Aspects of Early Major-Minor Tonality:

Structural Characteristics of the Music of the Sixteenth and Seventeenth Centuries

DISSERTATION

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by

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NOTE

Please note the following changes between this document and the dissertation as submitted and approved.

- A few typographical errors have been silently corrected.
- Musical figures have been reset.
- The pagination is entirely different due to font selection and size and to line spacing.
- References in the text and footnotes to specific pages have been adapted to the new pagination.
- Placement of some figures and tables has been altered in order to improve page layout. Additionally, this may have resulted in the resequencing of some footnotes.
- Footnotes have been renumbered in one sequence rather than by chapter.
- During the time that this document has been posted on the web, two correspondents have noted an error in the formula on p. 6. Both give the notation of **2^(4/12)** as correct. It is left to the reader to determine the accuracy of this. And a reference to this note has been added.
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ABSTRACT

The musical theory of Heinrich Schenker was developed for the purpose of dealing analytically with the music of the seventeenth through the nineteenth centuries. More recently, however, several adherents of Schenker's theory have sought to apply it to music from as early as the twelfth century and have claimed that this music is tonal in some way similar to that of the later period. Without exception, though, these theorists have had to modify the theory, introducing new concepts and loosening restrictions, in order to apply the theory to this repertory. These modifications were apparently done without giving the necessary consideration to the effect that they would have on the logical consistency of the theory.

The object of the present study will be the application of a strict interpretation of Schenker's theory to music at the beginning of the period for which it was developed. The strict interpretation is necessary in order to isolate those cases where the theory fails to deal adequately with the music. To the extent, then, that Schenker's theory can be taken as a theory of major-minor tonality, these cases can be considered to be non-tonal.

From Schenker's comments on early music taken from several of his writings, one can extract an evolutionary model for the development of major-minor tonality. Initially, the pitch structure of a composition may be organized no more deeply than the foreground. At this stage, harmonies appear to underlie the surface of the music, but the harmonies themselves are not organized at any more remote level. Subsequently, the foreground harmonies are connected by means of linear progressions in the uppermost voice. At first, these lines would be said to lie at the levels of the middleground nearest the foreground. Ultimately, the hierarchical structure is extended to more remote levels until the background is reached. When the structural organization of a piece is governed by a single linear progression spanning its entirety, the piece can be said to be completely tonal.

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PREFACE

The concepts developed in this document are rooted in the musical theory of Heinrich Schenker. The place of Schenker's theory within the larger world of musical theory has evolved over the years. For quite a while after its introduction, it was a relatively arcane discipline practiced only by those initiated through private study with Schenker himself, or with one of his disciples. Then came a period in which Schenker's theory seemed to be virtually a fad among music theorists. In more recent years, undoubtedly due to the ready availability of a number of Schenker's writings in English, his theory has reached a certain level of maturity.

In the earlier stages of the dissemination of Schenker's theory, there were several attempts to extend the bounds of the applicability of the theory. These attempts and the reactions to them resulted in a general split among the proponents of Schenker's theory into what might be called reformed and orthodox branches. With the maturity of more recent years, however, has come a merging and moderation of the two viewpoints and a willingness to reconsider questions relating to what music the theory should be considered to be applicable to.

The present document is an attempt to give a systematic description to those features of the music of the period of developing major-minor tonality that distinguish it from the music of the preceding era. As a result, the focus is on the music of the sixteenth and seventeenth centuries, although the music of the eighteenth century has not been excluded. In addition, it gives consideration to certain features of the music of the earlier period that did not survive into the period of fully developed major-minor tonality.

Some comments may also be in order as to what this study is *not*. It is not a search for the first tonal composition, nor for the earliest tonal composer. Isolated examples of convincingly tonal compositions can be found rather early, frequently among the output of composers generally regarded as progressive for other reasons.

Neither is this study an attempt to survey the entirety of the music of this period. Such a study would ultimately have to focus, not on individual pieces of music with their distinctive characteristics, but on groups of pieces. Compositions would be assigned to categories, ignoring certain of their characteristics and regarding others. While such an approach might be useful to show trends, it seldom produces insightful observations on individual compositional practice.

CHAPTER I

Introduction

Problems of Terminology

The usage of such terms as *tonality* and *harmony* in current music-theoretic discussion can be problematic and, in certain cases, a significant amount of confusion is generated by failure to clarify the use of these terms. The following discussion is an examination of some of the conceptual difficulties related to these particular terms and an attempt to define them in the context of the present study.[1]

Tonality

The word *tonality* (and its adjectival form *tonal*) is employed as both a general and a specific term. The adjective *tonal* has at least two quite distinct meanings. The term is evidently formed etymologically from the nominal form *tone* and is, in that case, a reference to a single pitch or sound. One seldom mistakes the use of the term with this connotation. Carl Dahlhaus attributes the widespread use of *tonal* in this connection to the necessity of its employment as an adjective for such related expressions as *note* and *pitch*, which lack adjectival forms.[2]

Another use of the adjectival expression *tonal*, and the use more of interest here, is normally linked to the nominal form *tonality*. In this sense it means "exhibiting the characteristics of tonality." The use of *tone* and its cognates in various western languages as a synonym for *key* or *mode*, particularly prevalent in English in the 16th and 17th centuries, may be the basis for this usage.[3]

The ambiguity caused by the indiscriminate use of the term *tonality* can apparently be traced to conflicting usage of the term by the two prominent nineteenth-century theorists,

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[1] Schenker made much of the importance of establishing terminology. See, for example, Heinrich Schenker, *Free Composition*, trans. Ernst Oster (New York: Longman, 1979), 25. "The assignment of names to concepts is of utmost importance in intellectual discourse." It is fortunate that he devoted such care to this, given the profusion of technical terms that his approach generated.

[2] See Carl Dahlhaus, "Tonality," in *The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie (London: Macmillan, 1980), 19:52.

[3] See, for example, Thomas Campion, *A New Way of Making Fowre Parts in Counter-point*, ed. P. Vivian (Oxford: Clarendon Press, 1909), 213. The second chapter of this text, entitled "Of the Tones of Musicke," deals with "Key or Moode, or Tone, for all signifie the same thing."

François Joseph Fétis and Hugo Riemann.[4] Fétis's concept was of a variety of *types de tonalités* that would embrace the variety of world musics and his concern was with developing a theory of one of these, the one that would have been known to him as "modern music." Although Riemann was concerned with developing a theory that would encompass all of these "tonalities," his theory was so narrowly focused that it was generally accepted as applicable only to Western music of the seventeenth through the nineteenth centuries. The conflict would seem to be between the desire to create a theory that is all-encompassing versus the willingness to accept a theory limited in scope to a more narrowly defined body of literature and to allow for multiple theories when necessary. The conflicting viewpoints of Fétis and Riemann continue to be played out in contemporary music-theoretic discussions.[5]

Dahlhaus, in his article on tonality in the *New Grove*, discussed seven definitions of *tonality* that he feels have been used. These definitions range from the very general concept of any relationship between pitches to the quite specific notion of the major-minor system of harmonic tonality.

Dahlhaus's first and most general definition of *tonality* is as a reference to "relationships between pitches (as distinct from rhythmic or dynamic phenomena)."[6] This is so general, in fact, that it should be considered to be a "pre-structural" concept. One seldom finds the nominal form *tonality* used with this connotation, but, as noted above, the adjectival form *tonal* is commonly used in this sense.

The second concept of *tonality* that Dahlhaus discussed was "any association of notes based on the principle of consonance."[7] He noted that this usage was prevalent among ethnomusicologists. This is perhaps the most primitive notion of tonality that has structural implications. It is to this concept that we may have to return for a definition of tonality in general.

Dahlhaus's third usage of *tonality* is as "a generic term for the modes as well as the major-minor system."[8] Although one might imagine at first that he has in mind the notion

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[4] Carl Dahlhaus, *Studies in the Origin of Harmonic Tonality*, trans. Robert O. Gjerdingen (Princeton, N.J.: Princeton University Press, 1990), 17; originally published as *Untersuchungen über die Entstehung der harmonischen Tonalität*, Saarbrücker Studien zur Musikwissenschaft, Bd. 2 (Kassel: Bärenreiter, 1968); all subsequent citations are to the translation.

[5] See, for example, William Thomson, "The Problem of Tonality in Pre-Baroque and Primitive Music," *Journal of Music Theory* 2 (Apr. 1958): 36-46. Thomson argues for a broad view of the term *tonality* and attributes the narrow view to historical musicologists and twelve-tone composers. For a more recent work that takes much the same viewpoint, see Richard Norton, *Tonality in Western Culture: A Critical and Historical Perspective* (University Park: Pennsylvania State University Press, 1984).

[6] Dahlhaus, "Tonality," 52.

[7] Ibid.

[8] Ibid.

of diatonicism, this is apparently not the case. He goes on to say that *tonality* in this usage is

> a complex of pitch relationships, which is on the one hand not so general and elementary as a tonal system, and on the other not so specific and distinct as a motivic structure. Neither a 12-note row nor heptatonic diatonicism is, in this sense, a tonality.[9]

This definition is, unfortunately, more confusing than it is helpful. The expression "tonal system" in this passage is problematic. Apparently a technical term unfamiliar to English-speaking musicians, it would seem to be a literal translation of the German term *Tonsystem*. In Dahlhaus's article on that topic in *Die Musik in Geschichte und Gegenwart*, he defines the term as "a grouping of intervals" [eine Zusammenstellung von Intervallen].[10] Throughout the article the concept is presented as an abstraction of intervallic relationships of which a scale might be a representation. A system of composition based, not on a particular collection of notes, but on melodic formulae would also be a "tonal system" as he seems to conceive the idea.

Even with this substitution, the definition still does not achieve clarity. Were it not for the explicit denial of the idea of diatonicism as the sense of the definition, this would seem to be the obvious meaning of the passage. One aspect of this conception of tonality that does seems clear is that it does not assume the presence of a "key note" or "tonic." This conclusion is based on Dahlhaus's established progression from general concepts to specific ones in this discussion and on the unequivocal introduction of the concept of key note in the next definition.

The fourth definition of tonality discussed by Dahlhaus is "a system ... where the most important element is a tonic or central note (or chord)."[11] With this concept, we arrive at the definition perhaps the most commonly accepted for a general notion of *tonality* and is also the definition suggested below (see below).

Dahlhaus's fifth definition, stated succinctly as the "major-minor system of the 17th to 19th centuries" is probably the commonly accepted definition for a specific notion of *tonality*.[12] It is not clear, though, how this definition differs from the next one, the sixth, which is expressed as "a tonality reaches further than the note content of a major or minor scale, through chromaticism, passing reference to other key areas, or wholesale modulation."[13] This definition does not seem to introduce any elements distinctly different from his fifth. In order to distinguish the two definitions, it seems that one must revise the understanding of the former so that it limits *tonality* to being a simple diatonic key with

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[9] Ibid.

[10] Carl Dahlhaus, "Tonsystem," in *Die Musik in Geschichte und Gegenwart: Allgemeine Enzyklopädie der Musik* (Kassel: Bärenreiter, 1966), 13:533.

[11] Ibid.

[12] Ibid.

[13] Ibid.

minimal or no alterations. This, however, results in an untenable characterization of the music of the seventeenth to nineteenth centuries.

Dahlhaus's seventh definition seems to introduce a philosophical element into the discussion. Expressions such as "the essence of tonal relationships" and "the underlying element of a tonal structure" certainly seem to create a philosophical atmosphere.[14] But, in reality, they fail to contribute anything of significance. The problem of circular definition also arises with the use of such expressions as "tonal relationships" and "tonal structure."

There can be no doubt that the term "tonality" has been used in all the various ways that Dahlhaus describes and even in the many shades of meaning that lie between his categories.

Tonality in general

The general sense in which music can be tonal is the sense in which the pitch content of a piece, or a portion of a piece, appears to be organized in such a way that a single pitch class is projected as primary. Approaching the term from a compositional rather than an analytic point of view, Apel provided the succinct definition "loyalty to a tonic."[15] In this general sense, much of the music of Western civilization, at least from the period of Gregorian chant until the beginning of the twentieth century (and including much of the music of the twentieth century), is tonal. Much of the music of non-Western cultures may also be tonal in this general sense.[16]

If there is a single factor common to generically tonal music, it is an underlying basis in the conceptual polarity of consonance and dissonance. Numerous difficulties are encountered, however, when the question of just what consonance and dissonance is raised. Issues relating to mathematical and acoustical properties are entwined with psychological and perceptual ones. One can, for example, come to some notion of the relative consonance of two intervals or chords by examining such properties as the harmonic (or idealized) overtone series of the notes involved, but all this accomplishes is the location of the intervals or chords on a continuum of consonance and dissonance. And while the notion of a continuum of consonance and dissonance reflects some intuitive sense of the problem, it ignores the equally valid and apparently contradictory sense of two distinct and mutually exclusive categories of consonance and dissonance.

Equally vexing is the problem of why different systems of tuning and temperament do not fundamentally alter one's perception of consonance and dissonance. All tunings and temperaments contain certain intervals that vary from the simple harmonic ratio that serves as the model for that interval. In some cases, the result is a complex ratio; in

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[14] Ibid.

[15] Willi Apel, "Tonality," *Harvard Dictionary of Music*, 2nd ed., rev. and enl. (Cambridge, Mass.: Belknap Press of Harvard University Press, 1969), p. 855.

[16] This is frequently claimed to be the case. See, for example, Thomson, "The Problem of Tonality," 36.

other cases, the relationship is irrational. For example, a justly intoned major third has the ratio 5/4, most Pythogorean major thirds have the ratio 81/64, and all major thirds in equal temperament can be described by the formula $4 \times \sqrt[12]{2} \,/\, 1$ [See note about this forumula on the copyright page]. Nevertheless, in a musical context each of these intervals is generally interpreted as a consonance.

The assertion above would appear to hold for the period of major-minor tonality, when the various tunings and temperaments in use can be taken as being approximations of just intonation. There may, however, be a connection between the complex ratio for a Pythagorean major third and its dissonant status in medieval polyphonic theory.

Yet another aspect of the problem is the historical fluidity of the line between consonance and dissonance. In one style period, a given sonority might be considered dissonant, while in another that same sonority might be considered consonant. As a rule, the trend has been toward moving sonorities from the dissonant to the consonant category. In early medieval polyphony, for example, only the perfect intervals were considered consonances, while thirds and sixths were considered dissonances. Through time, however, thirds and sixths came to be treated as consonances. The fourth appears to have traveled the path in reverse, initially being considered a consonance and later a dissonance.[17]

In what is perhaps the most thorough treatment of the problems associated with this topic, Norman Cazden extricated the concept of consonance and dissonance from the related notions of "tunability" and "euphony." These latter concepts are properties of sonorities irrespective of a musical context. Tunability, according to Cazden, refers to "the distinctive property of ready agreement [or] accord ... found in certain intervals designated as perfect."[18] Euphony "refers ... to the overall psychoacoustic quality of a sonority isolated from any musical context" and "encompasses the relevant and differential degrees of blending, fusion and coincidence among fundamentals, partials, combination tones and inharmonics."[19]

Consonance or dissonance, on the other hand, is a function of a musical moment. Cazden concludes that

> musical consonance and dissonance are thus functions and not properties of things. As functions, they exhibit a polar opposition. Consonance refers to the stable moment following upon the resolution of

[17] A case can be made, however, for considering the fourth to be a consonance throughout these periods. One could interpret the dissonance in the "dissonant fourth" as being located, not between the bass and the note a perfect fourth above, but in a relationship with another voice at the interval of a second or seventh.

[18] Norman Cazden, "The Definition of Consonance and Dissonance," *International Review of the Aesthetics and Sociology of Music* 11 (1980): 162.

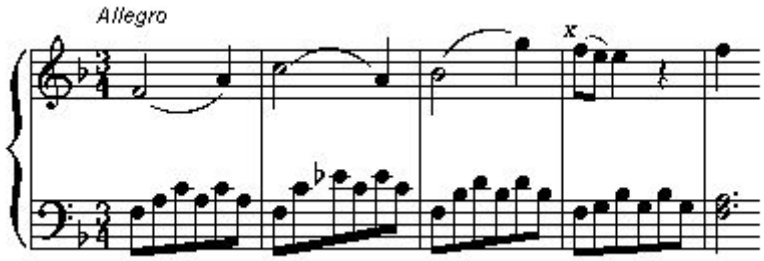
[19] Ibid., 153-154.

> dissonance, while dissonance means the unstable moment calling for resolution to consonance.[20]

From this and other evidence in Cazden's study, it would appear that his conception of consonance and dissonance presumes a hierarchal structure in music. The notion of an unstable event that requires resolution has embedded within it the assumption of a more remote level. The instability is not so much an inherent quality of the expressed discord so much as it is a conflict between the expressed discord and the underlying model.

An example drawn from Cazden's study is instructive in this regard. Cazden's comment is that at the beginning of the fourth measure of Figure 1, "at *x* it may also be seen how a perfect octave relationship may provide the dissonating moment of a conventional *appoggiatura*."[21]

> Figure 1. W.A. Mozart: Sonata for Piano, K. 332, beginning. From Cazden, "Consonance and Dissonance," 158.



Cazden's point in this example is that any combination of notes, even one traditionally viewed as consonant, can be perceived as unstable in a given context. What is more fascinating in this example is the fact that it can be viewed at several different levels. At the surface level, F is indeed an unstable element. At a more remote level, F can be taken as the stabilizing element of the whole passage.

The diatonic collection (or subsets of it) is frequently said to be the basis for music that is tonal in this general sense. In this connection, the diatonic collection has three significant properties:

1. It affords a clear distinction between adjacency and non-adjacency, that is, steps and skips. Since the largest adjacency is two semitones and the smallest non-adjacency is three semitones, there is no intervallic relationship within the system that must be considered both an adjacency and a non-adjacency. Furthermore, for each constituent of the collection, there are two and only two other members of the collection to which it is adjacent.[22]
2. It provides a rich variety of relationships among its constituents, to the extent that each is unique in its relationships with the others of the collection. Browne notes

[20] Ibid., 166.

[21] Ibid., 157.

[22] Hence one of the common uses of the term *diatonic*.

that the diatonic collection "contains a full range of intervallic ubiquity," that is, that each intervallic relationship occurs a unique number of times.[23]

3. It maximizes consonant (or, in Cazden's terminology, euphonious) relationships among its constituents. This is to say that, except for the single occurrence of the tritone, each note of the diatonic collection is consonant with all others to which it is not adjacent.

Music that is ostensibly atonal is, needless to say, problematic. In atonal music, as well as its borderline tonal precursors, one frequently finds dissonant chords (dissonant, that is, according to the terminology of tonal theory) given apparent structural priority. This raises the interesting question of: In what sense is the assumption of some arbitrarily dissonant structure as the referent of the system different from the assumption of a consonant structure as the referent?

The answer lies in how the system is developed based on this *a priori* assumption. The development of a diatonic system based on a tonic harmony of a minor triad, for example, would proceed with the generation of adjacencies based on replication of relationships contained within the tonic harmony.

The application of this model to hypothetical tonic harmonies of, for example, a half-diminished seventh chord or a [0,1,3,4] tetrachord presents immediate difficulties. In particular, it is unclear how one would generate adjacencies from such starting points or even how one would determine what an adjacency is. It is obviously beyond the scope of the present study to examine this problem in any depth.[24] It is clear, however, that the development of such a system must proceed along radically different lines than would a triadic system. Indeed, it would seem that the resulting system could no longer be called *tonal*.

At the very least, the conventional notion of atonality contains embedded within it an assumed definition of tonality. This implicit definition of tonality casts it as a general concept, rather than as a specific one.

Tonality in specific

In a more specific sense, the term *tonal* is limited in application to Western art music during the period roughly between 1600 and 1900. Expressions often used in connection with this period include: common practice, major-minor tonality, harmonic tonality, classical diatonic tonality. There have been numerous attempts to define a theory for this music, from early attempts well within the period in question (for example, Rameau) to the numerous attempts in the latter part of the twentieth century (for example, Lerdahl and Jackendoff).

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[23] Richmond Browne, "Tonal Implications of the Diatonic Set," *In Theory Only* 5, no. 6-7 (July-August 1981): 6.

[24] For in interesting study of this problem, see Joseph N. Straus, "The Problem of Prolongation in Post-Tonal Music," *Journal of Music Theory* 31 (Spr. 1987): 1-21.

That this one period has had so much attention paid to it is attributable more to the preferences and prejudices of the theorists involved than to the nature or quality of other musics. There are certainly other portions of the body of generically tonal music that can be isolated and defined systematically by a theory. The modality of Gregorian chant and the modality of Renaissance polyphony are good examples. Even within one of these groups, further subgroups may be defined and theories for them developed. To be sure, there will be similarities among these various theories, just as there are similarities among the musics of the groups.

One of the more systematic, as well as artistic, theory of major-minor tonality is that developed by an Austrian theorist of the early twentieth century, Heinrich Schenker. The value of Schenker's theory as a tool for the study of the early history of tonality will be considered in the following chapter.

Schenker, with his hierarchical view of musical structure, introduced a new term into the discussion. He defined *diatony* as "the content of the fundamental line, counterpointed by the bass arpeggiation," and characterized it as "the fundamental, determinate melodic succession."[25]

> In contrast, tonality, in the foreground, represents the sum of all occurrences, from the smallest to the most comprehensive–including illusory keys and all the various musical forms.[26]
>
> I have used the term tonality to include the various illusory effects in the foreground; yet the tonal sparseness of diatony in the background and the fullness of tonality in the foreground are one and the same.[27]

The distinctions here are vaguely reminiscent of those Dahlhaus seemed to be making in his fifth and sixth definitions of tonality (discussed on page 5 above). Here, however, one is not dealing with competing definitions of *tonality*, but rather with different aspects of the structural organization of pitch.

Needless to say, Schenker's distinctions have not caught on in current music-theoretic parlance, the term *tonality* being, in effect, dragged into service for both concepts. The value of the quotes above is to alert one to the many levels of meaning frequently embedded in the term *tonality* in its specific sense.

Several theorists, principally Felix Salzer and Saul Novack, have sought to apply Schenker's analytic method to music written in the twelfth century and earlier, significantly before any generally accepted date for the beginning of major-minor tonality. Their position, in general, is that this "early music" possesses the essential features of tonality, primarily hierarchical structure, while differing from the tonal music of later eras

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[25] Schenker, *Free Composition*, 5.

[26] Ibid.

[27] Ibid., 11.

at only a stylistic level. The arguments offered in support of this position will be considered in the following chapter.

Conclusion

Lloyd Hibberd, in his early study of terminological problems relating to the concept of tonality, pointed out the confusion caused by indiscriminate use of *tonality* in both a general and specific sense. "These two uses, the general and the special, have created much misunderstanding, and, without discursive explanation for each occasion, will doubtless continue to do so unless a different name is given to each."[28] Hibberd goes on to recommend a reform in music-theoretic nomenclature. He suggests that *tonality* be reserved for the specific meaning, arguing that "the broader concept itself is relatively recent, and can more conveniently cede its claim."[29] He also offers the term *tonicality* for the more general sense. As is frequently the case with efforts to change the behavior of others by means of argument, these suggested reforms did not catch on.

It appears that the use of *tonality* as a general term is too well entrenched in musical discourse to be successfully displaced. There must, however, be a limit to the application of the term if it is to remain useful. As Cazden observes,

> If the term tonality be stretched to encompass any and all ways of organizing and dealing with musical tones ... that term thereby loses any verifiable reference to the particular characteristics of whatever musical practice it was intended to elucidate.[30]

Some would argue that the restriction of the use of the term *tonality* to its specific sense implies a pejorative distinction that denigrates the music of the periods immediately preceding the period of major-minor tonality. Their argument would be that such a restriction would reduce the value of the music of the Renaissance and earlier to that of being a precursor to major-minor tonality.[31] The difficulty here derives from the conflicting views of Riemann and Fétis and the clash between the specific and general uses of the term *tonality*.

The tonality of the seventeenth through nineteenth centuries and the modality of the immediately preceding era are two styles whose differences and similarities have been much debated. The distinctions between the two, proposed and championed by some and decried by others, must be drawn nevertheless. This is because there are real and significant differences between the two musics. The terminology frequently used to make the distinction is unfortunate. The confusion between the general and specific uses of the term *tonality* gives the impression that major-minor tonality is the culmination of the

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[28] Lloyd Hibberd, "'Tonality' and Related Problems in Terminology," *Music Review* 22, no. 1 (1961): 15.

[29] Ibid.

[30] Cazden, "Consonance and Dissonance," 148-149.

[31] Heinrich Schenker was, unfortunately, one who would have encouraged such a viewpoint.

development of Western music (that is, of tonality in its general conception). The implication of this formulation is that modal music is in some sense inferior to major-minor tonal music. Questions of the relationships between Renaissance modality and major-minor tonality will be considered more fully in Chapter V.

For the purposes of the present study, the expression *generic tonality* will be used to refer to the general property of music that seems to possess a central pitch class. The unmodified term *tonality* and the more precise expression *major-minor tonality* will be used interchangeably to signify to the more specific organizational properties that permeated the music of Europe during the eighteenth century. These properties are generally thought to have become prevalent early in the seventeenth century, although earlier examples can be found. Certainly, some of the organizational principles governing music immediately prior to the seventeenth century, commonly referred to as *modality*, continued to be in evidence for some time.[32] The organizational properties of the eighteenth century continued as the basis for most of the music of the nineteenth century. Continuing evolution introduced changes that eventually brought about a crisis that resulted in the abandonment of tonality in general.

Harmony

The term *harmony* is another term that is frequently used in contemporary music-theoretic discussion with little precision. Here, too, there is a confusion between general and specific uses of the term. In its general sense, *harmony* has a long history as the term applied to the study of musical composition. This usage may derive from the origins on musical scholarship among the ancient Greeks, who considered music to be a mathematical discipline focusing on the study of proportion. In this connection, a harmonic relationship is one characterized by a superparticular ratio between integers.

The term *harmony* has also been used in a more specific sense to denote some particular element of music. It is the numerous uses of the term in this latter sense that are of interest here. Possibly the most prevalent use of the term *harmony* is as "simultaneity" or "chord." Cases where these three terms are truly used synonymously merely represent unclear thinking. One can, however, define these related terms in such a way that some very useful distinctions are made.

- *Simultaneity* – a group of notes presented in such a way that they sound together, but not necessarily evaluated as a unit.
- *Chord* – a group of notes assembled into a unit for purposes of evaluation, frequently but not necessarily presented as a simultaneity. Commonly distinguished from *interval* in that the latter evaluates a group of two and the former a group of three, or possibly more, notes.

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[32] The term *modality* is used with as much looseness as is *tonality*. Even though there are similarities, the organizational principles of Gregorian chant and of Renaissance polyphony are not the same. For a thorough study of the modality of Renaissance polyphony, see Bernhard Meier, *The Modes of Classical Vocal Polyphony: Described According to the Sources, with Revisions by the Author*, tr. Ellen S. Beebe (New York: Broude Brothers, 1988). For a new approach to the study of the problem of pitch organization in the Renaissance, see Harold S. Powers, "Tonal Types and Modal Categories in Renaissance Polyphony," *Journal of the American Musicological Society* 34 (1981): 428-470.

- *Harmony* – a chord referential with respect to the system.

The adjective *harmonic* is employed, then, in reference to the process of evaluating notes with respect to each other.

Teachers of music fundamentals often use *harmony* rather nebulously as "the opposite of melody." An example of this is the usage common among teachers of basic musicianship of "harmonic intervals" as distinguished from "melodic intervals" in aural training exercises. The distinction that they are apparently trying to make is between simultaneous and successive presentation of pitch information.

The term *harmony* is also used to denote a predefined class of chords. This usage is typically associated with the nineteenth-century theorist, Hugo Riemann. Riemann developed a theory of harmonic functions, identifying three: Tonic, Dominant, and Subdominant. Each function had associated with it, besides the triad built on that degree, those whose roots lie a third above and a third below it. Additionally, each chord could undergo various chromatic alterations, as well as the introduction of certain dissonances, while retaining its function.

The usage of the term *harmony* in this present study, however, derives from Schenker's use of the term *Stufe*.[33] Schenker's usage has two aspects, the first of which was clear in the earliest of his theoretical writings, the second of which depended upon the development of his theory of structural levels.

This first aspect is that of a diatonic scale degree and the many pitch relationships associated with that degree. This concept may be rather older than Schenker. Gjerdingen, in the "Guide to terminology" in his translation of Dahlhaus's *Studies on the Origin of Harmonic Tonality*, refers to *Stufentheorie* as a "tradition antedating Riemann." "*Stufe* is an ambiguous term. Literally 'step' or 'scale degree,' it connotes not only the diatonic triad on a particular scale degree but also that degree as the harmonic root of several possible chords and as a participant in one or more fundamental progressions, somewhat like a Roman numeral in English theory."[34]

The most fundamental of these relationships are those contained within the diatonic triad based on that degree (although Schenker finds that an inherent conflict exists when this diatonic triad is not major). Also included as other qualities of relationship are the other scale degrees within the key, as well as notes in other keys within which the scale degree may function (that is, notes chromatic with respect to the key in question, but derivable by means of tonicization or mixture).

The second aspect of Schenker's notion of *Stufe* is that of a conceptual structure underlying or being expressed by some passage of music. Although this concept was present in Schenker's earliest writings, specifically in *Harmony*, it was not until his theory

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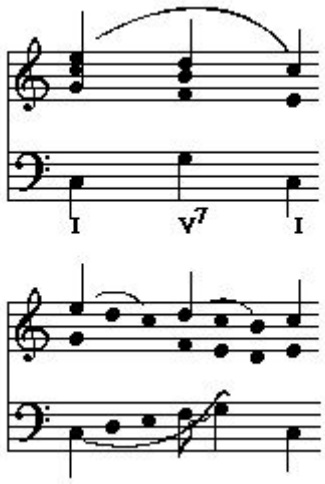
[33] Roger Sessions was perhaps the first to suggest the use of *harmony* as the English rendering of *Stufe*. See his, "Heinrich Schenker's contribution," *Modern Music* 12, no. 4 (1935): 171.

[34] Dahlhaus, *Studies in the Origin*, xiv.

of structural levels was complete that this notion reached its fullest development.[35] In this sense, a harmony is the result of composing-out a chord of some prior structural level and may be represented at the subsequent level by several chords, or only by ostensibly melodic material.

Figure 2. Composing-out of harmonies.



The prior level in Figure 2, notated on the upper system, is composed of chords. Through the process of composing-out, the results of which are notated on the lower system, those chords are converted into harmonies. A harmony, then, is the expression of a chordal construct through multiple levels of structure. With these ideas in mind, one can then refine the definition of *harmony* on page 20 above to read "a nexus of pitch relationships referential with respect to the system." The term *harmony* will be used in the present study in this way.

The use of the term *harmony* by those who first presented Schenker's theory in English, Felix Salzer and Adele Katz, was rather idiosyncratic.[36] In view of the fact that Schenker was indeed introducing some new concepts into the discussion, this may not be surprising. Their use of the term, however, did not really coincide with Schenker's, being essentially an attempt to reduce it to a formula. According to their formulation of the theory, designated as "Structure and Prolongation," a chord would be determined to be a harmony if it functioned as a member of one of five basic progressions. To be sure, Salzer and Katz had a difficult enough task in introducing the notion of structural levels to English-speaking musicians. It is unfortunate, though, that they felt it necessary to oversimplify the concepts in their presentations.[37]

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[35] See Schenker, *Harmony*, 138-139.

[36] Felix Salzer, *Structural Hearing: Tonal Coherence in Music* (New York: Charles Boni, 1952; reprint, New York: Dover Publications, 1962); Adele Katz, *Challenge to Musical Tradition: A New Concept of Tonality* (New York: Knopf, 1945).

[37] For a discussion of the concepts of Structure and Prolongation according to the formulation of Salzer, see Chapter Two below.

