possible. For example, both Johannes Cochlaeus, in *Tetrachordum musices* of 1511,[5] and Hermann Finck, in *Practica musica* of 1556,[6] caution that mutation should not be made unless necessary. Of course, even on a common-sense basis, it is not difficult to understand that the fewer mutations involved, the easier the task of the singer. Thus, when a singer solmized, he matched his musical phrases with the closest hexachords, being certain to stay in one hexachord as long as possible before mutating, and always preferring *musica recta* to *musica ficta.*

While it is not difficult to accept the theorist's testimony concerning the practice and techniques of solmization, it is impossible to demonstrate that experienced singers always solmized their way through a new composition in the initial stages of rehearsal, thereby determining *musica recta* and *musica ficta* in that composition. It is possible, however, to justify the premise that Renaissance singers would have thought in terms of hexachordal solmization. First, there is, of course, no shortage of theoretical treatises testifying to the fact that, from their earliest years of training, fifteenth-century singers were taught to define musical space through the hexachordal system. Thorough training in hexachordal solmization was simply part of the musical background that every singer brought to his work. Second, there is some pertinent evidence implying that singers thought in terms of hexachordal solmization even when they did not actually pronounce solmization syllables to each pitch. In his *Practica musicae* of 1496, Gaffurius states that

> sounds represented by notes are generally articulated in three ways. The first way is by solmization, that is, by intoning the syllables and vocal names ut, re, mi, fa, sol, la. . . . this method of articulation is indeed almost mandatory for the instruction of youth. The second way is by uttering only the sounds and pitches while omitting entirely letters, syllables, and words, a practice which a singer easily follows. . . . The third method of singing is by articulating the text. . . .[7]

Gaffurius not only testifies here to the importance of solmization in the training of young singers, he also shows that a trained singer can bypass the actual articulation of syllables in favor of simply singing the pitches. The implication here from the text and from the musical illustration accompanying the second way of singing, a hard hexachord ascending and descending without solmization syllables, is that through his earlier training the singer would have made a mental connection between the pitches of the hexachord and the corresponding solmization syllables.

A premise, therefore, for the following discussion of the Ockeghem exam-

ples is that, regardless of whether they solmized in rehearsal, Renaissance singers would have understood their vocal lines as successive hexachordal segments interlocked through the process of mutation. Thus, they would have determined *musica recta* and *musica ficta* in their vocal lines by means of the principles, if not the actual techniques, of solmization.

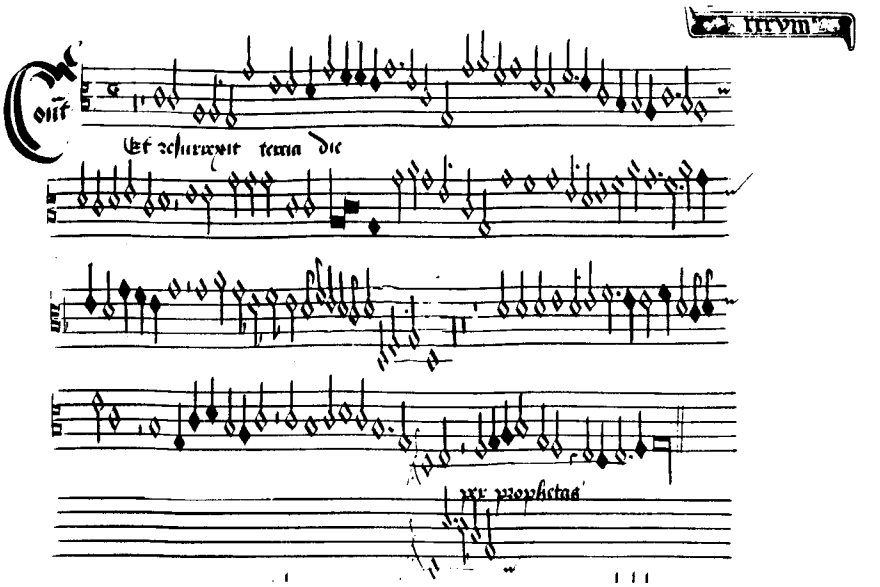
It is this process that we must attempt to recreate when we produce modern scores of Renaissance vocal music. According to Bent, "if we approach the manuscript situation with the medieval singer's training in mind, we are more likely to reason in his terms and approach his solutions."[8] Such a procedure will yield a more precise understanding of *musica recta* and *musica ficta* than relying solely upon the commonly enunciated guidelines originating in the counterpoint treatises of medieval and Renaissance theorists.[9] These guidelines take a vertical approach and represent primarily the composer's point of view. The process of solmization, on the other hand, takes a horizontal, melodic approach and represents the singer's point of view. Ultimately both viewpoints are complementary, and both are necessary for the modern editor, the distinction being one of priority. The editor who determines editorial accidentals first on a horizontal basis in each voice, afterwards mediating these results on the basis of vertical considerations of counterpoint, reflects more closely the rehearsal circumstances of Renaissance vocal music than does the editor who proceeds through the newly transcribed score looking for necessary vertical adjustments according to the theorist's contrapuntal rules. Even with this combined linear and contrapuntal approach, our editorial results cannot be considered definitive, for it is impossible to know precisely the decisions that the Renaissance singer would have made with regard to solmization and mutation.[10] But if our inquiry is necessarily tentative, it may also be considerably informative as it presents a new perspective on these complex problems of pitch.

A distinct advantage in using portions of an Ockeghem Mass for this case study is that two significantly different indications of editorial accidentals by a single editor, Dragan Plamenac, are available for comparison with the solutions to be presented here. Plamenac first published his Ockeghem edition in 1927, later issuing a "second, corrected" edition in 1959.[11] In his 1927 edition, Plamenac articulated the following guideline with respect to his application of editorial accidentals:

> In adding accidentals great restraint has been observed. In doubtful cases the editor has tried to follow the adage "better too few than two many" in order not to vitiate the modal character of the old works.[12]

In his 1959 edition, where many of the 1927 editorial accidentals were withdrawn without any kind of written explanation, Plamenac exhibited an even

Figure 1. The contratenor part of the "Et resurrexit" from Ockeghem's *Missa l'homme armé*. Biblioteca Apostolica Vaticana, ms. Chigi C.VIII.234. Used with permission.



greater sense of restraint. Nor is this kind of editorial policy limited to the work of Plamenac, for even in more recent editions of Renaissance music, an operative guideline has been to apply editorial accidentals only sparingly. This guideline, however, produces distorted musical results since it fails to consider that the Renaissance singer would have approached this music from the practical standpoint of solmization rather than the essentially theoretical standpoint of modal purity, a concept which itself must be questioned as an operative compositional precondition for fifteenth- and sixteenth-century music.[13] It is worth emphasizing that the intent here in examining the editorial accidentals of both Plamenac editions is not to denigrate his landmark work but rather to indicate as clearly as possible the substantially different results occasioned by looking at this music from the singer's point of view.

Ockeghem's *Missa l'homme armé* is preserved in two Vatican manuscript sources: the so-called Chigi Codex, from which I have transcribed the present examples, and Cappella Sistina Codex 35.[14] The Chigi Codex, the most important single source preserving the works of Ockeghem, is dated by Herbert Kellman at 1498–1503,[15] while Llorens notes that Cappella Sistina 35 was copied during the reign of Pope Innocent VIII (1484–92), thus slightly earlier than the Chigi Codex.[16] The "Et resurrexit" is a four-part setting with

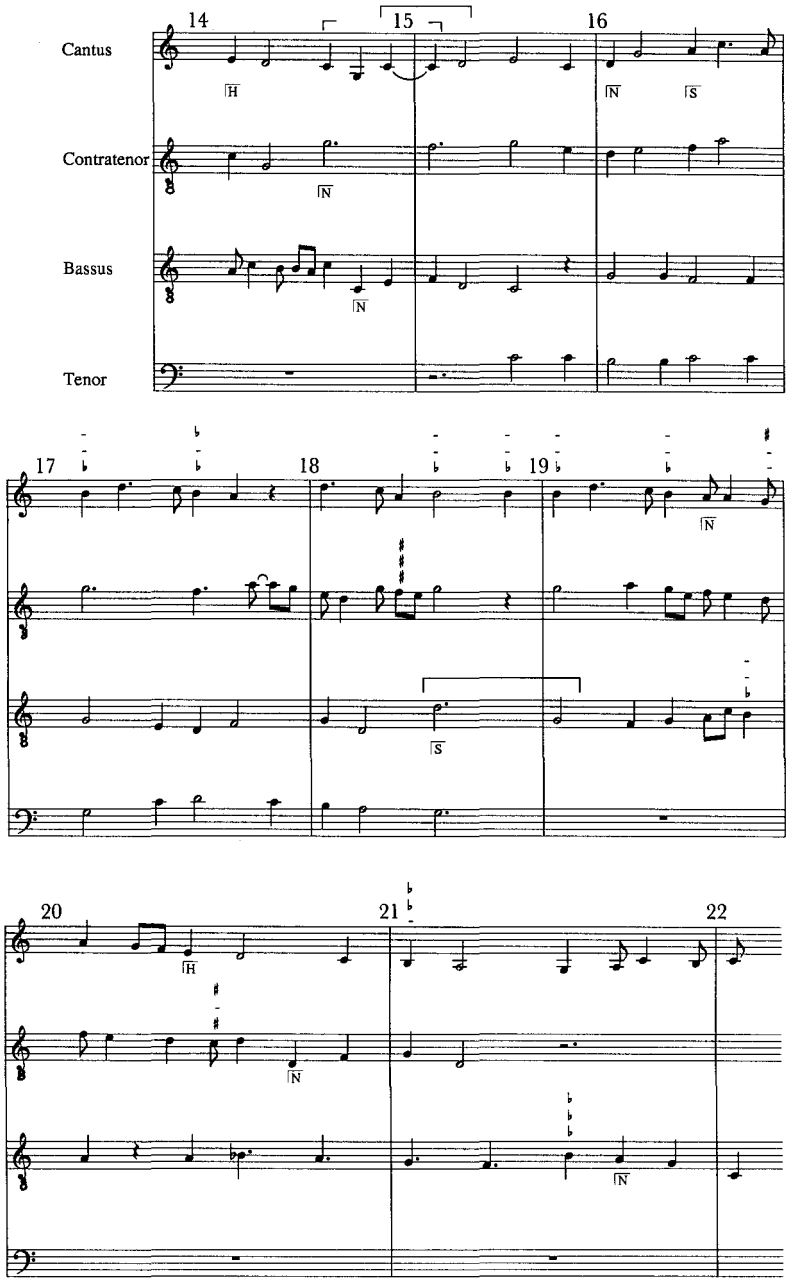
the disposition of parts in my transcription (from highest to lowest) being: cantus, contratenor, bassus, and tenor. The tenor is devoted exclusively to a complete statement of the *L'homme armé* cantus firmus.

The first excerpt to be considered here, mm. 14–21 (example 1), demonstrates how the linear, melodic perspective of the individual singer results in more editorial accidentals than would the more exclusively vertical, contrapuntal approach. Apart from the *subsemitonium modi,* however, all of my editorial accidentals represent *recta* rather than *ficta* pitches. In the present examples, the upper line of editorial accidentals represents Plamenac's original 1927 edition, the middle line his "second, corrected" edition of 1959, and the lower line my solution. The cantus in mm. 14–15, with its range of G–E, would have been solmized in the hard hexachord. As the range moves upward in m. 16, the singer would have mutated briefly to the natural hexachord and then, given the G–D range of the cantus in mm. 16–19, either to the hard or soft hexachord. The singer might well have chosen the hard hexachord since a quick look ahead would have shown that the line does not descend below G.

Any ambivalence in choice of hexachord for these measures would have been clarified in the second half of m. 17, where there is a vertical tritone between the cantus and contratenor. If the singer of the cantus was operating in the hard hexachord with its B♮, he would have sung *mi,* while the singer of the contratenor, operating in the natural hexachord, would have sung *fa.* Since the theorist's contrapuntal rules strictly forbade *mi* against *fa,*[17] the cantus, upon perceiving this dissonance in rehearsal, would have adjusted by choosing the soft hexachord with its B♭, thus perfecting this vertical interval. Even though we add an editorial accidental at this point, there is no *musica ficta* involved here since this B♭ is available as part of *musica recta.* A *ficta* solution would involve the contratenor in m. 17 singing an F♯ against B♮ in the cantus. The F♯ could be provided by means of a *ficta* hexachord on D, but a *recta* solution was always preferred to a *ficta* solution. In his 1927 edition Plamenac concurred with the *recta* solution, while in his 1959 edition he withdrew the B♭ and allowed the *mi* against *fa* to stand without adjustment, something the Renaissance singer would not have done.

Once the singer realized the necessity of the soft hexachord in order to avoid *mi* against *fa,* the actual mutation to the soft hexachord would have taken place in m. 16, the result being that the soft hexachord and its B♭ would have been operative throughout m. 17 in the cantus. Further, having chosen the soft hexachord for m. 17, the singer of the cantus would have remained in this hexachord until there was reason to mutate, hence the B♭s in the cantus in mm. 18–19. One perceives the need for these editorial accidentals only from the singer's horizontal, melodic point of view. If one were to proceed through the score looking for points requiring vertical adjust-

Example 1.



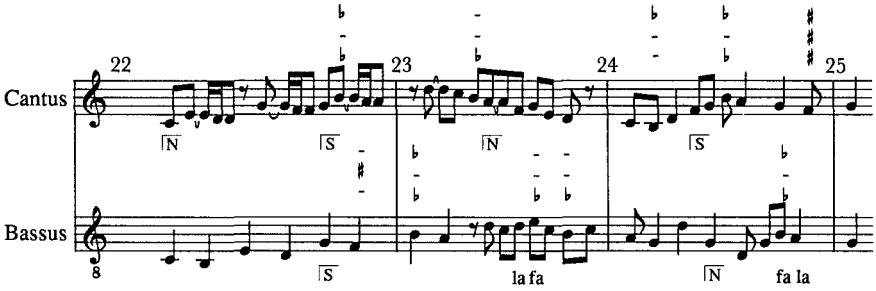
ment, the B♭s in mm. 18–19 of the cantus would be missed completely, as they were in Plamenac's editions. The fifteenth-century singer, however, would not have regarded these B♭s as anything out of the ordinary, for they were simply part of *musica recta*. Nor was there any need for the inflections in mm. 18–19 to be indicated in the manuscript; once the singer realized that the soft hexachord was necessary to correct the *mi* against *fa* in m. 17, the B♭s in mm. 18–19 were a logical corollary.

A similar situation arises in the bassus, mm. 18–21. Beginning in the second half of m. 18, the singer of the bassus, given the range of his melody, would have entered the soft hexachord. Since there would have been no need to mutate until the C in m. 22, the Bs in the bassus, mm. 19–21, would all have been sung B♭. In m. 20, the B♭ manuscript accidental in the Chigi Codex is actually superfluous, but its presence corroborates my reading of the passage in the soft hexachord. The potential linear tritone in m. 21 is avoided without further mutation because the singer is operating in the soft hexachord.

A more difficult question concerns the first note of the cantus in m. 21. Would this singer sing B♭–A in response to the B♭–A just heard in the bassus? In other words, is an imitative consistency between the bassus and cantus desirable at this point? This was Plamenac's solution. For the cantus to sing B♭ at the beginning of m. 21 would involve perfectly logical mutations: from the soft to the natural hexachord in m. 19, then back to the soft hexachord in m. 20, thus providing a B♭ in m. 21. If, however, the last B in m. 21 of the cantus is to be a B♮ in preparation for the cadence on C in m. 22, the singer would have to think in terms of a shift from the soft to the hard hexachord in m. 21, a mutation discouraged by theorists.[18] It is therefore preferable for the singer of the cantus to mutate to the hard hexachord in m. 20, thus singing B♮ at the beginning of m. 21. This solution provides the necessary B♮ at the end of m. 21 for the cadence on C without further mutation. Further, the range of the cantus in m. 21, down to G not F, fits the hard hexachord more closely than the soft. The loss of "imitative consistency" is not disturbing since it is not required by any contrapuntal necessity.

The second excerpt to be considered here is the cantus-bassus duet in mm. 22–24 (example 2). The range of both voices is predominantly F–D from the end of m. 22 into m. 23. Both would therefore be solmizing in the soft hexachord by the end of m. 22, where the suspended vertical tritone does not emerge as a problem since the cantus would sing B♭ against the bassus F. In his 1927 edition Plamenac suggested the same solution. In his 1959 edition he suggested that the suspended tritone be perfected instead through an F♯ in the bassus. The singers, however, both of whom would have been operating in the soft hexachord, would have avoided the vertical tritone by means of a *recta* rather than a *ficta* solution.

Example 2.



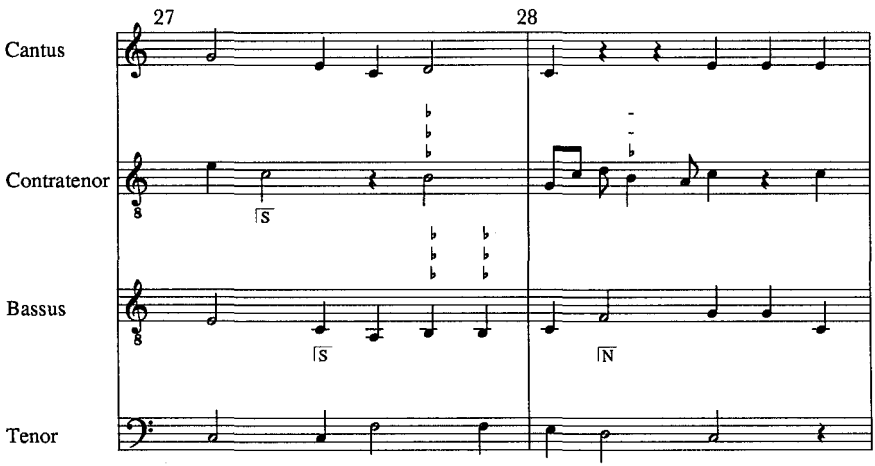
The bassus in m. 23 exceeds the upper range of the soft hexachord by one step. The oft-quoted guideline "una nota super la semper est canendum fa" (one note above *la* is always sung *fa*) is applicable here. According to this guideline, the E above D, the upper limit of the hexachord, should be sung as *fa* or E♭. Andrew Hughes has pointed out that the practice of singing *fa* above *la* was illustrated by the fifteenth-century theorist Johannes Legrense (*ca.* 1415–73), a contemporary of Ockeghem.[19] Thus, the application of "una nota super la" in this context seems entirely appropriate. The practical result of this shortcut in solmization is the avoidance of a linear tritone outline, in this case E–C–B♭. This solmization is confirmed by the fact (noted by Plamenac) that the E in the bassus of m. 23 was at some point lowered through a manuscript accidental in the Chigi Codex, the flat later being erased.[20]

The more difficult question is whether the singer of the cantus, in order to avoid a cross-relation, would have lowered his E in m. 23 in response to what he had just heard in the bassus. In terms of solmization, this would force the cantus into a B♭ *ficta* hexachord for parts of mm. 23–24 instead of the expected mutation to the natural hexachord. While such a *ficta* hexachord is surely possible in this context, one must question whether the singers, whose training led them to prefer *recta* to *ficta* solutions, would have felt compelled to adjust this cross-relation through application of *musica ficta*. While the answer to this question is not readily apparent, the contemporary editor may have some evidence to replace intuitive judgments. In a study of chromatic cross-relations in six Mass settings by Obrecht, Thomas Noblitt examined those accidentals "occurring in the sources themselves" that produced cross-relations.[21] Noblitt found that by far the majority of the accidentals producing cross-relations were clearly related to "generally accepted principles of *musica ficta* or of hexachord theory." He goes on to state that "seventy-six percent of the accidentals are related to avoidance of the tritone. Included in that figure are not only those which eliminate direct melodic and harmonic tritones but also those which prevent outlining the interval of the augmented

fourth melodically. . . . "[22] Thus, at least in Obrecht's music, when an accidental is used to avoid a linear tritone outline, as in an "una nota super la" situation, the result may well be a chromatic cross-relation which "should not be edited out."[23] While a study equivalent to Noblitt's has not been done for Ockeghem's Mass settings, it does not seem unreasonable to regard the cross-relation in m. 23 as the perfectly acceptable result of a necessary application of "una nota super la" to avoid a linear tritone outline in the bassus.

While the first excerpt discussed above presents no particular problems from the singer's point of view and the second excerpt only the uncertainty of the cross relation, the third excerpt to be discussed here, mm. 27–33, is more difficult. It is clear that the Bs in m. 27 of the contratenor and the bassus must be lowered, given the F sounding simultaneously in the tenor (example 3). Cappella Sistina 35 shows a manuscript accidental B♭ in the contratenor, while the Chigi Codex does not.[24] In the Chigi Codex, however, there is a B♭ signature for the third staff of the contratenor part (figure 1). Of the four parts of the "Et resurrexit," this is the only staff bearing a signature. For the Renaissance singer such a signature provided solmization information. The signature flat, indicating that B was to be solmized as *fa*, warned the singer that he would need to enter the soft hexachord at some point. There is, however, not a single B on the third staff of the contratenor part. The first B following this signature is early in the fourth staff of the contratenor. Perhaps by placing the signature at the beginning of the third staff, the scribe's intent was to make certain that the singer was warned well in advance of the eventual need for mutation to the soft hexachord. It is more likely, however, that the scribe simply erred by one staff in his placement of the B♭ signature. In

Example 3.



either case, while the signature is useless for the third staff, it is meaningful for the fourth staff, affecting the contratenor part from m. 27 on.

The presence or absence of editorial accidentals from m. 28 to the end of the "Et resurrexit" will be determined largely by how the editor treats a single pitch, the B in m. 28 of the contratenor. If it is a B♮, then the result will be as in Plamenac's editions. If it is a B♭, then a very different sequence of events is set into motion (example 4). Of course, the real question is not how the editor treats this pitch but how the fifteenth-century singer would have treated it.

Given the necessity for B♭ in m. 27 of the contratenor, the singer would clearly be operating in the soft hexachord in m. 27 and, according to the theorist's common injunction to avoid mutation unless necessary, the singer would normally continue in this hexachord until there was good reason to change. In this way, all of the Bs in the contratenor part mm. 27–30 would be sung B♭, for this entire phrase falls within the range of the soft hexachord. The difficult question is whether another factor might contravene the common guideline against mutation. Specifically, does the cadence on C by the contratenor and tenor in m. 28, a sixth expanding to an octave, call for a B♮ in the contratenor in spite of evidence to the contrary from both the normal practice of solmization and the presence of a manuscript signature? The editor who posits this solution could point to the fact that this cadence coincides with the end of a cantus firmus phrase and deserves, therefore, to be treated as a prominent cadence.