Early Studies of Transitional Tonality

The earliest studies of transitional tonality, undertaken in the 1950's, were typically attempts to survey the entirety of the Baroque repertory. Usually presented in the form of dissertations, these studies were characterized by their treatment of large numbers of compositions and their reliance on statistical analysis for determining the extent to which tonality had penetrated the works of a given period or composer.

Robert W. Wienpahl

Wienpahl's two-part study of the rise of tonality provides a statistical view of the changes in compositional practice in the two-hundred-year period from 1500 to 1700.[38] Based on his assignment of over 5,000 pieces to such categories as modal, mixed major, mixed minor, tonal major, and tonal minor, he charts the decline of modality and the rise of tonality. A mixed key is defined as "a mixture of tonal and modal elements which defies a clear decision," occurring in "a composition which proceeds now tonally and now modally or both simultaneously."[39] Wienpahl later substitutes the coined terms "monal major" and "monal minor" for the categories of mixed major and mixed minor, respectively.

The success of his effort clearly depends on the subtlety of the definition of the categories and the rigor with which they are applied.

Wienpahl enumerates the following nine "elements" of modality:

> (1) Indecisive beginnings; i.e. a failure to begin in what is later called the key of the piece.
>
> (2) Incomplete key signatures; carried well into the tonal period, thus to be viewed with caution.
>
> (3) Added accidentals; whether used in a functional, tonal sense for true modulation, or in an expressive, modal, melodic sense. ... the introduction ... of added accidentals in an expressive sense destroys modality ... [but] does not necessarily therefore produce tonality.
>
> (4) The question of imitative entries; i.e. do the voices answer in a fugal, tonal manner in the 'dominant key', or modally, as at the octave or fourth, with no pretence of establishing a key.

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[38] Robert W. Wienpahl, "Modality, Monality and Tonality in the Sixteenth and Seventeenth Centuries," *Music and Letters* 52 (1971): 407-417; 53 (1972): 52-73. These articles are based substantially on Wienpahl's dissertation, "The Emergence of Tonality" (Ph.D. diss., University of California at Los Angeles, 1953). Because the articles are more readily available than the dissertation, they will be used as the basis for the following discussion.

[39] Wienpahl, "Modality, Monality and Tonality" Part 1, p. 408; 411.

> (5) Sectional and phrase relationship; i.e. do phrases and sections end on closely related 'keys' in a tonal way, or pause on distinctly related notes without modulation? ...
>
> (6) Emphasis on the non-tonal degrees of *fa* and *la*; it is a surprising fact that, although the dominant is considered the next most important step in a mode, there is a very considerable effort to avoid its use during the course of a melody.... The modal, melodic concept ... avoids setting up such strong points [as tonic, dominant, and subdominant], and in fact remains true to the hexachordal principle which dominated modal thinking from the time of Guido d'Arezzo. It should be noted that the hexachord ended with *la* or made its mutation at *fa*. There can scarcely be a more reasonable explanation for the modal stressing of these degrees.
>
> (7) Closely allied with this treatment is the modal use of the flat seventh. At the final cadence the sharp seventh is practically mandatory under the rule for the major sixth preceding the octave. Melodically, and thus, primarily modally, the case is quite otherwise. In line with the hexachordal approach is the well known rule: 'Una nota supra la semper est canendum fa'. This produces the flat seventh as the upper auxiliary as a general practice in purely modal music....
>
> (8) The lack of strong harmonic progressions in the tonal sense; a result of melodically conceived music which deals with intervals between parts rather than chords above a bass....
>
> (9) Cadences; these are the strongest tonal features of the modes. Their clarity of conception is purely evolutionary and is probably the greatest single factor in the dissolution of several modes into two keys. ... Furthermore, full intermediate cadences result in at least transient modulations–a concept completely foreign to modality.[40]

Wienpahl's first element of modality seems to imply that modal compositions commonly begin with a pitch other than what one might want to call its tonic, whereas a tonal composition usually does begin with its tonic. It is clearly the case that the key of a piece must be established at some point, if the piece is going to be in a key (that is to say, tonal). It is not the case, however, that tonal pieces must begin with the tonic chord or even in the key of the tonic.[41] This is confirmed by numerous examples from the mature tonal period, such as Beethoven's *First Symphony*, which begins on an altered tonic chord as a tonicization of the subdominant, and Chopin's D♭ major *Scherzo*, which begins with an extended passage in the relative minor, B♭ minor, and is even supposed by some to be in that key. Schenker even criticized Bruckner for his inability to begin a

[40] Ibid., 409-410.

[41] At the most remote level, however, all tonal compositions begin with the tonic harmony. It is through prolongations at levels nearer the surface that other chords may be introduced.

piece with a prolongation of something other than the tonic.[42] There are two points in Wienpahl's favor, though. First is the decided tendency in the early period of major-minor tonality to begin a piece with the tonic harmony. Second is the relative freedom exhibited in the beginnings of modal compositions. Nevertheless, many modal compositions do begin with the final.

The second and third elements of modality appear to deal with aspects of musical notation. The second deals only with notational convention, a superficial characteristic of a piece, and is therefore not particularly useful for identifying a composition as modal. In fact, the signatures are incomplete only with respect to the tonal system (a curious tonal bias) and, even then, only according to the convention of composers from about 1700 and later.

Accidentals, too, are a notational feature; the alterations that they may introduce, though, may be quite relevant. Two types of chromaticism that one might typically find in modal composition were prescribed by the theory of the time. A leading tone formed by the raised seventh degree of the mode was frequently introduced in cadential passages. This would have been caused by the prescription for forming cadences in two parts by progressing from a major sixth to an octave or from a minor third to a unison. The lowering of the diatonic B to B♭, another common sort of chromatic alteration, generally took place in situations where F was given some priority. The rule for avoiding *mi contra fa* would have caused this alteration. Both of these types of chromaticism tended to turn the piece in the direction of major-minor tonality, but were not sufficient in themselves to complete the change to tonality. On the other hand, some incipiently tonal compositions do contain apparently unsystematic chromaticism that might be characterized as "expressive." Carried to an extreme, this tendency can produce music, like some of that by Gesualdo, that is neither strictly modal nor tonal.[43]

Imitative entries, the question addressed in the fourth point, are an important consideration. The actual interval of imitation, while relevant to the compositional process, is not a primary determinant of the tonality of a fugal composition, nor is necessarily the "dominantness" of the answer. For example, in the exposition of the fugue in J.S. Bach's *Toccata and Fugue* in D minor, a piece presumably to be considered as tonal, the answer is at the fourth above, answering the dominant of the subject with the tonic, but is in the key of the subdominant. The more important question in all of this is: Do the imitative voices serve to establish the key by expressing the tonic harmony through several levels of structure?

As Wienpahl seems to imply, the issue of tonal versus real answer seems to be involved in this question as well. The increasing use of tonal answer during the sixteenth century is certainly evidence for a progressing sense of tonal awareness on the part of the

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[42] Schenker, *Free Composition*, 89, note 1. "Anton Bruckner was not capable of starting a musical thought, much less a whole first movement, with the aid of an auxiliary cadence. Thus the impression of a rigid succession of thought in his work: the ideas usually come in blocks, each one with a new tonic at the beginning."

[43] Note the implication that modal compositions use essentially pure scalar forms. In later periods, when composers wished to compose "modal," or perhaps one might say "neo-modal," music, they would typically avoid chromaticism very strictly.

composers of the period and is a useful measure of the development of major-minor tonality.

Wienpahl's fifth and ninth points, concerning key relationships and cadences, are significant. The methods for establishing secondary cadence points are distinctly different in modal and in tonal music, and this difference is a very important criterion for distinguishing the two. In modal music, it is typically the case that the focal note for the secondary cadence exists in the primary mode of the composition and that it is treated as the final of the mode based on that note in the prevailing diatonic system.[44] This results in essentially no chromaticism other than the *musica ficta* necessary to effect a cadence.

The process is somewhat different in tonal music. The mode (major or minor) of the secondary key is determined by the quality of the triad occurring naturally on that degree in the primary key. The five possibilities for a given primary key are identified in conventional theory as the "closely related keys." A minimal amount of chromaticism is required to bring about a modulation to one of these keys.

For example, a piece ending on a D-minor chord in the modal period would be considered to be in Dorian mode. Any passage that focused on G in that piece would effectively be in Mixolydian mode and would likely exhibit B♮'s throughout. Conversely, a piece ending on a D-minor chord in the period of major-minor tonality would probably be considered to be in D minor. A passage that focused on G in that piece would be in G minor.

Schenker referred to this process as *tonicization*. When he introduced the term, Schenker distinguished *tonicization* from the notion of modulation that was current at that time.[45] He characterized that concept as "a complete change from one key to another" that is "so complete that the original key does not return."[46] The use of *modulation* has evolved somewhat since then and now incorporates much of Schenker's original conception of *tonicization*. At more remote levels, tonicization is effected by means of the transferal of the fundamental structural forms, that is, through compositional procedures analogous to those that establish the key of a composition as a whole. At surface levels, though, tonicization can be effected simply by the introduction, chordally or melodically, of an altered tone that is unique to the secondary key.

Wienpahl's sixth and seventh elements of modality focus on the treatment given to certain degrees of the modal scale. Both seem to reveal a confusion between solmization according to the Guidonian hexachord and degrees of the modal scale. They confuse *fa* and *la* as the fourth and sixth degrees of a scale on the one hand and as

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[44] It is, perhaps, unfortunate that *modulation* has become the preferred technical term in tonal theory (in English) for "a change of key," because it would appear to be the ideal term to apply to this process. It could function, then, as an analogous term to *tonicization*.

[45] Schenker, *Harmony*, 288.

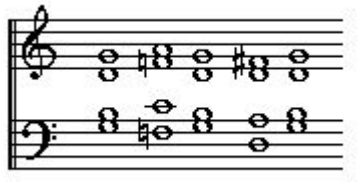
[46] Ibid., 321.

elements of the Guidonian hexachord on the other. *Fa* and *la*, in terms of the Guidonian hexachord, would be the third and fifth degrees of the Dorian mode, for example.

It is possibly conventional wisdom that modal compositions tend to emphasize the fourth and sixth degrees of the mode, as Wienpahl's sixth element states. Since the judgment of what constitutes emphasis is highly subjective, it is not clear how one would go about testing this hypothesis. This may be a reference to the plagal modes of chant theory, several of which counted as their more important notes (final and dominant) the fourth and sixth degrees above their theoretical lowest notes.

The use of the minor seventh degree of the scale, as exemplified in the Mixolydian cadential formula given below in Figure 3, is certainly a distinctive feature of modal music. This is probably the characteristic most commonly seized upon by composers wishing to imitate modal composition. Also in evidence in Wienpahl's seventh element is the common assumption that modes were used primarily in their pure form except for cadences.

Figure 3. Mixolydian cadence.



Inflections that seem to derive from the modes can appear in the context of compositions that are strictly tonal. Examples of this would include the minor seventh and minor second degrees. These can usually be dealt with effectively by invoking the technical concepts of tonicization or mixture.

Although the implication that "melodic" is the opposite of "harmonic" is problematic, the issue being raised in Wienpahl's eighth point is also significant. The common observation that music of the Renaissance was not chordal, however, must be laid to rest. The music of the periods leading up to that of fully developed major-minor tonality was at least as strictly constrained with regard to chordal constructs, as that later music, if not more so. The "strong harmonic progressions" referred to here are probably chord progressions based on a fifth relationship or, perhaps, approved progressions according to Rameau's theory. If this notion be revised according to the definition of harmony discussed above, it begins to approach the heart of the matter. Harmony in this sense is a hierarchical structure in which each level serves to express the prior level by expanding it by means of various prolongational techniques.

After applying these criteria in analyses of the representative samples of the period, Wienpahl presents his findings in statistical form. The concluding table of figures, which gives an overview of his results, is given below.

Table 1. Percentages of distribution of each type of compositional method during each period. From Wienpahl, "Modality, Monality and Tonality," Part 2, 72.

Percentage	1500 to 1540	1540 to 1580	1580 to 1620	1620 to 1660	1660 to 1770
Modal	61.5	34.4	7.9	1.4	3.9
Monal major	16.7	15.5	18.9	6.9	4.8
Monal minor	12.7	23.5	24.7	7.9	8.5
Major	6.9	11.9	25.9	48.1	50.7
Minor	2.2	14.7	22.6	35.7	32.1

These statistics are quite reasonable and are what one might expect to find regardless of the stated criteria. Wienpahl goes too far, though, in his interpretation of the percentages, when he says, "the evolutionary results are proof of the validity of this approach."[47] This might be the case if his criteria could be trusted. Unfortunately, no examples of the application of these criteria are provided. Since there is no chance to look over Wienpahl's shoulder as he does his analyses and observe his application of these criteria, one cannot be certain whether it is these criteria or Wienpahl's own intuitive understanding of tonality and modality that is governing his categorization of the examples.

Wienpahl does acknowledge a potential for bias in a study of this type but dismisses it with the assertion that "since every piece was considered from the same point of view with the same elements in mind, the final judgment is one consistent with a single standard."[48]

Wienpahl criticizes other musicologists for their difficulties in classifying periods as modal or tonal. "The ambiguity [of the classification] usually arises from a failure to define the basis from which the judgment is made."[49] It may be the case, however, that a simplistic categorization of pieces is not appropriate; some pieces might be both tonal and modal.

Delbert Meacham Beswick

Beswick's 1950 dissertation, "The Problem of Tonality in Seventeenth-Century Music," is a thorough survey in traditional terms of the state of tonal composition during that period. Although his method is primarily statistical, he does discuss in depth the technical characteristics of the music he is concerned with. Nevertheless, his approach to the topic is more historical than theoretical.

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[47] Wienpahl, "Modality, Monality and Tonality" Part 1, 408, note 2.

[48] Ibid., 408.

[49] Ibid., 411.

Beswick provides the following list of four characteristics of the "materials and procedures ... of fully realized tonality."

1. Two modes only (the major and the minor), each transposable to any pitch level.
2. A predominant central harmony (the tonic triad) surrounded by subsidiary harmonies that acquire individual quality and significance through their relationship to the tonic....
3. A predominant central key (the tonic key) surrounded by subsidiary keys that acquire individual quality and significance through their relationship to the tonic....
4. Widespread use of binary and ternary forms based on the principle of key contrast.[50]

These characteristics, while perhaps true in some sense, cannot serve as a functional definition of tonality. Although Beswick goes into some detail as to which harmonies and keys are meant, he devotes little discussion to the problem of just *how* the central harmony or key is "surrounded by" these subsidiary harmonies and keys, other than to mention "the falling-fifth principle."[51]

The limitation to two modes would appear to be patently obvious. It should be noted, however, that some would add a third mode, Phrygian, albeit more as an exception than as the rule. As will be seen below in Chapter V, the pieces that prompt this interpretation can be incorporated into the more commonly accepted framework of major and minor.

The notion that the "subsidiary," or one might interpret this as "non-tonic," harmonies and keys have unique qualities is an important concept that was touched on above relating to the characteristics of the diatonic system.[52] It is easy to see how this is true of harmonies, where intervallic relationships among the notes of the chord and the other notes of the diatonic system. The uniqueness of each octave species of the diatonic system is one of the facets of the system that makes it compositionally interesting.

It is more difficult, though, to see how this assertion would be true of the "subsidiary keys." The conventional theory of modulation in major-minor tonality is that the secondary harmony is converted into a "tonic," which then give rise to a secondary major or minor key. For example, in a C-major composition, the D-minor and E-minor harmonies would both generate minor keys, keys that are presumably the same, *not* unique. This could be viewed as a natural result of the limitation to two modes, Beswick's first characteristic of tonality.

The characteristic of Renaissance modality in which cadences on D and E in C-Ionian are treated respectively as Dorian and Phrygian may have an analog in major-minor tonality. One could hypothesize, then, that what one does in tonicizing D in C major is somehow different from what one does in tonicizing E in C major. This brings up the

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[50] Delbert Meacham Beswick, "The Problem of Tonality in Seventeenth-Century Music" (Ph.D. diss., University of North Carolina at Chapel Hill, 1950), 13-14.

[51] Ibid., 14.

[52] See p. 7 above.

question of whether these relationships are transposable. What should one expect, for example, of the secondary keys based on the II and III harmonies of G♭ major?

Beswick presents numerous tables of statistical data concerning tonality during the period.[53] He concentrates, as one might anticipate, on aspects of the music that are easily quantifiable and that can be described more-or-less objectively. These tables deal with such topics as "Keys of 502 Italian and English Madrigals;" "Relative key frequency in Italian and English madrigals, German polyphonic music (1580-1620), and the arias of Heinrich Albert;" "Tonal structure of vocal compositions of Buxtehude, A. Scarlatti, and Purcell, as determined by internal modulation (major keys);" "Cadences in English virginal music;" and "Relative frequency of the twelve 'modes' (as designated by the composers) in seventeenth-century keyboard music."[54]

By restricting his attention to relatively objective criteria, Beswick avoids many of the difficulties that beset those who would attempt a comprehensive study of incipient tonality. He does not fall into the trap of subjectively assigning compositions to categories such as modal, monal, major, and others. As a result, his tables have some real meaning, as long as one does not read more into them than he intended.

Statistics are, for Beswick, only a means to an end. Unlike Wienpahl's, his conclusions cannot be summarized in a single statistical table. He does, however, subdivide the century into periods, based on his statistical studies.

> According to degree of tonal development, the century divides into three identifiable periods, each showing certain distinctive characteristics: (1) the period of rudimentary tonality (to *circa* 1640); (2) the period of imperfectly realized, but steadily expanding tonality (*circa* 1640-1680); and (3) the period of fully realized tonality (after 1680).[55]

Beswick finds the first of these periods to be "more closely tied to the past than it is commonly said to be" with two major (Ionian and Mixolydian) and two minor (Dorian and Aeolian) modes in use.[56] He characterizes the second period as "marked by steadily increasing application of characteristic tonal formulas and by the elimination of dissonant effects that do not specifically contribute to the definition of a tonal center."[57] The third period is found to feature "typical tonal devices," "full-fledged major and minor keys," with modal characteristics "almost completely eliminated."[58]

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[53] Thirty five are included in his "List of Tables." See Beswick, "Problem of Tonality," vii-x.

[54] Ibid., vii-ix.

[55] Ibid., 305.

[56] Ibid., 306.

[57] Ibid.

[58] Ibid.

One is struck by the fact that Wienpahl and Beswick based essentially all of their observations on rather simplistic statistical analyses. Just what one is intended to understand from these statistics is not clear. In fact, even a cursory consideration of the underlying assumptions of these statistical studies quickly shows the weakness of the approach. Is one to understand, for example, that all of the compositions analyzed were considered representative by their composers, that each one had an equivalent effect on the compositions by that composer or others that were to follow, etc.?

Another serious problem is the complete lack of randomness in the statistical samples of the studies. Even assuming that the analysts were able to study every available composition within a given repertory, there are still problems in identifying the body of musical literature that was being studied. Though it was unavoidable, the systematic exclusion of two categories of materials must cast suspicion on the results of the studies. The first category is composed of those pieces extant but unavailable in modern edition; the second includes those unpreserved pieces that would have fallen within the sample were they extant.

Edward E. Lowinsky

The short monograph by Edward Lowinsky, *Tonality and Atonality in Sixteenth-Century Music*, would appear to be a typical historian's approach to the early development of tonality. Accepting the conventional notions of tonality, which are, in fact, never explicitly stated, Lowinsky proceeds to identify and illustrate the antecedents of various procedures of major-minor tonality.

By noting the issues with which he concerns himself, however, it is possible to deduce at least some of the characteristics of Lowinsky's conception of tonality. They would seem to be:

- The use of triadic harmonies, the progression of which is comprehensible in terms of the relationships between the chordal roots;
- The pervasive use of the authentic cadence, or rather, "a net of cadences on varying degrees related to the tonic and organizing a whole work into various sections;"[59]
- The limitation of modal variety to one major and one minor mode, closely identified with, but apparently not identical to, Ionian and Aeolian;
- The diatonic system transposable by means of key signature or accidentals to all twelve chromatic notes.

Lowinsky concentrates on several historical developments that participate in the evolution of tonal organization. These could be summarized as follows:

The influences of secular music, principally the frottola and villancico, on an incipient sense of tonality are their essentially chordal style and their emphatic use of authentic cadences. Sacred music, focusing primarily on the works of Josquin, also displays characteristics that can be understood as evidence of an evolving concept of tonality.

[59] Edward E. Lowinsky, *Tonality and Atonality in Sixteenth-Century Music* (Berkeley and Los Angeles: University of California Press, 1961), 15.

These are a "newly emerging feeling for major"[60] and the use of "harmonic sequence and repetition of chords and chord progressions."[61]

Two digressions address some questions related to the question of tonality. The first summarizes the comments of Glarean and Zarlino on the subject of modes and concentrates on their comments relating to the Ionian and Aeolian modes. The second deals with the "floating tonality and atonality" of the highly chromatic compositions by Lassus, Vicentino, and others, which culminates in the works of Gesualdo da Venosa.

Returning to the consideration of tonal characteristics of the music, Lowinsky investigates the secular vocal forms of the latter portion of the sixteenth century, particularly the balletto and lute ayre, and notes their increased use of modes that approximate major and minor. He also mentions the use of close key relationships, primarily that of relative major and minor. The final major topic of the study is a treatment of the tonal characteristics of dance music; primary among these characteristics are phrase structure and formal symmetry.

Though not primarily an theoretical work, *Tonality and Atonality* nevertheless reveals the sensitivity of its author to a number of the characteristics of the music of the sixteenth century that were involved with the developing concept of major-minor tonality.

[60] Ibid., 20.

[61] Ibid., 22-24.

CHAPTER II

Schenker's Theory As a Tool for the Study of the Early History of Tonality

A theory that seems to offer much promise for producing insightful observations on the nature of tonality during its early stages is the theory of musical structure developed by the Austrian music theorist, Heinrich Schenker.

Schenker's Theory

Schenker's theory was not developed explicitly as a theory of tonality. The motivations that lie behind the development of the theory were both more and less ambitious than that. On a practical level, Schenker apparently sought to rationalize the bases for his music criticism and of his teaching of musical composition. On the other hand, since he viewed compositions that failed to meet the standards of his theory as non-music, one can surmise that he took his theory as embodying a complete definition of music. Nevertheless, it is possible to take Schenker's theory as a sufficient definition of the music to which it is clearly applicable without condemning the music that fails to meet its requirements as inferior.

For the most part, Schenker limited his attention to music of the eighteenth and nineteenth centuries. Music from outside this time, when it is addressed in his writings, is frequently used as a counterexample. It was undoubtedly Schenker's own taste in music, or one might even say his chauvinism, that led to the boundaries on the scope of the theory. The limitation to the repertory of the era generally known as the "common-practice period" was most fortunate. This was because the theory was not compelled to address widely disparate styles and thereby become too general to produce useful and interesting observations about the music with which it was concerned.

Indeed, the boundaries were almost set too wide as it was. The difficulties of applying the theory to music of the later nineteenth century indicate that the theory might have to be supplemented with additional theoretical concepts in order to be able to deal with this repertory comprehensively.[62]

Schenker's Theory as a Theory of Tonality

Schenker's theory is particularly appropriate for the study of tonality in that it, unlike the theories of music that preceded it, addresses the question of *how* a piece expresses a particular key. A complete Schenkerian analysis of a composition asserts that the piece

[62] For a study of the problems presented by this music, see Gregory Michael Proctor, "Technical Bases of Nineteenth-Century Chromatic Tonality: A Study in Chromaticism" (Ph.D. diss., Princeton University, 1977).

presents a single tonic harmony (of a specific quality and key note) by composing-out that harmony. The composing-out of the harmony proceeds by means of a remote-stage linear progression that descends through the harmony, moving by step from one of the notes of the chord toward the tonic note. Subsequent elaborations of this simple model by means of a limited number of procedures generate pitch content through multiple levels of increasing complexity. Furthermore, an analysis in these terms demonstrates in a systematic and rigorous way how this remote structure relates to and generates the musical surface. In this way, Schenker's theory goes considerably further than other theories of this music have managed.

One component of Schenker's theory that is of interest for the present study is the concept of mixture. After Schenker had conceived and introduced the concept of mixture in his *Harmony*, he undoubtedly came to realize that no criterion remained for determining unequivocally whether a composition was in major or minor. The concept of mixture posits that, for the scale degrees that vary between major and minor (3, 6, and 7), either form of the scale degree can be invoked as necessary in a composition. If one can, in a piece in C for example, have either an E♮ or an E♭ as the third degree, what criteria are there for determining the priority of one over the other, and consequently for establishing the key of the piece as being either C major or C minor. The evidence for his realization of the problem is the designation of key that he frequently used in *Harmony*: A major/minor, for example.[63] Although he did not continue to use this designation in his published analyses, it was not until his conception of the fundamental line had reached to the background that he had a theoretical basis for asserting the key of a piece. The fundamental line of a piece, whether from $\hat{3}$, $\hat{5}$, or $\hat{8}$, must include the third degree; it is the quality of that third, in conjunction with the goal tone of the fundamental linear progression, that determines the key of the composition.

Schenker's Comments on Early Music

Although Schenker seemed uninterested in dealing with early music himself, he offered several comments pertinent to the issues raised by this repertory. In the short article, "Geschichte der Tonkunst" [History of Music], published in a 1922 issue of *Der Tonwille*, he raised some perceptive questions on the problems that would have to be faced by those who would attempt to deal with early music. This short article is given below in its entirety.

> A history of music has not yet been written. It must give answer to the following questions:
>
> When and how did the law of consonance permeate melody (considered horizontally) for the first time with the octave, fifth, and third? When and how was this law fulfilled, so that a melody, since it is the expression of a chord, could be felt as a unity? Did this happen before or after the beginnings of polyphonic experiments? What about the fundamental line around the time of this first, mysterious stimulation of the horizontal

[63] See Schenker, *Harmony*, 86-87. In the original typography, "major" is placed as a superscript above "minor" with a horizontal line separating them.

> through consonance? And besides, in what ways do the musical utterances of the natural folk of today look like those early melodies?
>
> Because the law of consonance has found fulfillment in the polyphonic era in the vertical direction, who were the first artists to reach an agreement between the vertical and horizontal triad and thereby prepare the way for the horizontal (melodic) composing-out, a composing-out that is authenticated by the vertical dimension? How were the composings-out of the triad conjoined? Did they entwine with a fundamental line?
>
> When did it happen that the triads attained their own ordering as regulators of composing-out and became harmonies of a system? How were motives linked together for the first time? What was the condition at this time of the fundamental line, which had to connect such a fully developed world diatonically, so the diminution of motives and ornaments would not wander aimlessly?
>
> How have all of these forces finally acquired limiting forms, since limitations are indispensable to every human creation? Now then, what does one call those artists who devised the countless tools for manipulating the voices of the composition in the service of form, of the personal narrative art, and of variety?
>
> All of this must first be answered, if one wants to find the appropriate basis for artistic choice, for the presentation of artistic pursuit, yes, indeed, of artistic destiny.
>
> Will it be possible, in general, to shed enough light on the past that one can gain light for the future?[64]

This article was written before Schenker's theory had reached a level of development in which the norm was a remote structure of a single descending fundamental line accompanied by a single arpeggiation of the bass. Nevertheless, the concept of harmony as a force that controls the organization of pitch content at the surface was clearly present. Also in evidence is the notion of linear progressions ("fundamental lines" in his terminology at this time) as the controlling element at more remote levels.

From this article, one can extract an evolutionary model for the development of major-minor tonality. Initially, pitch structure is organized no more deeply than the foreground. At this stage, harmonies appear to underlie the surface of the music, but the harmonies themselves are not organized at any more remote level. Subsequently, the harmonies are connected by means of linear progressions in the uppermost voice. Finally, the hierarchical structure is extended to more remote levels until the background is reached.

In the first volume of his counterpoint text, Schenker had commented on the nature of the polyphony of the earlier periods.

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[64] Heinrich Schenker, "Geschichte der Tonkunst," *Der Tonwille* 2 (1922): 3-4. Translation by the author. For a transcription of the original German text of this article, see the Appendix.

> In the earliest period of vocal polyphony ... there were as yet no unfolded harmonies; there was no true length, and no scale degrees or modulations; and the multifaceted techniques of a later period, too, involving articulation and synthesis, were unthinkable. Provided with only a small stock of technical devices ... composers still meandered along the text from passage to passage and from cadence to cadence, while the compositional genre–already a kind of free composition–did not differ significantly from a type born of voice leading alone.[65]

Schenker reiterated this latter point in a digression within his analysis of a sonata by Domenico Scarlatti published in the 1925 issue of *Das Meisterwerk in der Musik*.

> Counterpoint as found in the repertory of the earlier contrapuntal era in Italy was not yet true counterpoint. That earlier counterpoint gained its impetus solely from its text. It was still quite incapable of seeing beyond the end of the section, even of the phrase–nay, even of the single word of text. With the onset of a new section, new phrase or new word, a fresh impetus began. Nowhere did voice-leading procedures extend across from one phrase of text to another; moreover the text-phrases themselves were numerous and extremely short-lived.[66]

From the passages quoted above, it seems clear that Schenker doubted the existence of a true hierarchically structured organization of pitches in some, if not most, of the music prior to the seventeenth century.

It would seem that Schenker might have viewed the early experiments with polyphony (for example, the melismatic organum of the school of St. Martial) as setting out in a direction that would have led to major-minor tonality. The potential for this style of developing harmonies at the foreground would seem to be the crucial factor in this. It also seems that he would have viewed the later developments of polyphony, particularly in the Renaissance, as having sidetracked the process.

It is Schenker's theory in its most fully developed state that is of interest in this study. This is taken to be the theory as it was presented in *Free Composition* and as it was applied in the third yearbook of *Das Meisterwerk in der Musik* and in *Five Graphic Music Analyses*.

The object of this study, then, will be the application of a strict interpretation of Schenker's theory to music at the leading edge of the period for which it was developed. The strict interpretation is necessary in order to isolate those cases where the theory fails to deal adequately with the music. These cases can be considered to be non-tonal.

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[65] Heinrich Schenker, *Counterpoint: A Translation of 'Kontrapunkt,'* trans. John Rothgeb and Jurgen Thym, ed. John Rothgeb (New York: Schirmer Books, 1987), 1:2.

[66] Schenker, "Domenico Scarlatti: Keyboard Sonata in D minor," translated by Ian Bent in "Essays from *Das Meisterwerk in der Musik*, Vol. 1 (1925)" in *Music Analysis* 5 (1986): 153.

It will be seen below that several theorists have attempted to apply Schenker's theory to early music. Without exception this has required the reformulation of the theory on more general principles as well as the introduction of several new theoretical concepts.

Neo-Schenkerian Treatment of Early Music

Felix Salzer is probably the first and certainly the most influential of the Schenkerian theorists to turn his attention toward early music. Those who have followed him have generally adopted his approach. These include, among others, Saul Novack and Frederick Bashour.

As might be expected, the application of Schenkerian concepts and analytic techniques to pre-Baroque music has engendered a certain amount of criticism from musicologists. They observe that Schenker's theory was developed specifically for the music of major-minor tonality and that it will do violence to pre-tonal music, when forcibly applied to it. There can be no doubt that this has happened. Analyses by Salzer, for example, have been criticized for ignoring obviously structural features of the music that contradicted the presuppositions of Schenkerian theory in order to achieve a more "Schenkerian" analysis.[67]

Felix Salzer

It has been observed with some frequency that differences exist between Schenker's theory as he formulated it and Schenker's theory as it was formulated by Salzer.[68] These observations have not always been accompanied by discussions that showed precisely what those differences are and demonstrated why they are different. In his study of the literature associated with Schenker's theory, David Beach acknowledges that the differences exist and implies that they may be related to Salzer's extension of Schenker's ideas to "pre-tonal" and twentieth-century compositions.[69] Oswald Jonas, in his introduction to Schenker's *Harmony*, asserted that Salzer's revisions of Schenker's theory were possible "only through misinterpretation of Schenker's basic theories, first of all his concept of tonality."[70]

Since it appears probable that a connection exists between Salzer's extensions of Schenker's theory and his treatment of early music, the differences between Schenker's

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[67] See, for example, Hellmut Kühn, *Die Harmonik der Ars Nova: zur Theorie der isorhythmischen Motette*, Berliner Musikwissenschaftliche Arbeiten, Bd. 5 (München: Musikverlag Emil Katzbichler, 1973), 33. The analysis that Kühn was criticizing was Salzer's analysis of Machaut's Rondeau no. 13. Salzer's sketch is reproduced and discussed in Chapter III below.