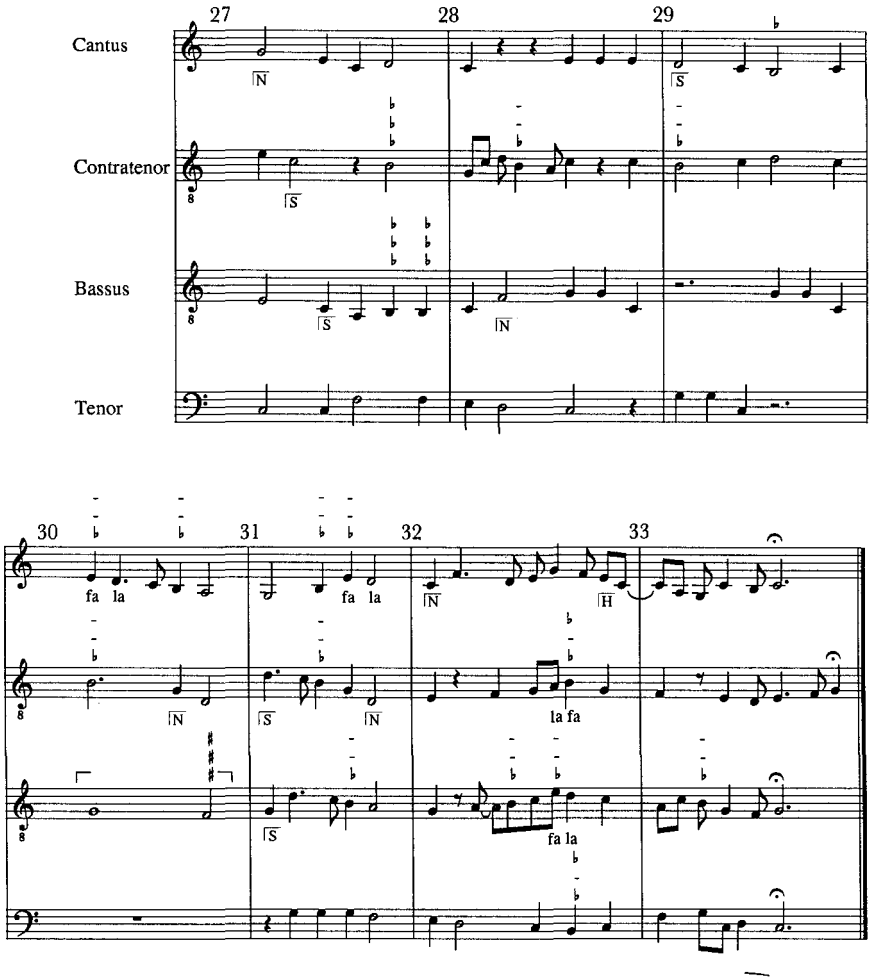
The editor who provides a B♭ in m. 28 of the contratenor could make three arguments. First, the flat signature indicated at the third line of the contratenor constitutes significant evidence that this B would have been solmized as *fa* in the soft hexachord. In discussing the sixth mode in his *De natura et proprietate tonorum,* Tinctoris devotes some attention to B♭ and maintains that when the flat sign "is placed at the beginning of the line, it defines that the whole will be sung with a soft b. If it is placed in any other place, the song will be sung with a soft b as long as the section will last in which it is prefaced."[25] Thus, it is possible that the singer of the contratenor would have taken the flat sign at the beginning of the third staff to indicate that all subsequent Bs should be solmized as *fa* in the soft hexachord. Second, this cadence is, in the terminology of Putnam Aldrich, an imperfect cadence, since the cantus E produces an imperfect interval with the final pitch of the cadence between the contratenor and tenor.[26] In this view, the cadence, as an imperfect one, would not be sufficiently strong to require the B♮ as a raised leading tone. (We may assume that the nature of the cadence—i.e. "prominent" or "imperfect"—would have been apparent after the first reading of this section, and that necessary adjustments would have been made in rehearsal.) Finally, from the point of view of hexachordal solmization, B♭ is

preferred since B♮ would present the singer with an awkward change from the soft to the natural hexachord.

If, in fact, the contratenor in mm. 27–30 is solmized in the soft hexachord, then the solmization of the rest of example 4 is affected. In m. 30, the B♭ in the contratenor would necessitate an E♭ in the cantus to perfect this vertical interval. Because the singer of the cantus would be operating in the soft hexachord at this point, the E♭ would be provided by means of "una nota super la." The contratenor in m. 30 needs to leave the soft hexachord for the last pitch, the low D, which cannot be accommodated by the range of the soft hexachord. When, in m. 31, the contratenor jumps back to the upper range, the singer again would have preferred the soft hexachord over the hard hexachord because of the B♭ signature of the contratenor part. Thus, in m. 31 the B in the contratenor would be sung as B♭, forcing the B in the cantus to be sung as B♭ and the following E as E♭ to avoid the linear tritone. This in turn forces the B of the bassus to be sung as B♭ to accord with the cantus. While such a chain reaction causes us to insert editorial accidentals, there are no *musica ficta* hexachords involved here. All three voices would be solmizing in the soft hexachord with its B♭, and the E♭ in m. 31 of the cantus would be realized by the previously mentioned guideline "una nota super la." My editorial accidentals in this final section are all determined by considerations of solmization and supported by the B♭ signature in the contratenor part of the Chigi Codex. I believe that these editorial accidentals, which significantly change the sound of this final section compared to Plamenac's 1959 edition, constitute a reasonable solution from the singer's point of view, which proceeds first from linear melodic principles of solmization.

This case study of short excerpts from Ockeghem's *Missa l'homme armé* has, of necessity, required a very close examination of small details of pitch. But it is precisely this process which enables the editor to pose the questions that would have confronted the Renaissance singer and to suggest solutions appropriate to the singer's point of view. The editor who, on the basis of solmization, works from the singer's linear, melodic approach, will arrive at far different results than the editor who works only from the theorist's vertical, contrapuntal point of view, the approach that has been used frequently in modern editions of Renaissance music. The singer's point of view results in what Bent has termed "a more liberal approach to *musica ficta* than is currently considered respectable," an approach that "cuts through the presumption that additions should be kept to a minimum."[27] Beyond considerations of *musica ficta,* one could state that the singer's point of view, as recreated through hexachordal solmization and coupled with a clear understanding of *musica recta,* results in a more liberal approach to editorial accidentals in general. In this case study all such accidentals, with the exception of *subsemitonium modi,* may be justified by reference to the hexachords of *musica recta* and

Example 4.



their upper semitone extensions through "una nota super la." Thus, while this excerpt may well require more numerous accidentals than in either of Plamenac's editions, such editorial accidentals have nothing to do with *musica ficta*.

As these concepts are tested further by applying them to the editing and performance of other compositions by various fifteenth- and sixteenth-century composers, we might well remember what Dragan Plamenac wrote in his "Postscript to Volume II of the Collected Works of Johannes Ockeghem":

"The steady progress of musicological research necessitates revising and improving upon statements and findings even in publications of recent date."[28] While he may or may not have agreed with the specific revisions suggested here, he would no doubt concur with the necessity of constantly reexamining previously held conclusions concerning the music of our past.

NOTES

An earlier version of this paper was presented at the Northeast Chapter meeting of The College Music Society, 21 March 1987, Northeastern University, Boston.

[1] Lewis Lockwood, "A Dispute on Accidentals in Sixteenth-Century Rome," *Analecta musicologica* 2 (1965): 24.

[2] Extending from the second G below middle C to the second E above middle C, the gamut was defined by seven overlapping hexachords on G, C, and F which, taken together, provided the white notes of our diatonic scale together with the B♭s immediately below and above middle C.

[3] Margaret Bent, "Diatonic Ficta," *Early Music History* 4 (1984): 20, hereafter referred to as: Bent 1984.

[4] Margaret Bent, "*Musica Recta* and *Musica Ficta*," *Musica disciplina* 26 (1972): 84, hereafter referred to as: Bent 1972. While acknowledging that Prosdocimus "comes out in favor of *recta* preference," Karol Berger nonetheless questions the validity of this principle. See his *Musica Ficta: Theories of Accidental Inflections in Vocal Polyphony from Marchetto da Padova to Gioseffo Zarlino* (Cambridge: Cambridge University Press, 1987), 63–65 and 83–84.

[5] Johannes Cochlaeus, *Tetrachordum musices*, trans. Clement A. Miller, Musicological Studies and Documents, 23 (Rome: American Institute of Musicology, 1970), 42.

[6] Gaston G. Allaire, *The Theory of Hexachords, Solmization and the Modal System,* Musicological Studies and Documents, 24 (Rome: American Institute of Musicology, 1972), 52.

[7] Franchinus Gafurius, *Practica musicae,* trans. Irwin Young (Madison: University of Wisconsin Press, 1969), 21–22.

[8] Bent 1972, 83.

[9] For a classic statement of these guidelines, see Edward Lowinsky's introduction to *Musica nova,* ed. H. Colin Slim, Monuments of Renaissance Music, vol. 1 (Chicago: University of Chicago Press, 1964), viii–xxi.

[10] Lewis Lockwood has furnished evidence from the first half of the sixteenth century attesting to the difficulties routinely encountered by the Renaissance singer. In correspondence dating from the 1520s between the Italian theorists Giovanni Spataro and Pietro Aron, Spataro writes the following: "Now we inquire whether the singer, performing a composition he has never seen before, is obliged to or truly can immediately understand the intention and hidden purpose of the composer; and we answer that he cannot. . . . Thus, the musician or composer is obliged to indicate his intention, in order that the singer may not chance to do something that was never intended by the composer." Clearly, with respect to pitch, and, by implication, solmization and mutation as determinants of pitch, the Renaissance singer would have encountered uncertainties similar to those which confront the modern editor. Lockwood's translation of the larger passage from which the above excerpts are taken is found in "A Sample Problem of *Musica Ficta:* Willaert's *Pater Noster,*" in *Studies in Music History: Essays for Oliver Strunk,* ed. Harold Powers (1968; reprint, Westport Conn.: Greenwood Press, 1980), 166–67.

[11] Plamenac's 1927 edition is Johannes Ockeghem, *Sämtliche Werke,* Publikationen älterer Musik, I, 2 (1927; reprint, Hildesheim: Olms, 1968), hereafter referred to as: Plamenac 1927. His 1959 edition is Johannes Ockeghem, *Collected Works,* 2nd, corrected ed., Studies and Documents, 3 (Philadelphia: American Musicological Society, 1959), vol. 1, hereafter referred to as: Plamenac 1959.

[12] Quoted here is Plamenac's 1959 English translation (p. xi) of his introduction originally published in 1927.

[13] On this topic, see Harold S. Powers, "Tonal Types and Modal Categories in Renaissance Polyphony," *Journal of the American Musicological Society* 34 (1981): 428–70.

[14] A complete facsimile of the Chigi Codex is available as part of the series Renaissance Music in Facsimile, vol. 22 (New York: Garland, 1987). For an inventory, see Herbert Kellman, "The Origins of the Chigi Codex: the Date, Provenance, and Original Ownership of Rome, Biblioteca Vaticana, Chigiana, C.VIII.234," *Journal of the American Musicological Society* 11 (1958): 7. For a full inventory of Cappella Sistina 35, see Joseph M. Llorens, *Capellae Sixtinae Codices,* Studi e Testi, 202 (Vatican: Biblioteca Apostolica Vaticana, 1960), 69–72.

[15] Kellman, 17.

[16] Llorens, 72.

[17] Ugolino, for example, wrote that " . . . *fa* and *mi* are wholly and utterly rejected as simultaneous extremes for the same consonance: thus *mi* is never solmized against *fa* on a perfect consonance. . . . " See Andrew Hughes, *Manuscript Accidentals: Ficta in Focus, 1350–1450,* Musicological Studies and Documents, 27 (Rome: American Institute of Musicology, 1972), 30.

[18] Allaire, p. 47, provides a translation of the following guideline from Maximilian Guilliaud's *Rudiments de musique pratique* (Paris, 1554): "It is never proper to the nature of the hexachords molle and durum to be interlocked; rather, the interlocking must be made between the hexachords molle and naturale, and between the hexachords naturale and durum."

[19] Andrew Hughes, "Solmization," *New Grove Dictionary of Music and Musicians,* 1980: vol. 17, p. 460. The example to which Hughes refers is found in E. Coussemaker, *Scriptorum de musica medii aevi* (1876; reprint, Hildesheim: Olms, 1963), 4:380, Legrense's treatise "Libelli musicalis de ritu canendi vetustissimo et novo."

[20] Plamenac 1959, xxxix.

[21] Thomas Noblitt, "Chromatic Cross-Relations and Editorial *Musica Ficta* in Masses of Obrecht," *Tijdschrift van de vereniging voor nederlandse muziekgeschiedenis* 32 (1982): 30.

[22] Noblitt, 31.

[23] Noblitt, 42.

[24] With respect to the bassus, Plamenac (1959, p. xxxix) notes that the Chigi Codex shows the erasure of a flat before the B of m. 27. A look at a facsimile of this folio, in Renaissance Music in Facsimile, vol. 22, fol. 40, or in Plamenac's 1959 Ockeghem edition, plate IX, easily confirms this erasure. That a facsimile of the same folio in Willi Apel, *The Notation of Polyphonic Music, 900–1600,* 5th ed., Mediaeval Academy of America Publication, no. 38 (Cambridge, Mass.: The Mediaeval Academy of America, 1953), 139, shows this flat sign in the bassus can only be explained as Apel's intention to restore a known manuscript accidental, perhaps for pedagogical reasons.

[25] Johannes Tinctoris, *Concerning the Nature and Propriety of Tones* (De natura et proprietate tonorum), trans. Albert Seay, 2nd ed., Colorado College Music Press Translations, no. 2 (Colorado Springs: Colorado College Music Press, 1976), 11.

[26] Putnam Aldrich, "An Approach to the Analysis of Renaissance Music," *Music Review* 30 (1969): 7–9.

[27] Bent 1984, 47–48.

[28] Dragan Plamenac, "Postscript to Volume II of the Collected Works of Johannes Ockeghem," *Journal of the American Musicological Society* 3 (1950): 33.

A Working Sketch by Schubert (D. 936a)

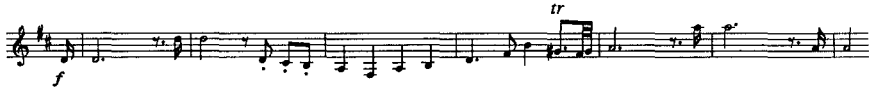
By Brian Newbould

The differences between Beethoven's sketches and Schubert's have received some attention in this sketch-conscious last quarter of the present century. The general case was succinctly put by Richard Kramer, and, although Kramer is writing with specific reference to Schubert's songs, his comments have wide validity: "For the most part, Schubert's sketches consist of continuity drafts on two staves, very different form the clusters of discontinuous entries, improvisationlike, and the weighing of options that characterize the Beethoven sketches."[1] The present purpose is to explore an exceptional case—the symphony that occupied Schubert in the last weeks of his life and which entered the Deutsch catalogue belatedly, as D. 936a, in the 1978 edition.[2]

Although the existence of this work was known to Bauernfeld, who referred to his friend's "Letzte Symphonie, 1828" as distinct from the "Grosse Symphonie, 1825" (the *Great* C major) in a Vienna journal only seven months after the composer's death,[3] the secret evidently died with Bauernfeld in 1890. Not until 150 years after its conception was the symphony identified and made available in facsimile.[4] The sketch is a two-staff draft: at least, much of it fits that description. But in that a Schubert "draft" usually makes plain the definitive structure of the final score, this draft is not a through-and-through draft. Moreover, the preliminary drafts of all three movements refute one distinction isolated as of cardinal importance by Stephen Carlton in his comparative study of Beethoven and Schubert. "In contrast to his famous Viennese contemporary," he writes, "Schubert did not use sketches to work out such essential details of a composition as melodic shape and structure. . . . "[5]

Schubert began the symphony by writing one continuous draft of an Allegro maestoso, as far as the double bar at the end of the exposition. The first theme is stated assertively at the beginning (example 1): the soft restatement

Example 1.

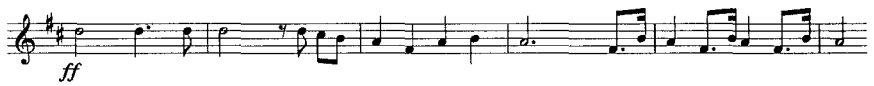


at m. 24 is a terse distillation of its essence, shorn of the rhetoric (example 2). Having completed this exposition Schubert crossed through the whole of its first section up to the end of the transition. He then began afresh on the line

Example 2.

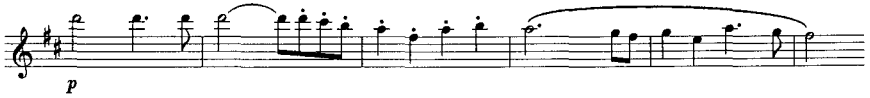
below that on which he had concluded his exposition, identifying this fresh opening with the word *Anfang*. This time the first theme took a more characterful rhythm as its "head" (example 3)—a rhythm that had in fact been

Example 3.



born during the later stages of the exposition (after the second subject) in the first draft. Thus it was only the experience of drafting the exposition that enabled Schubert to determine the shape and character of his first theme: the *draft* had come to serve as a *sketch.* The soft after-statement, in the second draft, retains the new head-motif and adds a suave new tail which imparts some lyrical breadth to what was previously a somewhat stunted scrap of a symphonic idea (example 4; cf. example 2). The remainder of Schubert's

Example 4.

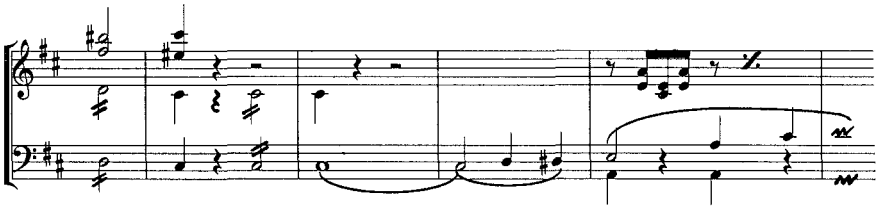


revised first group differs from the original sequel in its tonal direction and details of thematic treatment, but leads into the original second group, which runs its course as before (it is not written out anew) but for the deletion of measures that were either superfluous or more obviously derived from the original first group than from the revised first group. The principal purpose of the revision of the first group was, however, to redefine the thematic material. Thus Schubert was working out "such essential details . . . as melodic shape and structure" (Carlton) in the course of a "continuity draft" (Kramer), which came to serve as a working sketch.

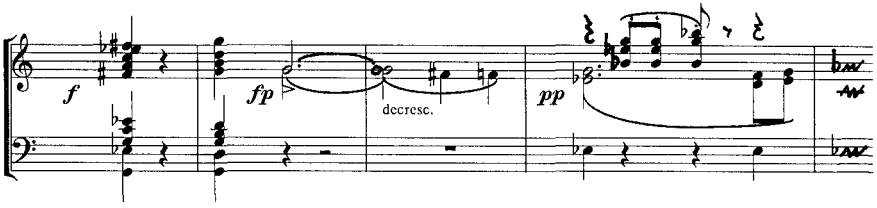
As an aside to our main concern, it is poignant to note that the redraft of the first group obliged Schubert to discard the original lead-in to the second

subject. The transition had closed on V of III (a C♯-major chord), and the cellos(?) had swung up from the C♯ by semitone steps to the new dominant, E, in a striking inversion of the cello link the composer had forged a few weeks earlier at the equivalent point in his String Quintet (example 5; cf. example 6). In both cases, the chromatic slide connects third-related keys. In the redraft Schubert approached the key of A in a more orthodox manner, through its own dominant.

Example 5.

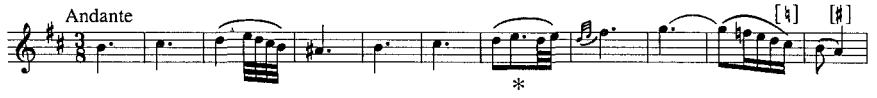


Example 6. Schubert: String Quintet, first movement, mm. 59–61.



The first idea for the second movement of the symphony was a long-limbed, arching theme in B minor (example 7). The poetic vein of the *Unfinished* Symphony is recalled here, and the implied Neapolitan chord at the

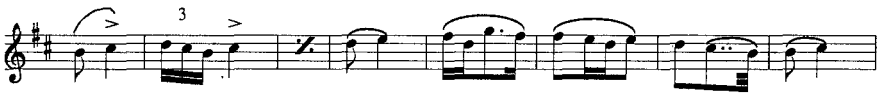
Example 7.



tenth measure is characteristic. But as this melody resonated in Schubert's mind, it was evidently its eleventh measure, and perhaps more specifically the seventh (marked with an asterisk in example 7), that seized his imagination. The second-beat stress took hold of him, and he crossed through his

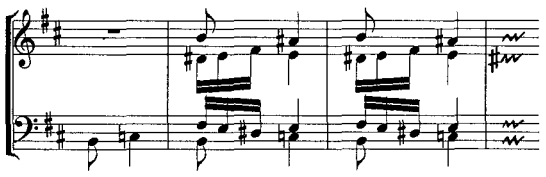
melody without adding a note more, and rewrote it on an adjacent staff, with the second-beat stress made explicit from the start. The fourth measure of example 8 should be compared with the seventh of example 7 to show how the first version spawned the second. Thus was born the initial, sarabande-

Example 8.

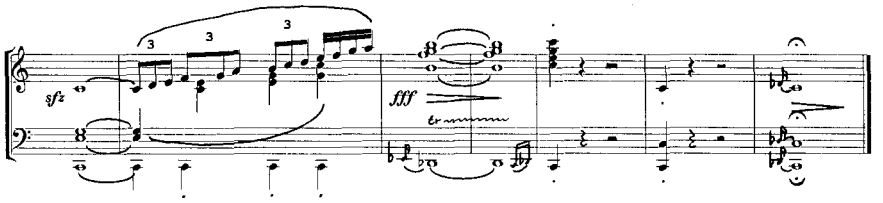


like, two-note motif, which was to serve the composer well as the starting point for cognate themes later in the movement. Its labored upward whole-tone step is ultimately reduced, as though by attrition, to the semitone step that underpins the last cadence of the movement. This cadence is as dying a fall (or rise and fall) as one may find in a Classical symphonic cadence, and it borrows (and intensifies) the harmonic color of the very close of the recently completed String Quintet in C (example 9; cf. example 10).

Example 9.



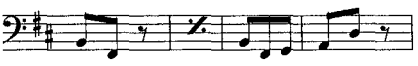
Example 10. Schubert: String Quintet, fourth movement, mm. 423–end.



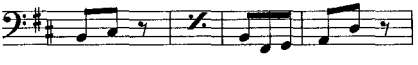
In the course of the exposition of this movement, Schubert introduced a short pizzicato interlude in the bass, which then reappeared to usher in the recapitulation. It was possibly at this juncture (though it may have been earlier) that he decided that this interlude should be inserted at the very start of the movement, to make a four-measure prelude. He squeezed the

measures into a tiny space left at the end of the top system of a page, for the page had already been used for some (unrelated) counterpoint exercises before the sketch of this movement was begun (see figure 1). The shape he gave these measures (example 11) was later revised (example 12) so as to incorporate the initial ascending second of the melody. Thus, having revised his first

Example 11.



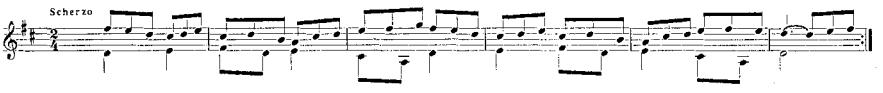
Example 12.



theme in the course of composing the movement, Schubert also reconsidered other details in the light of his revised theme. Moreover, after he had finished his draft of the movement, and having proceeded to begin and complete the following movement, he came back to this Andante and apparently concluded that an additional thematic element was desirable. He now added the F♯-major melody that provides the moments of heart-easing consolation the movement had lacked. Schubert's revisionary urge thus affected the number of themes as well as their shape.

For his third movement Schubert planned a scherzo, which from the start he conceived in $\frac{2}{4}$ time. The first page of sketch is shown as figure 2. He began with a middle-range theme overlaid with triplets implying $\frac{6}{8}$ time. This shaped itself oddly in a six-measure strain (example 13). Having completed a

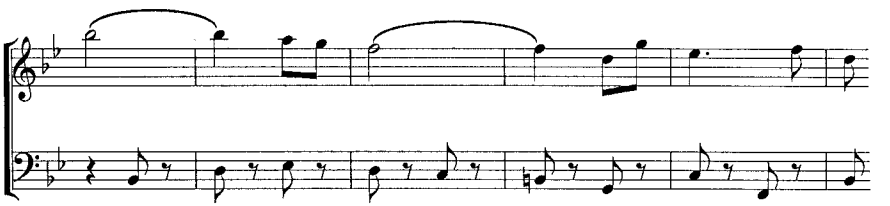
Example 13.



second repeatable strain—the second section of a binary-form theme—with a tonic cadence, he moved abruptly to B♭ and penned a second theme (example 14). Its six-measure span is a clue to the fact that this second theme was designed to be compatible in counterpoint with the first (example 13), although Schubert did not get as far as showing them in combination.