[68] Salzer's classroom and private instruction in music theory and analysis apparently followed Schenker's ideas much more closely than did his publications. The over-simplified approach contained in *Structural Hearing* may have been adopted because of the overtly pedagogical purpose of the work.

[69] David W. Beach, "A Schenker Bibliography," reprinted in *Readings in Schenker Analysis*, ed. Maury Yeston (New Haven: Yale University Press, 1977), 293-294.

[70] Schenker, *Harmony*, viii, note 2.

and Salzer's theories that have ramifications for the present study will be considered here. Following that, examples of Salzer's analyses of early music will be discussed.

Salzer's theory

Salzer's approach to musical analysis is termed by him "structure and prolongation" and is given a thorough exposition in his *Structural Hearing*. Specific chords or tones of a passage are deemed "structural" if they are "stable points which determine the course of the musical motion," or "prolonging" if they serve to expand or connect those structural points.[71] The structural elements of a passage form a framework or outline, guiding the motion of the music; the prolonging elements pass between and embellish the structural elements, constituting the actual motion of the music.

It is important to understand that Salzer is indicating actual notes of the surface of the music, rather than notes of the analysis (that is, abstractions), as being structural or prolonging. In some of his analyses, stems on actual notes of the melody are extended and connected with beams in a quasi-Schenkerian manner.[72] The discussion of these examples confirms that the beamed notes are themselves to be understood as structural.[73]

Throughout the discussion of structure and prolongation, the terms "harmonic" and "contrapuntal" are associated (respectively) with the concepts of structure and prolongation. These expressions are not used as synonyms but rather as complementary terms, harmonic or contrapuntal describing the nature of a sonority, structural or prolonging describing its function.

According to Salzer's usage in *Structural Hearing*, the term "harmony" refers to a member of a "harmonic progression" only, all other chordal usage being described as "contrapuntal."[74] Five harmonic progressions are presented. They are: the "fundamental harmonic progression," I-V-I; the three "elaborated" harmonic progressions, I-II-V-I, I-III-V-I, I-IV-V-I; and the "secondary harmonic progression," I-VI-V-I.[75] Salzer

[71] Salzer, *Structural Hearing*, 1:47.

[72] See, for example, Salzer, *Structural Hearing*, 1:43-44; 2:10, examples 7-9. Schenker, himself, tended to adopt this reductive approach in his early analyses. This is particularly the case in those analyses that make use of Urlinie-Tafeln. See, for example, his analysis in "J.S. Bach: Zwölf kleine Präludien, Nr. 2," *Der Tonwille* 4 (1923): 7 and the appendix. This particular analysis is of interest in that it is the first of Schenker's published analyses to reach to the level that would later be called the background.

[73] For example, see Salzer, *Structural Hearing*, 1: 114. "The question arises as to which A and which G in meas. 1 constitute the structural tones."

[74] See also the discussion of the term harmony in Chapter I above.

[75] Salzer, *Structural Hearing*, 1:87-90.

establishes the link between the harmonic progressions and structural function when he states that "harmonic chords ... are virtually predestined to establish structural points."[76]

Two types of prolongation are presented: one is motion between members of the structural progression, the other is motion within a member of the structural progression. When Salzer writes of motion between members of the structural progression, he apparently means motion between the I and the dominant preparation (occasionally the V itself), but this is not made explicit. Motion between other structural points is never specifically ruled out, but the discussion of this point in *Structural Hearing* mentions no other possibilities and the relevant examples show no other types.[77] Chords prolonging the motion between structural chords are said to enrich and improve the voice leading and to foster a direct kind of motion, driving the music ahead to a new structural point.[78]

Motion around and within a harmonic chord, or chord prolongation, is described as a more indirect kind of motion and as having a delaying effect.[79] Neighboring motions and motions that express a chordal interval horizontally, or "outlining and filling an interval of the main chord" constitute, respectively, motion around and within a harmonic chord.

After having given a thorough exposition of harmonic chords that establish structure and contrapuntal chords that serve to prolong the structure, Salzer juggles the terms and introduces some hybrid categories. A harmonic-prolonging passage occurs "whenever a ... harmonic progression appears subordinated to a harmonic progression of higher order."[80] This category is used to describe those passages that seem to expand a single chord yet are governed by the harmonic principle.

By this means, Salzer reintroduces into his discussion the notion of hierarchical structure. Salzer had more or less ignored the notion of hierarchy after Part I of the text. To be sure he had stated there that "the interpretation of certain chords in a composition as structural or prolonging depends upon whether we are analyzing a phrase, a section or the whole piece."[81] The reader who had missed that rather brief discussion, though, might have begun to understand structure and prolongation as absolute, rather than as relative, categories.

The designation *contrapuntal-structural* (CS) is applied to contrapuntal chords that take on structural significance. This occurs when "a contrapuntal chord is used to support a structural tone in the melody."[82] The examples accompanying this discussion serve to

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[76] Ibid., 1:101.

[77] Ibid., 1:98-104; 2:30-35, Examples 118-134.

[78] Ibid., 1:112.

[79] Ibid.

[80] Ibid., 1:148.

[81] Ibid., 1:23.

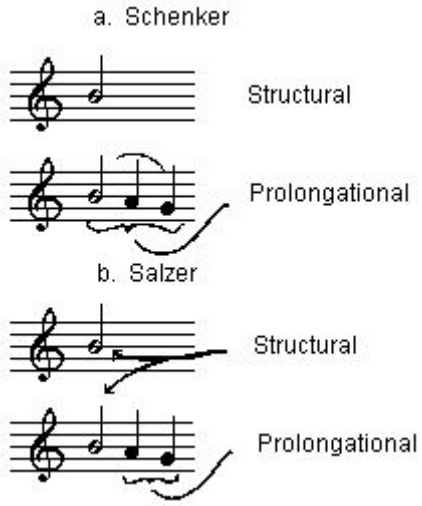
[82] Ibid., 1:160-161.

clarify the point; they reveal that the CS appellation is used in situations where an orthodox Schenkerian analysis would have relegated the support of the given upper-voice tone to a later level.

Criticism

Salzer's concept of "structure and prolongation" actually turns out to be subtly, but significantly, different from the related notions in Schenker's theory. The use of the word *prolongation*, for example, differs considerably. For Schenker, a prolongation on one level is the result of a composing-out of material of a prior level. The correspondence of the prior material with its composing-out on the subsequent level is not one-to-one, but rather one-to-many; the prior material is represented on the subsequent level by the entire prolongation. Salzer, however, uses the term "prolonging" to identify that material on one level which is added to the substance of the prior level (see Figure 4). The correlation between structural points in the various levels at which they appear is direct, that is, one-to-one.

Figure 4. Comparison of Schenker's (at *a*) and Salzer's (at *b*) Concepts of Structural and Prolongational Elements.[83]



These two conceptualizations of the process of prolongation have been referred to as the idealist or generative model on the one hand and as the reductionist model on the other. According to Proctor, the idealist stance

> lies in contrast to reductionism and ... asserts that the elements of structure are ideal entities in the mind of the perceiver, they are not literal notes in the piece.[84]

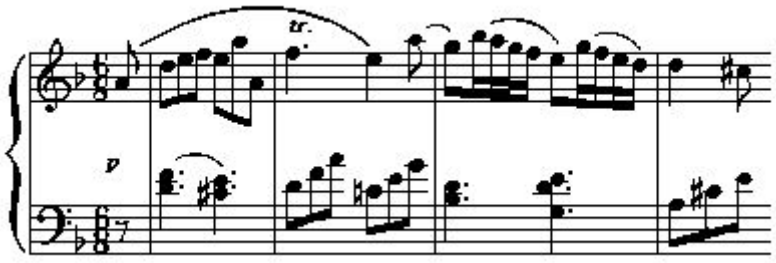
[83] For an illustration of prolongation that reflects Salzer's conceptualization of the idea, see Straus, "Problem of Prolongation," 3. Straus apparently thinks of his interpretation of the concept of prolongation as the only valid one. Straus's indebtedness to Salzer is revealed elsewhere in the article.

> Reduction is the position that: 1. elements in the analysis are literal elements in the composition; 2. these elements differ in structural value– some notes are more important than other notes; and 3. every layer of analysis entails the application of the same procedures to the same kinds of material.[85]

That Salzer's theory was essentially reductionist in its approach was also noticed by Oswald Jonas in his early review of *Structural Hearing*: "Schenker's teaching involves more than selecting certain tones in a piece of music and labeling them; such a procedure is no better than the labeling of chords in the current form of harmonic analysis."[86] The distinction being made here is perhaps a subtle one, but it is not trivial. It should be clear that these two approaches can result in different analyses. More importantly, the latter approach is easier to apply in a mechanical fashion and probably played a significant role in allowing the application of the theory to pre- and post-tonal music.

Salzer refers to the difference between structural and prolonging chords as being a difference of nature. In comparing the dominant chords in measures one and four of the following example, Salzer says that "the difference between the two dominant chords is fundamental." The second dominant, "being the goal of the whole phrase, is a structural significance, whereas the (first) dominant ... has no structural significance whatsoever, but serves to enrich and expand the tonic."[87]

Figure 5. Opening measures of Scarlatti's Sonata in D minor, L. 413.
From Salzer, *Structural Hearing*, 2:8.



It is clear that there is a difference between these two dominants. The difference, however, is not fundamental, that is to say, it is not one of nature; it is a difference of level. Both dominants were generated in support of passing tones in the upper voice.

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[84] Gregory Proctor, "Systematic Discontinuity in Schenker" (Paper presented at the meeting of the Society for Music Theory, Baltimore, 1988), 16.

[85] Gregory Proctor and Herbert Lee Riggins, "Levels and the Reordering of Chapters in Schenker's *Free Composition*," *Music Theory Spectrum: The Journal of the Society for Music Theory* 10 (1988): 107.

[86] Oswald Jonas, review of *Structural Hearing*, by Felix Salzer, *Music Library Association Notes*, 2nd ser., 10 (1953): 439.

[87] Salzer, *Structural Hearing*, 1:40.

The dominant chord of measure one instantiates a chord generated as part of the initial ascending third-line at some relatively late structural level. The dominant chord of measure four, however, derives from a more remote linear progression, beginning on the fifth degree of the key and descending toward the tonic, that was generated at a level prior to the level of the line represented in the first measure. The dominant harmony instanced in measure four can be more effectively understood, not as the goal of the motion as Salzer takes it to be, but rather as providing support for a passing tone in the interrupted linear progression of the upper voice.

Figure 6. Sketch of the passage in Figure 5.

It will be noted that Salzer defined and named several harmonic progressions that included pre-dominant chords.[88] There were consequences for the theory in the inclusion of these various "dominant-preparation" chords as part of the elaborated and secondary harmonic progressions. Because the system is determined by these basic chord progressions (as will be shown below), generally whatever was in the top voice had to be taken as structural. Some of the various structural top voices to be found are: no motion at all, an upper neighbor, a lower neighbor, and an ascending line.[89]

Structural Hearing does present conflicting testimony regarding the relative priority of the structural top voice and the structural chord progression. One can find the statement that certain chords "are of structural significance because they support the structural tones ... of the melody."[90] This would seem to define the system in terms of the structural top voice. At no time, though, is the structural top voice given an exact definition. The closest thing to a definition comes in an introduction to the exercises of Part II, Chapter 4, "The Harmonic Concept."

> These progressions [ascending and descending third, descending fifth] fill in the main intervals of the tonic and thus form the most elementary and clearest possible horizontal outline of the tonality. This makes them especially suited to serve as top voices to the harmonic progressions.[91]

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[88] See above, p. 29.

[89] Salzer, *Structural Hearing*, 2:108, Example 308; 2:2, Example I; 2:80, Example 249; 2:69, Example 225.

[90] Ibid., 1:47.

[91] Ibid., 1:91; see also 1:109.

No melodic constructs are forbidden here, though, nor at any other place in the book.

The examples used in the discussion of melodic structure always have lines, usually but not always descending, as structural top voices. Examples used to illustrate other points occasionally have other constructs, a neighboring motion, for example, as structural top voices. There is no discussion, though, of how neighboring motion might constitute "directed motion".

When Salzer eventually states that "harmonic chords ... are virtually predestined to establish structural points which in turn give added purpose to the contrapuntal progressions directed from one of these points to another," the foundation of this approach seems to have been exposed.[92] After suggesting that the structural top voice might be able to serve as the determinant of the system, the author has ultimately defined his system in terms of the harmonic progression.

As might be expected with a theory of music that is oriented toward verticalities, the bass takes on a prominence in analysis. Along with the increase in importance of the bass comes a decrease in importance of the top voice in the making of analytic decisions. Salzer even says, "A melody may admit of different structural interpretations. It is the bass, and consequently the chords, which can eliminate this possible ambiguity."[93]

Salzer goes so far as to assert that this is fundamental to Schenker's approach: "Schenker's conceptions are based on a fundamental observation ... –the distinction between what will be called *chord grammar* and *chord significance*;"[94] "Schenker developed the distinction between chords of structure and chords of prolongation directly out of his differentiation between chord grammar and chord significance."[95] But this appears to be a significant misrepresentation of Schenker's intent. It would probably be a fair assessment of Schenker's theory to say that this preoccupation with verticalities, and in particular, with the classification of chords, was precisely what he was reacting against.

This lessening in the importance of the upper voice in making analytic decisions ultimately leads to its abandonment altogether. Several analyses in *Structural Hearing* indicate only the bass motion.[96] The replacement of the fundamental linear progression by the structural bass voice as the primary structural determinant has serious consequences for Schenker's theory as a theory of tonality. Most significantly, the criterion for distinguishing major from minor keys is lost.[97]

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[92] Ibid., 1:101.

[93] Ibid., 1:114.

[94] Ibid., 1:10. The emphasis here is Salzer's.

[95] Ibid., 1:13.

[96] Ibid., 2:232-233, Ex. 471; 2:296-297, Ex. 503; 2:312-313, Ex. 508.

[97] For a discussion of the importance of the fundamental line in determining the key of composition, see above p. 24.

The abandonment of the upper voice as the primary structural determinant, in combination with Salzer's introduction of the CS chord, frees the analyst to select almost any sort of note or chord and label it "structural." Salzer and his followers are now free to apply their analytic technique to just about any music, from Gregorian chant to Schoenbergian twelve-tone music.

Salzer's analyses of early music

Salzer's article "Tonality in Early Medieval Polyphony" is his attempt to apply the theory of "structure and prolongation" to the repertories of Compostela and St. Martial as well as to the compositions of Leonin and Perotin.[98]

Salzer gives his most extensive analytic treatment to Perotin's organum triplum *Alleluya Posui* and concludes his article with it. In addition to the verbal explanation, the analysis consists of four sketches (Graph 15a-d), the first three of which progress from intermediate to remote levels. The last sketch is a graph of the foreground reminiscent of Schenker's Urlinie-Tafeln. This presentation appears in all respects representative of Salzer's analyses of pre-tonal music.

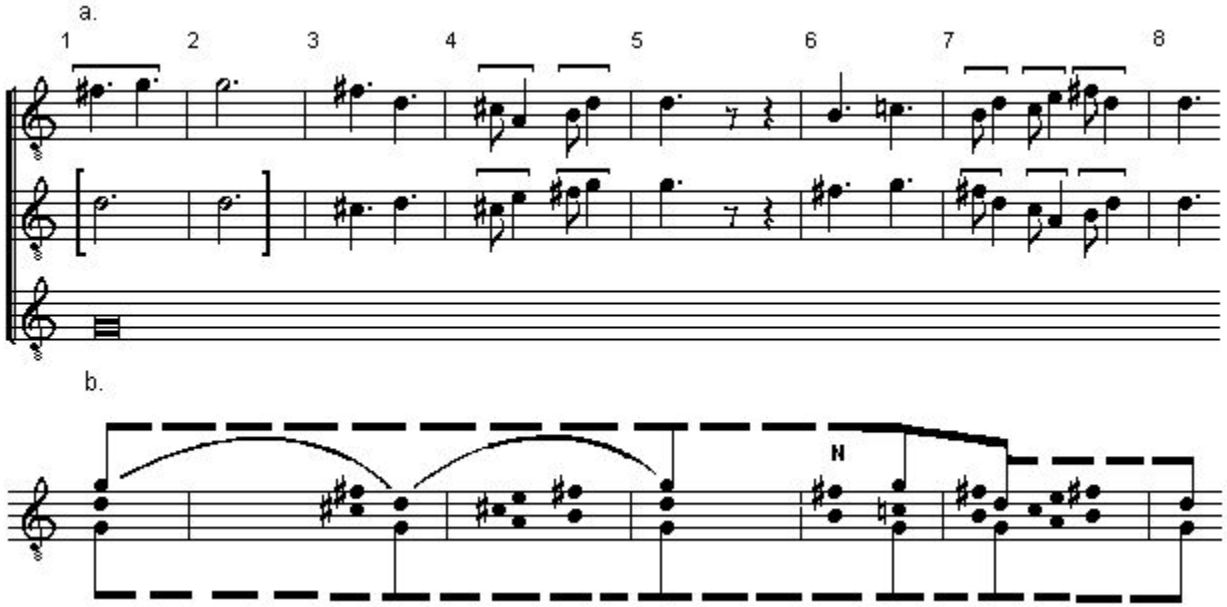
His reduction of the first phrase of the piece (see Figure 7) leaves much unexplained. In the upper voice, for example, some sort of motion from G down to D is indicated, although just what sort of motion it is not clear. This motion might be a passing motion, except that it would be lacking one of its passing tones. More likely, it is to be taken as an arpeggiation, with the F♯ understood as an incomplete neighbor.

More problematic is measure four of the piece. The function of the A and B in the inner voice is not explained. These notes apparently participate in the structure of the phrase, but their presence in the analytic sketch is not really accounted for. One possible interpretation is that they present a passing motion from the lower-voice G, through the A, to the B as a goal tone; another is that the A represents a neighboring tone to the B. In either case, the B must still be present conceptually at the end of the phrase. But Salzer refrains from asserting a G-major harmony here, indicating only an open fifth and octave.

The analysis of the second phrase exhibits similar characteristics. The motion involving the A and B of the inner voice in measure seven is once again not clarified. More significant, though, is the activity of the upper voice at this point. The notation of the unfolding is clear enough, but the F♯ left hanging at the end of the phrase has ramifications that are rather disturbing. Salzer's analysis seems to be asserting a G major-seventh chord here.

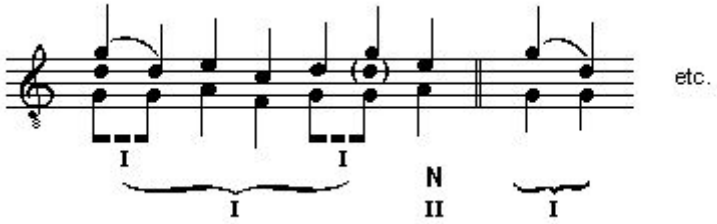
[98] Felix Salzer, "Tonality in Early Medieval Polyphony: Towards a History of Tonality," *The Music Forum* 1 (1967): 35-98; see also *Sinn und Wesen der abendländischen Mehrstimmigkeit* (Vienna: Saturn Verlag, 1935).

Figure 7. Beginning of Perotin's Alleluya Posui (at a) with Salzer's reduction (at b). From Salzer, "Tonality in Medieval Polyphony," 87, 92.



Salzer's remote-level reduction of the piece raises some serious issues as well (see Figure 8). One question to be considered is that of the meaning of the Roman numerals. As seen above, Salzer consistently refrained from asserting triadic harmonies in the analytic sketches, even when they are implicitly present. The structural features of this sketch are referred to as a "G-sonority" and an "A-sonority" or an "A-chord."[99]

Figure 8. Salzer's reduction of Perotin's *Alleluya Posui*. From Salzer, "Tonality in Medieval Polyphony," 93, Graph 15c.



Another question raised by this reduction is that of the significance of the parallel motion by fifths and octaves at these remote levels. There is understood to be a prohibition against parallel octaves and, particularly, fifths at the surface in tonal music. The questions raised by the presence of these parallels at remote levels will be dealt with in Chapter III.

Perhaps the most important among the issues raised by this sketch is the question of the key of the piece. Salzer merely asserts that it is a "G-tonality."[100] This is even more noncommittal than the G major/minor that Schenker would have asserted at an early stage in the development of his theory.[101] It is clear, though, that this piece has no linear structure at its remotest level, the criterion by which Schenker was able to make a definitive statement of the key of a piece. Salzer's removal of the requirement for a fundamental linear progression has allowed him to apply the theory to this piece and others of the period, but the results demonstrate only that the theory does not really tell us much about those pieces.

With this in mind, it is difficult to understand how one can claim this music to be tonal, except in the more general sense. Given the tenuousness of the connection between Salzer's foreground sketches and the music itself, even his claim of "tonal planning in large dimensions" is questionable.[102] It is to Salzer's credit, at least, that he did not claim that *all* early music possesses a structural hierarchy of pitches. In *Structural Hearing*, he acknowledge that "a number of works by Machaut fail, however, to divulge any structural direction and coherence in their voice leading."[103]

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[99] Salzer, "Tonality in Medieval Polyphony," 91-93.

[100] Ibid., 91.

[101] See Schenker, *Harmony*, 86-87; see also p. 24 above.

[102] Salzer, "Tonality in Medieval Polyphony," 91.

[103] Salzer, *Structural Hearing*, 1:276.

Possibly the single most important of Schenker's contributions to the theory of music is his idea that tonal music can be described in terms of a hierarchical structure of pitch relations. The relationships between adjacent levels of structure are described in terms of the process of composing-out, or prolongation. A necessary prerequisite for the success of such a theory is the hypothesis that the music actually contains the hierarchical structure that the analysis attempts to uncover.

In order for Salzer to be able to apply this theory to the music of the Middle Ages, however, he had to hypothesize that this music also possesses this same sort of hierarchical structure, that is, that the music is formed by the composing-out of harmonies. This is an issue of considerable import, but it is not addressed explicitly in Salzer's writings. Salzer may have felt that the very fact that he could produce an analytic sketch of a piece of this repertory was sufficient demonstration of the validity of his approach.

This does not, in fact, demonstrate the validity of his approach. Salzer's modifications of Schenker's theory have the cumulative effect of allowing just about any musical structure to be taken as tonal; there may, in fact, be no such thing as an ill-formed structure in Salzer's theory. Salzer's modifications include 1) the removal of the fundamental linear progression as a required remote-level structure, and the decreased importance of the structural upper voice in general, and 2) the removal of the arpeggiation to the dominant in the bass as a required remote-level structure, by the introduction of such concepts as the contrapuntal-structural chord. These two changes mean that the most remote level of a composition need not express a tonic triad horizontally. This can lead to such curious notions as the "prolongation of a note," a consequence of the concept of prolongation as developed by Salzer.[104]

It may not, however, be inappropriate to propose that a composition be based on the prolongation of some sonority other than a triad. That modal monophony and polyphony might be viewed as the composing-out of a dyad (for a consideration of one such approach, see the discussion of Frederick Bashour's work below) or that twentieth-century music might be viewed as the composing-out of some non-triadic sonority are certainly intriguing possibilities. Before plunging into analysis based on such an approach, one would do well to consider how the notion of a fundamental sonority other that a triad would alter the notion of tonal space (Schenker's *Tonraum*) and concomitantly the notion of linear progression.[105]

Salzer's conclusion to his study of the tonality of early music is that "the real difference between the type of tonality illustrated throughout this article and the tonality of later periods lies in the absence of any harmonic conception in the works of Medieval polyphony." "The direction of the voices is not influenced by harmonic progressions such

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[104] See, for example, Roy Travis, "Towards a New Concept of Tonality?" *Journal of Music Theory* 3 (1959): 261. "Music is tonal when its motion unfolds through time a particular tone, interval, or chord." Travis's conception of Schenker's theory was corrected by Ernst Oster in "Re: A New Concept of Tonality (?)," *Journal of Music Theory* 4 (1960): 85-98.

[105] For a study devoted to the consideration of the problems raised by such a notion, see Straus, "Problem of Prolongation," 5ff.

as I-V-I or I-IV-V-I."[106] This not a particularly informative conclusion and, in fact, does little more than confirm the obvious. It leaves one feeling that nothing really new has been discovered about the music, and that there is a theory of this repertory, perhaps quite similar to Schenker's theory, still waiting to be developed.

Frederick Joseph Bashour

Another theorist who has studied early music from a Schenkerian perspective is Frederick Joseph Bashour, who did so in his 1975 dissertation and in a 1979 article based to a large extent on his dissertation. In his dissertation, he concentrated on the secular vocal music of the fifteenth century in general and on the chansons of Dufay in particular, setting out to demonstrate that this music is hierarchically structured, although not strictly tonal. His approach "combines the melodic principles of Gregorian chant theory and the contrapuntal principles of discant theory ... with the concepts of prolongation, structural levels and essential voice leading."[107]

Bashour intends to avoid some of the difficulties exhibited in the approaches to the Schenkerian analysis of early music developed by Salzer and others. He states, for example, "I hope ... to have demonstrated the necessity for disengaging the study of tonal order from a historically restricted concept of tonality."[108]

Bashour makes two important points in his criticisms of Salzer and other Schenkerians who have dealt with early music. First, he asserts that it is inappropriate to assume for early music a triadic basis and the predominance of the tonic-dominant relationship.[109] Second, he feels, in contradiction to Salzer, that the presence of a cantus firmus in some compositions of the period is an inhibition to the development of tonal structure. Salzer, he says, attempted "to read into his analyses far too many high-level prolongations in a repertory whose tonal progressions are completely linked to a chant cantus firmus originally composed without the slightest reference to 'tonality'."[110] Bashour, consequently, restricts himself to secular compositions.

With respect to his first point, Bashour proposes that "... it may be fruitful to investigate this music in terms of the prolongation and hierarchy–not of triads, as Schenker has convincingly shown for tonal music–but of intervals."[111] Based on the rules of intervallic succession in note-against-note style as discussed by such theorists as Prosdocimus,

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[106] Salzer, "Tonality in Medieval Polyphony," 97.

[107] Frederick Joseph Bashour, "A Model for the Analysis of Structural Levels and Tonal Movement in Compositions of the Fifteenth Century" (Ph.D. diss., Yale University, 1975), 1:3.

[108] Ibid., 1:26.

[109] In Schenker's theory, the I-V-I harmonic progression is inextricably linked with a descending linear progression at the background. This relationship is generally de-emphasized by Salzer and his followers, and is not even mentioned by Bashour.

[110] Bashour, "Analysis of Structural Levels," 1:32.

[111] Bashour, "Analysis of Structural Levels," 1:16.

Marchettus of Padua, and Johannes Tinctoris, Bashour suggests that the structural voices of Dufay's chansons may be formed by the composing-out of dyads.

Although Bashour may be the first to attempt to develop such an idea, he is not the first to conceive it. Some years earlier, Gustave Reese suggested such an approach when he wondered "whether any adherents of the Schenker doctrine would be inclined to regard 'symphonious' music as an *Auskomponierung* of the dyad, as they regard polyphony an *Auskomponierung* of the triad."[112]

Bashour's definition of the expression *structural voice*, though, turns out to be problematic. He applies this term to the actual cantus and tenor parts of the piece, regarding the contratenor part as "non-essential."[113] This definition of *voice* is in contrast to Schenker's use of the term as an abstraction of the analytic process.

Bashour's argument for regarding the contratenor part in this way is based on the conventional view of the compositional process of Dufay's time as one of "successive composition." In this view, the contratenor part was not composed until after the cantus and tenor parts were complete. This definition and the logic upon which it is based are crucial for Bashour's thesis. Both are dealt a severe blow in a critique by Daniel Leech-Wilkinson, who points out that this would require "that the medieval ear was able to distinguish aurally between Tenor and Contratenor regardless of where the pitches were located within the texture."[114]

Bashour provides analytic sketches of all of Dufay's chansons and, categorized by tonal type, these serve as data for his discussion. Each analytic sketch consists of three levels with the "first reduction" representing the analytic level nearest the surface. Each level is notated on a two-stave system with the reductions of the Cantus and Tenor voices on the upper staff and the reduction of the Contratenor on the lower staff. The analysis of one of these pieces, *Je requier a tous amoureux*, is given a detailed discussion. Since it is reasonable to assume that Bashour considers this to be a good example, it is the most appropriate one for consideration here.

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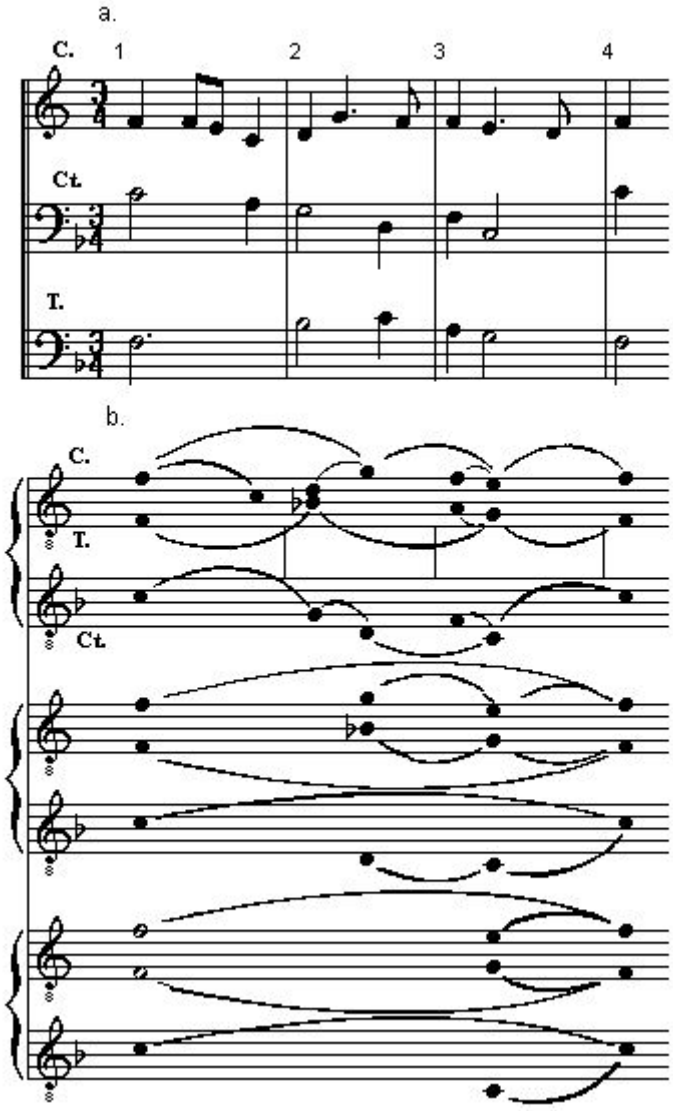
[112] Gustave Reese, *Music in the Middle Ages* (New York: Norton, 1940), 252, note 11.

[113] Bashour, "Analysis of Structural Levels," 1:33.

[114] Daniel Leech-Wilkinson, "Machaut's *Rose, lis* and the Problem of Early Music Analysis," *Music Analysis* 3 (1984): 25-26, note 13.

Figure 9. Phrase one of Dufay's *Je requier* [text omitted] (at *a*) with Bashour's first, second, and third reductions (at *b*). Music from Dufay, *Opera omnia*, 6:54. Analysis from Bashour, "Analysis of Structural Levels," 2:5.



Bashour says that, in his sketch of *Je requier* (the first phrase of which is given in Figure 9 along with the music that it represents), "only passing tones, repeated and anticipatory notes, echapées, and other similar non-essential pitches have been left out."[115] Here, it seems, Bashour has carried some of the baggage from triadic composing-out into his analysis. Echapées, for example, are familiar figures in the music of the eighteenth century, but it is not clear what place they have in the compositional practice of the fifteenth. Though a definition as simplistic as is often given in elementary harmony books is insufficient, their syntax can be well defined in the context of triadic composing-out. A common textbook definition of the echapée defines it as a dissonant note that is

[115] Bashour, "Analysis of Structural Levels," 1:19-20, 2:5. This statement reveals that Bashour's approach follows Salzer's "Structure and Prolongation" model, that is, it is essentially reductive.

approached by step and resolved by leap, usually in the opposite direction.[116] The difficulty with such a definition is that it does not account for the resolution of the dissonance; the leap itself cannot do so.

There are two possible explanations that can account for the figure in major-minor tonality. According to the first, which follows the textbook rule of a step followed by a leap in the opposite direction, the dissonant pitch appears as incomplete neighboring tone, anticipating a note in another voice.[117] According to the second, the step to the dissonant note continues in the same direction with a skip, only to return in the opposite direction with a step. This fourth note in the figure resolves the dissonance of the "echapée." The familiar nota cambiata of Renaissance counterpoint follows this pattern.

Several notes are omitted in his "first reduction" of the first phrase of the piece, ostensibly because they are echapées. Each of these cases, however, is complex and simply invoking the term *echapée* does not properly account for them. The E in the first measure of the Cantus appears to be part of a nota cambiata figure. This being the case, the E should be taken as participating in a passing motion downward to D; there is no indication in the analysis that this is what the analyst intends. The C in second measure of the tenor is more problematic in that it does not form a dissonance with the Cantus, Bashour's other structural voice; the dissonance between the Tenor and Contratenor at this place would presumably be considered incidental, since the latter is not a structural voice. The omission of the C in the reduction, then, indicates that it is to be considered "non-essential." The final omission of this sort is the D in the third measure of Cantus part. This is part of a familiar figure in the music of the fourteenth and fifteenth century, commonly known as the "Landini cadence." The ubiquity of the figure at this time would suggest that any theory of the music of this period should be able to account for it. Its resemblance to the echapée figure of the later period, however, is only superficial. Bashour's failure to recognize this opens him to the same criticism that he leveled at others, which is that he has not managed in his theory to neutralize historically restricted tonal concepts.

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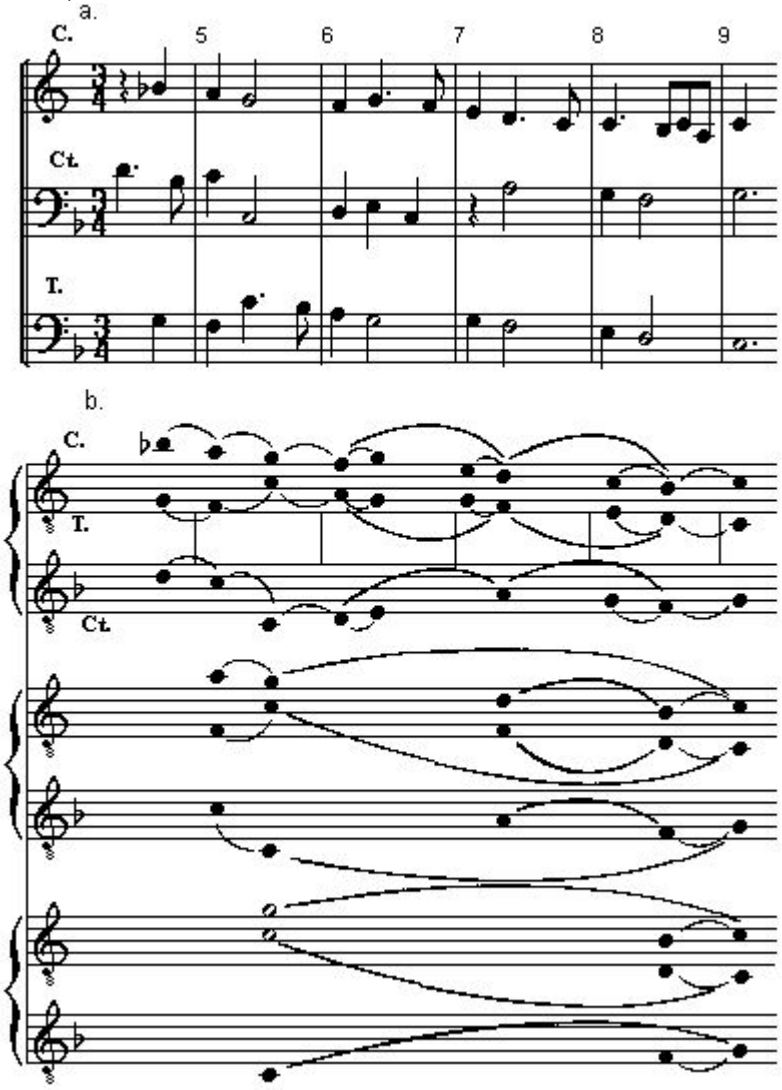
[116] See, for example, Robert Ottman, *Elementary Harmony: Theory and Practice*, 2nd ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1970), 164.

[117] Lester used the expression "harmonic anticipation" in relation to this figure. Though the term has not come into popular acceptance, it does seem to capture an important quality of this "non-harmonic" tone. See Joel Lester, *Harmony in Tonal Music* (New York: Alfred A. Knopf, 1982), 1:80.

Figure 10. Phrase two of Dufay's *Je requier* [text omitted] (at *a*) with Bashour's first, second, and third reductions (at *b*). Music from Dufay, *Opera omnia*, 6:54. Analysis from Bashour, "Analysis of Structural Levels," 2:5.



Bashour's sketch of the second phrase of the piece (given in Figure 10) also presents serious problems. The notation of passing motions as either chained neighboring motions or as arpeggiations filled with incomplete neighbors is rather idiosyncratic and can distract one from what the analysis actually asserts. The phrase is apparently to be taken as being governed by neighboring motions involving a B half-diminished seventh chord. The second reduction makes this clear.

Bashour then proceeds to "reduce out" parts of the analysis. He describes the process thus:

> We notice that the interval of the sixth, on the first beat of measure six, is weak and occurs between a fifth and an octave. It therefore serves a prolongational function to the fifth preceding it, as does its resolution, the

> octave; both intervals can thus be omitted in the second reduction. The sixth on the first (weak) beat of measure seven serves a passing function between the aforementioned sixth a-f and the subsequent one (F-d) and may also be omitted in the second reduction, as may the sixth (E-c) in measure eight.[118]

There are several logical inconsistencies in this passage that suggest that Bashour did not have a clear concept of what his analysis of the piece really was. The sixth (A-F) in measure six, for example, is described as both being generated in a motion from the preceding fifth (C-G) to the octave (G-G), and as generating a passing motion, apparently at the same level, toward the sixth of measure seven (F-D). Another questionable aspect of the analysis is the apparent abandonment of voices with no attempt to demonstrate their logic. In measure six of the first reduction, for example, one may wonder what becomes of the E of the Contratenor.

Despite Bashour's apparent disavowal of Salzer's ideas, his own concept of Schenker's theory appears to have been influenced by Salzer. He states, for example, that "in tonal music, Schenker has shown that the spaces between the structural chords ... is [sic] filled in by other chords, subservient to these harmonic pillars ...."[119] This statement, as well as his discussion of the analysis above, seems to be derived more from Salzer's concept of Structure and Prolongation than from Schenker's notion of the composing-out of triadic harmonies.

It becomes evident when examining these analyses that, despite his attempts to do so, Bashour has failed to establish a strong theoretical base before beginning his analytic endeavors. His notion of considering this music as based on the composing-out of dyadic harmonies is an interesting concept, but no discussion is given to just *how* dyadic harmonies can be composed-out. One might wish to propose techniques for composing-out other than linear and neighboring progressions, the basic methods for the composing-out of triadic harmonies in tonal music. Alternatively, if linear and neighboring progressions are suitable techniques for composing-out dyadic harmonies, then one wonders how their implementation might differ from the composing-out of triadic harmonies. Gapped linear progressions based on the pentatonic collection, for example, might be hypothesized as ways of composing-out a fourth or a fifth.

The conclusion must be, then, that Bashour did not establish a true theoretical basis for his analytic procedure. Even if one concedes that rule-based reduction is an appropriate method of analysis of this repertory, it appears that Bashour did not really have any well defined operations to inform his reductive technique. What one is left with, unfortunately, are analyses that seem to pick out important notes, but do so without much theoretical justification. One cannot point to a real counterpoint that underlies the music.

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[118] Bashour, "Analysis of Structural Levels," 1:21, 2:5.

[119] Ibid., 1:15.

Susan Kaye McClary

McClary's dissertation, also from the mid-1970s, considers the transition from modality to tonality as it was manifested in the work of Claudio Monteverdi. She begins with an attempt to establish "a new theoretical system for approaching modal practice, particularly as it appears in Monteverdi."[120]

Considering Mixolydian, Ionian, Dorian, and Aeolian modes, and excluding Lydian and Phrygian ostensibly because they are rare, McClary finds that "the primary modal building block is the stepwise descent in the mode-bearing voice from the fifth degree to the final."[121] This fifth "clearly sets forth the final and the species of fifth based on it."[122]

For several modes, various significant fifths other than the one above the final are discussed and identified as "subregions" of the mode. McClary's "subregions" seem similar in character to the aspects of the modes that Meier's cadence plans are indicating, as well as to the "constituent tones" of the modes as identified and carefully enumerated by Hermelink.[123]

Despite the apparent similarities, there is little mention of Schenker in McClary's discussion of modality in Monteverdi. This is appropriate because the resemblance of these "diapente descents" to the fundamental line and other linear progression of Schenker's theory is only superficial. McClary explicitly acknowledges that the analytic procedure she is applying follows the strict reductionist model. "The root of the procedure ... is the one-to-one correlation between the structural melodic pitches and harmonic collections. Each new melodic pitch represents a new function in the linear structure."[124]

As McClary begins to deal with Monteverdi's later and more distinctly tonal music, her discussion begins to take on a more Schenkerian flavor. She finds in this stage of tonal organization, for example, that "each pitch of the structural line generates a harmonic collection that serves to articulate and project the structural line, while a new melodic line elaborates it."[125]

McClary's treatment of modal music is more successful than most in that she does not seem to be claiming that the music represents a composing-out of harmonies. The reductive technique may be the only way to deal with such music, since the idealist

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[120] Susan Kaye McClary, "The Transition from Modal to Tonal Organization in the Works of Monteverdi" (Ph.D. diss., Harvard University, 1976), 32, note 21.

[121] Ibid., 31-32.

[122] Ibid., 32.

[123] Meier, *Modes of Classical Vocal Polyphony*, 89ff. See also, Siegfried Hermelink, *Dispositiones Modorum: Die Tonarten in der Musik Palestrinas und seiner Zeitgenossen*, Münchner Veröffentlichungen zur Musikgeschichte, Bd. 4 (Tutzing: H. Schneider, 1960).

[124] McClary, "Transition from Modal to Tonal Organization," 176.

[125] Ibid., 181.

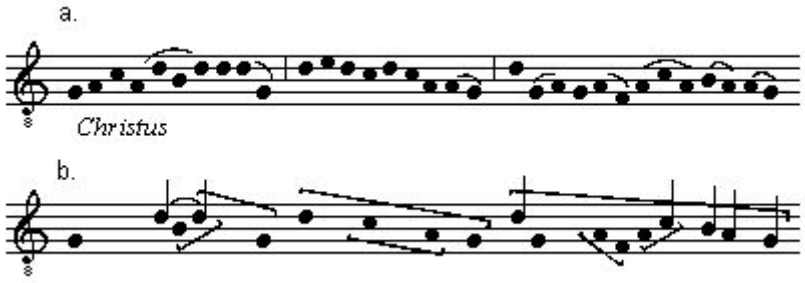
approach depends crucially on the assumption that the music does represent the composing-out of harmonies.

Saul Novack

Novack's defense of the practice of using tools derived from Schenker's theory in the analysis of early music appears in his article "The Analysis of Pre-Baroque Music."[126] Here he attempts to demonstrate that music from the Gregorian chant of the Middle Ages through the Italian madrigal of the Renaissance is essentially triadic in nature, and that that triadic nature is presented by means of a hierarchy of linear progressions.

His analytic approach is, as might be expected, similar to both Salzer's and Bashour's. The analysis of the chant *Alleluia, pascha nostrum* is the first presented in this article. The sketch of the concluding phrase is given here (see Figure 11).

Figure 11. Novack's transcription of the final phrase of *Alleluia, pascha nostrum* (at *a*) with his sketch of the passage (at *b*). From Novack, "Analysis of Pre-Baroque Music," 115.[127]



Novack's commentary on this passage is that "in the last phrases d1 is prolonged by moving to g, again emphasizing the third, and at the end falling to g, *possibly (?) stepwise*."[128] It is precisely these two features, the prominent third and the concluding linear progression that are least convincing in this analysis. Novack is clearly hesitant about the descending linear progression that he asserts in the final part of the phrase, but nevertheless adopts this analysis, possibly for the purpose of supporting his later assertion that "the *Urlinie* of the top voice makes itself clearly felt at a very early stage, with recurrent motions of direct descent outlining the triad, the octave, or the lower third."[129] In fact, an identical passage occurs earlier in the chant. There, Novack

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[126] Saul Novack, "The Analysis of Pre-Baroque Music," in *Aspects of Schenkerian Theory*, ed. David Beach (New Haven and London: Yale University Press, 1983), 113-133.

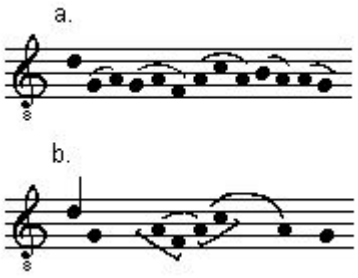
[127] In his transcription of the chant, Novack indicates some of the ligated neumes by means of a slur. A comparison of this with the version contained in the *Liber usualis* indicates, however, that he is not consistent in this respect. He also does not indicate the underlay of the text. The transcription here follows Novack.

[128] Novack, "Pre-Baroque Music," 115. The emphasis is this author's, although the hesitation, in the form of the parenthetical question mark is Novack's.

[129] Ibid., 130.

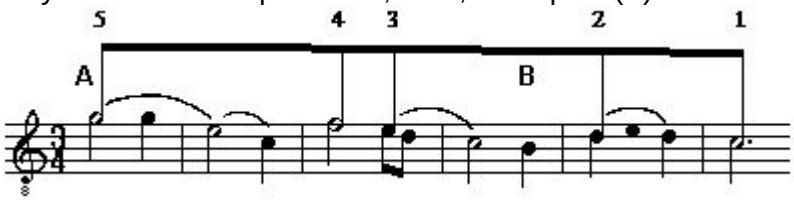
sketches it rather differently and refrains from asserting any linear progression at all. (See Figure 12.)

Figure 12. Novack's sketch of an interior phrase of *Alleluia, pascha nostrum* (at *b*) with his transcription of the chant (at *a*). From Novack, "Analysis of Pre-Baroque Music," 115.



Novack's Examples 2 through 5 present analyses of various monophonic and polyphonic pieces from the early Middle Ages, all drawn from the *Historical Anthology of Music*. One difficulty that arises in these examples is characteristic of multi-level analyses of early music in general. This problem is that the pitch content of the composition is so sparse that it is difficult to understand it as prolonging any remote structure; the linear progressions of the most remote level are presented with no elaboration on the surface. In Schenker's terms, there is little or no composing-out of the background. Novack's Example 2A is perhaps the most extreme example of this problem. (See Figure 13.)

Figure 13. Novack's analysis of the Rondeau *En ma dame*. From Novack, "Analysis of Pre-Baroque Music," 117, Example 2(A).[130]



Bear in mind that Figure 13, allowing for the typical rondeau repetition pattern, contains the entirety of the content of the piece. One cannot deny a general descent within piece. Nor can one deny the presence of the notes that Novack selects as presenting a fifth-line. Nevertheless, with such a paucity of structural depth, it is difficult to understand the piece as convincingly tonal.

When one notes that many of the other pieces from this period (for example, others contained in HAM as well) are absolutely chaotic in these terms, one wonders if Novack did not actually stack the deck in his favor, taking only those pieces that supported his

[130] Novack's transcription omits the text of the composition. The A and B of the figure indicate the two parts of the rondeau form.

thesis and ignoring the rest. Novack himself raised the issue of bias when he stated that his examples from Gregorian chant were "not chosen very selectively."[131]

In his discussion of the problems encountered in the analysis of early music, Novack observes that the dichotomy of modality versus tonality is misleading, noting that the concept of a tonal center had been practiced all along.[132] His discussion of the modes, however, is limited to the repetition of the unfortunately familiar litany of how most of the modal scales (excepting Phrygian) can be converted into replicas of major or minor scales through the chromatic change caused by the common use of B♭ by way of musica ficta.

Novack closes his article with a listing of thirteen "preliminary observations" on the nature of early music as exposed through his and other Schenkerians' analyses of that music.

> 1. Tonal prolongations are present from the beginnings of true polyphony. Even though the procedure is mosaic ... the triad, major or minor is horizontalized....
>
> 2. The history of musical structure of these almost five hundred years reveals a constant growth in the use of the triad as an organizing force....
>
> 3. Modality and tonality are not opposites. Modes in polyphony are not pure and are constantly altered, with the notable exception of Phrygian. Through alteration these modes tend to resemble more and more the major or the minor mode....
>
> 4. The leap of a fifth in the bass ... evolves from the fourteenth century onwards as a property of tonal relationships. During the fifteenth century the dominant phenomenon is well established....
>
> 5. Outer form ... fuses with tonal direction, thus creating tonal form. Interruption ... emerges at a relatively early stage.
>
> 6. Inner form ... becomes identifiable through the techniques of repetition....
>
> 7. The *Urlinie* of the top voice makes itself clearly felt at a very early stage, with recurrent motions of direct descent outlining the triad, the octave, or the lower third of the triad repeatedly revealed in examples....
>
> 8. Frequently the motion of the *Urlinie* is to the leading tone as a penultimate point before the first degree....

[131] Novack, "Pre-Baroque Music," 116.

[132] Ibid., 121.

> 9. The lowest voice frequently supports the tones of the *Urlinie* contrapuntally rather than harmonically....
>
> 10. Prolongations of chords other than the tonic occur with increasing frequency....
>
> 11. The techniques of prolongation are varied, involving many of the same procedures that characterize the music of the eighteenth and nineteenth centuries....
>
> 12. The distance between foreground and background varies. It is less so in the early examples, more so in the sixteenth century. The small spatial elements and the general absence of registral shifts prior to the sixteenth century eliminate the need for a number of hierarchical levels. Further, the frequent demonstration of the complete definitive *Urlinie* descent and the total background representation at the last stage of the composition eliminate the didactic need to separate *Ursatz* from middleground.
>
> 13. Mode may have no bearing on the final *Ursatz*, i.e., the outer voices would not reflect any condition that is not typical of the *Ursatz* representation in either major or minor. The Phrygian mode is, of course, an exception.[133]

The first, second, and seventh observations deal with the question of a triadic basis for early music. It is relatively easy, in music that is essentially diatonic, to pick out notes that form triads; it is less easy to establish that these triads are integrated into the musical structure and that their presence there is intuitively recognizable. As was discussed above (see above), this assertion does not appear to have been conclusively demonstrated for the earliest stages of Western music.

Novack's perspective on Phrygian mode as qualitatively different from the other modes can be seen in his observations 3 and 13. He seems inclined to reserve Phrygian for special treatment, rather than integrating it into his theory.[134] This is probably consistent with the conventional view of Phrygian mode, which either dismisses it as an archaism or acknowledges its uniqueness and then proceeds to ignore it.

Novack's ninth observation invokes Salzer's Contrapuntal-Structural chord, a notion that does considerable violence to Schenker's theory. The CS chord, it will be remembered, was an innovation designed primarily to allow Salzer to deal with music outside the accepted canon of tonal music (see above). There is, additionally, a subtle contradiction between this observation and the eleventh, in which Novack finds similarities between the structure of early music and that of tonal music. Observation 4 identifies the

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[133] Ibid., 129-131.

[134] Novack had devoted an entire article to the subject of the Phrygian mode a few years earlier. See Saul Novack, "The Significance of the Phrygian Mode in the History of Tonality," *Miscellanea Musicologica* 9 (1977): 82-127.

"harmonic" feature of the dominant as an important factor and locates its origin historically.

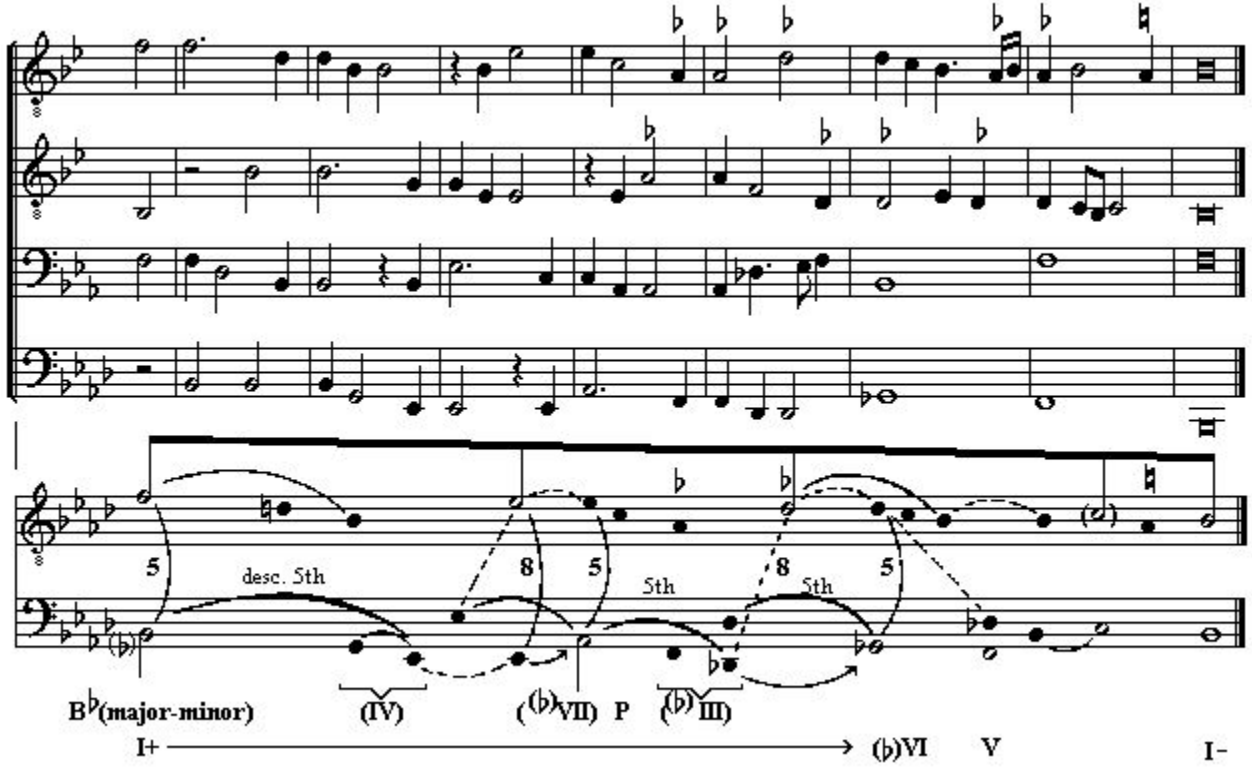
In his twelfth observation, Novack acknowledges the lack of structural depth in much early music. His attribution of this characteristic to the "general absence of registral shifts" may provide an important key to one facet of the problem. The performing forces for which much early music was written were frequently vocal and the parts were consequently restricted to a fairly narrow range. Certain prolongational techniques would indeed be less likely in such a situation. The transfer of fundamental structural forms to middleground levels is a type of composing-out that would add structural depth to a composition and which one might also note as rare or even nonexistent in early music. This condition is not explained by the narrow range of the usual performing forces, since it can be accomplished in a structural top voice of fairly narrow range.

Novack's suggestion, however, that this lack of structural depth can allow one to do away with the distinction between background and middleground cannot be supported. The need to distinguish the two is not based on merely didactic considerations. The background and middleground have theoretical distinctions relating to the content proper for each stage.

In most of Novack's publications, the focus of his analytic effort has been on the music of the Renaissance. Given its relative historical proximity to the Baroque, one probably should expect to find some tonal structures in this music that approach those of major-minor tonality in certain ways.

Novack's analysis of the conclusion of Josquin's motet *Absalon, fili mi* is a convincing treatment of tonal characteristics in a Renaissance composition. The piece is noteworthy for its extraordinary key signature, two flats in the upper two staves and three and four flats in the lower two, as well as its extensive use of *musica ficta* required by the context. The key signatures, notated accidentals, and *musica ficta* combine to carry the composition downward through the cycle of fifths to G♭.

Figure 14. The ending of Josquin's Absalon, fili mi with Novack's analysis. From Novack, "Tonal Tendencies," 322.



Such features as the implicit parallel fifths broken up by the insertion of intervening octaves and the transfer of the fundamental linear progression into an inner voice are undeniably present and are clearly identical to procedures common in tonal music. The move from B♭ major at the beginning of the passage to B♭ at the end, while not common in tonal music, is at least intelligible in those terms. This is not to assert that the entire composition is as equally clear as to its tonality, and Novack does not go this far. There are serious questions as to the real tonic of the piece, E♭ versus B♭, as well as to the question of the priority of major versus minor for the overall mode.

Conclusion

The analyses of pre-Baroque music discussed above are, in many respects, quite similar in approach. Superficially, they all resemble Schenkerian analyses. Linear progressions of fifths and fourths are quite common. There are also arpeggiations and retained tones.

There are differences between these analyses and typical Schenkerian analyses of tonal music as well. The familiar bass arpeggiation from the tonic to dominant and back is seldom to be found; it is often replaced by Salzer's innovation of the Contrapuntal-Structural (CS) chord. Third-lines are not nearly so prevalent as fifth-lines.

These analyses also frequently exhibit similar weaknesses. Perhaps the foremost among these weaknesses is that the remote voice-leading entailed by the foreground sketches is often incomprehensible; it appears to assert structures (for example, seventh chords) that are not believable in the context of early music. Another weakness is that foreground details without obvious interpretations are repeatedly glossed over and simply not dealt with in the analysis. Some of these are figures so common in earlier music that they must have convincing analyses, if the approach is to be considered at all useful for this repertory.

These weaknesses lead to the conclusion that a Schenkerian approach to this repertory may be inappropriate. Only those aspects of the music of the Renaissance and earlier that are the most forward looking seem to make sense from the strict Schenkerian viewpoint.

CHAPTER III

Structure in Pre-Tonal and Incipiently Tonal Music

The hypothesis that informs the following discussion is that derived in Chapter II from Schenker's comments on early music. This hypothesis proposes that, at the earliest stages of incipient major-minor tonality, composers discovered that certain compositional techniques would produce the effect of a triadic harmony underlying the stated surface of the music. Later, by applying some the same compositional techniques on a larger scale, primarily that of linear progressions in the uppermost voice, they were able to produce this effect in larger dimensions. Ultimately, this linear organization would encompass the entire composition and function as a cohesive factor, unifying the composition structurally.

It need not be the case that the various stages described above represent differentiable historical periods. It is even reasonable to suggest that contemporaneous compositions might exemplify different stages of development of major-minor tonality. The conventional view of the period preceding that of the ascendancy of major-minor tonality is that musical composition was governed by the principles of modality. Accepting this view for the time being, one would conclude that certain compositions might be acceptably modal and, at the same time, contain incipient tonal characteristics.

The progress toward linear organization of triadic harmonies at more remote levels may have been encouraged through composition in smaller forms. This would be expected because, in smaller pieces, a composer would be more easily able to grasp the entirety of the composition as a unity. A level of comprehension such as this would facilitate the control of linear progressions at the most remote stage of musical structure. This process would be directly analogous to the process whereby Schenker, in the development of his theory of tonal structure, was able to reach to the background first in his analyses of smaller pieces.

Regularity of formal organization may also have fostered the developing sense of major-minor tonality on the part of composers during this intermediate phase. Compositions based on ostinato chordal patterns and smaller dance forms, in particular, would have had regularity of this sort.

Structure Near the Surface

According to one interpretation of Schenker's theory of tonality, that of Proctor and Riggins, the foreground is the stage at which the middleground and background can be said to be fleshed out.[135] This is to say that the abstract pitch structure of the more

[135] Proctor and Riggins, "Levels and the Reordering of Chapters," 123.

remote levels is converted at the foreground into specific pitches with definite durational value and metric placement.

The traditional notion of *diminutions*, or *divisions*, would seem to cover the implications of this instantiation of an underlying harmony, that is, the representation of a few notes by many. *Diminution* is, in fact, the term used frequently by Schenker to denote the process at work in the foreground.

Harmonies at the Foreground

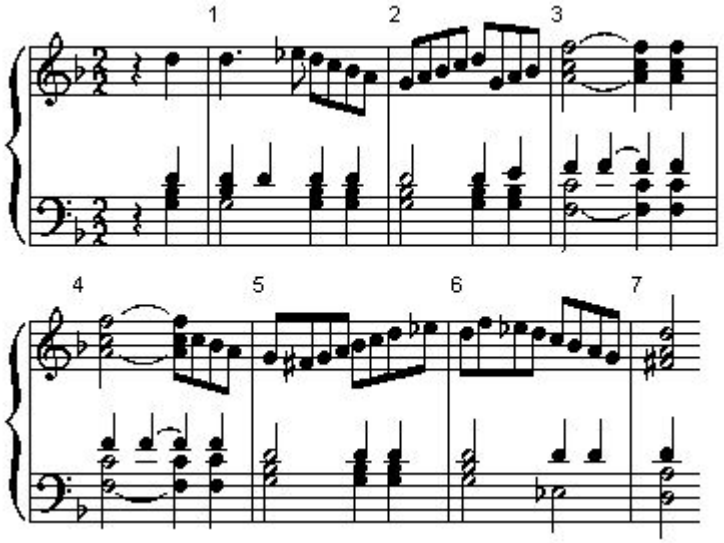
The practice and, to some extent, the theory of composition in the sixteenth century allowed for the ornamentation of individual melodic parts. These ornaments, or diminutions, were frequently improvised, but were occasionally written out for the benefit of those performers who lacked the skill to improvise them. The general rule for these diminutions was that "either the diminution began and ended on the pitch of a single long note for which it was substituted, or it began with that note and approached the next note (of the original work) by scalewise motion."[136]

Though the treatment of dissonances in such passages appears always to have been somewhat freer than it was in normal, "strict" composition, the innovations in dissonance treatment of the seventeenth century served to expand the possibilities in this regard. It was the sense of an underlying harmony that permitted these licenses, keeping them under control.

The excerpt given in Figure 15 illustrates a clear composing-out of harmonies at the foreground. The piece from which it was taken was included in a collection of keyboard intabulations from 1551. Note the use of passing and neighboring motions as well as arpeggiations within the G-minor harmony. Measure six includes a figure that can be interpreted as a neighbor of a neighbor, E♭ being a neighbor to D and F♮ a neighbor to E♭.

[136] Imogene Horsley, "The Diminutions in Composition and Theory of Composition," *Acta Musicologica* 35 (1963): 126.