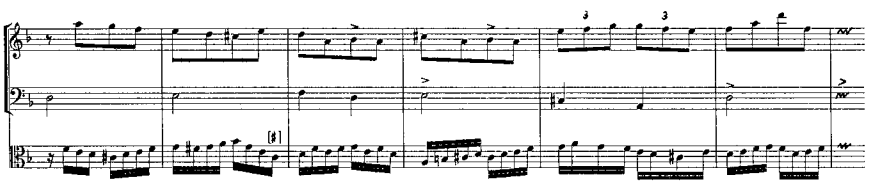
Having completed the second section of the binary-structured second

Example 14.



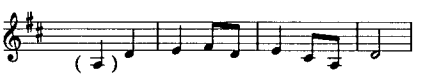
theme—a section likewise built to be potentially combinable in counterpoint with the second section of the first theme—Schubert turned abruptly to D minor to introduce in that key an augmentation of that theme in the bass, with a new counterpoint in eighth-notes above, adding as afterthought a running middle strand in sixteenth-notes in the alto clef on a lower staff (example 15). This again he completed in binary form.

Example 15.



At this point the composer went back to his very opening (example 13) and made changes to his first theme. He seems to have done this in response to a problem that resulted from a metrical reinterpretation of the opening measures that he had incorporated into the close of both the first and second strains. He had closed his second strain as shown in example 16. The notes of

Example 16.



example 16 are, except for the bracketed first one, those of the first three measures of the theme (example 13), now in a new metrical position. Schubert evidently preferred the sharply etched clarity of this revised rhythmic configuration—compared with which the original rhythmic format seems somewhat square and generates a ponderous harmonic rhythm—for with

Figure 1. *Schubert: Drei Symphonie-Fragmente,* Documenta Musicologica, Zweite Reihe: Handschriften-Faksimiles 6 (Kassel: Bärenreiter-Verlag, 1978). Reproduced by permission of the publisher.

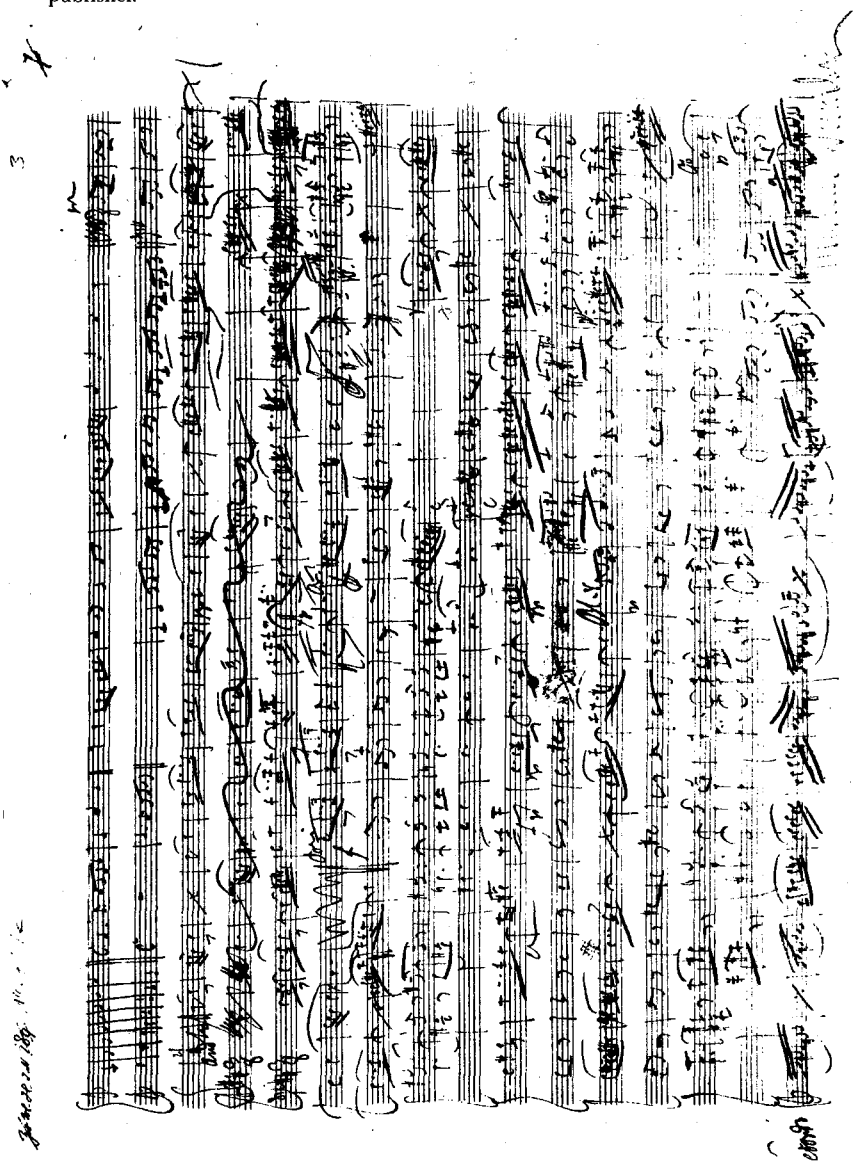
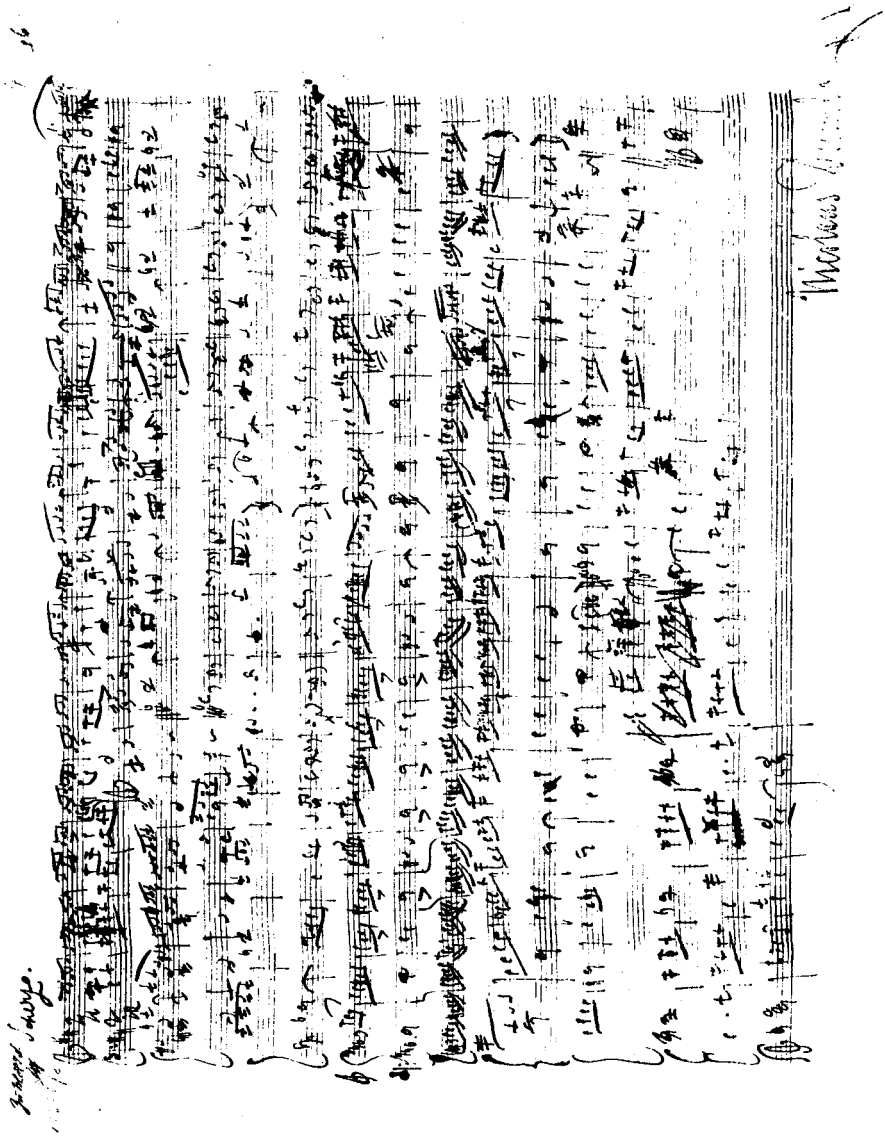
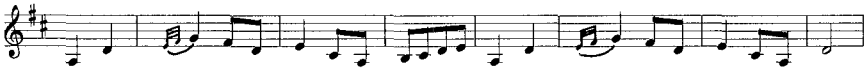


Figure 2. *Schubert: Drei Symphonie-Fragmente*, Documenta Musicologica, Zweite Reihe: Handschriften-Faksimiles 6 (Kassel: Bärenreiter-Verlag, 1978). Reproduced by permission of the publisher.



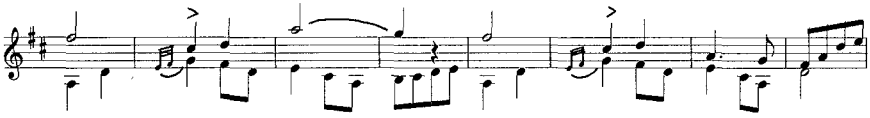
Example 17.



one bold addition example 16 became his new opening theme (example 17).

As he had now modified the contour of his first theme, Schubert needed to amend the shape of his B♭ theme, which was designed for combining with the first theme. He therefore wrote out his new first theme in vacant space on the second staff of the page (figure 2), and added a new "B♭ theme" above it. For sketching purposes he showed them both in D major (example 18). Coming

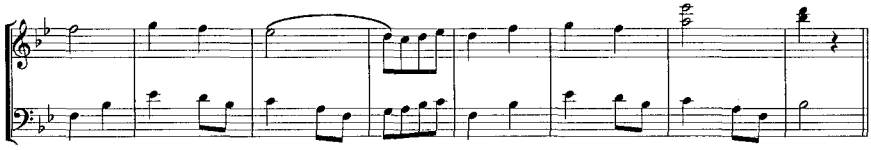
Example 18.



to the end of the staff, he completed the second section of this theme on the next empty staff—the twelfth staff of the page.

Still dissatisfied, he set it down again, in the original B♭, with further changes (example 19). Although he was here writing in B♭ and clearly in-

Example 19.



tended that in the ultimate formulation of the movement the second theme *would* first appear in B♭, example 19 was not meant to be part of any "continuity draft." The page of sketch discussed so far has, in any case, long since ceased to fit that description. That example 19 is a further "exercise" is shown by the fact that the first theme is present (Schubert never intended that the first presentation of the second theme should be in combination with thé first theme) and its grace notes are omitted. Moreover, the second theme has still not found its finite form; Schubert's remaining amendment would be the removal of the D in its fifth measure and its replacement with the F half-

note of the first measure.

It was only when Schubert took his next sheet of paper[6] that he began a real continuity draft of the movement. At some time, either soon after commencing the continuity draft proper or before beginning it, he made further sketches on the reverse of the page just examined. These sketches are of three fragments: the first was destined to be abandoned; the second was a first attempt in D minor at a fugato that Schubert would later include in the movement proper, transposed to A minor; and the third was a canonic passage in eighth-notes and sixteenth-notes, in two parts only. This canonic passage was designed to lead into the discarded episode at the top of the same page, and so was itself discarded; or rather, it was adapted in unambiguous $\frac{6}{8}$ to serve as sequel to the first theme.

It is clear from our study of the first page of this movement (figure 2) that even if Schubert began it in the expectation that it might be a continuity draft it quickly developed into a kind of worksheet, comprising "clusters of discontinuous entries" (Kramer, of Beethoven) and working out "such essential details . . . as melodic shape and structure" (Carlton, of Beethoven). Indeed Carlton's (accurate) observation that Beethoven "needed to experiment with and plan on paper various aspects of a musical work before the composition took final form" could be precisely applied to Schubert in this instance, while his claim that "for Schubert, the sketch served as an aid in plotting out a graphic representation of a musical idea that apparently had been already well formed entirely in his mind"[7] is in this case not tenable. The need for Schubert to engage in two pages of *preliminary* sketching is doubtless explained by the complexity of the contrapuntal scenario he had in mind and by the fact that counterpoint, the ingredient he wished to give greater prominence and strength to in his compositions during these last weeks, did not flow ready-perfected from his pen—at least, not if it was counterpoint of the spirited and intricate sort he attempts in this last symphony. This is why he sought advice from Sechter and took a lesson from him on 4 November of this final year, at which time he had probably begun the symphony sketch. It is tempting to speculate whether Sechter, who does not mention this last symphony in his memoirs, would have been shown this work had Schubert survived to take a second lesson.

Even when Schubert had finished two pages of preliminary work and begun the continuity draft proper of this scherzo, there were still some important compositional decisions to be made, and others to be set down on paper for the first time. The augmentation of the first theme (example 15) would have to be rewritten, for instance, because the theme upon which it was originally based had been superseded by a remodeled version. And as he proceeded, the role of the movement within the symphonic plan appears to have changed. What began as a scherzo gradually discarded the modular

structure of a scherzo-and-trio and took the form of a rondo. As such, it appears to assume the role of a $\frac{2}{4}$ rondo finale. Perhaps that is why, instead of going on to write a further movement on the two blank sides of paper still remaining to him in the bifolia that had been assembled for the symphony, Schubert went back and made structural changes to his second movement: there was no further movement left to be written.

NOTES

[1] Richard Kramer, "Schubert's Heine," *19th-Century Music* (1985), 220.

[2] See Brian Newbould, "Schubert's Last Symphony," *Musical Times* (May 1985): 272–75.

[3] *Wiener Zeitschrift für Kunst, Literatur, Theater und Mode*, 13 June 1829.

[4] Franz Schubert, *Drei Symphonie-Fragmente* (Kassel: Bärenreiter-Verlag, 1978), Nachwort von Ernst Hilmar.

[5] Stephen Carlton, "Sketching and Schubert's Working Methods," *Current Musicology* 37/38 (1984): 87.

[6] This sheet is bound in the wrong order in the Bärenreiter facsimile (see note 4), just as the page itself has come down to us in the wrong sequence in the bundle of sketches itself in the *Wiener Stadt- und Landesbibliothek*.

[7] Carlton, 87.

Ironic Dualities in *Das Rheingold*

By J. Peter Dyson

Of the four *Ring* music dramas, *Das Rheingold* is notable for the extraordinary sureness and cohesiveness of its symbolic structure, both musical and dramatic. Audiences, as Bernard Shaw long ago pointed out, have tended to find its intense fidelity to itself either repellent or deeply moving.[1] Many have perceived an ironic element in both the mordant comment of the duplicitous Loge and in the ironic reversals begotten by the now-satisfied, now-frustrated ambitions of Wotan. But irony in *Das Rheingold* is part of a larger artistic principle of duality embedded in the work: aspects of both the drama and the music have a way of transforming themselves into what prove to be their opposites.

I use the term *duality* to designate a number of elements, literary, dramatic, or musical, that are characterized by their potential for separating into two or more meanings, the second of which will frequently, but not necessarily, be ironic. Shaw's description of the *Ring*—or three-quarters of it at least—as allegory points to an important kind of duality that is not ironic;[2] the secondary meaning in this case expands the primary without undermining it. By *ironic* duality, however, I mean that the secondary meaning is not merely an expansion of the primary, but, in some sense, opposite or contrary to it.

Various kinds of ironies commonly associated with drama characterize *Das Rheingold:* irony of motive, in which characters undertake courses of action that move them toward ends other than those they desire; dramatic irony, in which the audience understands more than do the characters, or some characters in a given scene understand more or less than others; parodic echo, in which dramatic episodes parody or repeat, either exactly or with variations, earlier episodes, thereby casting new, ironic light on the meaning of the original episode; verbal echoes, in which significant words recur in new contexts that give them an ironic twist. All function not as mere dramatic devices, but rather as an essential part of the structure and meaning of the work.

It is more difficult to apply the notion of irony to music than to drama, even to the music of opera or music drama, although parodic echo in the recurrence of a theme is a not uncommon device in nineteenth-century opera.[3] The dualism of Wagner's imagination in *Das Rheingold,* however, is so comprehensive that under its impulse both music and drama exhibit a tendency to divide into something more, revealing new levels of significance. Indeed, virtually every dramatic situation, every important piece of dialogue, every musical episode in the work moves with an irresistible thrust toward its opposite.

This thrust is immediately apparent in the characterization of the Rhine

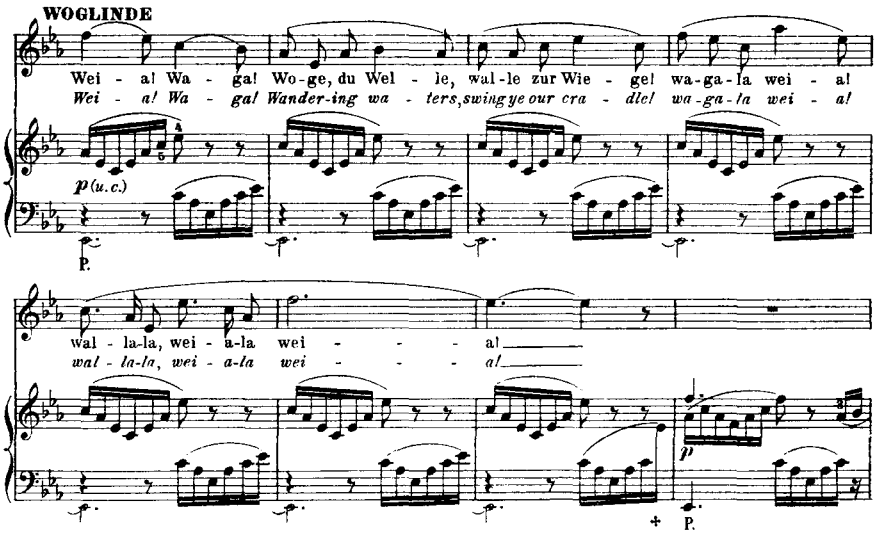
maidens, the first characters to appear. Their opening interaction with Alberich is shaped by their ambivalent identity: they are both objects of desire themselves and guardians of *the* object of desire—the gold. Their reappearance in the closing action of the music drama—after many dramatic modulations—will underscore the dual significance of the gods' entry into Valhalla. This entry represents a triumph, but a triumph undercut by the lament of the Rhine maidens for their lost gold. The gold has become, ironically—since totally unforeseen by Wotan—the price of building Valhalla.

It is possible to view the four-scene structure of *Das Rheingold* as a working-out of the duality principle. The Rhine and its guardians begin as a unity (scene 1) but quickly reveal paradoxical inconsistencies in a series of actions which beget, by a kind of necessity, the events at the opposite geographic and symbolic remove, the mountaintop. The events on the mountaintop (scene 2), stemming principally from the unresolved duality of Wotan, beget, in their turn, a fresh descent to an even lower world than before, the depths of Nibelheim (scene 3). The events in that arena beget yet another return upward, which itself becomes the prelude to the gods leaving earth for the celestial heights of Valhalla (scene 4).

Unfortunately for the gods, the procession into the sky cannot be accomplished without calling forth its correlative opposite—the lament from the Rhine. In ignoring the deeper significance of their entry into Valhalla, the gods are attempting to divorce it from the ironic chain of cause and effect which has led up to this entry; in fact they laugh at the very notion of such a chain. In their blind subjectivity, they refuse to acknowledge the dual significance of their entrance, a failure which makes their destruction certain.

But the gods' blindness to the true complexity of their situation is only one of the clearer examples of the pervasive dualities of character and situation made evident through the various types of irony. The opening scene of *Rheingold* merits closer examination from this perspective, as Wagner simultaneously equates and opposes the Rhine maidens and the Rhine. After an orchestral introduction based on the Rhine motive, and comprised almost entirely of arpeggiations of the E♭-major triad, the curtain rises on Woglinde swimming in the Rhine. As she begins to sing, her melody continues the flowing $\frac{6}{8}$ rhythms of the Rhine, even imitating its variation with the speeded-up sixteenths (example 1).[4] At the same time, however, the harmony changes for the first time from E♭ major to A♭ major, and Woglinde's melody, taken from its context and separated from the orchestral accompaniment, would appear to be centered on A♭. The orchestra, meanwhile, maintains a tonic pedal in E♭ to express the medium—the Rhine—in and from which Woglinde takes her very existence. In this way, Wagner creates a harmonic duality between the Rhine and the Rhine maidens. The embellished triads of their respective themes identify the two, as the implied tonalities oppose them.

Example 1.



This curious feature of the Rhine maidens' opening song suggests that Wagner has associated a deliberate pattern of ambivalence with them. The role of guardian of the gold and the role of siren imply contradictory purposes: a guardian keeps intruders away, a siren lures them toward her. The maidens first act as sirens, but instead of attracting Alberich in order to embrace and destroy him, they attract him simply to repel him. As a result of their treatment, Alberich sees that love is not for him and decides to look in another direction for fulfillment. Amazingly, the maidens then go on to show him—unwittingly, of course—both what the alternative is and how to achieve it: to seize the gold instead of themselves. The unresolved ambivalence regarding their roles as guardians and sirens can be seen, therefore, as a direct cause of Alberich's frustration, which in turn produces the primordial crime—the theft of the gold—on which the whole tetralogy turns.

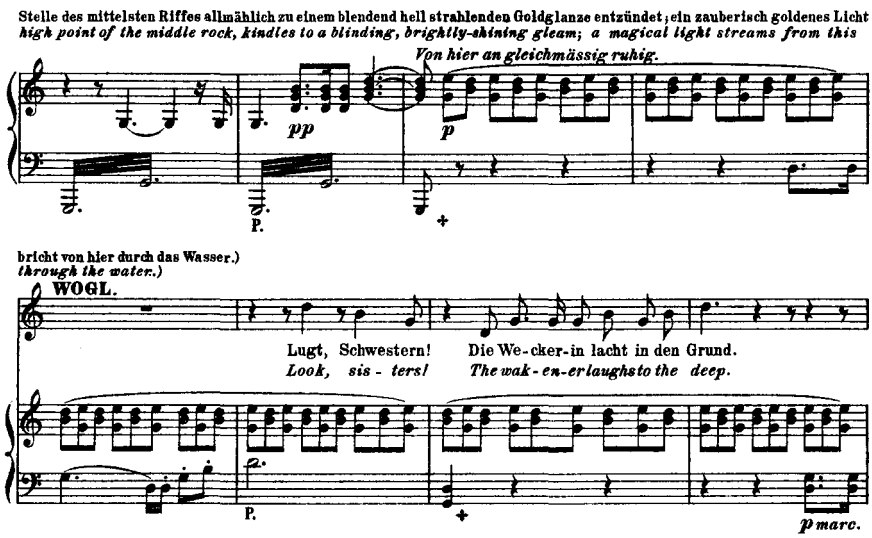
Another musical duality reflects and extends the ambivalence of the Rhine maidens. The close three-part harmony, which is commonly thought of as the primary expression of the maidens' identification with the Rhine, is not actually heard in their Rhine frolicking. It is introduced instead in their first encounter with Alberich, "You down there, what do you want?"[5] In their final rejection of Alberich, they unite in the close-harmony cries of *Walla-la!* and *Heia!* which soon after characterize their worship of the gold. The ambiguity as to which purpose is primary cannot be missed. The musical parallel between the worship of the gold and the rejection of Alberich is ironic because

their rejection urges Alberich to violate the object of their worship.

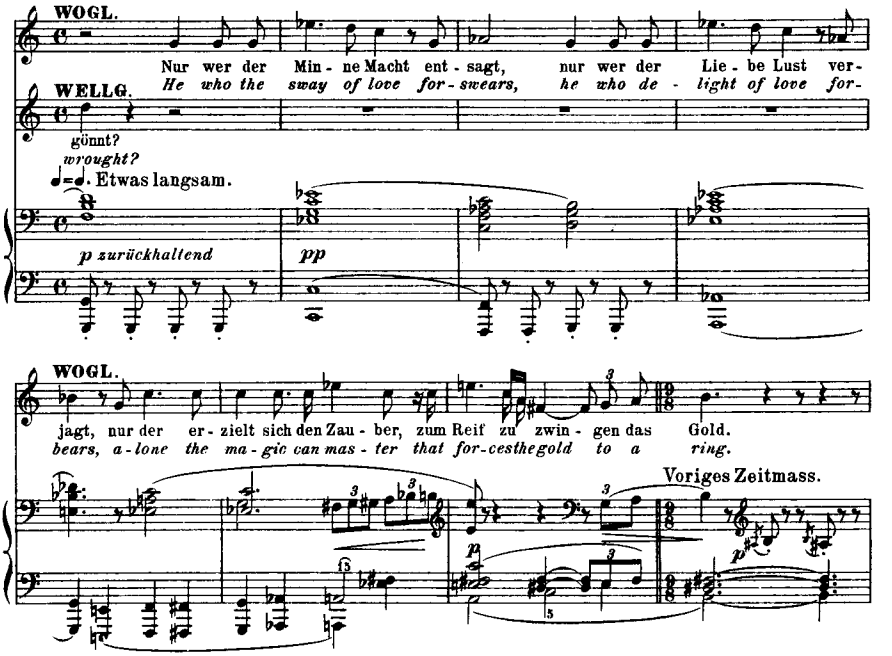
As the shimmering theme presaging the appearance of the gold is heard, the key signature is changed for the first time to C major. The gold motive and the preliminary shimmering sound is contained within the dominant triad, G major. To the listener, however, G major may seem to be the tonal center, since there is no F♮ or F♯ until after the gold motive has sounded fully four times. Only with the addition of the F♮, is the prevailing G-major triad heard as the dominant of C major. This harmonic ambiguity may reflect the duality between the gold's power and its curse (example 2).[6] Musically, the Rhine maidens apostrophize the gold one at a time, as they did the Rhine itself. Then they unite harmonically with the same *Heia!* they had addressed to Alberich as they cry out to the gold. Wagner now extends this technique of paralleling by making use of a fresh device, the device of *parodic echo,* or *mocking echo*. This echo parodies the original by reenacting it in such a way as to reveal significance that, though inherent in the episode, may not be immediately apparent to the listener.

The echo appears partly in the Rhine maidens' language. They describe the man who basks in the beams of the gold as *selig;* but we recall that *selig* would also be the man who won Flosshilde. Alberich is challenged to approach the gold in the same language in which he was challenged to approach the Rhine maidens—they call him *Du Banger* (fainthearted one). Then, Woglinde solemnly announces the condition required for winning the

Example 2.



Example 3.

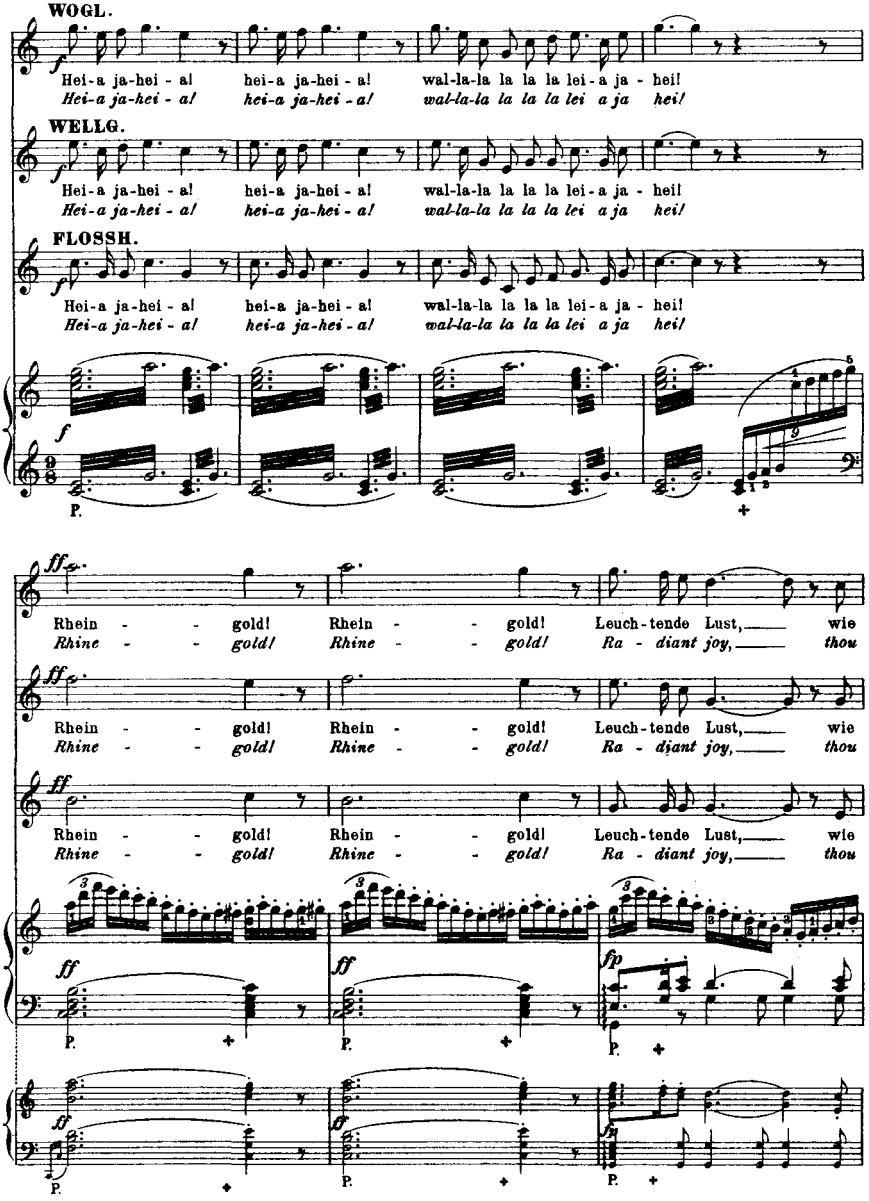


gold; she assumes it cannot be fulfilled and that it will therefore protect the gold. But the renunciation theme turns away from C major to C minor (the relative minor of the Rhine key), which may suggest that Woglinde is betraying the gold by revealing the condition (example 3). As the parody continues, the maidens break into more *Heia*'s as if about to repeat their worship of the gold; but they worship Alberich instead (examples 4a and 4b).

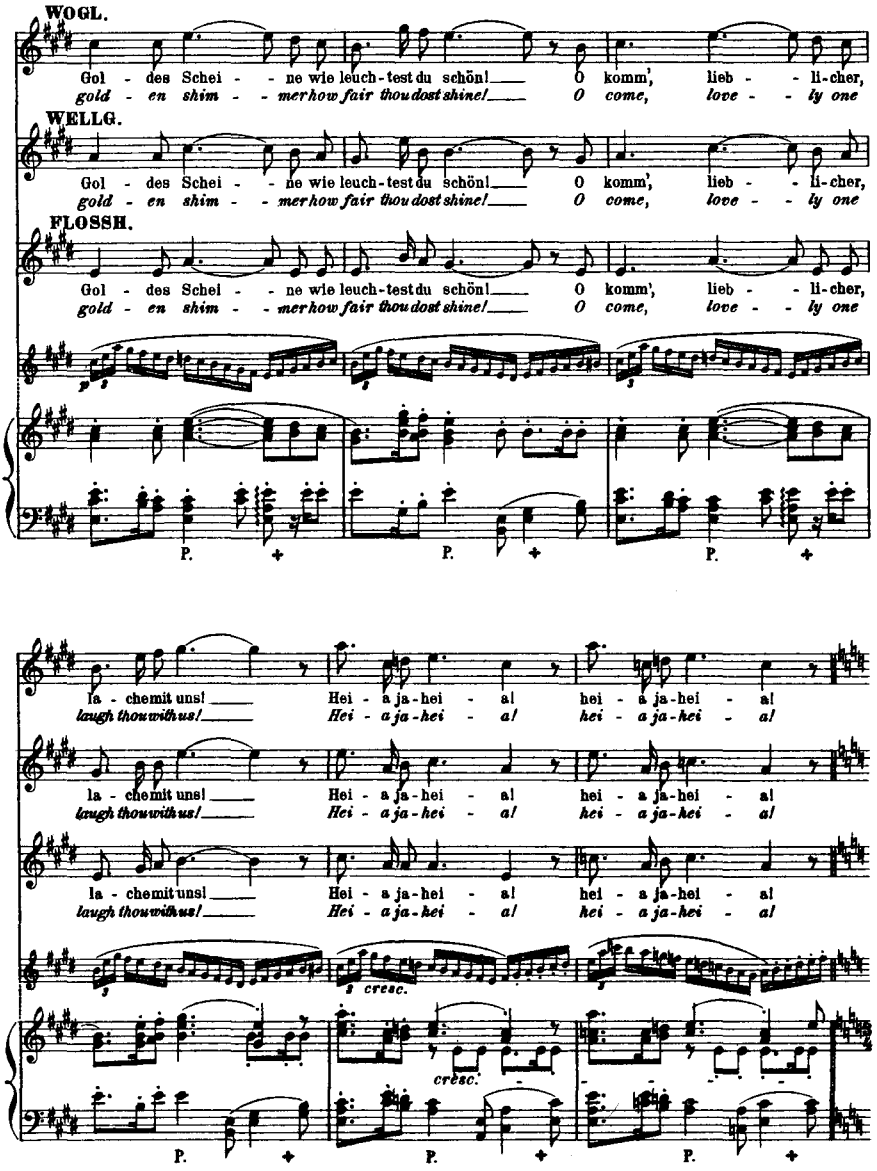
The oxymoronic quality of the verbal, dramatic, and musical signals given off by the Rhine maidens intensifies the significance of the parallels permeating the scene. The maidens appear to be more closely identified with the teasing of Alberich than with the Rhine. The mock-worship of Alberich is an integral part of the worship of the gold, as if Alberich and the gold were one and the same. The maidens, in effect, offer the gold to Alberich as a substitute for themselves. From this perspective, Alberich's robbing them of the gold seems paradoxically logical rather than unexpected.

The interlude that follows carries us from the depths of the Rhine to the heights of Valhalla (example 5). The evolving themes trace the ambivalent nature of the action, as the cries of *Weh!* that end scene 1 are superceded by

Example 4a. Apostrophe to the gold.

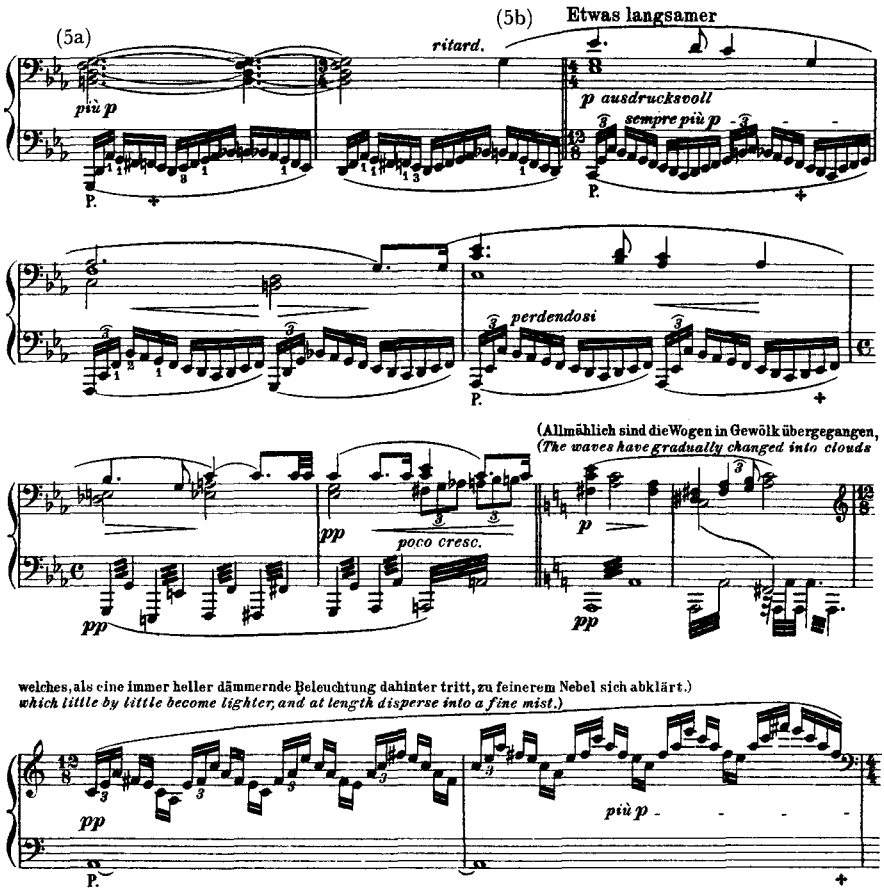


Example 4b. Apostrophe to Alberich.



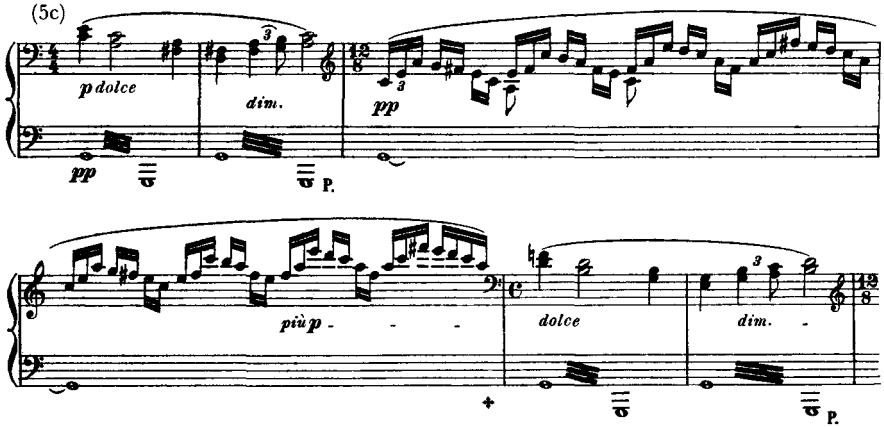
the triumph of the completion of Valhalla. A certain theme in the C minor of the renunciation motive changes into the falling semitone of *Weh!* (5a)—not, however, the Rhine maiden's cry of *Weh!* but Alberich's when he could not achieve his desire. A full statement of the renunciation motive (5b) is followed by the ring motive (5c)—logically enough, since it was Alberich's cries of *Weh!* that led to the renunciation, which in turn made the forging of the ring possible. The ring motive then metamorphoses into the Valhalla motive (5d), perhaps reflecting the manner in which the ring and Valhalla become Wotan's alternatives. The musical progression of the interlude thus delineates a series of steps: thematically, one reaches Valhalla only by way of the renunciation of love and through the ring. The drama will develop according

Example 5.

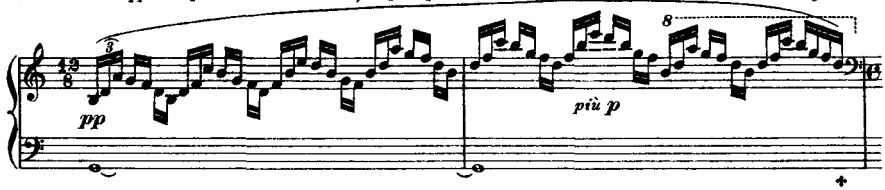


Example 5 (continued).

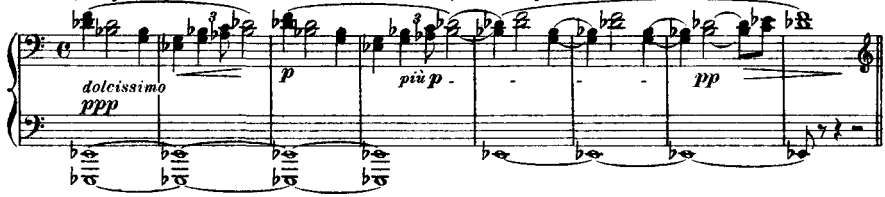
(5c)



(Als der Nebel, in zarten Wölkchen, sich gänzlich in der Höhe verliert, wird, im Tagesgrauen eine freie Gegend auf Berges-
(As the mist disappears upwards in little clouds, an open space on a mountain height becomes visible in the twilight. — At

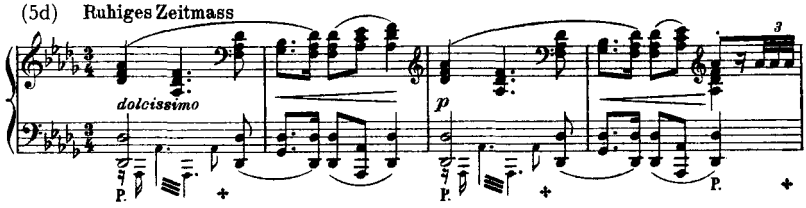


höhen sichtbar. — Wotan und neben ihm Fricka, beide schlafend, liegen zur Seite auf blumigem Grunde.)
one side, on a flowery bank, lies Wotan with Fricka near him, both asleep.)



Zweite Scene

(5d) Ruhiges Zeitmass



to the same pattern: the completion of Valhalla will beget as its ironic correlative the surrender of love and the seizing of the ring.

Wotan has no inkling of this in his self-satisfaction:

Vollendet das ewige Werk!
Auf Berges Gipfel die Götterburg; prächtig prahlt der prangende Bau!
Wie im Traum ich ihn trug, wie Mein Wille ihn wies.

Completed the eternal work!
On mountain summits the gods will rule!
Proudly rise those glittering walls which in dreams I designed,
Which my will brought to life.

That his accomplishment will quickly be undermined by the necessity of either giving up Freia or seizing the ring is still hidden in the unfolding design of the drama; nevertheless, the thrust of the action is ominous when Fricka rouses Wotan by confronting him over the price he has paid for Valhalla.

The ring and Valhalla may be seen as correlated aspects of the same phenomenon: one is the means to, the other, the expression of, power. This notion is reinforced by the musical ambivalence of Wotan's first utterance. Wotan is singing, while still asleep and dreaming, a paeon of glory to Valhalla:

Der Wonne seligen Saal bewachen mir Thür und Thor:
Mannes Ehre, ewige Macht, ragen zu endlosen Ruhm!

The sacred hall of the gods is guarded by gate and door:
Manhood's honour, unending power, rise now to endless renown.

The orchestral commentary accompanying this, however, begins not with the motive of Valhalla but with that of the ring. Only when Wotan wakens to his conscious self and apostrophizes Valhalla does the duality disappear as both vocal line and orchestra join unambiguously in stating the Valhalla theme.

Fricka's retort encapsulates the problematic duality around which the rest of the drama will revolve. She taxes Wotan with exchanging "woman's love and beauty," in the person of Freia, for Valhalla; the parodic echo is unmistakable, since we have just seen Alberich give up love for the ring. The orchestral connection between the themes reinforces the suggestion that Wotan and Alberich have, in different ways, given up the same thing. The parallel between Wotan and Alberich, the ways in which their actions are made to

echo each other, is basic to the design of *Das Rheingold* and the cycle as a whole.

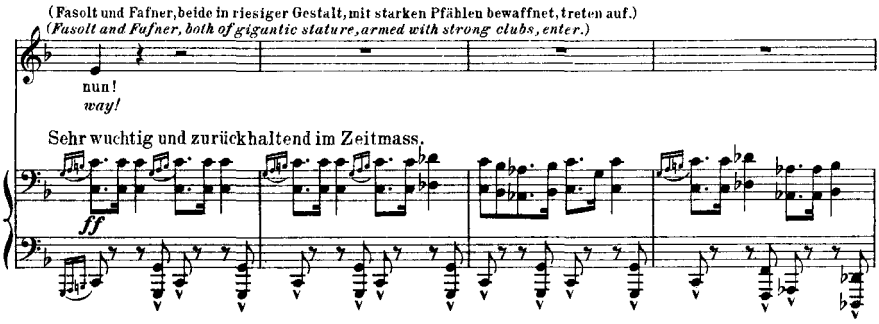
Wotan, unaware that he is destined to follow in Alberich's footsteps, is not prepared to accept Fricka's perception of the consequences of his actions. He believes that he can keep both Freia and Valhalla. Ultimately, of course, he will, but by then he will have both gained and lost the ring, and we will have witnessed several changing versions of the equation: Freia vs. Valhalla will become Freia vs. the ring; Freia vs. the ring will become the ring vs. Valhalla. Inevitably, one of the three terms will have to be abandoned in order to save the other two.

Though the center of many of the parallels and balances, Freia remains a single, consistent positive in the drama. Nevertheless, as a denizen of the *Rheingold* world, she immediately calls forth her opposite—Loge. Freia's never having given Loge her golden apples underscores the antipathy of their natures: hers the embodiment of the undivided, positive force of love, his the expression of the intellect's duality and its power of equivocation. Loge's function, therefore, is to clarify the link between Wotan's dispute with the giants and Alberich's renunciation of love and theft of the gold. Loge brings into focus the shared nature of the double antithesis: love (the Rhine maidens) vs. the ring, or love (Freia) vs. Valhalla.

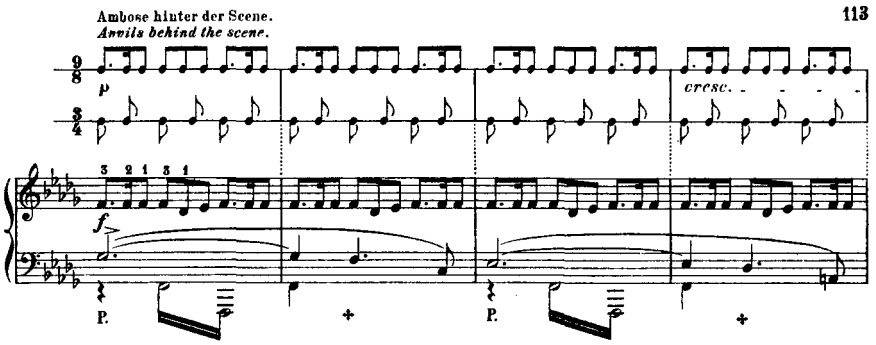
Loge connects these present events to the earlier ones by revealing that, in looking for a substitute for Freia acceptable to the giants, he found no one willing to give up the love of woman except Alberich. His intention in recounting his experiences, Loge insinuates, is to get the gold returned to the Rhine maidens, but the result is other: first, he causes the giants to think, like Alberich, that the gold might be an adequate substitute for woman's love; and second, he places before Wotan the *other* alternative to Valhalla, viz., the ring. Accordingly, the giants then demand that Wotan secure the gold for them or they keep Freia. Loge points out that all Wotan needs to do to get the ring is simply take it, since Alberich has already fulfilled the condition of renunciation. But we know, if Wotan does not, that in the carefully balanced world of *Das Rheingold* every equation is dual, and that if Alberich has paid the price of the ring, Wotan will also have to pay.

The interlude which carries Wotan and Loge down into Nibelheim leads into the pounding motive of the Nibelungs. This pounding, by which the gold was turned into the ring, is now the aural expression of the ring's power. The rhythm of the Nibelungs' pounding is closely connected to the rhythm of the giants; a glance at these motives shows one of the most important connections Wotan himself will have to make (examples 6a and 6b). The surface difference in time signature between the giants' motive and that of the Nibelungs hides a number of important similarities. Each makes its effect not as a

Example 6a. The Giants.