Figure 15. Beginning of Gardane's "Pass'e mezo antico primo" of the *Intabolature nova di varie sorte de balli da sonare. Libro primo*. From *Keyboard dances from the earlier sixteenth century*, 49.



One interesting aspect of this piece derives from its original notation as an intabulation. The accidentals are explicitly notated rather than being left to the performer's discretion. It can be seen that, despite the apparent basis for the piece in transposed Dorian mode, the composer had in mind a fairly clear notion of G minor. In this same collection, however, one can find passages where the concept of major-minor tonality was not so clearly held. One could argue, of course, that the "altered notes" that turn this passage toward major-minor tonality do not contravene any rules of Renaissance counterpoint. The E♭s can all be accounted for by the rule *una nota supra la semper est canendum fa*. Additionally, the E♭ in the sixth measure is reinforced by the rule for forming cadences by the intervallic progression major sixth to octave. The F♯ of measure seven is required by the rule for cadencing on a major triad. The F♯ of the fifth measure, though not required, is certainly allowed *causa pulchritudinis*.

The hypothesized evolution of major-minor tonality outlined at the beginning of this chapter proposes an initial stage of development in which harmonies of the foreground are convincingly composed-out, but those harmonies are not themselves products of the composing-out of some prior level. Harmonies, at this stage, would not "entwine with a fundamental line," to use Schenker's expression.[137]

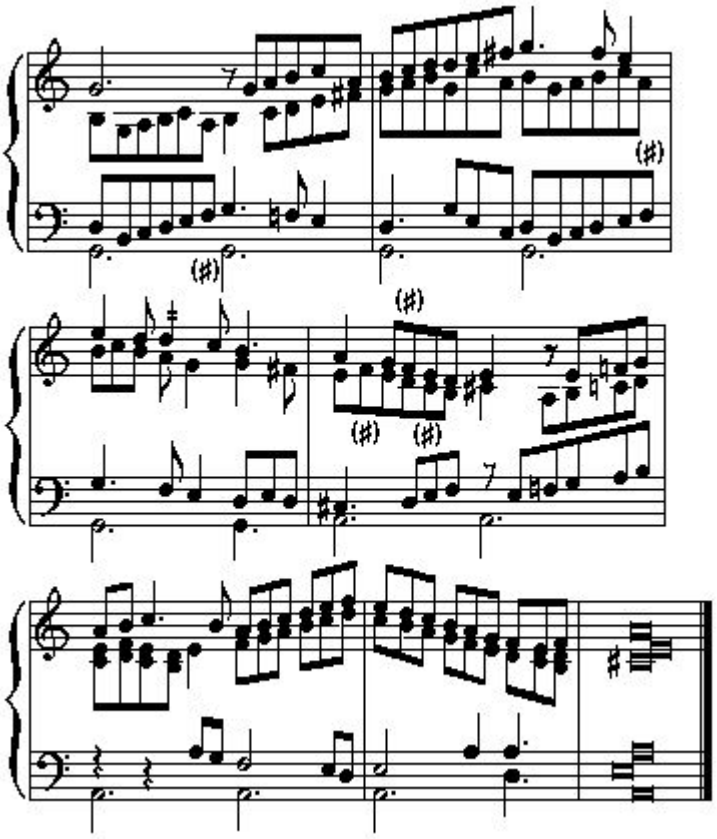
A composition that seems to satisfy these conditions is the *In nomine* for keyboard by John Bull.[138] Bull's keyboard setting, like the many other similarly titled instrumental compositions of the time, is a cantus firmus composition based on the antiphon *Gloria*

[137] Schenker, "Geschichte der Tonkunst," 4. This article was translated in Chapter II above.

[138] John Bull, *In nomine*, ed. J.A. Fuller Maitland and W. Barclay Squire in *The Fitzwilliam Virginal Book* (Leipzig: Breitkopf & Härtel, 1899; reprint, with corrections by Blanche Winogron; New York: Dover, 1979-80), 2:34-39.

tibi Trinitas. Since the cantus firmus upon which the piece was based was originally a Gregorian chant, one probably ought not to expect to find remote-level linear progressions that derive from composing-out triadic harmonies, and this certainly turns out to be the case. The clarity with which the triadic harmonies of the foreground are composed-out is, therefore, all the more remarkable. Figure 16 presents the final measures of the composition.

Figure 16. Final measures of John Bull's *In nomine*. From *The Fitzwilliam Virginal Book*, 2:39.



Several aspects of the composition can be identified as contributing to the harmonic impulse at the foreground. The sustained tones of the bass serve as the foundation for the upper-voice activity and cause these upper voices to congeal into a harmonic unity. Additionally, the predilection for parallel thirds and sixths in the upper parts give the sense that it is a triad, or at least a sonority composed of thirds, that is being composed-out.

Diminution Technique

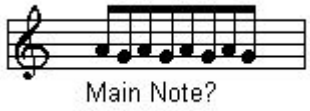
The establishment of certain melodic figures as conventional representations of particular harmonic facts was a crucial stage in the development of a harmonic basis for composition. During the early Baroque there was a keen interest in ornamentation among composers and writers on music. The inclusion of the topic in numerous treatises on music of the period, as well as the common treatment of the topic in prefaces to

published music, is evidence of this. The process of standardization that this discussion encouraged was invaluable for evolving tonality. Once turned into conventions, ornaments could be used by the composer as a kind of structural shorthand.

Whether indicated by symbols or written out, as they occasionally were before standard symbols were developed, ornaments were precisely that. That is, they were elaborations of a simpler model, the representation of one note by many.

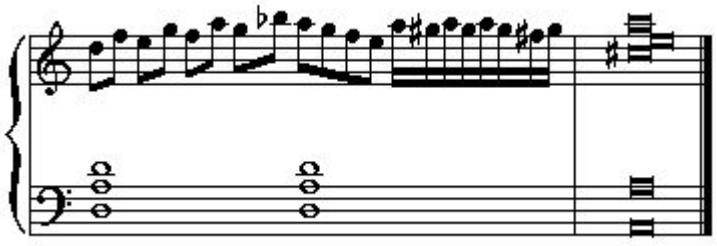
At the early stages of the development of harmonic composing-out, the various figures of diminution lacked standardization. An example of this is the conflict in interpretation of the pattern in Figure 17 as to what is the "main note." One interpretation takes this to be a trill, that is, that the lower note is the principal note and the upper note is ornamental. The alternative interpretation, that of the long, or multiple, mordent, reverses the situation taking the upper note as principal and the lower one as ornamental.

Figure 17. Trill versus Long Mordent.



Without a context or the power of convention, there is no way to determine which note in the figure is the main note. Convention would incline one to interpret the figure in one way or another. A context, however, could force an interpretation that might even contradict convention. At an early stage in the development of major-minor tonality, one can find such figures used inconsistently. A strict tonal interpretation would deem certain of these uses as generating "wrong notes."

Figure 18. Final measures of Giovanni Gabrieli's *Fuga Seconda*. From Gabrieli, *Composizioni per organo*, 2:36.



In the preceding example (Figure 18), the cadential context would seem to require the interpretation of the rapid alternation as a trill; the turn at the conclusion of the figure is perfectly in keeping with the cadential use of the figure. Nevertheless, the harmonic context forces the interpretation of the figure as a long mordent, with the lower note of the apparent turn as a "chord tone."

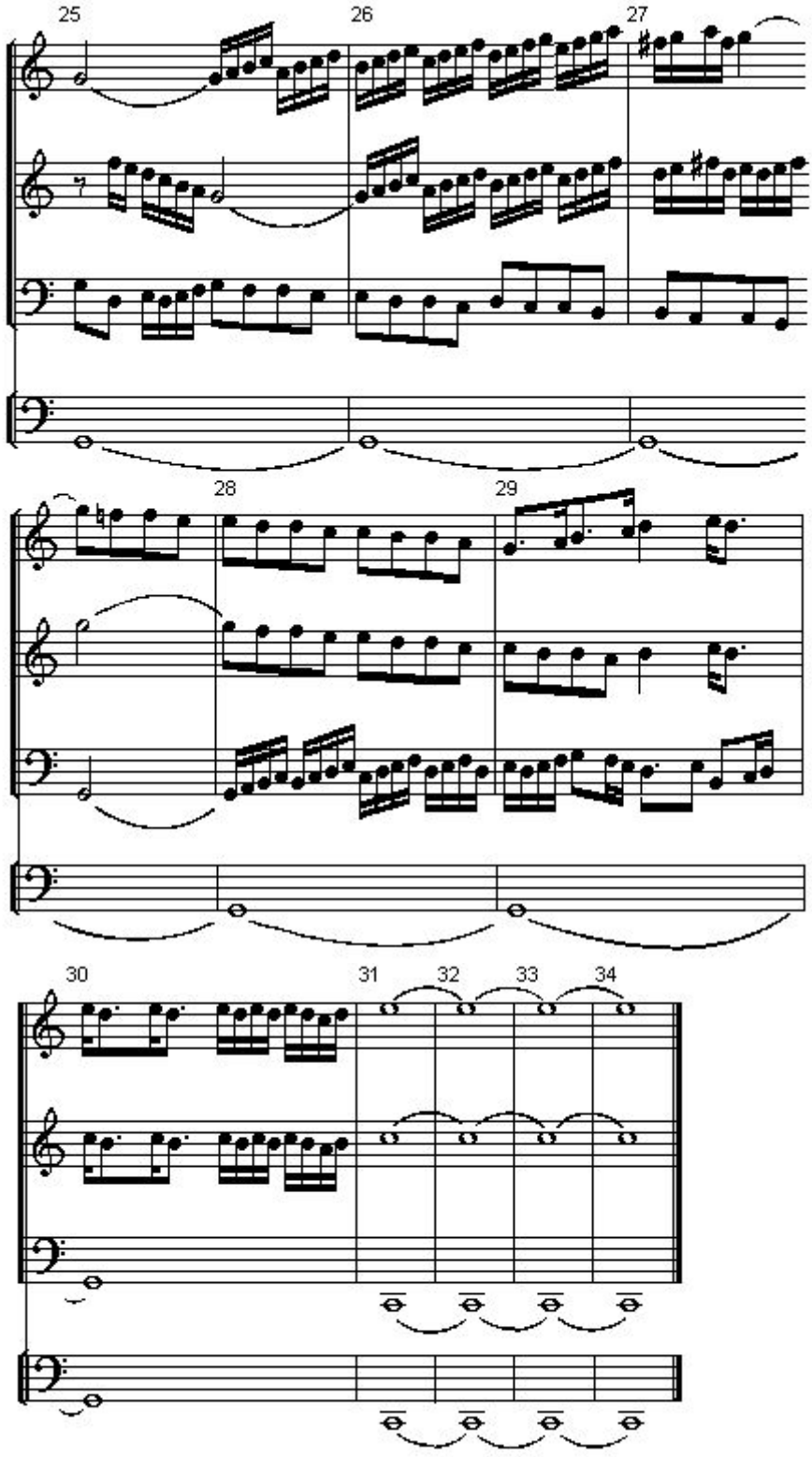
Ultimately, conventions were established as the various ornamental figures came to be used in ways that were predictable. The mordent, for example, came to be used mostly with shorter note values and in non-cadential situations.

There is an inevitable connection between the developing diminution technique and the characteristic figurations natural to a particular instrument. In his discussion of English keyboard music, for example, Bukofzer mentions "rapid scale passages, inexorably repeated rhythms, syncopated and dotted figures, arpeggios, broken octaves, and percussive chord successions" as characteristic of that idiom.[139] Similar lists could be made for stringed and wind instruments as well as for voices.

Such practical considerations as the requirements of fingering and bowing, the difficulties of transition between registers, and other constraints would certainly vary from one instrument to another. Figures that would be more-or-less natural on one instrument would be impossible on another. As can be seen in the following example, short, scalewise passages in the violin parts seem particularly well suited to the fingering requirements of the instrument.

[139] Manfred F. Bukofzer, *Music in the Baroque Era From Monteverdi to Bach* (New York: W.W. Norton, 1947), 72.

Figure 19. Excerpt from Castello's "Sonata 9 for two violins and bassoon" [editorial markings and continuo realization omitted]. From Castello, *Sonate concertate in stil moderno*, 41.



In this example, one can see several characteristics of idiomatic instrumental writing, particularly in the upper two parts, for violin. Note the short scale-wise figures in measure 26, the typical movement through a third and back in measure 27, and the written-out trills in measure 30.

The cadential pedal point on the dominant in this example also provides the opportunity for an extensive composing-out of the dominant harmony. Pedal points, in general, can be viewed as the appearance on the surface of a more remote harmony. The sustained pitch in the continuo could also be viewed as influenced by the capabilities of the instrumental performing forces.

The early Baroque saw the rise and eventual predominance of instrumental music over vocal music, the principal compositional medium of the Renaissance. Part of this process was the achievement of an instrumental style truly independent of the contemporary vocal forms. The practical limits of the instruments, as well as the things at which they could excel, certainly affected the advances in instrumental writing. In particular, their ability to play "fast notes" led to the development of melodic patterns, diminutions, that reinforced the inchoate sense of harmonic structure in the music.

The Leading Tone

The concept of a leading tone is deeply embedded in the theory of major-minor tonality, though its place within that theory has not, perhaps, been thoroughly studied.[140] The very term evokes the goal directed nature of the music.

Schenker's use of the expression *leading tone* is, in some sense, more general than the common use of the term at the present. He is able, for example, to speak of the $\hat{2}$ of the $\hat{2}$-$\hat{1}$ progression as being a leading tone.[141] This explicitly links the concept of leading tone to the notion of goal orientation, since he was conceiving of the $\hat{1}$ as the goal tone of a descending linear progression. This concept does not, however, identify the relationship between the major seventh scale degree and the tonic as having any special quality.

Nevertheless, the more specialized concept of the leading tone, linked especially, but not solely, with the major seventh scale degree, does seem to deserve consideration. One point that must be considered is the question of the nature of the leading effect and the conditions under which a note may become a leading tone. The fact that the effect has come to be commonly associated with a particular degree of the scale, to the extent that the seventh degree has acquired the name "leading tone," may be misleading.

It does seem that the semitone relationship that occurs between the seventh scale degree and the octave may hold the clue to the leading effect. This leading effect, then, might be associated with the relative rarity of the semitone with respect to the diatonic system. There are two naturally occurring semitones in the diatonic system, the only

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[140] One interesting theoretical treatment of the topic is Geoffrey Chew, "The Spice of Music: Towards a Theory of the Leading Note," *Music Analysis* 2 (1983): 35-53.

[141] See, for example, Schenker, *Free Composition*, 16.

interval rarer in the system being the tritone. The semitone is an adjacency, however, whereas the tritone is not. The semitone, therefore, can be found in the leading of a individual voice.

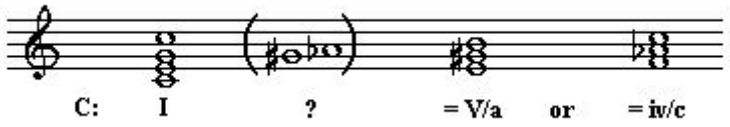
If leading effect is associated with the relative rarity of the semitone, then both naturally occurring semitones in the diatonic system may be viewed as possessing a leading quality. The other semitone in the diatonic system, located between the third and fourth scale degrees in major or between the fifth and sixth degrees in minor, is frequently construed as a downward leading tone. Its location between the first and second degrees of the Phrygian mode has also earned it the appellation, the "Phrygian leading tone."

Because it is frequently employed with an orientation toward the tonic, the upward leading tone on the seventh degree is frequently conceived of as a tonic indicator, that is, as an element that identifies as tonic the note to which it is leading.

In general, a tonic or dominant indicator can be said to be a musical element that, by context that it participates in and helps to create, projects another note as tonic or dominant. The "musical element" referred to here is a *harmonic* entity and may be expressed in an actual musical passage as a chord or as a melodic passage. A tonic or dominant indicator cannot be single note; it must be in a harmonic context in order to point to another note as tonic or dominant unequivocally.

An example of this, using the key of C major, is the chromatic note lying between G and A, perhaps the most common of all chromatic inflections in tonal music. (See Figure 20.) Without a context, this note might be interpreted as either a G♯ or an A♭. Given a context in which this note can be interpreted as a G♯, it effectively points to A as a tonic. Alternatively, given a context in which this note can be interpreted as a A♭, it effectively points to G as a dominant.

Figure 20. Alternative interpretations of G♯/A♭ in C major.



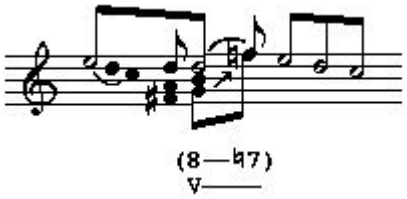
The concept of tonic indicators is not really a new one. Teachers of beginning levels of music theory have frequently employed such ideas as useful techniques for effecting modulations. The whole notion of secondary dominants is built on the idea of an altered note that serves as a leading tone (that is, a tonic indicator) to another key.

It is certainly true that some musical events are more efficient as indicators than others. This is to say that they require relatively less context to be established in such a function. Additionally, it is possible for a musical context to be sufficient for identifying an event as an indicator, but not to be sufficient for identifying just what is being pointed to. The ambiguity of such a situation can be effectively exploited by the composer for artistic purposes. The obvious example of such a situation is the diminished-seventh chord.

This chord is strongly pointing somewhere, but until resolution one cannot know precisely where.

The articulation of a major second below the root of a major harmony can be an effective indicator for the root of that harmony as a dominant. This lower major second throws into relief the tritone between itself and the third of the harmony. The typical interruption scheme presents a common instance of this dominant indicator. This is the correction of the fourth scale degree, after that scale degree in its raised form has served as a tonic indicator of the fifth degree, to prepare for the return of the tonic harmony supporting the head-tone of the fundamental line. The effect of the natural fourth degree in this context is that of returning the fifth degree to its former status as dominant of the primary key. Figure 21, which illustrates this, is drawn from Schenker's *Free Composition*, Fig. 23, whose discussion is found in paragraph 92.[142]

Figure 21. Cancellation of the altered fourth scale degree in Schenker's model for interruption. From Schenker, *Free Composition*, 2: fig. 23a.



The lower major second is not as effective a dominant indicator for a minor harmony as it is for major, since a minor tonality possesses a major second below its tonic. A more effective dominant indicator for a minor harmony is formed by asserting a minor second relationship above the root of the harmony. This prevents the interpretation of this step above the root as a supertonic and effectively eliminates the tonic as a possible interpretation for the root of the chord. It also emphasizes the tritone relationship between itself and the fifth of the harmony.[143]

This upper half-step relationship could, without a context, be taken as scale degrees 4-3 in the relative major key. This potential ambiguity can be removed by raising the third of the harmony, converting it to major quality by borrowing the leading tone, a strong tonic indicator, from the parallel major. This is, of course, the common treatment of the dominant harmony in minor. The insertion of this leading tone also introduces the rare

[142] Schenker is concerned, in this passage, with the conceptual distinction of the transferred line, G-F-E, from the fundamental linear progression, E-D-C. Schenker did appear to recognize the effect of the F♮ as de-tonicizing the fifth degree and indirectly indicating it as a dominant, though, in his statement that "the diatonic seventh usually serves to cancel the chromatic alteration in the succession II♯–V♭7...." Schenker, *Free Composition*, 38.

[143] The developments in the first movements of Mozart's Piano Sonatas in F Major, K. 280 and 547a, both provide excellent examples from the classic period of dominant indicators in minor.

interval of the augmented second/diminished seventh.[144] This alteration effectively completes the complex and relatively chromatic harmonic nexus known as a minor key.

The augmented-sixth chords are interesting in that they combine tonic and dominant indicators into a single chord and focus both indicators on a single note. The characteristic interval of these chords, the augmented sixth itself, is formed by pitches that cannot coexist in a single key, even in minor, which is chromatically much richer than major. Since augmented-sixth chords contain simultaneous references to two different keys, they can be said to be explicitly polytonal.

There are examples in the tonal repertory of passages focused on the dominant of the key, although extended passages of this sort may be rare. One is tempted to refer to this process as *dominantization*, using a term coined by Godfrey Winham.[145] Drawing on a general definition of *tonicization*, one might conclude that if tonicization is the organization of pitch content in such a way that a particular tone is projected as tonic, then dominantization is by extension the organization of pitch content in such a way that a particular tone is projected as dominant.

Unfortunately, the logic of this argument is flawed by the naive definition of tonicization that it assumes. Tonicization is the totality of the process of establishing a key through the composing-out of its tonic harmony. Once this context is established, not only is one note unequivocally identified as tonic, but the others are, by implication, identified as dominant, mediant, etc. This process is not an analogous process to tonicization, but is a subset of it. It would appear, then, that the term *dominantization* is not quite so useful as it seemed initially. It should be noted, then, that tonic and dominant indicators are nothing more than specific instances of orientation within a particular diatonic system.

In major-minor tonality, the interpretation of the upward leading tone as a tonic indicator would seem to be linked inextricably with the dominant harmony at the foreground and the later levels of the middleground. This may be an essential characteristic of tonality.

The minor key, where the seventh degree is not naturally major and must be chromatically altered in order to convert it into a leading tone, offers some interesting possibilities for the study of the nature of the leading tone. In particular, it may be possible to differentiate situations where the seventh degree may not be required to be a leading tone from those where it is.

It does seem clear that, when the dominant harmony is composed-out at the more remote levels, it is to be treated in its diatonic form, that is, as a minor harmony. It would be at levels nearer the surface that the harmony is converted to major quality through the creation of a leading tone. This aspect can be seen in the following middleground-level sketches for the typical interruption scheme in minor.

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[144] Schenker considered this interval to be "univalent" in that it could be derived by means of mixture only between the seventh degree of a major key and the sixth degree of the parallel minor key. See Schenker, *Harmony*, 128.

[145] See Proctor, "Technical Bases," 77.

Figure 22. Interruption Scheme in a Minor Key.

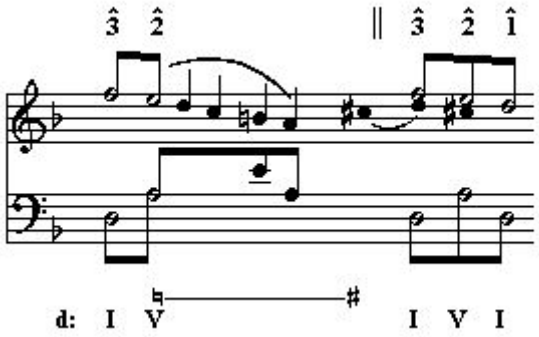
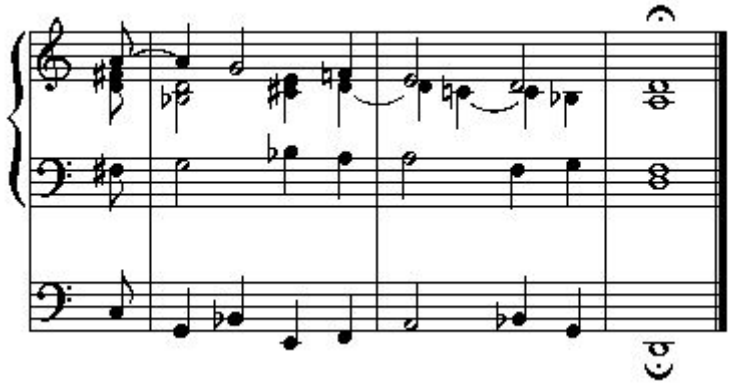


Figure 22 shows how the composed-out dominant harmony is first expressed as a minor harmony, but is converted to a major quality at the point where it is to move to the tonic harmony. It would seem that this major dominant might belong to some later level than does the more thoroughly composed-out minor dominant.[146] It would be analogous, then, to the common situation with the interruption scheme in major, where the dominant frequently has a seventh added for the purposes of de-tonicizing it and smoothing the transition to the regained head-tone of the fundamental line. On the other hand, Schenker's notation of the technique in *Free Composition* consistently treats both dominants as instances of one and the same harmony.

Although the requirement that cadential dominant harmonies include the seventh degree of the scale as a leading tone would seem to be absolute for tonal composition, there are isolated exceptions.[147] In the penultimate measure of the following example (Figure 23), from the conclusion of the fugue of J.S. Bach's well-known *Toccata and Fugue in D minor*, the seventh degree of the scale is explicitly not raised.

Figure 23. Conclusion of the fugue of J.S. Bach's *Toccata and Fugue in D minor*. From Bach, *Werke*, 15:275.



[146] This was not the conclusion of Chew, who felt that "the V in the background appears to generate a major triad." Chew, "Spice of Music," 42.

[147] Actually, Schenker is somewhat reserved on this point. "In minor it is usually necessary to achieve a leading tone over the V." Schenker, *Free Composition*, 136.

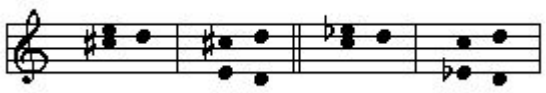
In what would seem definitely to be a cadential situation, Bach avoids the leading tone and clearly presents the seventh scale degree as part of a downward passing motion, leading away from the tonic.

The phenomenon of the leading tone is not unique to major-minor tonality. According to Novack,

> the leading-note as a means of intensifying directed tonal motion had fully emerged by the beginning of the Renaissance. The fifteenth century witnessed its enhancement and reinforcement through the fifth relationship, i.e., the dominant-tonic phenomenon.[148]

As early as the fourteenth century, rules for the progression of intervals imply the use of a leading tone.[149] The instructions for forming the *clausula vera* cadence, a cadence in two voices, in most counterpoint treatises of this time and later required the octave to be preceded by a major sixth. If the parts are inverted, a minor third is to precede the unison. While the rules describe the progression in terms of the intervallic relationships between the parts, it must be noted that the formulation makes inevitable a linear relationship, in one voice or the other, of a semitone either above or below the cadential pitch class.

Figure 24. *Clausula vera* cadence.



The fact that music theory treatises specified the use of one or the other type of cadence illustrated in Figure 24, even when the alteration of a diatonic note by means of *musica ficta* was required, may be interpreted as indicating a recognition of the potential leading quality of the semitone. The leading effect of these alterations seems to be recognized by Prosdocimo de' Beldomandi when, in his *Contrapunctus*, he asserts that

> if round or soft b occurs in ascent it lessens the ascent; square b augments it. In descent, on the contrary, the situation is reversed. Round b augments the descent and square b diminishes it.[150]

Although the characterization of the upward leading tone as a tonic indicator may be a necessary aspect of major-minor tonality, this characterization would appear to be inconsistent with the use of the leading tone at the earliest stages of its use. The

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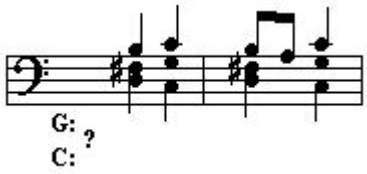
[148] Saul Novack, "Tonal Tendencies in Josquin's Use of Harmony," in *Josquin des Prez*, ed. Edward E. Lowinsky (London: Oxford University Press, 1976), 317.

[149] Richard Crocker cites Philippe de Vitry as an early theorist who presented the idea in these terms. See Richard L. Crocker, "Discant, Counterpoint, and Harmony," *Journal of the American Musicological Society* 15 (1962): 12.

[150] Prosdocimo de' Beldomani, *Contrapunctus*, ed. and trans. Jan Herlinger, Greek and Latin Music Theory, no. 1 (Lincoln: University of Nebraska Press, 1984), 77.

stipulation that the leading tone always indicate its goal as tonic would require that the double-leading-tone cadence of the fourteenth and fifteenth centuries (see Figure 25) be viewed as intrinsically polytonal.

Figure 25. The Double-Leading-Tone Cadence.



Although the characterization of the double-leading-tone cadence as polytonal seems inappropriate, there are several chord progressions from mature major-minor tonality for which it apparently would be. As discussed above, chords such as the common-tone diminished-seventh chord and the augmented-sixth chords arise from the combination of elements that clearly point to different tonics.

Even if the upward leading tone cannot be taken as necessarily being a tonic indicator at the earliest stages of its use, there can be no doubt that it ultimately acquired this characteristic. It is perhaps the case that the decline in the use of the double-leading-tone cadence during the fifteenth century was related to the emergence of awareness of the tonic indicating potential of the leading tone.

The Cadence and the Incipient Linear Progression

Cadences are among the more recognizable compositional features that have an obvious bearing on tonality. Though the procedures for forming them have changed over time, there can be no doubt that cadences tend to establish focal points in the pitch structure of musical compositions. Theorists throughout history have devoted much discussion on the identification of the appropriate pitches for cadencing upon, as well as on the proper methods of constructing the cadences.

The differences and similarities in the cadential practices of the Renaissance and Baroque eras have attracted a great deal of attention. The consensus of opinion would seem to be that, at least by the sixteenth century, cadences had many of the elements that one would find in major-minor tonality. In his study of tonality in the sixteenth century, Lowinsky, for example, stated that:

> A feeling for tonality manifests itself first in the consolidation of a tonic. The cadence is the cradle of tonality.[151]

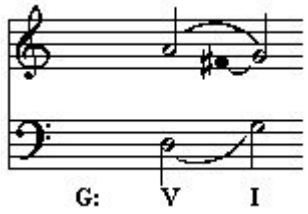
A cadence can be defined as a special case of harmonic progression. In particular, it is the coincidence of a particular progression of harmonies with the realization of a goal of melodic progression. Because of this connection with goal orientation, cadences are frequently used as devices to articulate the formal divisions of a composition.

[151] Lowinsky, *Tonality and Atonality*, 4.

It is the so-called authentic cadence together with its derivatives, the deceptive and half cadences, that are of most interest in the context of major-minor tonality. The authentic cadence is a progression from a dominant harmony to a tonic harmony that coincides with the attainment of the tonic in an upper voice. The authentic cadence was an early expression of goal orientation in incipiently tonal music and seems to have arisen rather earlier than many of the other elements of major-minor tonality.

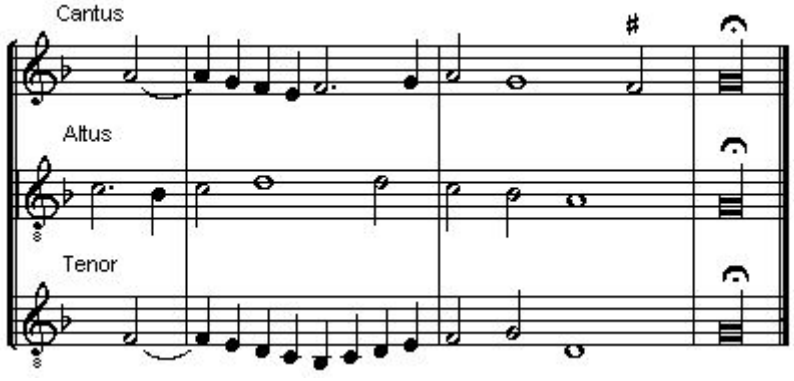
The use of the authentic cadence in pre-tonal music can, on occasion, present an interesting situation. A convincing authentic cadence can be introduced as the conclusion of a passage that may otherwise be lacking in tonal direction. The identity of the dominant of the cadence is usually established unambiguously through conventional use of the 4-3 suspension figure and, in some cases, by the alteration of the third of the harmony to produce a leading tone. In such a situation, it may not be altogether clear where the linear progression of the upper voice originates. The cadence itself confirms the goal of the linear progression, although it is a line without a beginning.

Figure 26. The incipient linear progression of the authentic cadence.



The following passage from Orlando di Lasso's *Missa Pro Defunctis* can be taken as an example of such a situation. Presumably to be taken as being in G Dorian, this short composition gives little evidence of being in G minor prior to the final cadence. There is a deceptive cadence in an apparent F major somewhat earlier, but a considerable portion of the piece, including the passage leading up to the final cadence (see Figure 27), seems lacking in tonal direction.

Figure 27. Conclusion of the Benedictus from Lasso's *Missa Pro Defunctis* [text omitted]. From Lasso, *Sämtliche Werke. Neue Reihe*, 4:113.



The typical transposed Dorian cadential formula serves to identify the dominant harmony clearly and introduces a goal orientation at the conclusion of a passage that otherwise had seemed quite lacking in such an orientation. Further development of this process in

the direction of major-minor tonality would see the extension of this goal orientation further back from the cadence, until entire phrases were directed toward a goal of linear motion.

Structure at Remote Levels

In the various attempts to apply Schenker's theory to pre-seventeenth-century music, it was frequently the structure proposed for the more remote levels that was the most problematic. In particular, such concepts as the Contrapuntal-Structural chord and non-linear organization of the upper voice had to be invoked to account for structural characteristics peculiar to this music. It is here that a narrow application of Schenker's concepts may reveal ways in which this music is not strictly tonal.

The Lack of a Fundamental Linear Progression

The hypothesis for the development of tonality outlined at the beginning of this chapter includes a developmental stage in which compositions may be hierarchically structured at the surface and through several levels prior to that, but that no overarching structural organization encompasses the entire composition. One could say or such a piece that it has a middleground but no background. While such a condition may be theoretically conceivable, it remains to be demonstrated that actual compositions of the period exhibit structural organization of this sort. Compositions that represent this intermediate stage of the evolution would be mostly, but not completely, tonal.

There are also some conceptual problems with the idea of a partial hierarchical structure that must be considered. It is not immediately obvious what one should expect of the surface-level characteristics of the juncture between structurally unconnected passages. Or, to pose the question schematically, if **X** and **Y** both represent passages that possess a structural linear organization from the surface back to some point in the middleground, but are unrelated at any more remote level, what would lie on the surface between **X** and **Y**, if anything?

One possibility is that nothing might come between them, that is, that **X** would conclude and **Y** begin immediately thereafter (illustrated in Figure 28a). For **X** and **Y** to be unambiguously distinct in such a configuration, however, they would presumably have to be quite dissimilar. This could be accomplished by the use of keys that are not "closely related" according to major-minor tonality. An example in which **X** is in F major (Lydian, transposed Ionian) and **Y** is in G major (Mixolydian) is even conceivable within the bounds of modality. Given the relatively few key signatures in use in the modal period, however, the opportunities for such relationships in compositions that are ostensibly modal are not extensive.

Figure 28. Schematic representation of unrelated middleground-level passages juxtaposed (at *a*) and with an intervening passage (at *b*).

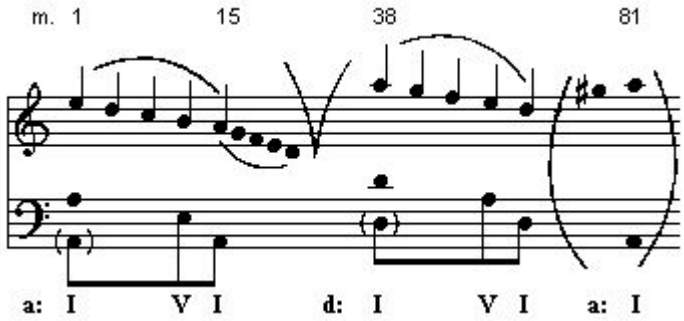
Another possibility (illustrated in Figure 28b) would have a passage **(i)** interposed between **X** and **Y** that lacks linear organization at even a middleground level. In this configuration, **X** and **Y** might be in closely related keys, or even in the same key, yet the piece would lack linear organization at the background. The aural effect of an **(i)** passage would presumably be one of wandering or loss of direction, since it would lack the goal orientation of major-minor tonality. This would seem to be a description of a reasonably familiar reaction to some Renaissance music.

A composition that appears to exhibit the characteristics of both possibilities is Giovanni Gabrieli's *Fuga Seconda*.[152] The subject of the fugue exhibits a prominent fifth presented as a descending leap, E-A, followed by an ascending fifth-line, A-E. If there is any structural difference between this subject and what might be expected from a mature tonal composer, it is that the linear progression presented by the subject resides purely in the foreground. A real answer in the subdominant with the fifth, A-D, follows.

Despite a certain emphasis on the subdominant, the structural focus of the exposition is clearly on A. The prominent surface fifth, A-E, of the subject is reflected in a middleground-level descending fifth-line. After this fifth-line is complete, a fleeting fifth-line in D minor appears, followed by a passage in which there is no discernible linear structure at a level of the middleground. About halfway through the piece, however, D minor is taken up decisively and remains the focus of the composition until the very end. D minor is expressed through several middleground-level descending fifth-lines. Although A-minor material is found in the latter half of the piece, it is clearly in the context of D-minor as its dominant.

After an unequivocal descent through the fifth, A-D, at a remote level of what would be the middleground, the concluding cadence presents a curious return to A, echoing the focus on A of the fugue's exposition. This is the cadence used as the example of a "wrong note" trill in Figure 18 above.

Figure 29. Analytic sketch of Giovanni Gabrieli's *Fuga Seconda*.



It is interesting to note that, in one source, this composition is identified as *Ricercar IX toni*, that is, in the ninth mode. According to Glarean's numbering of the modes, the system that came to be generally adopted, the ninth mode is the authentic Aeolian mode. Although this does not explain the significant role of D throughout a large portion

[152] Giovanni Gabrieli, "Fuga (2a)" in *Composizioni per organo*, ed. Sandro Dalla Libera (Milan: Ricordi, 1957-59), 2:32-36.

of the composition, it does seem to rationalize the focus on A at the beginning of the piece and the cursory return to A at the end.

The Problem of Parallels

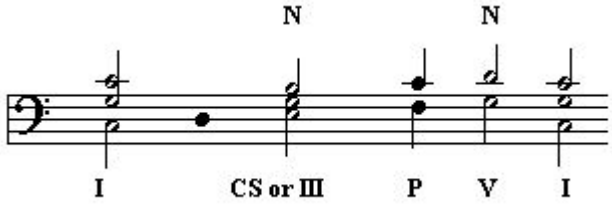
Many structural analyses of early music, particularly of the Medieval era, exhibit prominent parallel fifths and octaves at remote structural levels. Salzer's analysis of Perotin's organum triplum *Alleluya Posui*, which was discussed in Chapter II, is an example of this characteristic. The presence of such significant parallels in this music seems to imply that structural voices in this music are not truly independent, and that the pieces are not really *polyphonic* in some sense. That remote-level parallels seem to be almost ubiquitous in this music is certainly noteworthy and requires some consideration.

To be sure, Schenker does not rule out parallel fifths at remote levels of structure, but he does indicate that they are exceptional enough to demand special treatment. Specifically, he requires that later levels introduce voice leading that serves to remove them. Neither does Schenker issue that blanket dictum that surface parallels are to be avoided absolutely. Foreground parallels can be acceptable as long as they arise purely from surface-level figuration and do not confuse the priorities of the voice leading of the more remote levels.

The question then arises: If remote-level parallels are allowable in Schenker's theory, why should their presence in analytic graphs of early music be noteworthy? The answer lies in the nature of these parallels, which can be distinguished from those that can be found in music that is strictly tonal.

The following figure contains one of the more conspicuous examples of remote structural parallels.[153]

Figure 30. Salzer's analysis of Machaut's Rondeau no. 13. From Salzer, *Structural Hearing*, 2:330, Example 531b.



The parallels found in Figure 30, however, while not lying at the most remote level of structure of this composition are apparently to be construed as a transferred

[153] It should be noted that the efficacy of this analysis has been questioned. Hellmut Kühn argues that Salzer improperly elevates the status of the G chord and ignores a more significant cadence, force fitting the analysis on the music to some extent. See Kühn, *Harmonik der Ars Nova*, 33. While there is some value in Kühn's remarks, they do not invalidate the analysis for the purposes of discussion here.

fundamental structure.[154] As such, it should be formed according to the rules for forming the voice leadings of the background. Incidentally, it should be noted that, since there is no linear progression in the upper voice, this voice leading would be allowable as a fundamental structure only because of the modifications that Salzer made to Schenker's theory.

Structural parallels, when they are to be found in Schenkerian analyses of tonal music, are voice-leading features that arise in the middleground. They are derivable only through transformations specific to the middleground. Procedures for constructing well-formed background and first-level middleground structures will prevent the formation of parallels at these levels. When parallels do arise at subsequent levels, they are considered to be deficiencies that must be eliminated at the foreground.

[154] Salzer's tendency to notate his examples as though they represent entire compositions, that is, with the most remote level notated as the background, can be confusing. In this case, the excerpt analyzed contains about the first third of the piece, or the first two thirds of the A section of the Rondeau.

CHAPTER IV

Factors in the Development of Major-Minor Tonality

The beginning of the Baroque period saw a great many changes in all aspects of music composition and music making in general. The ascendancy of major-minor tonality occurred concurrently with, and was significantly related to, the introduction of several new musical forms and styles. The following discussion will deal the interrelationships among these aspects of music composition.

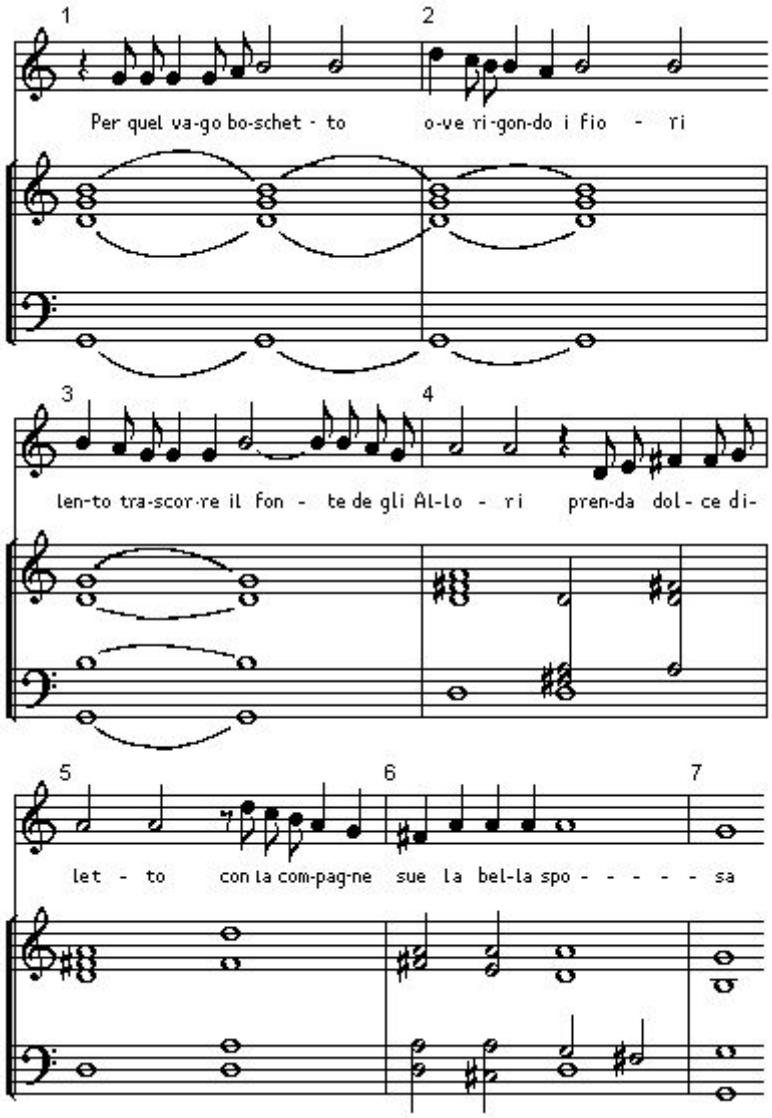
Recitative Style

Compositions employing recitative style began to appear in the early seventeenth century in connection with monody and early opera. This style is characterized by a more or less free declamation of the text over a simple chordal accompaniment and was an attempt to approximate the rhythms of spoken language. Although music before that time, such as Medieval plainchant or the English lute songs of the Renaissance, had employed a few of these features, it was the Camerata in Florence and Monteverdi in Venice that played the most influential roles in developing and popularizing recitative, or *stile rappresentativo* as it was known at the time.

The quickly moving melody supported by a relatively slow moving accompaniment tended to develop certain characteristics. As one might expect, repeated notes on "chord tones" and dissonant passing and neighboring tones form the basis of the style. Figure 31, an excerpt from the Prologue to Caccini's *L'Euridice* of 1601, provides a straightforward example.[155]

[155] Giulio Caccini, *Euridice*, in *Die Oper von ihren ersten Anfängen bis zur Mitte des 18. Jahrhunderts, Erster Theil*, ed. Robert Eitner, Publikation älterer praktischer und theoretischer Musikwerke, 10. Band (Leipzig: Breitkopf & Härtel, 1881), 33-76.

Figure 31. Excerpt from the Prologue to Caccini's *L'Euridice*. From *Die Oper von ihren ersten Anfängen bis zur Mitte des 18. Jahrhunderts, Erster Theil*, 56.



While the style of recitative was clearly different from the prevailing forms of the Renaissance, there is little in the excerpt presented in Figure 31 that would be inconceivable according to the contrapuntal rules of that earlier period. What is different is how the melody throws into relief the chordal underpinnings of the accompaniment. This is in contrast to the music of the Renaissance, where the relatively quick harmonic rhythm tended to obscure any underlying harmonic structure that might be present. This distinction underlies the point that Heinrich Schenker was making in the following passages from his treatises, *Counterpoint* and *Harmony*.

> Who knows whether the recitative, discovered by the Italians, in which–according to the usual definition–a single chord presumably merely "supports" a larger number of tones, did not actually have a different mission in technical terms–specifically, to revive artistic awareness of the

> interrelation between the chord and a longer succession of tones born of it.[156]
>
> "The task was, above all, to get rid of the overabundance in the vertical direction and to advance, for a change, the horizontal line.... The creation of much horizontal content and the restriction of vertical tendencies–this is the principle underlying the Italian monody...."[157]

The control afforded by the underlying harmonic structure is what allowed the composer freedom to introduce dissonances that were prohibited or unimaginable in the Renaissance. Indeed, these dissonances, frequently introduced or departed in ways contrary to the "rules" of counterpoint, were to become the hallmark of the style.

The counterpoint of multiple voices, though, no longer lay on the surface of the composition. It was possible for one to fail to notice this counterpoint despite its presence by implication. This was Schenker's point in the following passage in which he comments on a statement attributed to Caccini:

> Historically, diminution followed its nature, centuries ago, in the embellishment of a simple tonal succession. Knowing this, we marvel at the modest capability of the common imagination, which, when turned around, cannot retrace the diminutions of our masters to a simple succession of tones. Caccini, who in the sixteenth century defended the so-called monody against the suffocation of embellishments, indeed asserted: "I have sought, therefore, to express the sense of the words of the text and to conceal the contrapuntal art."[158] But this just proves that he misunderstood his own creation. For, in the first place, monody was also diminution of a simple succession of tones, even though of a different nature than ornamentation. And, in the second, it certainly did waste the contrapuntal art, but not the counterpoint that must appear whenever two voices move in relation to each other. It is precisely this counterpoint, though, that is asserted conclusively by the intervals of the fundamental line, as well as by the diminution.[159]

Besides the treatment of dissonances that was to become a trademark of the style, recitative also was occasionally provided the opportunity for the introduction of chromaticism that was also quite distinctive. Figure 32 illustrates some of the typical dissonance treatment used during this period, as well as the chromaticism.

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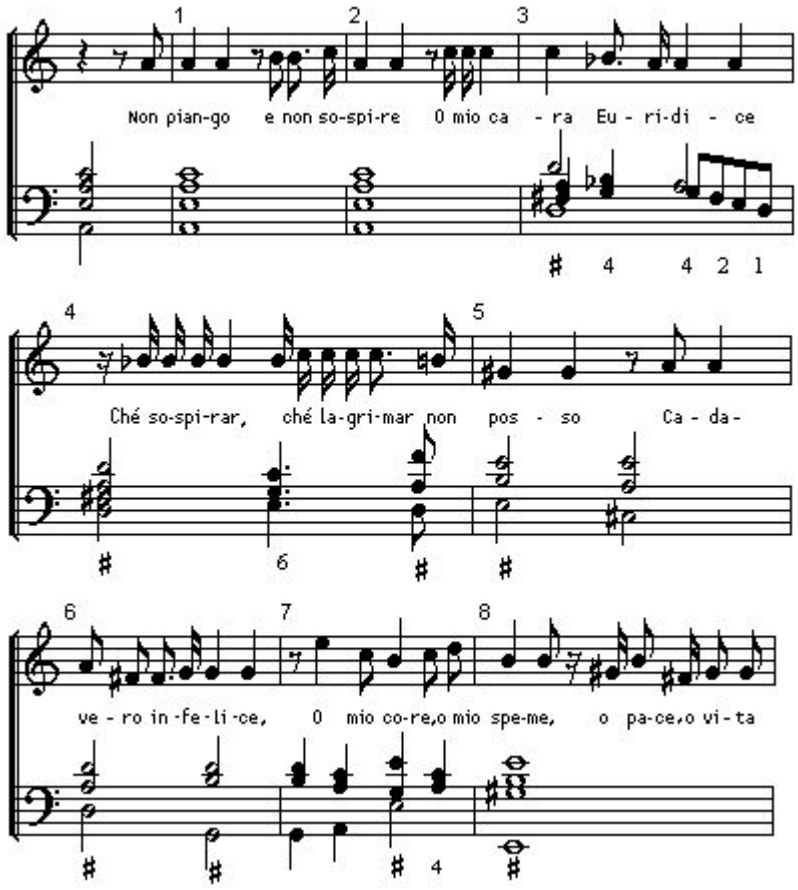
[156] Schenker, *Counterpoint*, 1:xxvi.

[157] Schenker, *Harmony*, 172.

[158] This passage is apparently paraphrased from Giulio Caccini, *Le nuove musiche*, 1602.

[159] Heinrich Schenker, "Noch ein Wort zur Urlinie," *Der Tonwille* 2 (1922): 5. Translation by the author. For a transcription of the original German text, see the Appendix.

Figure 32. Excerpt from Peri's *Euridice*. From Palisca, *Baroque Music*, 32.



Relatively accented upward passing tones can be seen in measures one and seven as can "harmonic anticipations" at the ends of measures one and four. For typical chromaticism, note particularly measure four. The B♭ of the melody seems at first to be an anticipation, but the following chord does not turn it into a consonance. Additionally, the flat side of the key is abandoned rather quickly for a turn toward the sharp keys. It may be that chromaticism of this sort is the last of a line of development beginning in the Renaissance and culminating with Gesualdo.

The potential for unpredictable chord and key changes in recitative, as illustrated in the example above, shows that the principles underlying recitative were clearly different from those of the contrapuntal style of the Renaissance. On this basis, Hugo Goldschmidt argued that the modal system was replaced in the recitative of early opera sooner than it was in the choruses.[160] But Beswick argues against this viewpoint saying:

> The contributions of the recitative style to the development of tonality were largely of a negative sort. Although it is true that the new style was incompatible with sixteenth-century modal techniques, it remained too

[160] Hugo Goldschmidt, *Studien zur Geschichte der Italienischen Oper im 17. Jahrhundert* (Leipzig: Breitkopf & Härtel, 1901-1904; rpt. Hildesheim: Georg Olms, 1967), 1:13.

> loosely organized to make any very positive contribution to the growth of tonal practice.[161]

That recitative represented a force for change in the music of the early seventeenth century is clear. It does not appear, however, that it was related to the issue of modality versus tonality, although this is relevant to some extent. Instead, the contributions of recitative to developing major-minor tonality were related to the comprehension of voices implied by the harmonies of the musical surface and the development of a sense of an underlying counterpoint connecting these conceptual voices.

The principles of voice leading were in large part fully developed and well understood by the end of the sixteenth century.[162] In recitative, however, there was an apparent rejection of the traditional rules of counterpoint, at least on the surface. This was Caccini's assertion in the passage paraphrased by Schenker on page 5 above. Nevertheless, these voice-leading principles were present in the music of recitative, but only by implication.

The distinction being made here between voice leading as a feature of the musical surface and voice leading as a feature of the underlying structure of the music is significant.[163] Although they are based on similar principles, there are differences between the two. For example, leaps in an individual part may be discouraged in surface-level counterpoint, but they do not exist in the voices of an underlying conceptual counterpoint. An apparent "leap" in an underlying conceptual counterpoint would be referred to as an *arpeggiation* and would necessarily be taken as an invocation of two conceptually distinct voices. Voices of a remote voice-leading structure must move by step; they can converge and diverge and can be transferred to another register, but they cannot disappear.

From this, one could deduce that, once composers heard and understood that there was a simple voice-leading implicit in music of this style, they could feel free to leave it to the listener to make the voice-leading connections that were supplied explicitly by composers of the past. It was in this sense that music was freed from the domination of the chord.

In conclusion, it can be said that the rejection of the surface features of traditional counterpoint and the introduction of "irregular" treatment of dissonance in recitative did encourage harmonic tendencies in music composed in that style, and in that way

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[161] Beswick, "Problem of Tonality," 82, note 94.

[162] See, for example, Gioseffo Zarlino, *The Art of Counterpoint: Part Three of 'Le Istitutioni Harmoniche, 1558'*, translated by Guy A. Marco and Claude V. Palisca (New Haven: Yale University Press, 1968).

[163] Though it is based on the strict reductionist model of heirarchical pitch structure, a good discussion of the characteristics of the voice leading of an underlying counterpoint can be found in Arthur Komar, *Theory of Suspensions: A Study of Metrical and Pitch Relations in Tonal Music*, Princeton Studies in Music, No. 5 (Princeton, N.J.: Princeton University Press, 1971; reprint, Austin: Peer Publications, 1979), 38-43.

fostered the development of a hierarchical structure of pitch content in the music that was to come.

Dance Music

Lowinsky, in his study of tonality in sixteenth century music, concluded that dance music played a significant role in the development of tonality. He found that "the earliest and most surprisingly mature examples of tonality can be found in the dances tabulated for lute or for keyboard instruments."[164]

In contrast to Lowinsky's ideas, Schenker apparently felt that early instrumental dance music lacked the essential ingredients that made for major-minor tonality. In an early writing on the subject, he said:

> Instrumental music is therefore not descended from dance, but instead from the fundamental line, which has assumed the purely musical association of the motive and, in that way, has become the motive's ultimate basis. As long as dance music lacked a fundamental line, dance was indeed dance, but music was still not an art. Music generally did not become art until it contained the fundamental line, and it was the same with the dance. This disproves the theory of the origin of instrumental music from the dance, along with all conclusions that have been drawn from it.[165]

Schenker did not, however, bring forth evidence to support his contention.

Dance music of the sixteenth and seventeenth centuries, like dance music of most times, was characterized by regular rhythm and phrasing and simple, frequently repetitive melodic patterns. During this period, several forms developed that can be described as ostinatos. Some of them were melodic patterns found as tunes or as bass lines. Others were simply chordal sequences that were repeated and varied. These chordal sequences frequently evolved into tunes or bass lines.[166]

Some ostinato bass patterns seem to have an effect on composition rather like recitative and if anything, due to the apparent arbitrariness of their pitch structure, have a retarding effect on tonal organization at more remote levels, although they may have encouraged surface-level composing-out merely because of their sustained nature. These include those based on Gregorian chant, and those based on abstract patterns, such as *Ut re mi fa sol la*.[167] In the hands of skillful composers and particularly when the patterns were not

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[164] Lowinsky, *Tonality and Atonality*, 62.

[165] Heinrich Schenker, "Die Urlinie (Eine Vorbemerkung)," *Der Tonwille* 1 (1921): 22. Translation by the author. For a transcription of the original German text, see the Appendix.

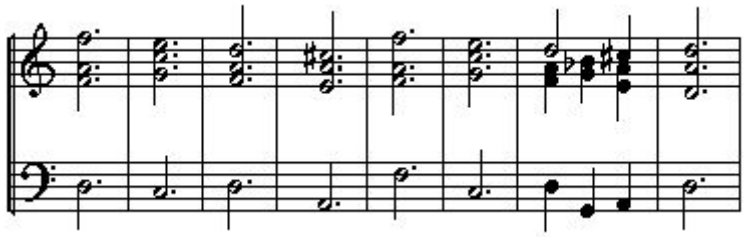
[166] For examples, see the discussion of Chaconne and Passacaglia.

[167] Used in keyboard compositions by William Byrd, John Bull, and Girolamo Frescobaldi, among others.

quite so arbitrary, though, these compositions could achieve a more remote structural organization. An example such as *La sol fa re mi* (used, for example, by Frescobaldi) would appear to fall into this latter category.[168]

Other ostinatos do seem to have had characteristics that facilitated the development of a coherent structure in the middleground and background. These include those that arose in the late Renaissance to become popular in the early Baroque, such as the Passamezzo moderno, the Passamezzo antico, and the Romanesca, as well as those that arose somewhat later, such as the Passacaglia and the Chaconne. These patterns would appear to have qualities that fostered tonality in its early stages.

Figure 33. The Passamezzo antico. From Lowinsky, *Tonality and Atonality*, 4.



> The *Passamezzo antico* has its origin in the four-chord Dorian cadence ...; it is, in fact, nothing but a repeated cadence–the repeat being slightly varied. If the cadence may be regarded as the cradle of tonality, the *ostinato* patterns can be considered the playground in which it grew strong and self-confident.[169]

Ostinato composition, because of its essentially unvarying repetition of the bass melody, offered little opportunity for the exploration of key relationships and therefore effectively prohibited the transfer of the fundamental structure to other scale degrees. Some composers, though, experimented with the transposition of the ostinato to different pitch levels through the course of the composition to achieve this variety.

Passamezzo antico, Romanesca, and Folia

These compositional forms, originally dances, arose at about the same time (the mid-sixteenth century) and were only the more popular of several related forms. They most frequently appeared in minor keys and were characterized by an elaborated chordal framework that was repeated with variation several times throughout the composition.

[168] *La sol fa re mi* does, in fact, correspond to one of the Passacaglia patterns, for which see below. It was also employed in the Renaissance as a cantus firmus in mass composition. See, for example, the mass of the same name by Josquin.

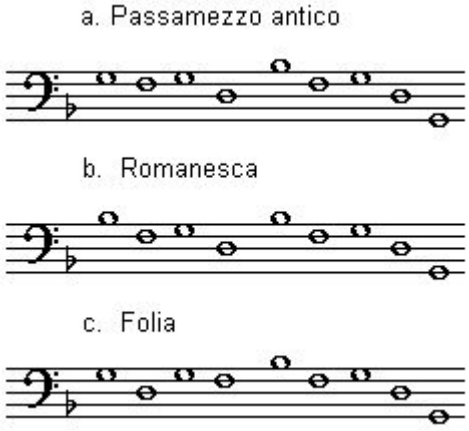
[169] Lowinsky, *Tonality and Atonality*, 5. The italics are Lowinsky's.

Since these forms were typically found in a minor key, the designation, *per B molle*, was often associated with the name of the particular form, for example *Passamezzo per B molle*.[170]

The chordal patterns associated with these dances were versatile enough that they could be, and were, used as the basis for various musical forms. The Passamezzo antico, for example, was frequently used as the basis for dance music, while the Romanesca was employed in both vocal compositions and keyboard variations.

Examples of the basic chordal frameworks of these forms are given in Figure 34.

Figure 34. Bass patterns for the Passamezzo antico (at *a*), Romanesca (at *b*), and Folia (at *c*).



It can be seen from Figure 34 that these patterns were quite similar. They are characterized by a certain focus on the relative major and minor keys, caused by the emphasis on the roots of the tonic and dominant chords of those keys. This terminology is admittedly that of major-minor tonality, but its use here is not inappropriate. It should be noted, however, that the Dorian mode was commonly viewed as the basis for these pattern, as it was in general for what we would call a minor key.[171]

Upon examination, the bipartite nature of these patterns becomes evident.[172] Near the middle of each pattern is a dividing dominant, after which the opening pattern is repeated, in some cases with alterations. Even in very early examples of the form, this

[170] Hudson designates the two families of chordal schemes as *per B molle* and *per B quadro*. See Richard Hudson, "The Concept of Mode in Italian Guitar Music During the First Half of the 17th Century," *Acta Musicologica* 42 (1970): 166. This calls to mind British usage at about this time, which referred to major and minor keys, intervals, etc. as sharp and flat, respectively.

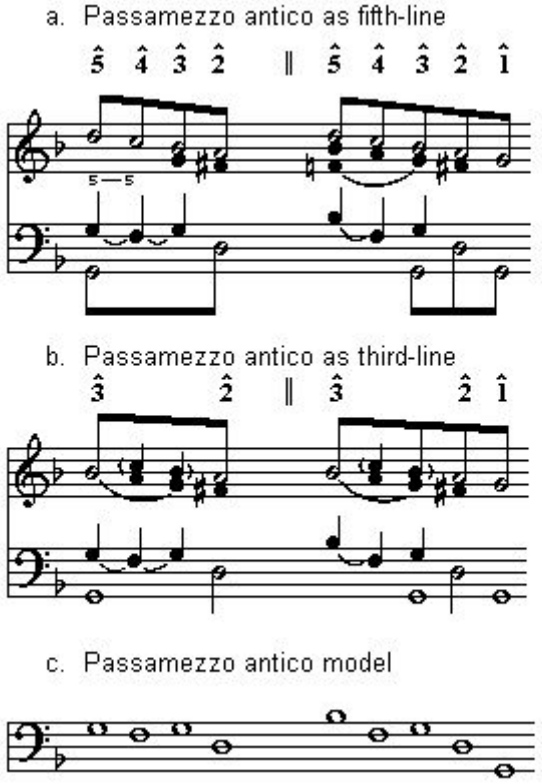
[171] The common acceptance of Dorian as the model for minor in the music theory of the day was related to the general use of "partial" signatures for many minor keys, but was reinforced, at least for a while, by musical theorists. For a discussion of this issue, see Chapter V, below.

[172] It was noted, for example, by Lowinsky. See Lowinsky, *Tonality and Atonality*, 5.

dividing dominant was used as an opportunity for realizing an interruption.[173] It is also worth observing that the subtonic degree (F in the examples), which can be characterized as the dominant of the relative minor, is frequently tonicized. The roots of this procedure could be said to lie in the original conception of the patterns as belonging to the Dorian mode, which possesses a major sixth degree.

As might be expected, certain upper-voice linear progressions correspond well to these bass patterns. Figure 35 illustrates two possibilities for the Passamezzo antico. With only a few changes, the same voice leadings would be usable for the Romanesca.

Figure 35. Middleground voice-leadings (at *a* and *b*) for the Passamezzo antico (model at *c*).



McClary, in her study of tonality in Monteverdi's music, considers several of these patterns and adopts the reading of the interrupted fifth line, as in Figure 35a, for them. Indeed, she goes further, but apparently without any historical basis, to assert that it was the interrupted fifth-line that generated the all of these related bass patterns, rather than the other way around.[174] It would seem more likely that the patterns existed as simple

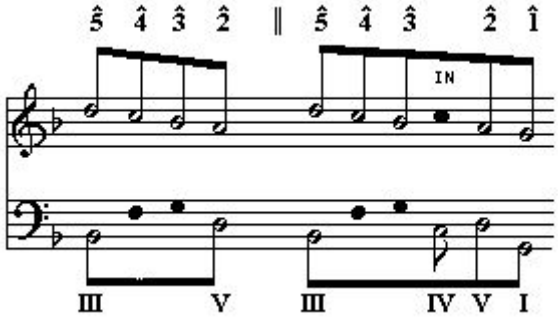
[173] See, for example, the Pass'e mezo antico in Antonio Gardane, comp., *Intabolatura nova di varie sorte de balli da sonare ... Libro primo* (Venice, 1551), in *Keyboard dances from the earlier sixteenth century* ed. Daniel Heartz, Corpus of early keyboard music, vol. 8. (N.p.: American Institute of Musicology, 1965), 49-51.