Example 6b. The Nibelungs.



melody but as a rhythmic unit, and each has an interesting, if not peculiar pattern of stresses and counterstresses. In the giants' theme, there is a stress not only on all four beats in the bar, but also on each of the half-beats, these latter alternating between syncopated and unsyncopated. Because of the three-against-two rhythms, the Nibelungs' triplets receive a syncopated stress on the middle note of the first and third triplets of each bar. The effect in both cases is that the rhythms drive relentlessly forward while seemingly working against themselves.

Wagner demonstrates the power inherent in the pounding Nibelung rhythm—the irrational brutality of the ring's power—through the magical device of the Tarnhelm. The theme of the Tarnhelm, related to that of the ring itself, is probably the strangest, most disembodied theme in the whole cycle. Full of ambiguity, it refuses to anchor itself in any key. The insinuating

power of the Tarnhelm motive is a necessary adjunct to the straightforward brutality of the Nibelungs' motive for a comprehensive dramatization of Alberich's power as possessor of the ring.[7] Alberich makes himself invisible by means of the Tarnhelm before he beats Mime because, invisible, he acts as the pure principle of coercive, punishing power. In its essential form, power is bodiless, placeless, motiveless. At the same time, Alberich's beating of Mime is a demonstration of power purely for the sake of demonstration. Alberich's laugh enables us to understand that, whatever one's motive for seeking power, the enjoyment of its exercise provides an end in itself.[8]

We have now been prepared to watch Wotan begin, with Loge's help, to deal with the task at hand. Once again, parodic echo, the sense that the present scene is an unconscious reenactment of an earlier scene, is the key to understanding the episode. Despite his misery under Alberich's tyranny, Mime's dream is simply to do what Alberich has done: to gain possession of the ring and make everyone *his* slave. But Wotan's dream, stripped of its veneer of highmindedness, is no less sordid. Mime is, in effect, a double, a figure conceived in order to throw light on Wotan. They are rivals—Wotan with Loge's help, the more formidable—for Alberich's power. The struggle between Alberich and Mime foreshadows the struggle between Alberich and Wotan. The ironic process underlying *Das Rheingold* ensures that just as certainly as Mime's defeat by Alberich begets Alberich's defeat by Wotan, Alberich's defeat by Wotan will, in its turn, beget Wotan's defeat by the giants.

Mime's failure to wrest the ring from Alberich derives in part from his inability to summon up the magic power of the Tarnhelm. Though he himself made it, Mime lacks the words that control the magic. Once again he acts as an obverse mirror for Wotan: while Mime is shut out from possession of the ring because of the words he is unable to speak, Wotan is forced to pursue the ring because he is the prisoner of the words he has uttered—his runes or promises. A further turn of the mirror reveals that both Mime and Wotan are excluded from legitimate possession of the ring because neither has pronounced the words that are its price—the renunciation of love. Wotan's refusal to acknowledge the necessity of these words will make his seizing of the ring ultimately futile.

Alberich, upon recognizing Wotan and Loge, gives voice to one of the primary dualities underlying the *Ring*. He refers to himself and his race as *Schwarz-alben* (black elves or black Alberichs). Wotan, meeting Mime again much later on, in *Siegfried,* will refer to himself and his race as *Licht-alben* (light spirits or light Alberichs). Wagner underscores the opposing identities of gods and Nibelungs in a variety of ways in the course of the tetralogy, but it will be helpful to concentrate for a moment on one relevant to the present discussion.[9]

Back in scene 2, soon after the giants' entry, Fasolt said to Wotan:

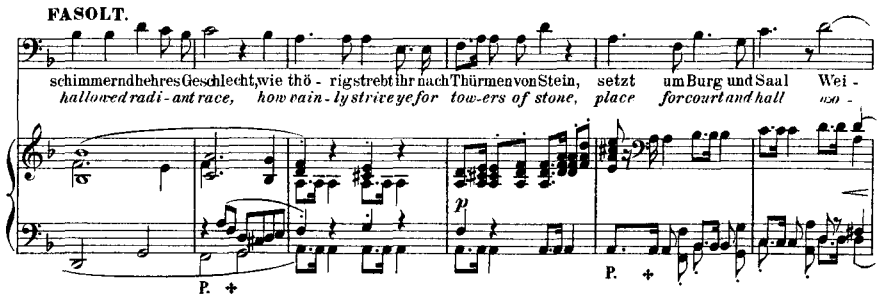
Die ihr durch Schönheit herrscht, schimmernd hehres Geschlecht,
wie thörig strebt ihr nach Thürmen von Stein, setzt um Burg und Saal
Weibes Wonne zum Pfand!

You who through beauty reign,
glittering glorious race,
like fools you yearned
for your towers of stone,
pledged as pay for your hall
woman's beauty and grace.

At the phrase "towers of stone" a theme, which is sometimes called "arrogance of power," was heard for the first time in the orchestra (example 7a). This theme now recurs during Alberich's monologue when he refers to the gods' building of Valhalla (example 7b). The original sounding of the theme was in D minor, but Alberich now sings it in D♭ major, the Valhalla key, which helps us realize that it is, in fact, a correlative of the Valhalla theme. Loge, acting as Wotan's alter-ego, picks it up while praising Alberich's accomplishments (example 7c). As he does so, it moves up a semitone into D major, enabling its definitive statement in A in the full orchestra as Wotan seizes both Alberich and the ring (example 7d). Thus, through a modified echo technique, Wagner has shown that Wotan's action in seizing Alberich is the logical outcome of his building of Valhalla. Moreover, his seizing of Alberich is essentially no different from Alberich's seizing of the gold.

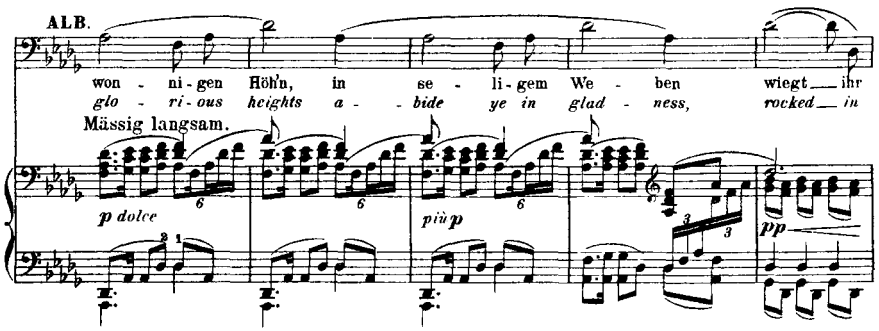
In scene 4, Wotan comes to terms with this realization, at least partially, as his struggle with Alberich is brought to its symbolically logical conclusion. Cyclical ironies abound: Alberich gave up love to get the ring; Wotan needs the ring to get love back. Alberich's original violation was robbery; Wotan now robs the robber. In a few moments, the giants will turn the wheel yet

Example 7a.

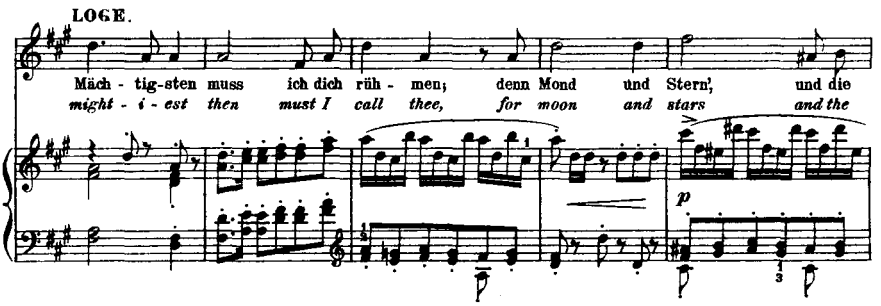


again by doing essentially the same thing to Wotan. The parallels, however, are thrown off balance in one crucial respect: When Alberich took the gold, he gave a quid pro quo; he made the required renunciation. Wotan gives nothing. We sympathize with Alberich, therefore, when he indicts Wotan:

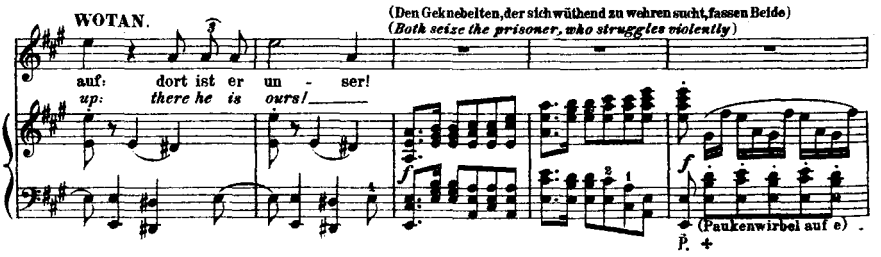
Example 7b.



Example 7c.



Example 7d.



Hüte dich, herrischer Gott!
Frevelte ich, so frevelt'ich frei an mir:
doch an Allem was war, ist und wird, frevelst,
Ewiger du entreissest du frech mir den Ring!

Guard yourself, proud, cruel god!
If I have sinned I sinned but against myself;
but against all that was, is and shall be
You sin, eternal one, by taking the ring from me![10]

The balance is restored in some measure by Alberich's second curse which becomes a surrogate for the renunciation of love that Wotan is unwilling to make. The curse brings death rather than deprivation of love to the possessor of the ring, a recompense that Fasolt will quickly receive. Since Alberich makes the ring's possessor, in effect, its slave rather than its master, his curse is not sung to the renunciation motive but to one that is, in part, an inversion, moving upward, of the motive of the ring itself.[11] This curse is the overwhelming demonstration of the irrevocability of the *Rheingold* duality principle: the power of the gold, which is drawn from the Rhine, the source of life, is turned into the means of attacking life itself.

The succeeding episode in which the giants cover Freia by piling up the gold exhibits another striking use of parodic echo. The sequence of events is a precise recapitulation of the sequence when Wotan, a few moments earlier, had gradually stripped Alberich of his possessions. The giants successively demand the gold, the Tarnhelm, and finally the ring—exactly as Wotan had of Alberich. Wotan is reduced to essentially the same state as Alberich, although it will take Erda's intervention to make him see this. Alberich, when he cried, "My life, but not the ring!" understood the issues more clearly than Wotan, with his "But for the world / I will not surrender the ring!" The ring is not a mere possession, but a symbol of life and death.

Erda makes her appearance to a motive closely derived from that of the Rhine. Symbolically Erda takes her place with those protagonists whose significance is single rather than dual; she is enigmatic without being ambiguous. She points forward only, first to the immediate course Wotan must follow, and second, to the gathering twilight of the gods. The music of Erda's warning suggests clearly why the twilight is already inevitable. It quotes the themes of the Nibelungs' hate and Alberich's woe: the first exposes the sordidness of Wotan's aims in trying to keep the ring; the second emphasizes the consequences.

Erda vanishes and Wotan yields. The ecstatic music accompanying Freia's restoration to the gods vanishes abruptly as Wotan hands over the ring. The significance of the restoration is made manifest as the orchestra moves rapidly through a restatement of the giants' theme into its extension, the hammer-

ing rhythm of the Nibelungs' slavery. That the ring's gift of power is, paradoxically, the curse of slavery is represented graphically as Fafner reenacts the primal crime of man murdering his brother. In the ironically rebounding world of *Das Rheingold,* this fratricide is the correlative to Freia's restoration to the gods. It is as if this single-minded, unequivocal act of bloody violence were the echo inevitably called up by the primal act of violence deep in the Rhine. At some profoundly elemental level, the second half of the equation abruptly falls into place: the theft of the gold means the shedding of blood.

Loge congratulates Wotan on his good luck in getting rid simultaneously of both the ring and half his enemies. Fricka, to a sweet theme disturbingly reminiscent of Flosshilde's mock-seduction of Alberich, invites Wotan to lead them to Valhalla. When Donner and Froh provide the rainbow bridge to get them there, all ambiguities seem dispelled. As the Valhalla motive reappears in full orchestral majesty, Wotan puts the past out of his mind and is consumed by his vision of the future expressed by the radiant C-major sword motive. Yet even at this moment of overwhelmingly positive reaffirmation, the close derivation of the sword motive from the gold motive warns that Wotan is attempting the impossible: he is trying to look forward to the triumph of the sword without looking backward to the theft of the gold.

The gods move off toward the promising future symbolized by Valhalla waiting to receive them, ignoring the implications of the fact that, in order to put foot on the rainbow bridge, they must step over the body of the murdered Fasolt. Loge, relentlessly ironic, perceives that the gods move majestically toward a beginning which is more properly their end. The hint of the gold summoned up by the sword music suddenly asserts itself in the form of the Rhine maidens' lament which cuts across the Valhalla theme. Wotan, however, eyes on the glorious future, repudiates the past out of which that future must grow, and speaking through Loge for all the gods, rises to the heights of hubris; his message to the Rhine maidens is, in effect, "You don't need the gold; you have us." The single-mindedness with which the gods identify their own radiance with the radiance of the gold while missing the implications of that identification ensures that what they are really moving toward is their own destruction. The triumphant curtain falling on *Das Rheingold* is the catalytic prelude to the final curtain that will fall on the gods forever at the end of *Götterdämmerung.*

NOTES

[1] *The Perfect Wagnerite: A Commentary on the Niblung's Ring,* 2nd. ed. (New York: Brentano's, 1916), 27.

[2] Shaw begins his "Preliminary Encouragements" to *The Perfect Wagnerite* by saying, "First, The Ring, with all its gods and giants and dwarfs, its water-maidens and Valkyries, its wishing-cap, magic ring, enchanted sword, and miraculous treasure is a drama of today, and not of a remote and fabulous antiquity. . . . Unless the spectator recognizes in it an image of the life he is himself

fighting his way through, it must needs appear to him a monstrous development of the Christmas pantomimes" (p. 1). He goes on to demonstrate the tightness of the allegorical structure of *Das Rheingold* and its remoteness from conventional operatic concerns in the chapter he devotes to analyzing it and in the one following, "Wagner as Revolutionist." He finds the allegorical pattern fairly consistent until the third act of *Siegfried*, when he advises the "Nibelungen Spectator" to relax because "the rest of what you are going to see [in *Siegfried*] is opera and nothing but opera," and "the work which follows, entitled Night Falls on the Gods, is a thorough grand opera" (pp. 61–62).

[3] Among many instances going back to the 1830s, one might cite the mad scene of Donizetti's *Lucia di Lammermoor*, which contains a return of the theme of the love duet in act 1, scene 2. The purpose of the parodic echo in this example is to establish the simple contrast between the heroine's past happiness and her present misery. The most famous operatic instance of parodic echo is probably the return of the kiss motive in Verdi's *Otello* (1887) after Otello has strangled Desdemona.

[4] Musical examples from *Das Rheingold* are taken from the Schirmer vocal score, musical arrangement by Karl Klindworth (New York: G. Schirmer, n.d.).

[5] Citations from the German libretto are from the edition given above; English versions of the libretto are from Andrew Porter's translation as given in the English National Opera's recording of *The Rhinegold* (London: EMI Records Limited, 1975). On occasion, as in this present one, I have made my own translation, primarily because Porter's translation with its practical requirements does not always bring out the precise meaning relevant to the discussion in hand. I will note the occasions where the translation is my own.

[6] I do not wish to subscribe here to what Joseph Kerman has called in his exchange with Siegmund Lavarie an "absolutist concept of tonality" which requires, in his view, perfect pitch on the part of the listener. Cf. *19th-Century Music*, 2 (Nov. 1978), 188. Rather than attempting to ascribe specific, unique meanings to particular keys in a given context, I tend to follow Robert Donington in viewing Wagner's musical motives as "symbolic images . . . combinable into compound images by symphonic development and contrapuntal association," which exhibit a "capacity for variation . . . as remarkable as their distinctiveness through all variations." *Wagner's "Ring" and its Symbols*, 3rd. ed. (London, 1974), 33–34.

[7] It is impossible to write on the motives in the *Ring* without being indebted to the seminal discussion of Robert Donington referred to above. He comments, "Diatonic tonality [e.g., the giants' motive], from its comparatively uncomplicated character, tends to openness or innocence. Chromatic harmony [e.g., the Tarnhelm motive] is suggestive of hidden workings, of ambivalent potentialities" (p. 277).

[8] The theme of laughing (*lachen*) affords another illustration of the correlative impulse at work in *Das Rheingold*. *Lachen* is the word Mime uses to describe the joyous state of the Nibelungs at their work before they became slaves to the ring's power. (The rhythm to which he describes this innocent state is the original $\frac{6}{8}$ rhythm of which the $\frac{9}{8}$ hammering slave rhythm is a syncopated parody). *Lachen* is also the word used by the Rhine maidens to describe both the life-giving activity of the gold in the Rhine and their own activity in worshipping the gold. The primal delight of the earth and its creatures expressed in their carefree laughing has been corrupted into its opposite—Alberich's laugh as he exercises the power of the ring for its own sake.

[9] Donington makes the *Licht-albe/Schwarz-albe* connection but develops it in terms of his own interests (p. 46).

[10] The last line is my translation.

[11] Donington comments, "The more these two motives [Alberich's curse and the ring] are compared, the more alike they are found to be. The word which best expresses the common element in these two superficially dissimilar motives is the word . . . ambivalence. They are tonally ambivalent; and this tonal ambivalence is uncommonly disquieting" (p. 104).

Folk-Music Research in Hungary until 1950: The Legacy of Zoltán Kodály and Béla Bartók

By Stephen Erdely

Folk-music research in Eastern Europe, particularly in Hungary, has been a vital area for scholarly activity since the beginning of the twentieth century. There are several explanations for today's broad and continuing interest in Hungarian folk-music research: its pioneers were Béla Bartók and Zoltán Kodály, two of our century's outstanding composers; their compositions speak in a musical language whose roots are in folk music and radiate an atmosphere that is clearly Eastern European; and the two composers devoted their lifetimes to the cause of musical folklore, to its collection, publication, and study, and are regarded today among the founders of ethnomusicology.

This paper deals with the third aspect. It aims to answer the following questions: What motivated Bartók and Kodály to begin their collections of folk music in Hungary? In what way did their concepts of, and approaches to, the study of folk music differ? How did they solve the problems of documenting and defining the national characteristics and the historical stratification of Hungarian musical folklore?

Motivation

In 1905, when Bartók and Kodály joined forces to collect and research folk music, they were not yet fully aware of what such studies would mean to them and to their artistic and scientific aspirations. They were motivated to collect folksongs primarily for musical reasons. Both composers felt the exhaustion of the late Romantic musical idiom in which they had been educated, and musical life in fin-du-siècle Budapest; they sought fresh musical impulses for their individual styles. While the requirements for national expression in art and music was in the air, the two popular musical forms—Gypsy music, with its sentimental and impetuous moods, and popular art song, an in-between product of folk and art music—did not offer substance for a new art. Bartók and Kodály's first encounter with peasant music, heard at the time only in villages and unfamiliar to townspeople, was a revelation. In a letter to his sister, written in 1904, Bartók states:

> I have a new project now, to collect the most beautiful examples of Hungarian folksongs, provide them with the best possible piano accompaniment and elevate them to the level of art songs. Through a collection of this kind, the Western world will better learn to appreciate Hungarian music. This, of course, will not work with our good Magyars.

> They dread anything serious. Slipshod Gypsy music,[1] the kind every good musician, every cultured Westerner loathes, suits their tastes better.[2]

Bartók's idea to promote Hungarian music was not without political overtones. The turn of the century marked the Hungarian millennium and celebrations brought a new upsurge of nationalism. People voiced their desire for greater independence from the Austrian government. "Hungarianism" was required by popular demand on every account. Kodály and Bartók were not left untouched by the movement. Bartók, as Kodály describes,

> wanted everything to be Hungarian, from language to dress. For years he went about in Hungarian style clothes fashionable at the time, and that was what he wore on the concert platform as well. In letters he plagued his mother not to speak German at home . . . naturally in his music, he also wanted to be Hungarian.[3]

The song cycle *Twenty Hungarian Folksongs,* which they coauthored and published a year later, aimed to serve this very purpose. In the Preface to the first edition they already speak of two ways of publishing folksongs: in the form of a bouquet of tunes provided with accompaniments, which are not oppressive and let the melodies "breath freely," and in the form of a dictionary that includes all songs of folk origin grouped by variants. While the former is designed to enhance the general public's appreciation for folksongs, the latter, in its completeness of folksong representation, aims for the future.[4]

In scholarly matters Kodály was the expert. His dissertation, "Strophic Structure of Hungarian Folk Song," earned him the doctorate in philology at the University of Budapest in 1905 (concurrent with his studies in composition at the Franz Liszt Music Academy) and became the first major study to deal with Hungarian folksongs.[5] While its importance as such was not recognized, Kodály's peers praised the work for "applying some of the latest results of rhythmic researches (notably those of Gevaert, Riemann, Sievers, and Saran) to the study of Hungarian folk music."[6] Kodály used as source material some of the first Edison recordings made in the villages by the ethnographer Béla Vikár together with his own collection of some 150 tunes.

Bartók, at the time, had no experience in field work or transcription methods. He gave Kodály's essay close scrutiny and questioned him in great detail about the method of collecting, the use of the phonograph in the field and the way one makes contact with a peasant community.[7] He adds in his autobiography of 1921: "To my fortune, I found in Zoltán Kodály an outstanding musician and collaborator who helped me with his keen foresight and judgment in numerous musical questions and whose advise and hints proved

inestimably valuable to me."[8]

Kodály and Bartók planned their field trips strategically. It was Kodály's suggestion to visit the communities on the linguistic border areas of the country; he believed that the old traditions endured there with greater tenacity. Bartók, on the other hand, felt that he would not be able to learn much about Hungarian folk music unless he gained familiarity with the musical traditions of neighboring Slovakian, Rumanian, and South Slavic peoples as well. He decided, therefore, to include their communities on his field trips. Bartók's ability to learn languages and his attraction toward the unknown and unresearched, qualified him for the task.[9]

About their working procedures Kodály writes:

> We divided the territories between us. From time to time we got together, each of us bringing along in his satchel the results of his collection. We then set aside the tunes that attracted us the most and put the whole collection into one pile.[10]

Their unselfish attitude toward the sharing of their field collections and experiences rapidly furthered the cause of Hungarian folk-music research. By the end of World War I the combined collection of the two included over 8,000 Hungarian folk melodies, to which Bartók could add from his own collection 3,200 Slovakian, 3,500 Rumanian, 200 Ruthenian, South Slavic, and Bulgarian tunes, as well as 69 Arabian folk melodies that he recorded in Biskra, Algeria, in 1913.[11]

During the four decades of their collaboration, from 1905 to 1945, the folkloristic activities of Bartók and Kodály passed through several phases. Their intense involvement in gathering field data came to an end after Hungary signed the peace treaty at Trianon in 1920 and travel to neighboring Slovakian and Rumanian territories became forbidden. The decades following were marked by literary activities: the publication of their collected folksongs and diverse studies and essays dealing with a broad spectrum of topics. In the mid-1930s Bartók and Kodály turned to comparative research and to questions concerning musical folklore as a discipline. After the end of World War II, which Bartók did not live to witness, Kodály realized their life-long plan for universal publication of Hungarian folk music with the volumes of the *Corpus Musicae Popularis Hungaricae*[12] and with the posthumous publication of Bartók's Slovakian[13], Rumanian,[14] and Turkish folksong collections[15] as well as his study entitled *Serbo-Croatian Folk Songs* (in coauthorship with Albert Bates Lord).[16]

Conception

Noteworthy in the context of this discussion are the two folklorists' defini-

tions of folk music, as they foretell their differing approaches to the study of the subject. In his "Strophic Structure of Hungarian Folk Song," Kodály defines folksong as "vocal text." Between the two basic constituents, poetry and melody, the latter is the more important, for it is more original and enduring. Contrary to earlier conceptions, folksongs live in the tunes; melody is not just a vehicle of poetry. The two elements are interrelated, interdependent, and inseparable. The study of folksong, therefore, must be based solely on sung folk tunes.[17]

This last statement is reemphasized in one of Kodály's essays, entitled "Árgirus Notája" (The Song of Argirus), in which he announces his discovery of an old epic poem in folk tradition. His study deals mainly with the unusual metrical features of the 12-syllable lines making up the tune. Kodály concludes by recommending that literary investigators who deal with old poetic forms should ask whether the poems had a melody and whether they were sung or only read.