[174] McClary, "Transition from Modal to Tonal Organization," 36. "It is evident that this most basic of patterns is the original generator of the whole group of harmonic basses."

chordal successions prior to their employment as vehicles for the realization of a hierarchical model of pitch structure.

Gagné also considers the interrupted fifth-line to be the appropriate model for the Romanesca in his analysis of *Ohimè dov'è il mio ben*, a duet from Monteverdi's seventh book of madrigals of 1619.[175] He points out the problems of dealing with a pattern, which has roots lying well before the period of major-minor tonality, that begins outside the tonic harmony. As he says, "such a background structure is unconventional from the standpoint of later norms of tonality: it perhaps represents Monteverdi's way of reconciling a Renaissance (modal) structural model with a growing sensitivity to longer-range structural design."[176] Figure 36 presents his sketch of the first strophe of the composition; it is identical to those of the second and fourth strophes, the third one being somewhat varied.

Figure 36. Background graph of the Prima parte of Monteverdi's *Ohimè dov'è il mio ben*. From Gagné, "Monteverdi's *Ohimè dov'è il mio ben*," 70.



The characterization of these forms as the means for realizing an interrupted linear progression in the upper voice is most significant. It reflects the interest in the composers who used such forms in constructing their compositions with a view toward goal orientation. Also of some import is the association of relative major and minor keys that these forms encourage.

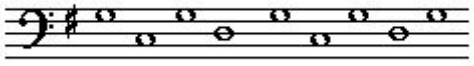
Passamezzo moderno

Despite their names, the Passamezzo moderno and the Passamezzo antico arose at about the same time, the mid-sixteenth century, in Italy. The two forms were distinguished by their key as well as by their basic chord progression. The *moderno* type, being in a major key was, predictably, also known as the *Passamezzo per B quadro* (or in England as the "Quadran Pavan"). Figure 37 illustrates this pattern.

[175] David Gagné, "Monteverdi's *Ohimè dov'è il mio ben* and the Romanesca," *Music Forum* 6, no. 1 (1987): 61-91.

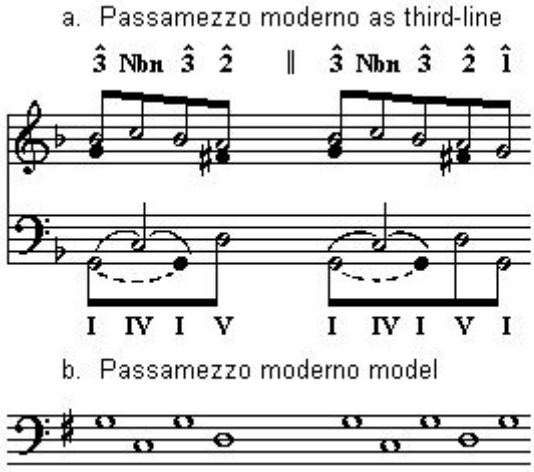
[176] Ibid., 66.

Figure 37. Bass pattern for the Passamezzo moderno.



Like its minor-key relatives, the Passamezzo moderno also exhibits a dividing dominant approximately midway through the pattern. Predictably, composers were able to exploit this feature for the realization of an interruption. One characteristic, however, that distinguishes the Passamezzo moderno pattern from that of the Passamezzo antico is the presence of a prominent subdominant. This tends to generate an upper voice that includes a feature known as a "structural neighbor." Interestingly, compositional emphasis of this feature can result in tonicization of the subdominant through the introduction of F♮'s. Interpreted in another way, though, these F♮'s could be connected with the Mixolydian origin of this pattern.

Figure 38. Middleground voice-leading (at *a*) for the Passamezzo moderno (model at *b*).



The suitability of these patterns for generating the fundamental structures of major-minor tonality seems evident. That these patterns, of all the possibilities, were the ones to survive and flourish is undoubtedly attributable to the possibilities they offered for the expression of tonal structures.

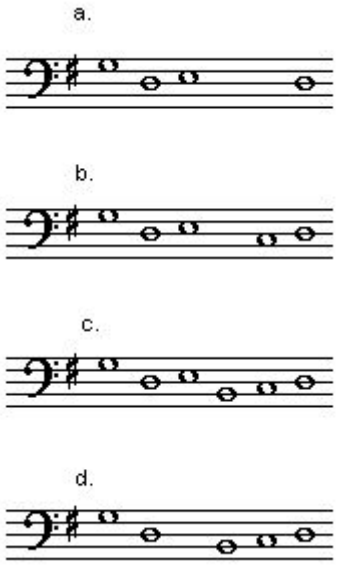
These dance forms also played a role in the evolution of the major and minor keys. They are commonly construed as being predominantly in Dorian, with a minor triad on the final, and in Mixolydian, with a major triad on the final. Hudson suggests that the popularity in the late sixteenth century of the Passamezzo dances may have contributed to the "consolidating [of] a dual system of modality in Italian popular music."[177]

[177] Richard Hudson, "Passamezzo," in *The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie (London: Macmillan, 1980), 14:272.

Chaconne and Passacaglia

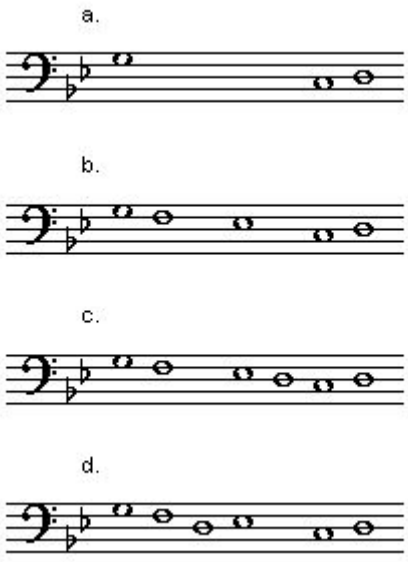
The Chaconne, originally Ciaccona, arose in Spain and became popular in the early seventeenth century. At this early stage, it was a humorous and occasionally quite bawdy vocal dance. Usually in a major key and a triple meter, the song was accompanied by a guitar playing in *rasgueado* style (strummed chords). Like the Passacaglia, the Ciaccona's accompaniment consisted of triads arranged in several distinctly related patterns. The patterns are conventionally notated with root position triads. In fact, the chords must have frequently been in inversion due to the fingerings on the guitar. The conventional notation reflects the view of the modern scholars who have dealt with this style that inversion is an irrelevant issue. For the more common of the patterns associated with the Ciaccona, see Figure 39.

Figure 39. The primary Ciaccona chord patterns. Based on Hudson, "Passacaglia and Ciaccona in Italian Keyboard Music," Part 1, 23.



The Passacaglia originated as a sort of ritornello for songs in early seventeenth century Spain, and quickly spread to Italy and France. At this stage, it was typically a four-bar phrase with the chord progression, I-IV-V-(I), its meter and key (major or minor) varying according to the vocal composition to which it was attached. By the second quarter of the seventeenth century it was being used in purely instrumental compositions as the basis for continuous variations. From the original chord progression, it evolved into a group of related melodic bass lines, typically in a minor key. This evolution was influenced to some extent by the Chaconne, which was simultaneously undergoing a similar evolution. The more prevalent of these Passacaglia bass lines are given in Figure 40.

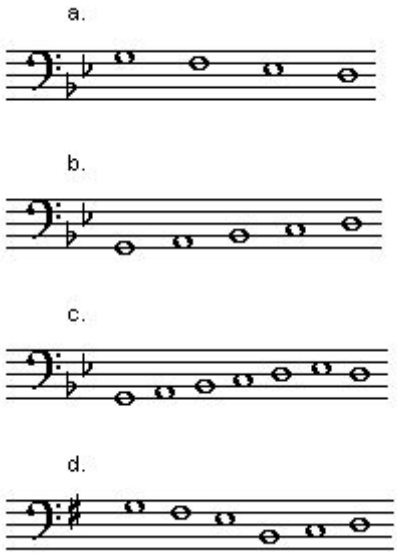
Figure 40. The primary Passacaglia bass patterns. Based on Hudson, "Passacaglia," 268.[178]



There were also a few patterns that are neutral with respect to the Chaconne and Passacaglia in that they appear in both forms. Examples of these are given in Figure 41.

[178] For a slightly different list, see Hudson, "The Passacaglia and Ciaccona in Italian Keyboard Music of the 17th Century," Part 1, *The Diapason* 60, no. 12 (November 1969): 23.

Figure 41. Bass patterns appearing in both Chaconne and Passacaglia. Based on Hudson, "Passacaglia and Ciaccona in Italian Keyboard Music," Part 1, 23.



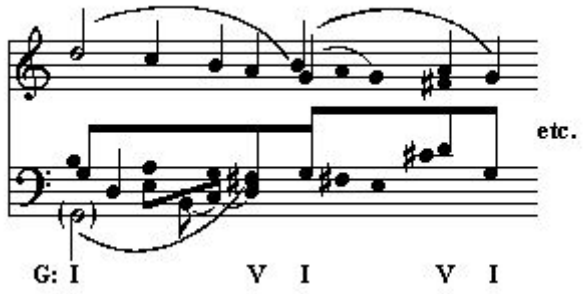
Bukofzer suggests that the bass pattern given in Figure 41a, sometimes referred to as the "lament" bass, "may have originated as the discant of the Romanesca beginning, which in turn became a bass itself."[179] By way of comparison, note Figure 34b above, transposing the lament pattern up a fifth. Bukofzer offers no evidence to support this idea and it is not clear how one would test such a hypothesis. He may merely have been speculating on the obvious coincidence of the two patterns. Note, however, that the lament bass is to be construed as $\hat{8}$-$\hat{7}$-$\hat{6}$-$\hat{5}$ of the minor key, whereas the upper voice of the Romanesca must be taken as $\hat{5}$-$\hat{4}$-$\hat{3}$-$\hat{2}$ of the minor key. The intervallic patterns of the two lines may be identical, but the structural implications of the two are rather different; the line of the lament bass reaches its goal, whereas the line of the Romanesca melody is interrupted before the goal is reached.

If there are any general principles governing the evolution of the patterns associated with the Chaconne and Passacaglia, they are that the Chaconne patterns were formed by a direct movement to the fifth scale degree followed by movement away from and then a return to the dominant, while the Passacaglia patterns were formed by exploring the different ways one could approach the fifth degree indirectly.

A common compositional treatment of the Chaconne and Passacaglia patterns is to have successive statements of the patterns overlap structurally. Rather than have each statement of the pattern stated as a self-contained unit, the concluding dominant of each is resolved into the tonic of the succeeding pattern. Figure 42 below presents a sketch of the first two statements of the Chaconne pattern from a composition of this sort.

[179] Bukofzer, *Music in the Baroque Era*, 42.

Figure 42. Analytic sketch of the beginning of the Ciaccona of Girolamo Frescobaldi's *Balletto e Ciaccona*.



After the Chaconne and Passacaglia had evolved into independent compositional forms, these various bass lines were combined freely to form continuous compositions. At this stage, these forms did not function as ground basses, that is, as bass lines repeated unchanged through the entirety of a composition. Rather, unity was achieved through the relations built into the patterns. This technique has been characterized as an "ostinato of derived and selected bass formulae."[180]

At this point in their evolution, the paths of the Chaconne and Passacaglia begin to intertwine. It becomes so that there is little to distinguish them. The most consistent differences lie in the choice of bass patterns; these are taken generally from the groups of patterns given above in Figures 39, 40, and 41, although not without some crossing over. There was also a tendency to distinguish the forms by key, the Chaconne typically being in a major key and the Passacaglia in a minor key.

Conclusion

It seems clear that composers found ways of turning these simple patterns to their advantage in support of their inclination toward major-minor tonality. Several interrelated factors seem to have been at work in the process.

First, the shortness of the patterns allowed the composers to grasp the entirety of the strophe as a structural unity, rather than as a merely a sequence of notes.

Second, the goal-directed nature of the forms, with their focus on the dominant as an intermediate structural goal, increased the sense of unity in composition. The dominant had already been established as a goal-orienting force through its role in the cadence. In combination, these elements formed a potent force toward structural coherence in music.

Third, the flexibility of the patterns in accommodating upper- and lower-voice linear progressions that express a tonic harmony also was a factor leading to structural unity. Gagné alluded to this when he concluded that "Renaissance strophic-bass forms may

[180] Hudson, "Passacaglia and Ciaccona in Italian Keyboard Music," Part 1, 22.

represent an important stage in the development of harmony as an organizing force in relationship with a structural bass voice."[181]

Fourth, the repetitive nature of the form, connected with the origin of the forms as bases for improvisatory treatment, allowed composers to experiment in "real time" with the structural elements outlined above and to have these tonality-creating factors literally drilled into their consciousness.

In the passage by Schenker quoted above on page 10 above, he had asserted that instrumental music was not descended from dance. It seems, however, that the connection between these forms, which do derive from dance, and developing major-minor tonality can be clearly established.

Tonal Versus Real Answer in Imitation

As the use of imitation as a compositional procedure arose, it would seem that there was a great deal of variety in the choice of interval at which the imitation was made. It came to be noted, however, that imitation at the perfect intervals of the fourth, fifth, and octave was able to maintain the specific intervallic relationships of the subject in a way that imitation at other intervals was not. And as interest grew in compositional procedures that enhanced motivic integration, use of imitation at the perfect intervals increased. Ramos, in his *Musica practica* of 1482, has been identified as the first to recommend imitation at these intervals.[182] As imitation at the octave and unison came to be viewed as not offering enough variety, imitation at the fourth and fifth remained as the practical balance between variety and similarity.

There is a limit, however, to the extent to which imitation at the fourth and fifth can be maintained strictly. In some cases, an imitative answer had to be altered simply to keep it from moving out of the mode. Other changes in imitative answers became normal as well. These can be characterized by the instruction to answer a fifth at the beginning of the subject with a fourth, and vice versa. Alternatively, this rule can be stated so as the requirement to answer the tonic with the dominant and vice versa. An imitative answer based on this alternation of tonic and dominant came to be known as a tonal answer.

Curiously enough, there seems to have been some confusion as to the origin of the tonal answer. It seems to have been construed by various theorists and historians in diametrically opposite ways. On one hand, tonal answer was seen as a survival of a technique of modal composition in which the subject was based on an authentic mode, while the answer was based on the corresponding plagal mode, or vice versa, or in which the modal fifth is answered by the complementary modal fourth. Oldroyd adopts this viewpoint, quoting Prout and Tovey as his authorities.[183] Lowinsky, too, concludes that "the origin of the tonal answer lies in the old 'division of the authentic modes into a

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[181] Gagné, "Monteverdi's *Ohimè dov'è il mio ben*," 91.

[182] See, for example, Alfred Mann, *The Study of Fugue* (New York: W.W. Norton, 1965), 11.
[183] See George Oldroyd, *The Technique and Spirit of Fugue: An Historical Study* (London: Oxford University Press, 1948), 63-65.

group of five and four tones (e.g., Ionian: c-g; g-c) and that of their plagal companions into groups of four and five (e.g., Hypoionian: g-c; c-g)'."[184]

On the other hand, tonal answer was seen by other writers as a progressive technique leading toward, or at least coincident with the rise of, major-minor tonality. Lowinsky, himself, admits that Josquin used tonal answer "only sporadically" and that "Palestrina's motets show increasing concern with this aspect of tonality."[185] Nalden disputes this claim regarding Palestrina's usage, considering it at best "occasional," and notes that sixteenth-century English composers use tonal answer rather more frequently than Palestrina.[186] After surveying a number of seventeenth and eighteenth-century composers, Nalden concludes that "from the seventeenth century onwards, the tonal answer became an integral part of fugal technique."[187] To be sure, many of the theorists of the seventeenth century who described tonal answer chose to do so in terms of the modal system, a choice consistent with their treatment of pitch-organizational concerns in general. From the compositional viewpoint, however, it would seem that it is historically more justifiable to consider that tonal answer is linked to an increasing awareness of tonality.

In the terms of major-minor tonality, tonal answer is usually construed as the exchange of the tonic note/harmony/key in the subject with the dominant note/harmony/key in the answer and vice versa. This is typically explained as a technique for achieving tonal balance through the contrasting of the two primary harmonies of the key.

Subjects that invite a tonal answer are those in which place the tonic and dominant in close proximity near the beginning of the subject. When the subject begins with a leap from tonic to dominant or from dominant to tonic, a tonal answer is the rule with few exceptions, although a limited number can be identified. When the movement from tonic to dominant or from dominant to tonic is indirect, but they are still in relatively close proximity, tonal answer is still quite common.

Certain kinds of subjects resist a tonal answer. In particular, subjects that proceed stepwise from the tonic to the dominant are almost invariably given a real answer. There are two rationalizations for this. If the subject moves quickly from tonic to dominant scale degree, both can be understood as being members of the tonic harmony; when the tonic harmony is answered by the dominant harmony, there is no real need to make any tonal adjustments. If the subject moves more deliberately from tonic to dominant scale degree, there is time to effect a modulation in which the dominant of the subject is answered with a secondary dominant in the answer.

A sort of combination of tonal and real answer can occur with a subject that begins on the dominant. The answer may begin with the tonic in a normal tonal fashion, but a later

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[184] Lowinsky, *Tonality and Atonality*, 32. The internal quote in this passage is taken from an earlier publication by Lowinsky in *Musical Quarterly* 40 (1954): 599.

[185] Lowinsky, *Tonality and Atonality*, 31.

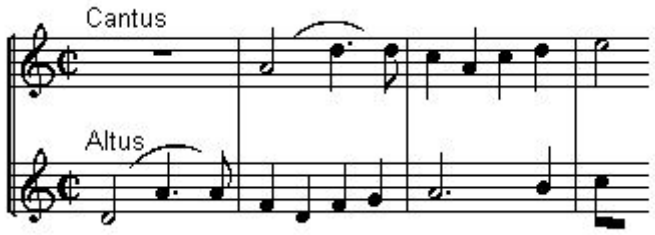
[186] Charles Nalden, *Fugal Answer* (Aukland: Aukland University Press, 1970), 18-19.

[187] Ibid., 22.

exchange of dominant for tonic may be unachievable even though its use is indicated. In such a case, the conclusion of the answer may reach into the realm of the subdominant. The name for such an answer is, predictably, a "subdominant answer."

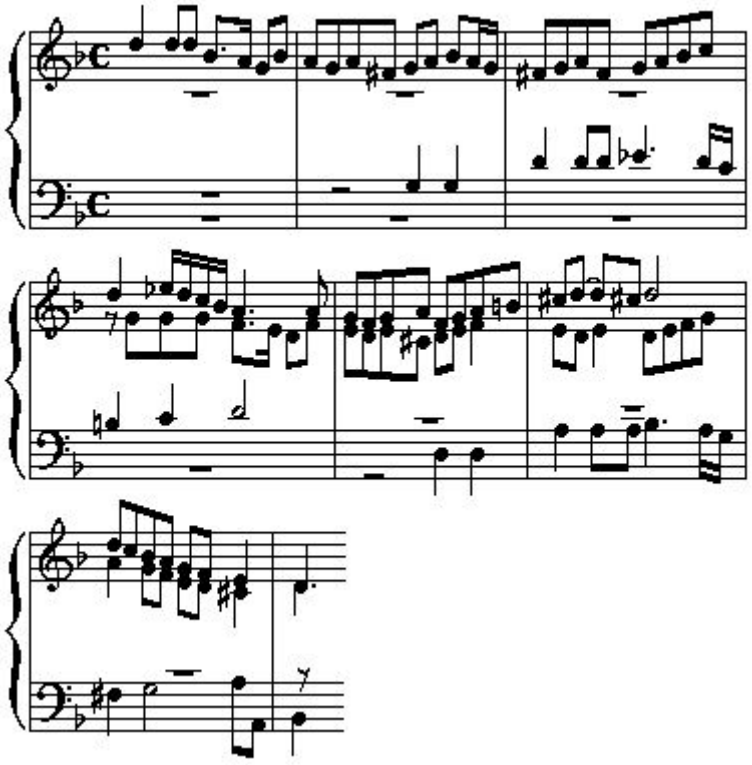
It was noted above that tonal answer was not particularly common in the sixteenth century. There may have been reasons for this other than the extent to which the music of the time was tonal. One reason could be the regular use of subjects that were made largely or entirely of conjunct motion. Another could be the relatively short time between the entry of the subject and the entry of the answer, such that the themes would overlap considerably. Nevertheless, when a subject had a direct leap from dominant to final or vice versa at the beginning, or even in the middle, it was a candidate for a tonal adjustment. Such a subject is illustrated in Figure 43.

Figure 43. Beginning of the Kyrie of Palestrina's *Missa Vestiva i Colli* [text omitted]. From Palestrina, *Opere Complete*, 25:54.



In contrast to the relatively sporadic use of tonal answer in the late sixteenth century, the use of tonal answer in the seventeenth was much more common. Even so, its use was not as widespread as it came to be in the eighteenth century. In the seventeenth century, tonal answer was used freely as a device to adapt the subject to the harmonic realm of tonality. A composition that illustrates the freedom with which these composers viewed the fugal process is the following Canzon by Frescobaldi. (See Figure 44.)

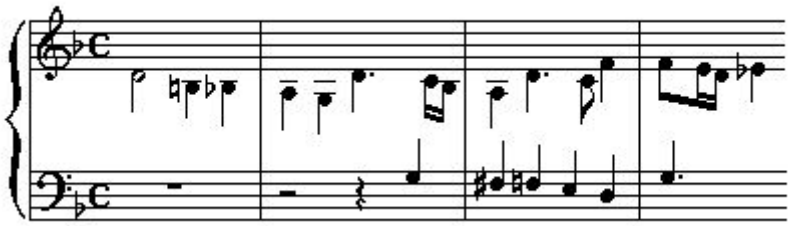
Figure 44. Beginning of Canzon dopo l'Epistola by Frescobaldi. From Frescobaldi, *Orgel- und Klavierwerke*, 5:53.



It can be seen that the answer to the first subject of this double fugue is tonal, whereas the answer to the second subject is real, even though it clearly invites a tonal answer with its opening leap from the tonic to the dominant. This second subject receives a real answer throughout the piece. Most answers to the first subject, however, are tonal. Two partial statements of the first subject (not answer!) consisting of only the head motive receive tonal modifications later in the piece so that they begin on C rather than D. In the concluding section of the piece, in which the first subject is transformed into a triple meter, there is also one subdominant answer to the first subject.

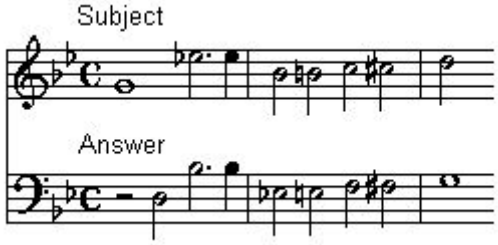
One particularly interesting class of fugue is that based on a chromatic subject. The practice of writing of chromatic fugues arose quite early and continued throughout the tonal period, resulting in a distinctive tradition in fugal composition. The tonal adjustment of chromatic subjects produces some useful observations on the nature of the tonal answer.

Figure 45. Beginning of Froberger's Canzona II. From Froberger, *Orgel- und Klavierwerke*, 1:56.



The third degree, when it is associated with the tonic harmony, as it is in the passage quoted in Figure 45, is answered by the seventh degree, that is, the third of the dominant harmony. When the third degree in the subject is associated with the dominant harmony, however, it is usually answered by the sixth degree, which has an equivalent relation to the tonic. This latter characteristic is illustrated in Figure 46.

Figure 46. Subject and answer of Frescobaldi's Recercar dopo il Credo. From Frescobaldi, *Orgel- und Klavierwerke*, 5:54.



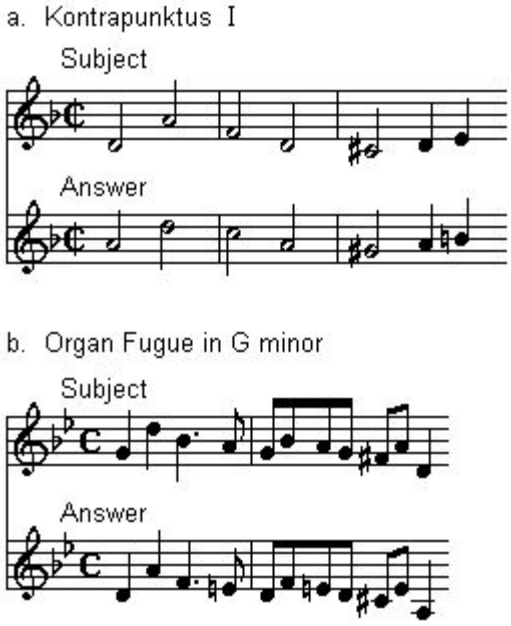
Note that the answer in this example retains the distinctive upward skip of a minor sixth as well as the ascending chromatic line. The alteration is made at the point of the downward skip, where a fifth is substituted for a fourth. This allows the chromatic third and fourth degrees of the subject to be answered by the sixth and seventh degrees.

This study of the treatment of degrees other than the tonic and dominant, specifically the third, sixth, and seventh degrees, indicates that tonal answer should normally be viewed as an exchange of tonic and dominant *harmonies*.

Studies of fugue in the later nineteenth and twentieth centuries produced numerous strict rules for the formation of answers. Frequently such studies seemed to espouse the notion that there was one and only one correct answer to a given subject. Such attitudes run aground against the evidence of the actual music of the Baroque period. Examples can be found of essentially identical subjects that are given different answers in different compositions.

The case of the fugue subject that begins with the outline of the tonic triad is one that frequently causes difficulties. Figure 47a illustrates the tonal answer to such a subject, which is its typical treatment.

Figure 47. Subject and answer of Kontrapunktus I of J.S. Bach's *Die Kunst der Fuge* [clefs modernized] (at *a*) and his Organ Fugue in G minor (at *b*). From Bach, *Werke*, 25:3 and 38:116.



Bach evidently does not view a tonal answer to such a subject to be the only viable possibility, as can be seen in his treatment a similar subject in his Organ Fugue in G minor (illustrated in Figure 47b). In numerous analyses justification of the unexpected real answer of this piece has been sought. Some conclude that the real answer in this situation is simply "wrong." Others look for evidence in the body of the piece that would account for the usage. Ultimately, one probably must fall back on the assertion of Purcell who commented on a certain rule of counterpoint as being "too strict and destructive to good air, which ought to be preferred before such nice rules."[188]

It is clear that in tonal composition, at least in the seventeenth century, tonal answer was viewed not as a rule to be followed strictly, but rather as another of the composer's tools for fashioning harmonically interesting and tonally coherent pieces.

[188] John Playford, *An Introduction to the Skill of Musick*, 12th ed., ed. Henry Purcell (1694; rpt. New York: Da Capo Press, 1972), 165 [pagination refers to reprint edition].

CHAPTER V

Modality and Tonality

The term *modality* is perhaps most often taken to refer to music based on a scale derived from one of the octave species of the diatonic collection.[189] Most theorists distinguish between the Ionian and Aeolian modes on the one hand and the major and minor keys on the other. This is undoubtedly because the term *keys* indicates a structural organization of pitches based on major-minor tonality.

Implied by this distinction is the notion that modes employ a different sort of organization. Unlike the two "modes" of tonality (major and minor), which allow a fair range of chromatic inflection, the traditional modes are generally assumed to require scalar purity, although there are a limited number of well defined exceptions.

Theorists who deal with modal music (many of whom approach it, consciously or subconsciously, from a tonal perspective) often maintain that the Dorian and Lydian modes, with the common B♭ either stipulated or deduced, turn naturally into minor and major quite easily. Similarly, Mixolydian needs only an F♯, frequently required by the rules of *musica ficta*, to be turned into major. While such assertions are patently true, they dwell only on the more superficial aspects of the scales common in modal and tonal compositions and ignore the structural differences that exist between modal and tonal musics.

The Evolution from Modality to Tonality

Although the rise of major-minor tonality is commonly associated with the beginning of the seventeenth century, it is certainly not the case that it sprang up well-formed. As has been shown above in Chapter III, certain tonal characteristics were present in the music of the preceding century. Even as the notion of major-minor tonality was maturing in the music of this time, theorists were beginning to wrestle with the problems of describing and prescribing the ways in which this did or should work.

The Evolution of Musical Theory Relating to Key in the Seventeenth Century

It is generally thought, at least for music, if not for other disciplines, that theory lags behind practice. This is certainly the case for disciplines in which theory is generally

[189] The following discussion will make use of the familiar Greek names of the modes. They were admittedly established in their current usage through a faulty understanding of ancient Greek theory, but their familiarity will facilitate the discussion. When something other than the quality of the octave species is meant, appropriate terminology will be employed.

descriptive, rather than prescriptive. The reasoning that leads to such a conclusion is inescapable: theorists require some time to comprehend the usage that they are attempting to deal with and to formulate a systematic description of it. This line of reasoning holds for the rise of major-minor tonality in the seventeenth century. The theorists of the time had inherited a theory that was focused on the modality of the Renaissance. It took some time for them to refocus on the music of their own time, to perceive precisely the differences between that music and that which had preceded it and to reformulate their theory accordingly.

The twelve mode system

Music theory treatises from the first half of the seventeenth century generally adopt a presentation of the modes that derives from the sixteenth-century theorists Heinrich Glarean and Gioseffo Zarlino. Glarean's *Dodecachordon* of 1547 had contained a presentation of the modes that had added authentic and plagal modes on A and C, numbered nine through twelve, to the traditional eight church modes, authentic and plagal, with finals on D, E, F, and G. In the presentation of the modes in Zarlino's *Dimostrationi harmoniche* of 1571, the modes are ordered by their finals from C to A, authentic modes alternating with plagal ones. In addition to this ordering, Zarlino also changed the Greek names of the modes from those that had been customary at the time. The first mode, authentic with a final on C, is renamed Dorian; the next authentic mode in the series, on D, is renamed Phrygian; and so on.

In central Europe during most of the first half of the seventeenth century, most theoretical treatises followed Glarean's presentation of the modes.[190] A partial exception to this trend is contained in the works of Johann Crüger, who follows Zarlino with respect to his numbering of the modes, but retains the Greek names of the modes assigned by Glarean.[191]

In France, however, it was Zarlino's ordering and, in some cases, his nomenclature, that were used in most of the theory treatises of this period. Pierre Gassendi's *Manductio ad theoriam musicae* of 1636 contains a typical presentation.[192] After discussing and illustrating the different species of intervals, from second through octave, he gives in tabular form the final, dominant, and ambitus of each of the twelve modes, and on the

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[190] For a thorough treatment of the state of German modal theory of this and the following periods, see Joel Lester, *Between Modes and Keys: German Theory, 1592-1802*, Harmonologia Series, no. 3 (Stuyvesant, NY: Pendragon Press, 1989).

[191] Johann Crüger, *Synopsis musica*, trans. in Jay Norwood Howard, "Johann Crüger as a Music Theorist: A Translation and Critical Commentary of His *Synopsis musica* of 1630" (M.A. thesis, Ohio State University, 1968), 222. Lester reports, however, that Crüger followed Zarlino completely in the 1630 edition of *Synopsis musica*, but reverted to Glarean's ordering in the 1654 edition. See Lester, *Between Modes and Keys*, 55.

[192] Pierre Gassendi, *Manductio ad theoriam musicae*, in *Opera omnia*, 5:629-658 (Lyons: Laurent Anisson and Jean-Baptiste Devenet, 1658; rpt., Stuttgart-Bad Cannstatt: Friedrich Frommann Verlag, 1964).

following page, each mode is assigned a Greek name.[193] Table 2 summarizes Gassendi's presentation of the twelve modes.

Table 2. Pierre Gassendi's Twelve Mode System.