> For the metrical analysis of poems that were sung, without their melodies at hand, is either illusory, or completely impossible. . . . Anyone who aims to penetrate into our old literature with the intent to study versification, should fortify himself with all the practical knowledge that the study of living folksong can offer.[18]

These quotations indicate Kodály's deep involvement with the historical and literary aspects of musical folklore from an early point.

In his major study, *Hungarian Folk Music,* Bartók uses the term *peasant music* synonymously with *folk music.* His obvious intent was to distinguish music of the country people from urban popular songs, because the latter also circulated orally and were frequently mistaken for Magyar traditional music.[19] Peasant music, in Bartók's view, is the true form of Hungarian music. It expresses "the folk's instinctive musical needs" in a "spontaneous fashion." He further describes a time element: "Folk music comprises of such melodies which are sung by many and for a long time." Transmission of tunes has an important role in the formation of folksong styles, for

> if tunes are sung by many and they are handed down from generation to generation, they are to undergo greater or lesser changes—here this way, there that way, and somewhere else again differently—in other words, melodic variants are formed. On the other hand, tunes that are originally different in construction will become similar to one another, they will show common features, resulting in melodies of homogeneous and uniform style.[20]

Kodály never seemed to be comfortable with Bartók's concept of peasant music. In a brief article entitled "Hungarian Folk Music" written shortly after the publication of Bartók's major study, he opposes this concept outright:

> Folk music is not a class art, but something more than that. Although it is kept alive by the agrarian people, the Hungarians collectively have something to do with its forms. There is hardly a layer of the society, or an experience of it, that did not leave traces in musical tradition. Therefore, folk music mirrors the spirit of the entire nation.[21]

He avoids asking the question "What is folksong?" for a satisfactory definition had yet to be offered. Instead, he asks, "What is it that folk sing?"

> Searching through the enormously heterogeneous musical material constantly accumulating in living musical tradition, one may come to see historic layers, and within them, the original and borrowed forms.[22]

In his principal work, *Folk Music of Hungary,* Kodály further undermines the Bartókian concept by stating that not even the village community is homogeneous. Deep-seated differences in education, social status, economy, religious beliefs, occupation, age, and sex separate the people and are reflected in their musical repertories.[23]

Documentation

One of the major problems confronting the two folklorists in their data gathering was the parlando-rubato style of singing, characteristic of Hungarian and Eastern European folk music in general. There were no linguistic studies on Hungarian speech pronunciation to illuminate this peculiar singing style, no basic laws, no set rules to follow. Furthermore, rubato melodies were never stable; each line, each stanza was performed as the thought of the moment dictated. Rhythms of freely articulated text phrases, vocal effects, and ornamental notes coloring words became integral aspects of melody. If these features were not captured in notation, an essential element of the musical style was lost. On the other hand, by capturing all the details of rhythm and coloring and shading of a melody, it was still not the song that was notated, only a singular appearance, its momentary realization in performance. Bartók and Kodály's recognition of this phenomenon highlighted a scientific problem of ethnomusicology: folksongs, like other manifestations of folklore, live in the performance, and their true content, therefore, can only be grasped through their ever-changing variants. Accepting that there is no authentic melody in the mind of a singer, but only an idea or an image of it,

the two folklorists began to indicate every minute detail of a song, ending finally with the complete transcription of all stanzas.[24]

Scientific accuracy and artistic considerations became inseparable aspects of Bartók's and Kodály's musical transcriptions. Their aim was to illustrate not only the song, but the musical profile of their informants as well. Particularly detailed in this respect are their transcriptions of parlando melodies, which illustrate in great detail the individual peculiarities of vocal ornamentations, voice portations, and rhythmic articulations of their informants. As artists they possessed a deep sense for aesthetic values, and as scholars, a deep regard for accuracy. With these two qualities at their command Bartók and Kodály set a new standard for ethnomusicological documentation.

Definition of Ethnic Characteristics

The primary objective of the two folklorists during the first phase of their research was to sift out the genuine Hungarian musical material from the abundant variety of folksong styles circulating in the Carpathian Basin. To find a suitable system of organization, one that would facilitate the overview of folksong variants and advance their own scientific work, Kodály and Bartók began experimenting with methods of song classifications already in print. They finally adopted the system first introduced by Ilmari Krohn in the Finnish collection *Suomen Kansan Savelmia* (vols. 2–4, 1904–28).[25] Their version of it was announced in the article "Plan for a New General Folksong Collection" in 1913.[26] The principal point of the article is that

> the arrangement of the song collection must be solely a musical one, made purely from the point of view of the characteristics of the melody, and of a dictionary-like order, so that the related songs, when placed next to one another, show the main species clearly.[27]

Krohn's double system, based on the rhythmic (quantitative) and melodic (qualitative) properties of folksongs, captured Bartók's and Kodály's imagination. The criteria by which the tunes were classified gave way to two systems of order: the lexicographical system, in which the tunes were placed in a dictionary, easily indicated by simple mechanical means, and the grammatical system, in which melodies were grouped together into tune families according to their structural similarities. This latter system was a secondary order which Bartók used to define the most characteristic tune families within a given ethnic tradition. One interesting aspect of Bartók's organizational principles was the division of folksong repertory into ceremonial songs connected with customs (marriage songs, winter-solstice songs, golden-letter-day songs, etc.) and those not connected with any customs. He suggested that in an early stage all categories of musical folklore belong to one melodic

style, or core. The separation of functional, or ceremonial songs occurs usually at a later stage as the result of foreign influences. In Hungary, as in other Eastern European countries, this influence is attributed to Christianity and Western musical and poetic trends. In a third stage he observed a certain retrogression under the influence of urban culture. Ceremonial songs gradually disappear, becoming obsolete and superfluous. Hence musical folklore develops into a uniform style that characterizes the dance as well as the singing tradition.[28]

In his study *Hungarian Folk Music,* which deals only with folksongs not connected with customs, Bartók arrives at a new classification of style. He groups the entire song repertory into three classes: Old Style melodies, New Style melodies, and Mixed Genera, or songs that do not belong, in his opinion, to either of the other two classes.

As a tool, classification of melodies yielded important scientific results. It brought into focus the most characteristic melodic families within each class of styles, the interrelationship of melodies within each class, as well as the authentic and borrowed forms, and paved the way toward comparative studies of Hungarian folk music with the music of geographically, ethnically, or linguistically related peoples.

Stratification of Musical Folklore

Since the Hungarian people did not have a continuous history of music prior to the beginning of the nineteenth century, the origin, evolution, diffusion, and interrelationship of the Old and New Style songs posed some of the most important questions for historical investigation. Whether the two styles were verifiably historical stratifications of Hungarian folk music became the subject of intense study in the 1930s.

The pentatonic melopoeia underlying the Old Style—and a large number of New Style tunes—offered the first clue for the survival of an ancient, possibly Asiatic, heritage. Comparative linguistics and archeology had already illuminated the origin and ethnic contacts of the Magyars during their migration. But there was not a single written document that could have substantiated their musical ties with any of their ethnic neighbors of that period. Only comparative musical studies could throw some light on this possibility. First Bartók undertook the investigation of neighboring Slovak, Rumanian, and South Slavic peoples' music and described his findings in his comparative study *Folk Music of the Hungarians and Folk Music of Their Neighboring Peoples.*[29] Then Kodály studied the available folksong publications of the linguistically and ethnically related Finno-Ugric Cheremiss and Bolgar-Turkic Chuvash peoples living in the middle Volga area of Soviet Russia and reported on his discoveries in his essay "Characteristic Melodic Structure in Cheremiss Folk Music."[30] Herein Kodály writes:

> In our comparative musicological investigations entire melodic structures, and not merely lines, or motives, out of their context, are taken into account. Whereas in the latter case the resemblance, smaller or larger in degree, may very well be fortuitous, the correspondence of organic entities, or entire melodic structures, can hardly be explained without the presupposition of a common origin.[31]

These two studies proved that the principles of pentatonicism and melodic transposition to the lower fifth, which were characteristics of Old Style melodies, were indeed present in folksongs of Volga Cheremiss and Chuvash peoples but remained alien traits in Slovakian and Rumanian folk music. Furthermore, whenever such tunes appeared in the repertories of neighboring peoples, they showed certain changes: extensions, corruptions of form due to a misunderstanding of their principles, or sometimes complete transformations of melodic structures in accordance with the musical instincts of the borrowers. At the time, however, the authors were unable to determine whether the Old Style melodies were derivatives of a Finno-Ugric or Bolgar-Turkic heritage. Bartók hoped to throw some light upon the question through his collection in Anatolia, Turkey, in 1936. He found that eight-syllable line strophes in descending construction, performed in the parlando-rubato style were strikingly similar to certain melodies found on the western border of Hungary.[32]

The identity of structural and tonal characteristics with Old Style tunes on the one hand, and the folk music of the Cheremiss, Chuvash, and Anatole-Turkic peoples on the other, is irrefutable evidence of the age of the melodies. The ancestors of the Magyars are known to have occupied an area between the Caspian Sea and Black Sea during the fifth and seventh centuries A.D. At that time ancestors of Bolgar-Turks also lived somewhere on the border of Europe and Central Asia. The fact that these ethnic groups separated to distant territories with no further contact, proved that the melodies in question must have evolved in their respective musical traditions some 1300 years ago.[33]

The New Style songs were Western sounding and therefore required a different line of inquiry. Bartók's definition, which holds firm to this day, singles out the returning musical line structure (such as A X Y A) and an overall arched melodic line as the two main characteristics of this class of melodies. Although these melodies were found widely distributed beyond the Hungarian language borders, Bartók argued for their Hungarian origin on the basis of their widespread popularity throughout the country as opposed to their sporadic appearances in the traditions of neighboring peoples. He also saw the derivation of a certain type of tune from the recruiting dance, or *verbunkos,* and dated the origin of New Style tunes to the beginning of the nineteenth century.[34]

Kodály believed that the evolution of such strikingly different melodies could not have taken root unless elements of the style were already present. He began to search for arched melodies in Western song literature, notably virelai, French chansons, Italian laude, and German songs, reaching, however, no conclusion as to whether these musical genres had any influence on the development of New Style melodies.[35]

The proof or disproof of their hypotheses were left to their disciples. Concerning the relation of Old Style melodies with Cheremiss and Chuvash musical folklore, László Vikár, who conducted field work in the Volga bend during the 1960s, could not provide an affirmative answer. Pentatonic and transposing melodies were not typical in current Cheremiss or Chuvash folk music but examples of it were found in areas where the two people lived in close contact with one another. This may indicate that the type evolved in the contact of Finno-Ugric and Bolgar-Turkic peoples—as in the case of the Magyars from the fifth to seventh centuries and of the Cheremiss and Chuvash in more recent times.[36]

Concerning the evolution of New Style songs, Bence Szabolcsi, Béla C. Nagy, Lajos Vargyas, and György Szomjas Schiffert followed Kodály's research and were able to prove that elements of the New Style were indeed present in Hungarian art and popular songs already from the sixteenth century on. But for these songs to reach the folk and become a part of their musical style a certain societal melioration had to develop, which occurred only in the beginning of the nineteenth century. Thus Bartók's hypothesis of the origin of New Style tunes proved to be correct.[37]

Kodály and Bartók have brought Hungarian and Eastern European musical folklore into the realm of scholarly study. Through exhaustive collection, meticulous transcription, systematic publication, and penetrating comparative investigation these musical traditions have become accessible as sources for a host of fields. Because Bartók and Kodály were both artists and scholars *par excellence*, their involvement in musical folklore left deep imprints on their compositions, and conversely their aesthetic sensitivity influenced their ethnomusicological work, establishing an ideal link between folk music, art music, and music history.

NOTES

This paper was read at the annual meeting of the American Musicological Society, Philadelphia, 1984.

[1] Bartók refers here to the sentimental urban art songs and popular *csárdás* tunes played by Gypsies in taverns throughout the country. This music was so widely diffused and so popular that it overshadowed folk music and was mistakenly regarded as true Hungarian musical tradition.

[2] *Bartók Béla Családi Levelei* (Family Letters of Béla Bartók), ed. Béla Bartók, Jr., and Adrienne Gombocz Konkoly (Budapest: Zenemükiadó, 1981), 125. For a more detailed account of Bar-

tók's first encounter with folk music see Denis Dille, "Gerlice Puszta; Mai bis November, 1904," *Documenta Bartokiana,* vol. 4 (Budapest: Akadémiai Kiadó, 1970), 15–40.

[3] *The Selected Writings of Zoltán Kodály* (London: Boosey and Hawkes, 1974), 103.

[4] Béla Bartók and Zoltán Kodály, *Magyar Népdalok Énekhangra Zongora Kisérettel* (Hungarian Folksongs for Voice with Piano Accompaniment) (Budapest: Rozsnyai, 1906); reprint of the preface in Zoltán Kodály, *Visszatekintés,* vol. 1, ed. Ference Bónis (Budapest: Zenemükiadó, 1964), 9.

[5] Under the Hungarian title "A magyar népdal strofa szerkezete," Kodály's dissertation was published in the *Nyelvtudományi Közlemények* of the Hungarian Academy of Sciences, vol. 36 (Budapest, 1905), 95–136.

[6] For detailed discussion of the study see Stephen Erdely, *Methods and Principles of Hungarian Ethnomusicology* (Bloomington: Indiana University Publications, 1965), 1–42.

[7] *The Selected Writings of Zoltán Kodály,* 104.

[8] *Bartók Összegyüjtött Irásai* (Collected Writings of Bartók), ed. András Szöllösy (Budapest: Zenemükiadó, 1966), 9.

[9] Zoltán Kodály, "Bartókról és népdalgyüjtésröl" (On Bartók and Folksong Collection), *Visszatekintés* 2:457.

[10] Ibid., 551.

[11] Béla Bartók, "Zenefolklore kutatások Magyarországon" (Musical Folklore Research in Hungary), in *Bartók Összegyüjtött Irásai* (Collected Writings of Bartók) (Budapest: Zenemükiadó, 1966), 351.

[12] Béla Bartók and Zoltán Kodály, eds. (Budapest: Akadémiai Kiadó, 1951–). The six volumes published so far are: vol. 1, *Children's Game Songs;* vol 2, *Golden Letter Day Songs;* vols. 3a and 3b, *Wedding Songs;* vol. 4, *Match Making Songs;* vol. 5, *Laments;* and vol. 6, *Folksongs.*

[13] Béla Bartók, *Slovenske Ludove Piesne,* vols. 1 and 2 (Bratislava: Slovakian Academy of Sciences, 1959). The third volume has not yet been published.

[14] Béla Bartók, *Rumanian Folk Music,* vols. 1–4. (The Hague: Martin Nijhoff, 1967).

[15] Béla Bartók, *Turkish Folk Music From Asia Minor* (Princeton: Princeton University Press, 1967).

[16] Béla Bartók and Albert B. Lord, *Serbo-Croatian Folk Songs* (New York: Columbia University Press, 1951). From 1941 to 1943, under a grant from the Alice M. Ditson Fund, Bartók was transcribing epic and lyric songs from the Milman Parry Collection, not yet examined at the time, which were sent for his perusal from Harvard to Columbia University. The plan was to provide musical material for Professor Lord's planned book on the textual aspects of epics. But when Bartók heard the lyric songs in the collection he realized that they would well serve as the basis for an analytical study on Serbo-Croatian musical folklore. In a letter to Douglas Moore, 18 April 1941, Bartók writes:

> This unique collection of over 2,600 phonograph records—to my knowledge the only collection of Yugoslav folk music on acoustical recordings—contains a very large mass of epic song accompanied by the gusle, a primitive one-string instrument. The style and musical treatment of these heroic songs is probably as close to that of the Homeric poem as any folk-music style found today may be. While from historical, literary, and musicological point of view this material is invaluable, from the musical-aesthetic point of view the lyric songs or "women's songs" and the instrumental pieces in the collection are more rewarding. . . . There are two ends in view according to which the collection ought to be studied. One is the transcription into music notation of the most important samples of the epic material, to be incorporated into its literary and textual study at Harvard University. The other is the transcription of the other materials in the collection, for an inclusive picture of Yugoslav folk music. This latter could well result, as you once suggested, in a book on Yugoslav folk music.

See Béla Bartók and Albert B. Lord, *Yugoslav Folk Music,* vol. 1 (Albany: State University of New York Press, 1978), editor's preface, xx–xxiii.

Thus, the folk songs became the first in the series of publications. Part 1 contained Bartók's essay and transcription of the music; part 2, Albert B. Lord's study and transcription of the folksong texts. Bartók also transcribed two epic songs of which one was published in the first volume of the Milman Parry Collection Publication Series: *Serbocroatian Heroic Songs, Novi Pazar: English Translations,* ed. Albert Bates Lord (Cambridge and Belgrade, 1954).

[17] See Erdely, *Methods and Principles of Hungarian Ethnomusicology,* 2.

[18] See Zoltán Kodály, "Argirus Notaja," *Visszatekintés* 2:91.

[19] Béla Bartók, *Hungarian Folk Music* (Oxford: Oxford University Press, 1931), 1.

[20] Béla Bartók, *Népzenénk és a Szomszéd Népek Népzenéje* (Folk Music of the Hungarians and Folk Music of Neighboring Peoples) (Budapest: Zenemükiadó, 1952), 3.

[21] Zoltán Kodály, "A Magyar Népzene," *Visszatekintés* 1:20.

[22] Ibid.

[23] The reference is made here to statements in the Hungarian edition, *A Magyar Népzene* (Budapest: Zenemükiadó, 1960), 6–7.

[24] One can pursue their growing awareness for the need of more exacting transcriptions in the sequel of their folksong publications from *Transylvanian Folksongs* (1921) through Kodály's detailed notation of the ballad "Clement Mason" (*Visszatekintés* 2:78) and Bartók's transcriptions of Rumanian, Serbo-Croatian, and Turkish folksongs.

[25] "Welche ist die beste Methode um Volks- und Volksmässige Lieder nach ihrer melodischen Beschaffenheit lexikalisch zu ordnen," *Sammelbände der internationalen Musikwissenschaft* 4 (1902–3): 1ff.

[26] Béla Bartók and Zoltán Kodály, "Az uj egyetemes népdalgyüjtemény tervezete," *Visszatekintés* 2:48–52.

[27] Ibid., 50.

[28] Béla Bartók, *Hungarian Folk Music,* 10.

[29] See note 20, above.

[30] "Sajátságos dallamszerkezet a Cseremisz népzenében," *Visszatekintés* 2:145–55.

[31] See Erdely, *Methods and Principles of Hungarian Ethnomusicology,* 102.

[32] Béla Bartók, *Turkish Folk Music from Asia Minor,* 39.

[33] Ibid., 40.

[34] See note 20, above.

[35] Zoltń Kodály, *Folk Music of Hungary* (New York: Praeger, 1971), 62–65.

[36] László Vikár and Gábor Bereczki, *Cheremis Folksongs* (Budapest: Akademiai Kiadó, 1971) and *Chuvash Folksongs* (Budapest: Akademiai Kiadó, 1979).

[37] References are made to the following studies:

Nagy, Béla C., "Typenprobleme in der ungarischen Volksmusik," *Studia Musicologica* 2 (1962): 240–56.

Szabolcsi, Bence, "Adatok az uj magyar népdalstilus történetéhez" (Data on the history of New Style Folksongs), *Népzene és történelem* (Folk Music and History of Music) (Budapest: Akademiai Kiadó, 1954), 59–133.

Szomjas Schiffert, György, "Die wiederkehrende Liedform in der ungarischen und in der tschechisch-mährischen Volksmusik," *Studia Musicologica* 11 (1979): 113–51.

Vargyas, Lajos, "Észrevételek Szabolcsi uj tanulmánykötetére," *Ethnographia* 66 (1955): 514–16.

———, *A Magyar Népballada és Europa* (The Hungarian Folk Ballad and Europe) (Budapest: Zenemükiadó, 1976).

Ernst Levy. ***A Theory of Harmony.*** **Edited by Siegmund Levarie.** Albany: State University of New York Press, 1985.

> Now harmonics shows that there are norms in music, which were the secret rules for the development of musical creations. Harmonics provides a given criterion for what up to now has happened, happens, and will happen in music. And surely harmonics develops this criterion not from historically-derived stylistic observations, not from aesthetically-derived, backward-looking "theories of harmony," and not from sociologically-derived materialist points of view, but from the *phenomenon of tone* itself.[1]

> Any theory whose ambition is not merely to lay down rules for the realization of figured bass and the harmonization of chorales should draw conclusions from harmony as it survives historically. The study of harmony should have as its subject historically defined methods of composition, not abstractions which relate to no particular style. On the other hand tonal harmony must be understood as a system whose components do not in themselves possess the significance which makes them tonal phenomena but only gain it by virtue of this context (thus in the 16th century the simultaneous sound of D–F–B constituted neither a chord nor an incomplete inversion of a dominant 7th). The harmonic system must be shown to be a result of history and history the development of a system.[2]

It will come as no surprise to those familiar with the collaborative works of Ernst Levy and Siegmund Levarie[3] that this recently published work by Levy concurs ideologically with the first quotation. Although a comprehensive, critical evaluation of the merits and problems of "harmonics" cannot be accomplished in a book review, the second quotation, in its reference to "abstractions," provides one response to the harmonicists' theoretical claims: one purpose of this review will be to provide other responses.

Since this book actually preceded the Levy-Levarie collaborations (the manuscript was originally completed in French in 1940–41 under the title *Connaissance harmonique: Essai sur la structure musicale du son,* according to the Editor's Preface, p. vii), it is not surprising that the ideas of this earlier work

appear in undeveloped and fragmented forms, when compared to their reappearance in the collaborative efforts. The reader may wish to keep at hand those books cited in the third footnote, in order to follow any references to these later incarnations.

As the original title in French indicates, this "theory of harmony" is more an essay than a systematic explication and thus may suffer when judged according to our preconceptions of the word "theory." We are nonetheless justified in examining it as such, not because the author has deemed it so (the publication is posthumous), but because the publisher proclaims it on the book's back cover, assumedly with the permission and concurrence of the musicological scholar who edited this work, Siegmund Levarie. What, then, is the purpose of this theory, and what kind of theory does it represent?

The Foreword states the author's intention:

> In this essay the author endeavors to present the essentials of a comprehensive, consistent theory of harmony developed from tone structure. The underlying philosophical hypothesis consists in the psycho-physical reality of tone, whereby the musical fact becomes a symbol of a physical-acoustical fact, and vice versa. It would indeed seem difficult to discover any other basis for a harmonic theory claiming to be universal.
>
> One test of the validity of such a claim lies, of course, in the possibility of its universal application; it is a test against the monuments of music, hence historical. Another test would be directed toward the future, toward artistic creation; this is the concern of the teacher of composition. Of both tests, nothing will be found here save a few illustrative examples. This essay is solely concerned with the making of tools.
>
> (p. xi)

The theory is more speculative than practical, given Levy's concern for demonstrating "psycho-physical realities" and "universals." His unwillingness to test the validity of his claims shows that he is more interested in persuading the reader of his philosophical position than in enlightening him on how music is made or understood. Thus the work is an example of pure theory, deduced from the author's own spiritual principles.[4] It shows little interest in analytic or generative theoretical concerns and therefore must be judged primarily on its principles, their application, and the presentation and systematization of the material.

Such an evaluation requires an investigation into the ideas and works that influenced the author. "Harmonics" (*Harmonik*) is the term resurrected by twentieth-century neo-Pythagorean theorists in Switzerland and Austria (primarily Hans Kayser[5] and his follower Rudolph Haase[6]) to denote the relationship between numerical ratios and all natural phenomena: number is

a guide to the interpretation of the world. A familiar example of this belief is the notion of *musica mundana,*[7] or the harmony of the spheres, in which the velocity of each planet, revolving on its ring or sphere, is thought to produce a musical note.[8] Music embodies the artistic (*künstlerisch*)[9] aspect of harmonics, and therefore the universal norms of music are discoverable through the study of the relationship between tone and number (*Tonzahl,* or musical number). Students of the history of Western music theory will recognize that the use of numerical ratios to justify and explain musical systems is almost as old as music theory itself, extending from Classical Antiquity up to and including the works of Rameau in the eighteenth century.

Another of the author's premises is the concept of "polarity," described as "one of the great principles fashioning not only the outer world of nature but also the inner world of thought and imagination" (p. 13). In one of Levy's collaborative works, polarity is defined as "the condition of two complementary forms acting in opposition to each other."[10] Although polarity as a concept is attributed to Johann Wolfgang von Goethe,[11] the applications of this principle to triads and scales seem to demonstrate that Levy's theory draws upon earlier theories of harmonic dualism. The latter concept, inspired by Moritz Hauptmann's treatise of 1853, *Die Natur der Harmonik und der Metrik,*[12] holds that major and minor tonalities are antitheses of one another, and that their triadic counterparts arise from only two intervals (perfect fifth and major third): thus minor triads are formed downwards from the fifth.[13] Although dualism provides a theoretical basis for the works of Arthur Joachim von Oettingen,[14] Hugo Riemann,[15] Georg Capellen,[16] and the composer-theorist Sigfrid Karg-Elert,[17] its relationship to harmonic practice has yet to be convincingly demonstrated.

The immediate point of departure for Levy's system, after his much too cursory derivation of the Pythagorean table,[18] seems to be Riemann's *Musicalische Syntaxis,* where the F-minor triad is conceived as a C-minor triad (°c) constructed downwards from the C, just as the C-major triad (c^+) is built upwards from C. Levy's explanation for calling the F-minor chord "C minor" does not follow Riemann's;[19] rather, it is derived from two principles, polarity and *tellurian gravity* (p. 15). Polarity accounts for the equivalent status of minor triads as chordal entities: although not an acoustic phenomenon, the intervals of a minor triad (conceived downwards) are those of the major triad; thus as a polar, or reciprocal, entity, the minor triad is logically equivalent to the major triad. An F-minor triad is not heard as C minor because gravity permeates our entire being, and therefore our perception as well. With repect to generators (i.e., postulated roots), minor triads are to be considered in their "absolute conception," from the top down (symbolized by °); with repect to our perception, they are considered tellurically, from the bottom up (symbolized by $^+$ [⊕?])[20] (p. 15). This idea is expressed in a very

similar way in Levy's collaborative work on *Tone* (pp. 191–92).

In the pages that follow (23–24, 28–30; also cf. *Tone*, pp. 193–94), Levy postulates that because the two triads formed from a single generator are a "stable whole,"

> a unilateral realization [i.e., the appearance of only one of the two superimposed chords, F–A♭–C and C–E–G] will disrupt the balance and make the chord tend towards its complement. For instance, C major will tend toward F minor, and vice versa. Hence we may say: *a major triad tends to become dominant; a minor triad, subdominant.*
>
> (p. 23)

A major chord tends toward the chord a fifth below, while a minor chord tends toward the chord a fifth above: such progressions give the impression of a "fall" (p. 27). To create the contrasting impression, you simply resolve the chords in the opposite direction (major, up a fifth; minor, down a fifth). Cadences are made by changing the mode of a final chord from its expected one (thus F minor to C minor, or G major to C major), so that the lack of closure found in the natural tendency of a chord and its complement is usurped (p. 24). Levy never addresses the question why cadences in minor keys usually utilize major dominants or, to put it broadly, why the postulated lack of closure is contradicted by practical examples.

With regard to progressions, Levy measures all chordal movements in distances from a tonic and posits that the more balanced a cadence is—meaning the number of major chords balanced by minor chords whose generators are the same distance from a tonic—the more convincing and definite it is (p. 30). Hence the progression that appears on the book's cover (and also on page 30) is perfectly balanced around the C tonic because the major triads on A, D, and G are followed by reciprocal minor triads on E♭, B♭, and F. Logically this follows from the dominantic table (p. 28), but historically it seems to have had little influence on cadence types. Levy's notion of cadential balance is suspect also because it contradicts the absolute conception of chords: F minor ought to be balanced by C major, B♭ minor by G major, and E♭ minor by D major. The notion of the tone as a chordal generator seems to be in logical opposition to the tonic chord as a cadence generator.

Levy's essential chordal tendencies are well known and therefore rather insignificant. Anticipating this criticism, he points out that his dominantic table is not meant to be a mechanical device for composition; rather, it can be used to discover relationships between tone and psyche, "to show that musical norms are psycho-physical facts, not conventional fictions" (p. 30). I find the latter claim spurious, because the author does not prove that his norms (at least those I find aurally convincing) are not the result of convention. In

Tone, Levy and Levarie wrote:

> The ear does not determine what is musically important. *We* determine *how* we want to hear what is given. Musical hearing is an act of selection. [I will argue that what we select to hear differs, not only among cultures, but also among individuals.] A norm helps us select the intended pitch among the multitude proposed by a vibrato. Thanks to a norm we are capable of ignoring all sorts of disturbances, such as beats, combination tones, and the pervading dissonances of a well-tempered keyboard.
>
> (pp. 166–67)

Are these norms based on number ("Harmonic perception is the perception of proportions" [p. 50]), and innate; or are they based on culture, and behavioral? In a recent analysis by Robert Cogan, a Tibetan chant is found to use varying degrees of vocal slides as a means of expressing the text's semantic content while contributing to the formal schema created by the sound of the entire chant.[21] Is it not feasible that these "disturbances" of the sung pitch are meant to be a focus of one's hearing? A native African musician, capable of creating pieces of remarkable rhythmic complexity, might not get the impression of a "fall" from a circle of fifths found in a Baroque composition, because it is not of primary musical significance to him. "[W]hat is perceived depends on the significance of the object for the perceiving subject. What has no significance is generally overlooked."[22] Is not the attention one must give to timbral differentiation a primary vehicle for appreciating "minimalist" music? From these observations it seems that Levy's musical norms are not universal, and that ways of hearing music depend greatly on one's cultural background and level of education.

In the Preface the editor claims that the essential innovation of Levy's theory is the "recognition of the generative force of the major third" (p. vii). Although only stated indirectly, this means that it is the third which gives chord progressions a sense of direction (Levy calls it "magnetizing" [pp. 22, 31] or "sexualizing" [p. 89] power); hence it is the *determinant* when major and the *subdeterminant* when minor. The type of third accounts for the major (dominant) and minor (subdominant) chord tendencies; as we have seen, though, there is little informative value gained from this novel conception.[23] More innovative, in my opinion, is Levy's contention that triadic inversions can differ in function from triads in fundamental position. A hierarchy of directional tendencies of inverted triads (pp. 32–34), based on which tones appear outermost and which member of the triad they are, provides the most intriguing examples of the book. This hierarchy can be summarized as follows: (1) all inverted triads tend towards triads in fundamental position; (2)

each inversion has six possible resolutions; (3) the root of the chord is most likely to become the generator (root in absolute conception) in the resolution, followed by the tendencies of the fifth and the third to become generators; (4) an exterior tone is more likely to become the generator than to become the dominant; and (5) the weakest resolution occurs when the middle tone of an inverted triad becomes a determinant (third). Two things should be noted about the table of transformations and primary successions on page 34: each involves a root progression (in the traditional sense) that moves by fifth or third, which explains their acceptability to the ear; and yet even though these progressions have a plausible functional explanation, the suggestion that the disposition of a chord can influence its progression is an intuition that requires further investigation, particularly in those harmonic styles which have been resistant to logical explanation.

Although I found myself hoping that this principle would be applied to intervals and other chords, I was disappointed. In the last few chapters, Levy is content with determining the generators of various types of simultaneities in their relation to a tonic, without describing their functions or tendencies. Intervals are related to generators, the latter often not either of the two sounding pitches, by third, fifth, or some combination of the two. A major second, for example, consists of two dominants on the opposite poles of a generator (thus the F–G second consists of the dominants of the generator C). A similar method is used in the determination of triadic generators, only here the generator is twice removed from its source: the triadic generator is related back to a tonic (hence F♯ is the determinant [Δ] of the second upper dominant [d^2] of C, D), while the third and fifth of the triad are related to their generator. Ambiguities occur within the system: G minor can be understood tellurically as a minor dominant (–D), the minor chord in absolute conception of the second dominant ($\underline{\circ}\ D^2$), or as the minor determinant chord in absolute conception of the second subdominant ($\underline{\circ}\ \Delta s^2$; D is the determinant of B♭, the second subdominant of tonic C). These ambiguities must be resolved by the chord's context; in any case, one is left wondering how the functional significance of the chord (dominant, subdominant, determinant) would change its treatment in different contexts.

Levy is even less systematic about other chordal tendencies, particularly those more complex ones of the last chapter. Here Levy attempts only to determine the generators of various seventh chords, adopting Hauptmann's notion that such chords are the result of the simultaneous combination of two different triads.[24] Thus an A–C–E–G chord can be viewed as the pairing of the A-minor and C-major triads; as Levy puts it, "major tonic C and (in absolute conception) the minor determinant [i.e., E–C–A]" (p. 86). Since Levy does not, however, determine the tendencies of these chords—the conflicting tendencies of the triads from which the seventh chords are generated

are left unresolved[25]—any compositional or analytical theory, or any pedagogical method, based on Levy's ideas, would perforce have to systematize what Levy has only incompletely explicated.

Prof. Levarie's contribution is also flawed, particularly in his inattention to the content of chapter 4, on consonance and dissonance. Here, as in other places, he fails to inform the reader of places in *Tone* (pp. 208–9) and *Musical Morphology* ("Ontic-Gignetic" entry, p. 194) where the same material is discussed; the latter reference is particularly important because it directly contradicts the discussion within Levy's theory. Compare the following:

> The ontic conception accentuates the 'being' of the phenomenon, the gignetic concept stresses the 'becoming'. To consider the phenomenon ontically means starting from the phenomenon and 'eternalizing' it. To consider the phenomenon gignetically means starting from the ever-being and 'phenomenalizing' it. The ever-being is ontic. The phenomenon considered *sub specie aeternitatis* is gignetic, changing, perishable, dynamic, unreal. The phenomenon considered *sub specie momenti* is ontic.
>
> (*A Theory of Harmony*, p. 41)

> According to our initial distinction, any tone or agglomeration of tones can be thought of in two different manners. Ontically, it is isolated from the notion of time and heard as a definitive entity (*sub specie aeternitatis*). Gignetically, it is considered an experience in time and heard as an evolutionary entity (*sub specie momenti*).
>
> ("Onto-Gignetic," *Musical Morphology*, p. 194)

Of course, if one ignores the Latin, there is no contradiction at all; as editor, however, Levarie should have noted Levy's apparent error. Levarie's inclusion of the comments from Hugo Kauder's copy of Levy's manuscript (in Appendix B) shows Kauder to be a clearer, better-informed thinker than Levy, but Kauder's comments often seem to contradict Levy's (such as those to pages 21 and 46) and thus weaken what I find to be an already weak theoretical argument. Their inclusion only fosters the reader's tendency to reject the book's content out of hand. The lack of any reference within chapter eight to see Appendix A, which contains "Examples to Chapter 8," is particularly frustrating, for only there is the reader shown how the analytical symbols (which proliferate rapidly in the final three chapters) are to be used and interchanged.

Is this theory significant? In order to answer this question, one must distinguish among types of significance. The creation of a musical theory that is neither demonstrably derived from practice nor shown to have any relationship to actual music can be significant in its historical and cultural value; in

this case, the theory demonstrates another application of Goethe's concept of polarity to music and musical thought, a concept that seems to be of major import to early twentieth-century music in Western Europe.[26] Thus, in the demonstration of one mode of thought at a particular historical juncture, Levy's *Theory* has primary value as a document in the history of ideas and aesthetics.

A theory of music can also be intrinsically significant for its beauty or elegance as a system, regardless of its relationship to practice, when it presents an economical network of strong, interconnected relationships among the entities in its domain.[27] Levy's theory fails to demonstrate a rigorous system because it uses terms without defining them (such as *dominant* and *subdominant,* whose definition is imperative because they already have meanings that seem to differ from Levy's), makes unsupported claims ("Cadences from B♭ to C are more frequent than those from D to C!" [p. 25]), and is just not complete. This last point makes the use of Levy's system for analytical or compositional purposes almost impossible, for he explains the nature and function of only the simplest chords and directs the reader to examine the tables and diagrams for any situation not discussed: because he does not explain how he derives chord functions from these tables and diagrams, the method is, from the view of creating a system, irresponsible.

The most startling aspect of this book for many readers will probably be the resurgence of Pythagoreanism in our century. The revival of this notion—that the natural relations between sound (or, more broadly, nature) and number (the human capacity for logical ordering) demonstrate a universal norm upon which all music lies—is apparently one refuge for conservative musical thought in Western Europe. Whether it has provided a basis for composition in the music of Ernst Levy, Hugo Kauder, or even Hindemith[28] is a topic that today remains uninvestigated in musicology.

—*John Kelleher*

NOTES

[1] "Die Harmonik zeigt nun, daß es Normen in der Musik gibt, welche die geheime Richtschnur für die Entwicklung des musikalischen Schaffens waren. Sie gibt ein Kriterium dafür an die Hand, was in der Musik bisher geschah, was geschieht und was noch geschehen wird. Und zwar entwickelt sie dieses Kriterium nicht historisch aus stilistischen Beobachtungen, nicht ästhetisch aus nachhinkenden, 'Harmonielehren' und nicht soziologisch aus materialistischen Gesichtspunkten, sondern aus dem *Phänomen des Tones* selbst." Hans Keyser, *Aufsätze aus dem Nachlaß,* Beiträge zur Harmonikalen Grundlagenforschung 7 (Vienna: Lafite, 1975), 12 (my translation).

[2] Carl Dahlhaus, "Harmony," *The New Grove Dictionary of Music and Musicians* (London: Macmillan, 1980) 8:186–87.

[3] *Tone: A Study in Musical Acoustics* (Kent, Ohio: Kent State University Press, 1968); and *Musical Morphology: A Discourse and a Dictionary* (Kent, Ohio: Kent State University Press, 1983).

[4] Claude V. Palisca, "The Scope of American Musicology," in *Musicology* (Englewood Cliffs: Prentice Hall, 1963), 115.

[5] Representative works include *Lehrbuch der Harmonik* (Zurich: Occident, 1950); *Der hörende Mensch* (Berlin, 1932); *Harmonica plantarum* (Basel, 1943); and *Die Harmonie der Welt* (Vienna: Lafite, 1968).

[6] See his *Geschichte des harmonikalen Pythagoreismus* (Vienna: Lafite, 1969), which has an extensive bibliography, and a more recent article, "Harmonikale Grundlagenforschung," *Acta musicologica* 58 (1986): 282–304.

[7] Boethius, *De institutione musica* 1:2, ed. G. Friedlein (Lipsiae, 1867; repr. Frankfurt a. M., 1966), 187–88.

[8] R. P. Winnington-Ingram, "Pythagoras," *New Grove* 15:485.

[9] Kayser, *Lehrbuch der Harmonik,* x.

[10] *Musical Morphology,* 217.

[11] *Tone,* vii–viii.

[12] Second edition, Berlin: Breitkopf & Härtel, 1873. Translated by W. E. Heathcote as *The Nature of Harmony and Meter* (London: Swan Sonnenschen, 1888).

[13] C. Dahlhaus, "Relationes harmonicae," *Archiv für Musikwissenschaft* 32 (1975): 208.

[14] *Harmoniesystem in dualer Entwickelung: Studien zur Theorie der Musik* (Dorpat and Leipzig, 1866), revised as *Das duale Harmoniesystem,* 2 vols. (Leipzig, 1913); and "Die Grundlagen der Musikwissenschaft und das duale Reininstrument," *Abhandlungen der mathematisch-physischen Klasse der königlichen sachsischen Gesellschaft der Wissenschaften* 34 (Leipzig, 1916).

[15] *Musikalische Logik: Hauptzüge der physiologischen und psychologischen Begründung unseres Musiksystems* (Leipzig: C. F. Kahnt, 1874); and *Musikalische Syntaxis: Grundriß einer harmonischen Satzbildungslehre* (Leipzig: Breitkopf & Härtel, 1877; repr. Wiesbaden, 1971).

[16] *Fortschrittliche Harmonie- und Melodielehre* (Leipzig: C. F. Kahnt Nachfolger, 1908).

[17] *Die Grundlagen der Musiktheorie* (Leipzig, 1922); *Akustische Ton-, Klang- und Funktionsbestimmung* (Leipzig, 1930); and *Polaristische Klang- und Tonalitätslehre* (Leipzig, 1931).

[18] For readers unfamiliar with the mathematics of string division and "multiplication," see Philip Gosset's introduction to his translation of Rameau's *Traité de l'harmonie* (New York: Dover, 1971), xvi–xix. Those unfamiliar with the derivation of the Pythagorean table (and understandably daunted by the prospect of examining Kayser's massive *Lehrbuch,* as Levy suggests on page 9) are directed to the first forty pages of *Tone,* where the derivation and use of the table are somewhat clearer.

[19] Riemann's attempts to show that minor triads are constructed downwards from the fifth are varied. He cites the opening of Beethoven's op. 57 piano sonata, the "Appassionata," as perceptual evidence of this phenomenon: the opening C octave, although seemingly the root of a C^{+} chord, is followed by an F-minor chord, revealing the octave to be the root of a °C chord (*Musikalische Syntaxis,* p. 12n). An historical hypothesis appears in his *Vereinfachte Harmonielehre* of 1893, where he maintains that the natural disposition of the voice to stay within the comfortable range of a fifth explains why the fundamental, the actual root of the triad, and the triadic root, which is just another overtone, are confused. We conceive of triads not as the sum of the fundamental, its second overtone, and its fourth overtone, but as an entity enclosed within a fifth. Our physiological limitations lead to a psychological association that triadic roots and their fundamentals are one and the same phenomenon; and analogously, the disassociation of minor triad "roots" from their source, the fifth of the chord two octaves higher (Oettingen's "phonic overtone"), is also a learned confusion. (See the English translation by H. Bewerung, *Harmony Simplified,* pp. 13–14n.)

[20] I assume that ⊕ is meant in this passage because of the way it is used on page 17 (to indicate triads conceived from the bottom up) and in the text on pages 25 and 31, and in contrast to the use of + to indicate major triads, as stated on page 16: "The symbols plus and minus usually indicate, respectively, major and minor triads. Chord symbols without the minus sign are assumed to be major."

[21] *New Images of Musical Sound* (Cambridge: Harvard University Press, 1984), 28–34.

[22] Natasha Spender, "Psychology of Music," *New Grove* 15:391. Although she attributes this quotation to K. Koffka's *Principles of Gestalt Psychology* (New York: Harcourt Brace, 1935), it does not appear in that book.

[23] Indeed, Levy's recognition of the third and the "natural seventh" (Chapter 5) as constituent and generative elements of the system is preceded by Karg-Elert's some ten years earlier (see Paul Schenk, "Karg-Elerts polaristische Harmonielehre" in *Beiträge zur Musiktheorie des 19. Jahrhunderts*, ed. Martin Vogel (Regensburg, 1966), 134–35.

[24] Moritz Hauptmann, *Die Natur der Harmonik und der Metrik*, 2nd ed. (Leipzig: Breitkopf & Härtel, 1873), 71–81.

[25] The one exception is that found in his discussion of the A-minor seventh chord, which in third inversion has a minor quality, while in first inversion its quality is major (p. 86).

[26] Other studies that indicate this close relationship between the ideas of Goethe and twentieth-century music include Angelica Abel's *Die Zwölftontechnik Weberns und Goethes Methodik der Farbenlehre: Zur Kompositionstheorie und Ästhetik der Neuen Wiener Schule*. Beihefte zur Archiv für Musikwissenschaft 19 (Wiesbaden: Franz Steiner, 1982); Barbara Zuber's "Riehe, Gesetz, Urpflanze, Nomos. Anton Weberns musikalisch-philosophisch-botanische Streifzüge," in *Musik-Konzept: Sonderband Anton Webern II*, ed. K. H. Metzger and R. Riehn (Munich, 1984), 304–36; and Karl Hasse's review of Sigfrid Karg-Elert, *Polaristische Klang- und Tonalitätslehre*, in *Zeitschrift für Musik* 100 (1933): 336–45.

[27] Catherine Elgin, *With Reference to Reference* (Indianapolis: Hackett, 1983), 9.

[28] See *Paul Hindemiths harmonikale Quellen: sein Briefwechsel mit Hans Keyer*, comp. R. Haase (Vienna: Lafite, 1973).

George Stauffer and Ernest May, eds. *J. S. Bach as Organist: His Instruments, Music, and Performance Practices.* Bloomington: Indiana University Press, 1986.

This is an important book in more ways than one. It represents the first attempt at a group of essays—authored by an international team of distinguished scholars, performers, and builders—devoted to Bach and the organ. The editors are active organists, and they have compiled a volume that should appeal to players as well as historians. And, for English-speaking readers, the collection's significance is even more obvious, for it contains a wealth of information previously available only in German.

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studies also contain emendations and additions by the authors themselves. In translating his masterful investigation of Reinken and the young Bach, for example, Christoph Wolff has added a diagram of the permutation technique used in the fugue from the Passacaglia in C Minor (BWV 582), a composition that may reflect Bach's early study of permutation fugues by Reinken.

Likewise, in reworking his piece on Bach's personal copy of the original print of the "Schübler" Chorales, Wolff took the opportunity to inject some timely criticism about the recent handling of "Kommst du nun, Jesu, von Himmel herunter" (BWV 650) in the *Neue Bach-Ausgabe* (hereafter cited as NBA).[1] The original print uses "two-against-three" notation by superimposing eighth-note duplets for the pedal onto eighth-note triplets for the left hand. In his *Handexemplar,* though, Bach altered the duplets to dotted eighths and sixteenths, simply by drawing dots and flags. The position of the note heads remained the same, with the second of each pair placed *between* the second and third notes of each triplet group. As Wolff states, "To judge from the manner in which such passages are aligned in other Bach works (the Prelude in c, BWV 546/1, for example, where in manuscripts stemming from the Bach circle the sixteenths are placed directly above or below the third note of each triplet group) and from contemporary performance practices, it seems most likely that the sixteenth notes would be interpreted as the last third of a triplet figure, played in time with the triplets of the left hand" (pp. 131–32, n. 16). Accordingly, editors in the past have sensibly aligned the sixteenths directly beneath the third note of each triplet group. The NBA, however, prints the sixteenths *after* the third note of the triplet groups, which will undoubtedly confuse many of its users, as it implies that the sixteenths are to be taken at face value.

As for the essays appearing for the first time, the most significant ones offer new perspectives on old topics. Stauffer's examination of fugue types in the free works, with its leaning towards eighteenth-century theoretical writings (Walther, Mattheson, Marpurg, Kirnberger), is a case in point. He arrives at four genres *in toto,* including the "art fugue," a term used by Marpurg for fugues that employ devices like retrograde motion, inversion, diminution, and augmentation. According to Stauffer's typology, only two fugues are sufficiently learned to come under this rubric: the Fugue in C Major (BWV 547/2) and the incomplete Fugue in C Minor (BWV 562/2).

Another of Stauffer's categories is the "dance fugue," of which the Fugue in G Major (BWV 577) is a straightforward example. Popularly known as the "Gigue" Fugue or the Fugue "à la gigue," it is a work whose authenticity has long been suspect, on account of both its style and its poor sources. But we learn from Stauffer that the source situation has dramatically improved of late, owing to the discovery of two eighteenth-century German manuscripts which cite Bach as the composer. It would thus seem that the Fugue's exclu-

sion from the NBA[2] (and its inclusion, incidentally, among the "spurious" free organ works in *New Grove*) is unwarranted, or at least premature.

Important, too, are Stauffer's insights into the so-called "St. Anne" Fugue (BWV 552/2), Bach's only "double fugue with three subjects."[3] The work is actually a succession of three separate fugues: the first is a genuine *stile antico* piece, the second a *Spielfuge,* the third a dance fugue "à la gigue." Yet Bach achieves unification in the midst of this diversity by combining the subject from the first fugue with the themes of the other two, rendering the "St. Anne" an art fugue of sorts. To quote Stauffer, "The union that takes place is not simply contrapuntal, but stylistic. The amalgamation of three fugue types—with differing meters, textures, rhythmic accents, and methods of expansion—represents an unprecedented reconciliation of vocal and instrumental styles in a fugal context" (p. 152). This amalgam also complements the equally remarkable synthesis of the French overture and Italian concerto in the "St. Anne" Prelude, whose hybrid nature was first elucidated by Stauffer in his dissertation.[4]

Also worth singling out is Peter Williams's discussion of notational problems in the early works.[5] He perceives well the inadequacies of the sources and editions in such areas as part-writing, beaming, fermatas, and the use of pedal, and he makes an eloquent plea for a critical evaluation of these materials—for purposes of performing the music as well as thinking about it. Williams implies that editors should be more selective in the material they assign to the pedals (frequently it is difficult to tell from the sources exactly what the feet should play), the rationale being that pedal parts in existing editions all too often contain passages that are not idiomatically suited to the pedalboard. We should not be surprised to see this attitude manifest itself in Oxford University Press's forthcoming edition of the complete Bach organ works, of which Williams is the general editor.

Two of the new essays are more controversial, a fact readily acknowledged by the editors in the preface. By far the more important and successful of these is Robert Marshall's argument that numerous Bach works traditionally regarded as harpsichord or clavichord pieces were actually written for the organ—manuals alone. His is not the first argument along these lines,[6] but it is easily the most convincing to date.

In the case of the six "Klavier" toccatas (BWV 910–16), Marshall observes that the only instrumental designation given in the earliest sources is "manualiter," a term that makes sense only in conjunction with organ performance (if applied to instruments lacking a pedalboard, it becomes redundant).[7] He then goes on to demonstrate that in no instance does the keyboard range of the toccatas exceed the manual compass of the organs Bach had at his disposal when these pieces appear to have been composed.[8] For the sixteen concerto transcriptions (BWV 972–87), the sources provide no instru-

mental designation whatever. But it is very rare indeed, Marshall notes, when they exceed the manual compass of Bach's organ in Weimar, where he is thought to have written all his solo keyboard concerto transcriptions. Furthermore, it is clear that in Weimar—where Bach was court organist—J. G. Walther, the town organist, produced *manualiter* concerto transcriptions for organ, and they probably date from about the same time as Bach's concerto arrangements.

Harald Vogel's comments on tunings and transpositions—and this is the other "controversial" study alluded to above—are, regrettably, not so persuasive. A leading authority on German baroque organs and seventeenth-century German organ music, Vogel maintains that around 1700 in Central Germany (where Bach spent his entire life, of course), there was a move towards well-tempered tuning, whereas in the north mean-tone temperament persisted well into the middle of the eighteenth century. He provides no documentation in support of this assertion, nor does he supply any to substantiate his claim that certain works by Buxtehude in out-of-the-way keys like E major and F♯ minor represent well-tempered transpositions of works originally written in keys better suited to mean-tone.[9] Since these compositions survive mainly in Central German manuscripts, the hypothesis is that early eighteenth-century Thuringian organists "modernized" seventeenth-century North German works by transposing them into keys playable only with the new well-tempered system. But why would these organists have bothered with transposition when the pieces would have worked just fine on their well-tempered organs in the putative original mean-tone versions?

Vogel also applies his "mean-tone induced transpositions" theory to Bach's Toccata in E Major (BWV 566). The work survives in a C-major version as well, which leads Vogel to imply that Bach originally composed it in C major for a (North German?) mean-tone organ and then transposed it to E major for a (Central German?) well-tempered instrument. It seems more likely, though, that the work was originally written in E major and was transposed down a third merely for organs whose pedals did not reach higher than c′ (the E-major version requires a pedal c♯′ in several places).[10]

Certain difficulties posed by other essays are minor in comparison, but they should not be passed over in silence. For instance, in Ulrich Dähnert's survey of the organs "played and tested" by Bach—and it is probably the best summary available—the "Dorian" Toccata and Fugue (BWV 538) is not taken into account. Bach performed this composition when, in 1732, he examined the organ at the Martinskirche in Kassel, an event of which Dähnert is well aware. The omission would not be so annoying were it not for the fact that the "Dorian" is the only work Bach is known to have performed at one of his organ examinations. (It *is* mentioned in conjunction with the Kassel examination in the "Calendar of Events in Bach's Life as Organist," which

serves as an appendix to the book.)

Victoria Horn's fine study of French influences in Bach's organ music (which considers, among other things, a newly discovered copy of two *livres d'orgue* of Jacques Boyvin made by the Bach pupil J. C. Vogler) is similarly problematic. Does she feel that the close similarities between the "St. Anne" Prelude and the "Offertoire sur les Grands Jeux" from Couperin's Parish Mass[11] are coincidental (and thus too trifling to mention), or is she really unaware of them? Horn is also mute on Bach's predilection (as related by Forkel) for improvising "quatuors" at the organ. The organ quartet, something of a digital and registrational showpiece for three manuals and pedal (the right hand usually played two manuals simultaneously), was quite common in the French repertory, and Bach's improvisations in "quartet" style are suggestive of French influence. (Elsewhere in the volume, in Stauffer's article on Bach's organ registration, Bach's "quartet" improvisations are linked to "quatuors" by French composers.)

Difficulties of another sort arise in Ernest May's survey of Bach's organ chorales. May refers categorically to J. P. Kellner and J. G. Preller as Bach pupils: it is by no means clear that Kellner studied under Bach,[12] and it cannot be proven that Preller ever got within seventy-five kilometers of him. Finally, why have the editors included something as sophomoric as Marie-Claire Alain's "Why an Acquaintance with Early Organs Is Essential for Playing Bach"? This belongs in one of the organ rags—not in a collection of scholarly essays.

To be sure, there are flaws. But it would be wrongheaded not to conclude that *J. S. Bach as Organist* is a most welcome addition to the Bach literature. In using it over the past two years, I have found it a handy, up-to-date, and (for the most part) reliable reference tool. No one interested in Bach's organ music can afford to do without it.

—*Russell Stinson*

NOTES

[1] See NBA IV/1 (*Orgelbüchlein; Sechs Choräle von verschiedener Art [Schübler-Choräle]: Choralpartiten*), ed. Heinz-Harald Löhlein (Kassel: Bärenreiter, 1983).

[2] NBA IV/5–6 (*Präludien, Toccaten, Fantasien und Fugen für Orgel*), ed. Dietrich Kilian (Kassel: Bärenreiter, 1964–72).

[3] See Gregory G. Butler, "*Der vollkommene Capellmeister* as a Stimulus to J. S. Bach's Late Fugal Writing," in *New Mattheson Studies*, ed. George J. Buelow and Hans Joachim Marx (Cambridge: Cambridge University Press, 1983), 293–305.

[4] *The Organ Preludes of Johann Sebastian Bach* (Ann Arbor: UMI, 1980), 74–77.

[5] Williams has since published a study dealing with notational difficulties in Buxtehude's organ music. See his essay "Buxtehude's Organ Works: The Snares and Delusions of Notation," *The American Organist* 21, no. 5 (May 1987): 68–71.

[6] In his edition of the complete Bach organ works for Breitkopf & Härtel (1968–79), for example, Heinz Lohmann includes roughly fifty *manualiter* pieces usually regarded as works for string keyboard instruments.

[7] This is also the conclusion drawn, with repect to Buxtehude works whose sources use this designation, in Kerala J. Snyder, *Dieterich Buxtehude: Organist in Lübeck* (New York: Schirmer, 1987), 228.

[8] Buxtehude's Toccata in G Major (BuxWV 164), not mentioned in Marshall's study, would seem to constitute a further "manuals only" organ toccata from Bach's performing repertory. Its earliest source, in the hand of one of Bach's anonymous Weimar copyists, is titled "Toccata Manual: D. Buxtehude," and in no instance does it call for pitches unavailable on the manual divisions of Bach's Weimar organ. For information on the manuscript, see Yoshitake Kobayashi, "Neuerkenntnisse zu einigen Bach-Quellen an handschriftkundlicher Untersuchungen," *Bach-Jahrbuch* 64 (1978): 43–60, esp. 59; and Snyder, 320.

[9] More compelling is Kerala Snyder's notion that Buxtehude originally wrote such works—including his famous F♯-Minor Toccata (BuxWV 146)—for an instrument with well-tempered tuning. See her study "Buxtehude's Organs: Helsingør, Helsingborg, Lübeck" (Part 2: "The Lübeck Organ"), *The Musical Times* 126 (1985): 427–34; reprinted in *The American Organist* 21, no. 5 (May 1987): 75–80.

[10] See Peter Williams, *The Organ Music of J. S. Bach,* 3 vols. (Cambridge: Cambridge University Press, 1980–84), 1:222.

[11] Discussed in Hans Klotz, "Les Critères de l'interprétation française sont-ils applicable à la musique d'orgue de J.-S. Bach?" in *L'interprétation de la musique française aux XVII*ème *et XVIII*ème *siècles,* ed. Édith Weber (Paris: CNRS, 1974), 155–72.

[12] As May himself demonstrates, oddly enough, in his article "J. G. Walther and the Lost Weimar Autographs of Bach's Organ Works," in *Studies in Renaissance and Baroque Music in Honor of Arthur Mendel,* ed. Robert L. Marshall (Kassel: Bärenreiter, 1974), 264–82.

The New Grove Dictionary of Musical Instruments. **Edited by Stanley Sadie.** London and New York: Macmillan Press, 1984.

Musical instruments are among the most intriguing products of human technology and, in certain respects, among the most complex. The simplest of them can exhibit great ingenuity and deftness of construction, and more complex examples found all over the world bear witness to their makers' powers of imagination, aesthetic judgment, and extraordinary technical command. It is also manifest that musical instruments, as producers of sound, are inseparably bound up with the music made on them and that they embody an essential part of the musical cultures from which they spring.

It is difficult to date the beginning of systematic study of musical instruments in Western culture. Writings have come down to us from Classical antiquity with descriptions of instruments and information on their construction and tuning. European civilization since the late Middle Ages has left many detailed treatises on musical instruments, written by men held by the particular fascination that these sounding objects exert. Collections of

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instruments, kept for their beauty and rarity rather than for any practical purpose, began to be assembled as early as the Renaissance, and European scholarly concern for extra-European instruments may be documented as far back as the early seventeenth century. It was in the nineteenth, however, that these cabinets of curiosities came to form the nuclei of public collections, and by the end of the century such pioneering figures as Mahillon, Kinsky, and Chouquet were producing detailed scholarly catalogues of impressive museum holdings. This process of collection, study, and gradual accumulation of knowledge has been continued throughout the present century even though interrupted by the destruction and dislocation of two world wars.

With this continuity of tradition in mind, it is difficult to identify the particular quality of postwar organological research that sets it apart in some measure from the work that preceded it. Perhaps two broad changes in scholarly approach may account for the new avenues of inquiry, as well as the unprecedented amount of activity which characterizes what we might see as a Golden Age in the study of musical instruments. First, scholars seem to have abandoned any remaining vestiges of an evolutionary bias; they now seek to understand historical instruments as a realization of the sonic and musical ideal of the ages in which they were built. The Italian harpsichord, for example, is no longer viewed as a technologically backward excuse for the modern piano or as a mere historical curiosity, but as the elegantly successful technological expression of an earlier culture's musical aesthetic, something to be taken as seriously as the music of that age. This change has made it possible to view historical instruments as integral parts of earlier musical civilizations rather than as primitive physical encumbrances to higher spiritual development.

Second, scholarly perception and understanding of extra-European musical instruments has undergone a similar revolution. It is now over a century since museums began to collect instruments of non-Western cultures systematically, but it is only in the postwar period that a broad scholarly effort has been made to understand these instruments in the context of the cultures in which they were built and played. This approach allows objects that were viewed formerly as exotic curiosities to be understood in the context of the complex human environment that brought them into being. Although scholars now understand more about historical and extra-European musical instruments than at any time in the past, organology is unquestionably a scholarly discipline still in its formative stages. Perhaps all that we can say with confidence is that in the course of this century, and especially during the past four decades, the foundations of knowledge have been well laid.

The recent publication of *The New Grove Dictionary of Musical Instruments,* then, represents something of a milestone in the history of this development, a recognition of organology's important place within the discipline of musi-

cology by one of the most important musical publications in the English language. It will serve as a synopsis of the present state of learning and an important reference tool for future research.

In three volumes, the *Dictionary of Musical Instruments* is one of the larger satellite publications based on *The New Grove Dictionary of Music and Musicians* of 1980 to have appeared thus far. It has the same handsome format, the clear and easily readable layout, and the numerous and generally well-chosen black-and-white illustrations of *New Grove*. It is a general reference work of a quality and detail that has not existed previously, and while it will not entirely supplant works arranged according to instrument families, such as Kurt Sach's *Handbuch der Instrumentenkunde*, it should become a primary reference tool for a great number of scholars. The entries, ranging in size from single sentences ("Harmomelo") to over seventy-five pages ("Organ"), fall into five broad categories covering the instruments of Western art music from classical antiquity to the present, musical-instrument makers ancient and modern, non-Western and folk instruments, experimental and electronic instruments, and the history of performance practice.

The dictionary is also more than a collection of articles reprinted from its larger sibling. A comparison between the two works shows that while some articles have been taken from *New Grove* more or less intact, others have been substantially revised according to the findings of more recent research, and there is a great deal of new material not found in any other Grove publication. Even those articles that seem to have been reprinted without major revision frequently appear in what looks to be a more complete form. Perhaps considerations of space within the original *New Grove* relegated certain paragraphs to oblivion which now appear in the more specialized work for the first time.

The largest and perhaps the most important addition to the *Dictionary of Musical Instruments* is the inclusion of an enormous amount of material on extra-European instruments. The dictionary contains some 10,000 new entries, many of extended length, devoted to traditional musical instruments from all over the world, a coverage without precedent in a single reference work. Articles in this category cover both generic instrument classes ("Bullroarer," "Lamellaphone") as well as an impressive number of single instrument types. Some of the most important instruments of non-Western cultures (e.g., "Gamelon," "Sitar," and "Koto") are given a coverage equal to that accorded to important Western instruments. The instruments are grouped according to the Hornbostel-Sachs classification system and their physical characteristics are clearly described, often with the inclusion of measurements. The social function and position of the instruments within the culture of their makers is also discussed in most entries. Approximately one-half of the illustrations in the dictionary are devoted to extra-European sub-

jects, and despite the occasional intrusion of postcard photography it seems that a great effort was made to obtain unposed photographs of instruments being played by native players in representative settings.

The dictionary also contains an enormous amount of cross referencing to help scholars deal with the staggering number of names for related instruments found in different languages. For example, the short entry under "Dhah," a barrel drum of Nepal's Newari people, refers us to a longer article on the Northern Indian "Dholak." Here a large group of related drum forms common in the northern and central Indo-Aryan language areas are discussed as a family.

The *Dictionary of Musical Instruments* also devotes a certain amount of space to discussion of modern Western musical instruments. A long article traces the development of electric instruments from the eighteenth century to the present and separate entries are devoted to each of the principal types in this category ("Electric Guitar," "Synthesizer," "Computer," etc.). Modern experimental instruments of historical significance are also included, as well as such developments as the sound sculpture and the alteration or "preparation" of existing instruments to serve new musical purposes. Such articles will not be of interest to everyone, but they raise further the historical importance of this work. Indeed, as technical developments in this field are proceeding at a rapid pace, these articles will doubtless soon be viewed primarily as historical documents.

By contrast, the articles covering the instruments of Western art music and the makers of those instruments should find a wide general readership for some time to come. Central among these entries are a number of long monographs devoted to specific instruments and instrument families that figure prominently in the history of Western music. With very few exceptions, these articles seem to be of a very high standard indeed, showing a union of the latest organological and musicological research. The impressive list of contributors contains a great number, although by no means all, of the important organological scholars of the present generation, and British contributions do not outweigh those from the international scholarly community.

In choosing certain articles for praise, I do not necessarily mean to imply that they lie above the general standard, but rather that the general standard is frequently as high as that set by these examples. In any case, such articles as the "Clarinet," "Clavichord," "Guitar," "Harpsichord," "Lute," "Organ," "Pianoforte," "Saxophone," and "Viol" may stand as models for essays useful both to the student and to the specialist. The listings for instrument makers, which include contemporary builders as well, will by no means supplant specialized dictionaries such as Lütgendorff and Boalch, but the coverage of the more important makers is surprisingly broad. The reader will certainly find entries for such important individuals or dynasties as Maler, Niehoff,

Tieffenbrucker, Amati, Denner, Blanchet, Silberman, Stein, Triébert, Boehm, Vuillaume, or Steinway. In an attempt to "stump" the dictionary, I made a list of some twenty instrument makers of moderate historical interest and attempted to find them in the dictionary. With a little searching (van der Biest under "Virginal," for instance), useful references were found in over three-quarters of the cases, a remarkable record for a nonspecialized listing. With only the occasional glaring exception, the illustrations show important representative instruments in good states of preservation and historically significant iconographic sources.

The entries for modern instrument makers reflect the fact that much of the work of these individuals today goes into the creation of "historical" instruments. Yet this is by no means the only field in which contemporary craftsmen are active, and there were some surprising omissions among the listings of modern instrument builders. Indeed, the list of contemporary makers makes a somewhat haphazard impression, as if it had been inserted as an afterthought, and perhaps it betrays a slight English slant. In this connection, one wonders about certain editorial spacing priorities as well. It is astonishing, for example, to find virtually the same three-paragraph space allotted to a contemporary English harpsichord maker and to the important early nineteenth-century Viennese fortepiano maker, Conrad Graf, whose revolutionary instruments Beethoven is known to have admired and played upon extensively.

Finally, we turn to the group of entries concerned with performance practice. This category is a grab-bag of articles taken largely without change from *New Grove* and covers such subjects as "Cadenza," "Slurs," "Musica Ficta," "Notes Inégales," "Ornaments," "Keyboard Music," "Continuo-Playing Techniques," "Temperaments," and so on. The larger articles devoted to specific instruments often include a section on repertoire and the history of playing technique, and these, together with the performance-practice articles, make up a valuable compendium of reference material on historical instrumental playing. Students of early music performance will welcome the inclusion of this material, even though it lies outside of the theoretical bounds of organology. Indeed, one cannot avoid the impression that much of this material was included for no other reason than to increase book sales among performers.

Despite its many excellences, the *Dictionary of Musical Instruments* is not without flaws. A few of the longer articles on instruments seem to fall oddly short of the high standard set by the others. This seems most characteristic of entries that draw heavily upon the traditional wisdom of players and commercial instrument dealers rather than the knowledge accumulated by modern organological scholarship. The long article on the violin is a case in point. The first section, devoted to the physical characteristics of the instru-

ment, begins by extolling the acoustic perfection of "the" violin, which is said to take the human voice as its model. It praises the "emotional appeal" of its sound, with its power for "the expression of moods and effects." What we are being given is not information about the historical reception of violin sound, which would in itself be an interesting area for study, but rather an appreciation of a certain kind of modern violin playing, in a style more appropriate to the introduction of a book on modern violin technique. In fact, there seems to be some confusion throughout the article between an instrument with four centuries of history to be accounted for, and a particular modern school of playing upon that instrument. The discussion of violin construction, written by someone apparently unfamiliar with the trade, seems to have been culled from several out-of-date books and contains a number of commonly repeated errors. The discussion of the "baroque" violin is perfunctory at best and will perpetuate a number of misconceptions for a generation to come. The discussion of early violin technique is not as firmly grounded in the citation of early treatises as one would wish, and it concludes with the rather extraordinary assertion that in earlier violin playing "the left hand was less expressive than it is today, but the right hand was more so." I would be curious to know what evidence the author has uncovered in support of this thesis.

The discussion of technique after 1785 is on more solid ground, but, all in all, this article falls short of the standards set by others. The dictionary also contains separate entries for a number of historical violin makers, many of them contributed by a famous English connoisseur with a deservedly distinguished reputation. Yet these elegantly-written pieces sound more like pages from a mouth-watering auction catalog than entries in an historical dictionary. This reviewer would have preferred more measurements, more label texts, more physical documentation of stylistic influence between makers, with fewer "distinguished sound holes" and less "golden brown varnish."

In fairness, it should be stressed that articles with such shortcomings constitute a small minority. Perhaps the only serious reservations that one might have about the *Dictionary of Musical Instruments* concern material that is absent from its pages altogether. *The New Grove Dictionary of Music and Musicians* contains a long article devoted to the history of musicology as a scholarly discipline, and it was a great disappointment to discover that the *Dictionary of Musical Instruments* devotes only twenty-four lines to the subject of organology. Many of the tools of this discipline are discussed under separate headings, but it seems a pity that the discipline that will be best served by this work should receive so little mention in it. An article discussing the history of organology, its pioneering figures, practical approaches, and theoretical directions, would have been useful to a discipline too often wrapped up in the work at hand to pose larger questions about its ultimate purpose as a branch of musicology. An article along the lines of *New Grove*'s "Musicology" might

have provided both impetus and perspective for a discussion of organology's future directions and goals. One regrets the opportunity lost.

A graver omission is the lack of any articles devoted to historical and modern writings about musical instruments. It seems almost indecent that we must turn to the large *New Grove* to read about the contributions of such central figures in modern organology as Erich Hornbostel, Kurt Sachs, and Sybil Marcuse, especially when the Hornbostel-Sachs classification system forms the basis for describing the instruments cited in the dictionary.

This omission becomes inexcusable when we consider that there is no coverage of the historical treatises on musical instruments, either. We will search in vain for articles on such vital sources as de Zwolle, Virdung, Praetorius, Mersenne, Douwes, Aldung, or Diderot, although these works are among the most important written sources of knowledge on early instruments that we have. Quotations and illustrations from these works are to be found scattered piecemeal throughout the work, but this does little to make up for the lack of treatment of these sources as entities in their own right. I would have been happy to dispense with the reprinting of such articles as "Improvisation" or "Ornaments" from *New Grove* in order to have gained a discussion of the *Syntagma musicum* or the *Harmonie universelle.*

Similarly, the small size of the article on restoration is regrettable. Musical-instrument restoration, more happily known as conservation, has been one of the most important activities of postwar organology and has not only provided much of the detailed knowledge available to the present generation of instrument scholars but much of the inspiration as well. While one finds oneself in almost perfect agreement with the statements made in this short article, the inclusion of a review of the history of musical-instrument restoration—which had dark beginnings indeed—and some examples of modern museum conservation would have been desirable. If for no other reason, a statement of conservation's cautious principles under the imprimatur of the *New Grove Dictionary* would have further encouraged the judicious treatment of historical musical instruments in both public and private possession.

Anyone who has ready access to *The New Grove Dictionary of Music and Musicians* and whose work does not require the more comprehensive *Dictionary of Musical Instruments* will probably be able to make do with the former. Yet the differences between the two works are such that anyone requiring exact information will do well to consult the more up-to-date and detailed *Dictionary of Musical Instruments.* And while *New Grove,* at just under $2,000 for twenty volumes, is priced beyond the dreams of avarice for all but the professional musicologist, the three-volume *Dictionary of Musical Instruments* at around $350 is something that a student or private individual interested in the musical instruments of any of the world's peoples might wish to own.

—*Thomas Mace*