Final	Number	Name
C	I	Dorian
	II	Hypodorian
D	III	Phrygian
	IV	Hypophrygian
E	V	Lydian
	VI	Hypolydian
F	VII	Mixolydian
	VIII	Hypomixolydian
G	IX	Hyperdorian or Ionian
	X	Hypohyperdorian or Hypoionian
A	XI	Hyperphrygian or Aeolian
	XII	Hypohyperphrygian or Hypoaeolian

Zarlino's innovative presentation of the twelve-mode system was undoubtedly more logical than the traditional one, but in the ensuing years more discussions of the system of modes were based on the more traditional view. Glarean's ordering, while less logical than Zarlino's, did the least violence to the traditional modal theory. As a result, as theorists began to move to a new conceptualization of the modes, it was most often Glarean's ordering that was taken as the basis for their work.

The system of eight church keys

Starting early in the seventeenth century and, by the middle of the century, replacing the twelve-mode system as the prevalent conceptualization of modal/tonal theory is a system of eight church keys. Besides the presentation of this system in theoretical treatises, this view of the modes was also in evidence as the organizing factor in collections whose apparent purpose was to demonstrate composition in each of the church keys or tones.[194]

These church keys apparently were the conceptualization at that time of the eight church modes, particularly in the transpositions at which they were normally sung or played. The following presentations of the ideas of two theorists of the period will serve to

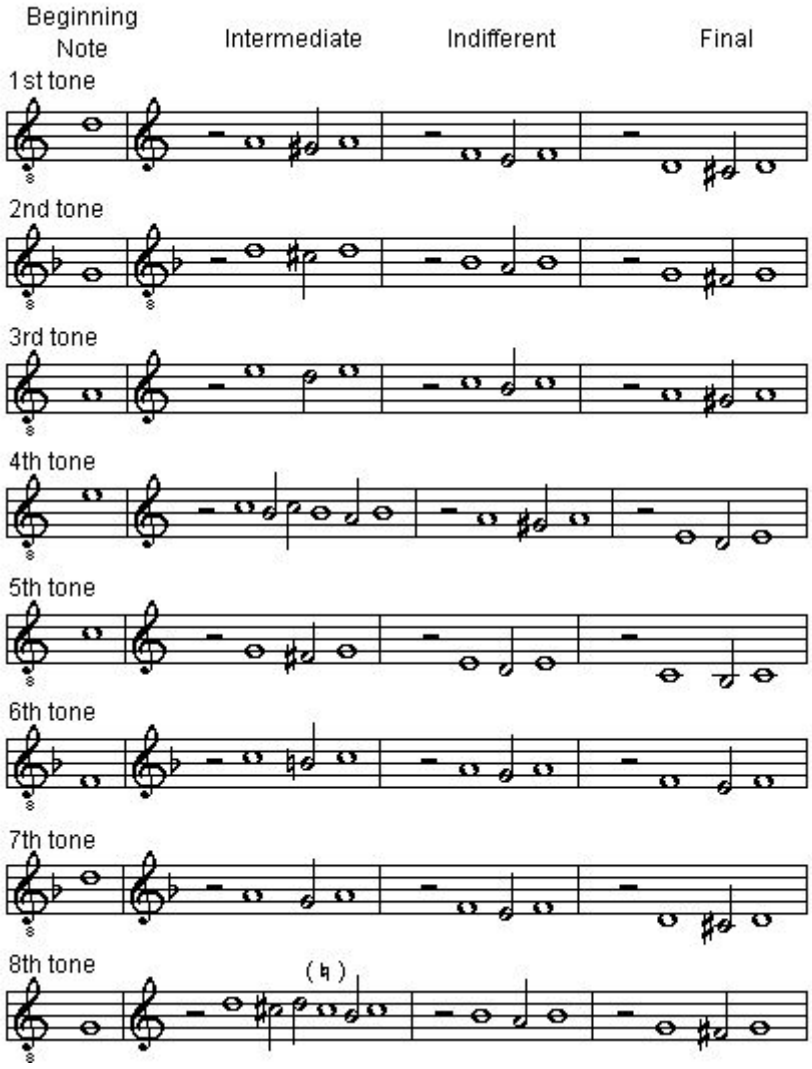
[193] Pierre Gassendi, *Manductio ad theoriam musicae* (n.d.), 656-657.

[194] For a discussion of several German theorists in this tradition, see Lester, *Between Modes and Keys*, 77-82. For studies of the French approach, see Almonte Howell, "French Baroque Organ Music and the Eight Church Tones." *Journal of the American Musicological Society* 11 (1958): 106-118 and Robert Frederick Bates, "From Mode to Key: A Study of Seventeenth-Century French Liturgical Organ Music and Music Theory" (Ph.D. diss., Stanford University, 1986).

demonstrate the agreements and disagreements prevalent in this phase of modal/tonal theory.

The treatise *L'organo suonario* by Adriano Banchieri is an early example, from 1605, containing a presentation of the church keys. The following figure illustrates the typical cadences associated with each church key (see Figure 48).

Figure 48. The Church Keys. From Banchieri, *L'organo suonario*, 41.



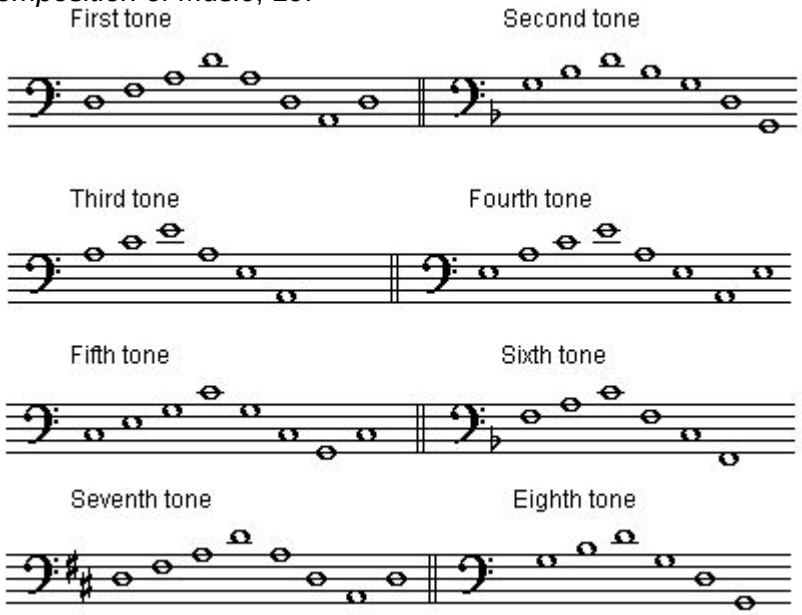
The Fourth Tone is one of particular interest because it resists an easy categorization into a major or minor key. Note that it asserts the primary notes of the tone to be the same as those for our A minor, while retaining a certain focus on E, the traditional final of the mode. Banchieri's church tones would appear to correspond to the keys of major-minor tonality as follows:

Table 3. Correspondence of Banchieri's Church Keys to the Keys of Major-Minor Tonality.

Church Key	Key
First Tone	D minor
Second Tone	G minor
Third Tone	A minor
Fourth Tone	E Phrygian/A minor
Fifth Tone	C major
Sixth Tone	F major
Seventh Tone	D minor
Eighth Tone	G major

Guillaume Gabriel Nivers' *Treatise on the Composition of Music* of 1667 contains a presentation of the church keys that differs in some respects from that of Banchieri's. It illustrates each Tone with the "essential notes," the final, mediant, and dominant, and other notes that show the "usual range" of the tone (see Figure 49).

Figure 49. The Eight Church Keys. From Nivers, *Treatise on the Composition of Music*, 19.



Nivers draws an interesting correlation between his tones and the "modes of former times." Using the numbering of the modes introduced by Zarlino, he indicates that "the first and second modes in *C sol ut fa* correspond to the fifth tone, the third and fourth modes in *D la re sol* to the first tone," and so forth.[195] He offers no modes that

[195] Guillaume Gabriel Nivers, *Treatise on the Composition of Music*, trans. Albert Cohen (Brooklyn: Institute of Mediaeval Music, 1961), 19.

correspond to either the second or the seventh of his tones. Nivers' "Tones" appear to correspond to the keys of major-minor tonality as follows:

Table 4. Correspondence of Nivers' Church Keys to the Keys of Major-Minor Tonality.

Church Key	**Key**
First Tone	D minor
Second Tone	G minor
Third Tone	A minor
Fourth Tone	E Phrygian/A minor
Fifth Tone	C major
Sixth Tone	F major
Seventh Tone	D major
Eighth Tone	G major

It is not surprising, perhaps, that compositional evidence for the lingering of the eight church keys is to be found primarily in liturgical or quasi-liturgical collections with Catholic connections. In many cases, the pieces may have been designed for use in a church service to set the pitch for the choir, which might be singing a composition that was in one of the modes of Renaissance polyphony.

The system of eight church keys was essentially practical in its origin, encompassing the keys in common use in the church. If there is any theoretical basis for the system, it lies in the general grouping of minor and major keys as the first and second groups respectively of four church keys, although even this is not absolutely consistent.

Although the church keys have a fairly limited range of key signatures, their choice does not seem to have been motivated by a desire to ensure effective key relationships, which might be considered a theoretical motivation. Instead, more practical reasoning seems to have been at work. According to Bates,

> unlike choirs singing without the organ, however, organists did not use these placements from a desire to provide smooth transitions from one tone to another. Rather, organists used them to maintain a good choral range with minimum difficulty (i.e., with the use of only a few accidentals).[196]

The ut-re tonal system

As theorists of the Baroque era were beginning to wrestle with the problem of just how to understand the "modern" keys, there was a tendency for them to use the octave species on D, or one might say the Dorian mode, as the model for their minor key. This viewpoint

[196] Bates, "From Mode to Key," 37.

was prevalent roughly from the 1690s through the 1720s. Even Jean Phillipe Rameau, a theorist of no mean stature, would briefly embrace this interpretation.[197]

There are several factors that might persuade a theorist to adopt such an interpretation. First was the fact that no minor key could really be free of accidentals, the sixth and seventh degrees of the minor scale being the difficult ones. Most compositions in minor would contain both major and minor forms of these degrees. As a result, the theorists of the time found it quite difficult to arrive at criteria for determining which version of the sixth or seventh scale degrees should be considered more fundamental.

Related to this problem is the practice of the composers of the period in assigning key signatures to their compositions. The so-called "incomplete" signatures of the seventeenth and eighteenth centuries were based historically on the "church keys" of the preceding period. It is not entirely clear whether writers were merely seeking theoretical justification for the current practice of providing key signatures or whether composers were assigning signatures as theorists of the day prescribed.

Another line of reasoning that might lead theorists to adopt the octave species on D as a model for minor has to do with the closely related keys commonly used in the process of fugal composition. Fugal technique calls for the subject to be "in the tonic" and the answer to be "in the dominant."[198] A Dorian model for minor allows a typical fugal exposition to be notated with the least number of accidentals.

One can find discussions of the minor key that seem to indicate that theorists were uncomfortable with the Dorian model for the minor key and were beginning to reconsider the choice of model for minor. Rameau, who was noted above as being transitional in this regard, originally adopted the Dorian model for minor in his discussion, but his examples of key signatures are inconsistent; they reveal the use of a Dorian model for flat keys, but an Aeolian model for sharp keys.[199] This approach can also be found reflected in compositional practice of the time.

The major-minor tonal system

In the period in which the church keys were the prevalent theoretical conception of tonality, a very limited range of keys was recognized. Major keys ranged only from F (1 ♭) to D (2 ♯s); minor keys ranged only from G (1 ♭) to A (no ♯s). The range of keys was expanded somewhat during the time of ut-re tonal theory to include roughly all the major and minor keys on the "white keys." Masson, in his treatise of 1699, provides examples

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[197] To be sure, Rameau appears to have changed his mind even before the *Traité de l'Harmonie* was quite published and rejected this interpretation in a supplement that was incorporated into the initial publication of the treatise. See Jean-Philippe Rameau, *Treatise on Harmony*, trans. Philip Gossett (New York: Dover, 1971), 171-174.

[198] This is, to be sure, an oversimplification, but it is adequate for the purposes of the present discussion.

[199] Rameau, *Treatise on Harmony*, 265, Example III.63.

of the major and minor modes "on all the strings of the gamut."[200] These keys range from in major from B♭ (2 ♭s) to B (5 ♯s) and in minor from E♭ (5 ♭s) to B (3 ♯s).

With the arrival of what might be called a modern conception of major-minor tonality, the range of keys is extended to all chromatic steps. In the presentation of the keys as part of his discussion of harmonizing an ascending scale in the bass, Rameau illustrates a typical "rule of the octave" procedure with what is, in effect, the complete chromatic range of keys.[201] Major keys extend from A♭ (4 ♭s) to C♯ (7 ♯s); minor keys extend from E♭ (5 ♭s) to D♯ (6 ♯s). Note that there is an enharmonic duplication, E♭ and D♯, in the minor keys. Since minor keys with flats are based on a Dorian model, it is clear that this presentation is based on Rameau's earlier conception of keys.

In the supplement to the treatise that apparently represents Rameau's later thoughts on the problem, he completely adopts the Aeolian model for minor. The range of keys in this presentation varies somewhat from that of the earlier one. Major keys extend from A♭ (4 ♭s) to C♯ (7 ♯s); minor keys extend from E♭ (6 ♭s) to G♯ (5 ♯s). In both presentations, Rameau covers all 24 possible keys, although he does not quite reach to seven sharps and flats for both major and minor keys. Just a few years before, Frere had illustrated keys all the way through six sharps and flats for both major and minor keys.[202]

There were other influences at work in the expansion of possible keys other than purely aesthetic considerations of composers. The practical effects of the various mean-tone temperaments in use at the time would have been to make certain chords and intervals grossly out of tune. Keys in which these chords and intervals would have involved the tonic and dominant harmonies would have sounded bad enough that they would have been unusable in practice. As more effective temperaments were developed, culminating in equal temperament, more keys gradually became usable.

A Model for the Evolution from Modality to Tonality

There would seem to be obvious historical antecedents for certain keys. The observation that "Dorian is obviously the ancestor of classical minor" certainly can be derived from a study of the evolution of the theory of keys and, to some extent, of the practice of composition.[203] But it undoubtedly reflects the biases of the conventional approach to the study of the origins of the modern keys. Aeolian and Phrygian are also the ancestors of minor, just as Ionian and Mixolydian are the ancestors of major.[204]

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[200] Charles Masson, *Nouveau traité des règles pour la composition de la musique* (Paris: Christophe Ballard, 1699; reprint, New York: Da Capo Press, 1967), 10-12.

[201] Rameau, *Treatise on Harmony*, 396-401, Examples IV.17 and IV.18.

[202] Alexandre Frere, *Transpositions de musique reduites au naturel* (Amsterdam: Estienne Roger, ca. 1710; reprint, Rochester: University of Rochester Press, 1955, microcard), 35-47.

[203] Beswick, "Problem of Tonality," 309.

[204] Lydian seems not really to have had an independent existence.

The process of evolution from modality to tonality can perhaps be best characterized as the coalescing of related modes into a single "tonal mode." In their original forms, these modes were distinctly different in character. This diversity contributes to the richness of their tonal successors.

One way in which modes can be related is by the quality of their tonic chords. Dorian and Aeolian, for example, are both minor modes in this sense. Each contributes certain unique qualities to the minor mode of tonality. Modes are also related through their identity as part of the same diatonic system. A Aeolian and E Phrygian, for example, are in the same diatonic system. Various characteristics of modern A minor may be identifiable as deriving from one or the other of these sources.

According to the traditional view of pitch organization in compositions from the Renaissance era, essentially all pieces can be explained by invoking, among other things, the eight modes, authentic and plagal, having finals on D, E, F, and G. The four modes added to this system by Glarean, those authentic and plagal modes with finals on A and C, are generally thought to be necessary and sufficient for dealing with those pieces falling outside the stricter eight-mode system.

There may have been greater diversity in the modality of the sixteenth century than the theory of the day, even the expanded modal systems of Glarean and Zarlino, accounted for. Recent scholarship, freed from its dependence on the views and biases of modal theory, has recognized as many as 24 tonal types.[205] These tonal types are based on the observations of consistent use of three elements by composers of the sixteenth century: final, ambitus (as identified through cleffing), and diatonic system (the natural system and the transposed system with a key signature of one flat).

It is clear that some, but definitely not all, of the compositions of the sixteenth century were intended to represent specific modes. The evidence for this is twofold. Some specific compositions have a designation that places them in particular modes. Additionally, in certain collections of music, the compositions appear to be ordered according to one of the known systems of modes.

Certain of the tonal types do seem to correspond unequivocally to modes of the traditional eight-mode or the expanded twelve-mode system. Others are more ambiguous. The following table (Table 5) summarizes the 24 tonal types and indicates which of the eight church modes that tonal type is frequently used to represent.

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[205] The seminal study in English using this approach is Powers, "Tonal Types and Modal Categories," 428-470. Powers acknowledges his debt to Hermelink's work, *Dispositiones Modorum*.

The expression *tonal types* is Powers' translation of Hermelink's term *Tonartentypen*. *Modal types* might have been a better rendering given that Hermelink, unlike Powers, did not reject the notion that the types actually were the modes. Indeed, he assigned modal names to the types, referring to them as "G-Dorisch," "C-Mixolydisch," and so forth.

Table 5. Sixteenth-Century Tonal Types.[206]

	Final	Ambitus (Cleffing)	Diatonic System	Mode
1	D	low	♮	1
2	G	high	♭	1
3	D	high	♭	1?/2?
4	A	high	♮	1/3
5	A	low	♮	1/3/4
6	G	low	♭	2
7	D	low	♭	2
8	D	high	♮	2/7
9	A	high	♭	3
10	E	low	♮	3/4
11	A	low	♭	3/4
12	E	high	♮	3?/4?
13	F	high	♭	5
14	C	high	♭	5
15	F	low	♭	5/6
16	F	high	♮	5?/6?
17	B♭	high	♭	5?/6?
18	B♭	low	♭	5?/6?
19	C	high	♮	6
20	F	low	♮	6
21	C	low	♭	6
22	C	low	♭	6
23	G	high	♮	7
24	G	low	♮	8

[206] The assigment of tonal types to modes in this table is based on the modally ordered collections discussed in Powers, "Tonal Types and Modal Categories," 428-470. The decisions to categorize particular compositions in one mode or the other were presumably made by the composer or the publisher of the collection in question. Those modal assignments marked with a question mark were made by the present author in the absence of any indication in Powers' article.

From the discussion above of the evolution of key theory in the seventeenth century, it seems clear that most musicians thought of their music in terms of the modes, or perhaps the somewhat wider range of tonal types just outlined. Nevertheless, it is during this time that the music seems to turn distinctly in the direction of major-minor tonality, based on the internal evidence of the music itself.

It is certainly the case, however, that only a limited range of keys was in use through much of the seventeenth century. The range of keys, in fact, seldom exceeded that of the tonal types of the sixteenth century. There were undoubtedly several factors at work here, not the least of which were the problems of tuning. In the varieties of mean-tone temperament in use, there were inevitably some keys that simply were not well in tune. To some extent, inertia may also have been at work. A composer could easily have concluded that there were already enough keys around and that any more would have been superfluous.

Both Powers and Hermelink view the tonal types of the sixteenth century as antecedents of the keys of major-minor tonality.

> I am sure that the sixteenth-century ways of composing in the tonal types ♭-g2-G and ♭-c1-G are directly ancestral to ways of composing in eighteenth-century G minor, and that the very different tonal types ♮-g2-A and ♮-c1-A are among the progenitors of A minor. I am just as sure that the well-recognized if ill-defined differences between eighteenth-century G minor and eighteenth-century A minor turn much more on musical aspects surviving from their pasts than on putative difference in tunings.[207]

> One will have to seek the origin of the key characteristics of our major-minor tonality here, in the vocal polyphony of the sixteenth century. For the tonal types in effect here ... evidently take effect later and are to be made responsible *a priori* for the subsequent animation of the entire cycle of keys (even the "distant" keys) by the addition of a certain affective content.[208]

Viewing the keys in use in the seventeenth century from the vantage point of major-minor tonality, one tends to notice their similarities and ignore their differences. Powers and Hermelink, approaching the problem from the context of the tonal types of the sixteenth century, notice the differences among the keys.

Meier, in his thorough study of modality in the sixteenth century, provides detailed descriptions of the various modes in use at that time. In describing the differences

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[207] Powers, "Tonal Types," 467-470.

[208] Hermelink, *Dispositiones Modorum*, 143. "Man wird den Ursprung der Tonartencharakteristik unserer Dur-Moll-Tonalität hier, in der Vokalpolyphonie des 16. Jahrhunderts suchen müssen. Denn die hier wirksamen Tonarten-Typen ... wirken dort offensichtlich nach und sind wohl für die nachträgliche Belebung des gesamten Tonarten-Kreises (auch der "entfernten" Tonarten) durch Beilegung eines bestimmten Affektgehaltes a priori verantwortlich zu machen."

among the *re* modes, he notes that "as clearly as the repercussion *re-la* of Mode 1 came to light from the pattern of cadences ..., the plagal repercussion *re-fa* proper to Mode 2 is revealed by the arrangement of cadences...."[209] Cadences on the fifth degree of Mode 2, when they occur, are more likely to be cadences on d-*mi*, that is, Phrygian cadences.

Translating these ideas of cadential emphasis to the keys of major-minor tonality that descend from these modes, one could expect that D-minor compositions might be expected to tonicize the dominant more than would those in G-minor, which would likely have an analogous emphasis on the mediant, or relative minor. Cadences on the dominant in G minor could be expected to be of the variety known as the Phrygian half cadence.

While it is beyond the scope of the present study to examine this notion in depth, it will be useful to illustrate these differences in treatment of keys with two examples drawn from a rather different repertory. The following figures are excerpts from keyboard pieces from later seventeenth-century France.

[209] Meier, *The Modes of Classical Vocal Polyphony*, 143.

Figure 50. Beginning of the second Courante of Chambonnières' 7e Ordre en ré mineur. From Chambonnières, *Les deux Livres de Clavecin*, 50.

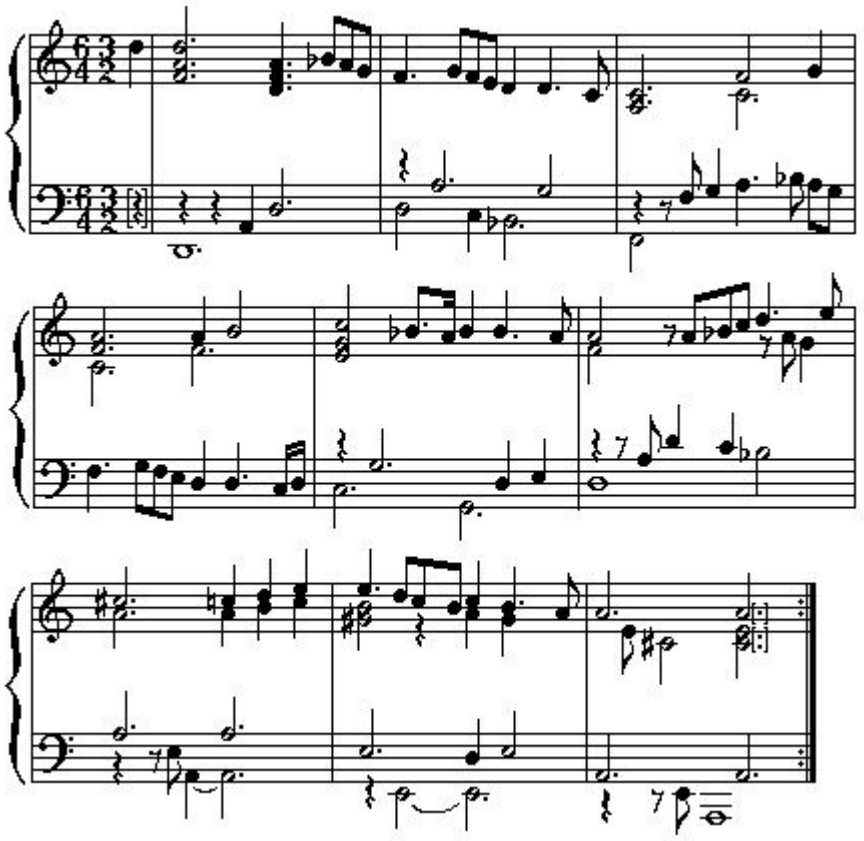
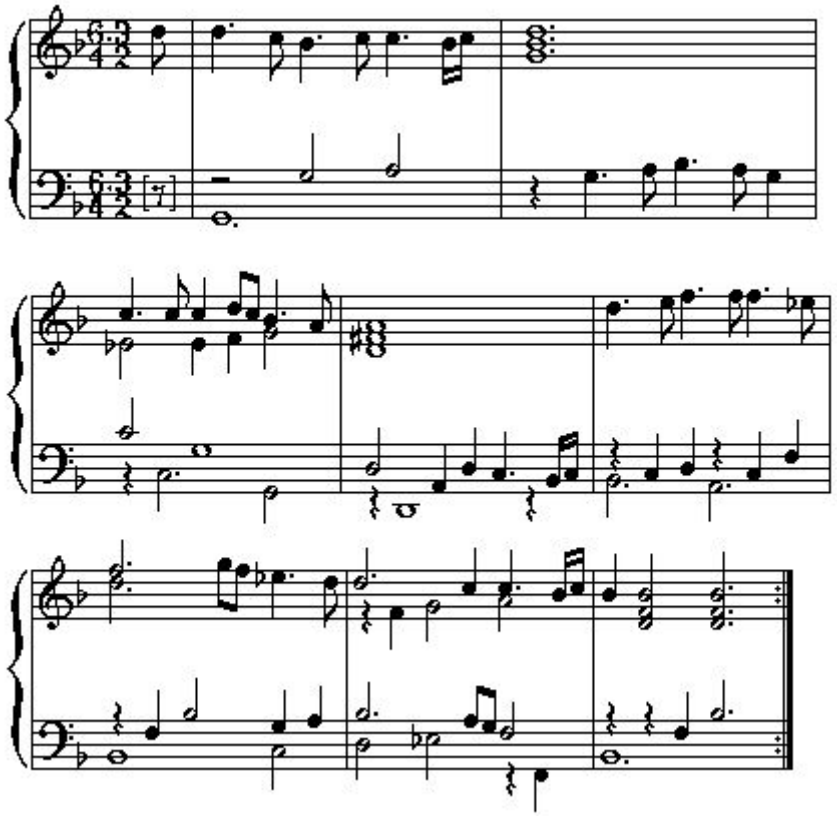


Figure 51. Beginning of the Courante of Chambonnières' 10e Ordre, en sol mineur. From Chambonnières, *Les deux Livres de Clavecin*, 66.



To be sure, Chambonnières does not completely avoid tonicizing other scale degrees, including the relative minor [or rather sub-tonic] in D minor and the dominant in G minor. And it is to be expected that the many unique characteristics of the various minor modes would have spread to many other of the keys of major-minor tonality by Chambonnières' time.[210] Nevertheless, the normal cadential emphases of the sixteenth century, as observed by Meier, can be observed rather late in the seventeenth century. This is a generalization, of course, and is susceptible to the criticism that it is an oversimplification.

This discussion of the characteristics of various keys is reminiscent of the treatment of this topic in some of the theory treatises of the seventeenth century. Thomas Campion's counterpoint treatise of 1613, for example, has a discussion of appropriate scale degrees for internal cadences. In minor keys, he notes that "the main and fundamental close is in the key itself, the second is in the upper note of the fifth, the third is in the upper note of the lowest third."[211] In major keys, however, he suggests that the second or fourth degree be substituted for the third. Campion's example for this is G major and

[210] It should perhaps be noted that the keys used by the eleven Ordres of Chambonnières' two books of keyboard music (published in 1670) do not exceed the keys listed by Nivers in his treatise (published in 1667).

[211] Campion, *A New Way*, 214 [spelling modernized].

he seems specifically to be speaking of that key. He subsequently identifies F major as an exception and provides an example of cadences in F major that includes a cadence in A minor, the third degree of the key. Note that the key avoided in the G-major example is specifically B minor, a key foreign to the enumeration of valid modes or tonal types of the sixteenth century.

The Survival of Modal Characteristics In a Tonal Context

Musical scholars who deal with the music of the seventeenth century are often faced with pieces that display characteristics, superficial or substantial, of the modal system of the previous centuries. Those analysts with a Schenkerian orientation often invoke the concepts of mixture or tonicization in order to account for those events that do not fit comfortably into the tonal system. A piece in G with prominent use of F♮, for example, might be assumed to be in G major with mixture of the seventh degree of G minor, or alternatively, with tonicization of the fourth scale degree, C. Similarly, a piece in E with prominent use of F♮ might be assumed to be in E minor with borrowing of the fourth degree of C major, the sixth degree of A minor, or even the second degree of E Phrygian.[212] The concept of tonicization of the dominant scale degree might be invoked to account for the prominent use of B♮ in F major that results in an apparent F Lydian.

Schenker, himself, may have established this approach when he attempted to rationalize the use of ostensibly modal elements in contexts that appear otherwise to be tonal. In his *Harmony*, he considers two compositions from the mature era of major-minor tonality that purport to be "in a mode": Beethoven's *String Quartet in A minor*, op. 132 and Brahms' *Chorale*, op. 62, no. 7.[213] In both cases, Schenker argues against a true modal interpretation, contrary to the apparent intention of the composer. His explanation of these compositions invokes the concepts of tonicization of secondary scale degrees in order to account for "modal" elements. Schenker's rationalizations are generally convincing, though slightly strained, particularly with respect to the Brahms example.

Remote-Level Modal Characteristics

In these approaches, there is little consideration of the possibility that the tonal center of a piece might be something other than the patently obvious choice, the root of the final chord. A possible explanation for this oversight can be found in the recollection that tonal theory has antecedents in modal theory. Historically, modal theory had classified pieces primarily according to their finals, and only secondarily, if at all, according to other internal characteristics. Schenker hinted at an alternative approach in *Harmony* where he stated that the Phrygian cantus firmus from Fux's *Gradus ad Parnassum* (see Figure

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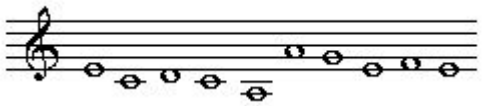
[212] See, for example, Novack, "Significance of Phrygian Mode," 103. The unacknowledged assumption, here, that Phrygian is to be included among the fundamentally tonal scales, is problematic. It usually arises in an attempt to deal with the Neapolitan chord. A better treatment of the Neapolitan, expressed tentatively by Schenker in §145 of *Harmony* and dismissed as speculative by Jonas, the editor of the English edition, can be found in the explanation that it arises from an indirect tonicization of the subdominant in minor.

[213] See Schenker, *Harmony*, 55-76.

52) "could be accepted as Phrygian merely on account of its opening and closing note, E, while our instinct for harmony certainly would place it in the Aeolian system."[214]

Figure 52. Fux's Phrygian cantus firmus. From Schenker, *Harmony*, 137.



The discussion that follows is an attempt to deal with ostensibly modal compositions that appear in other ways to be tonal. Crucial to this approach is the notion that the tonal center may be something other than the obvious.

Phrygian Mode in a Tonal Context

In the tonal repertory, one occasionally may encounter compositions that are ostensibly in Phrygian mode. This characteristic is prevalent throughout the Baroque period and disappears rather quickly after J.S. Bach's generation.

One solution to the problem that these pieces pose, and by far the most common, is to consider Phrygian mode to be a third type of tonal scale (in addition to major and minor). Dahlhaus, for example, asserts that "in the late 17th century, Phrygian still formed a third type alongside major and minor."[215] Novack, whose studies of early music were discussed above, adopts a similar position. "The Phrygian mode, when absorbed by polyphony, remained the unique exception, successfully resisting mutation that reflected the path leading to major-minor absolutism."[216] Essentially no systematic attempts have been made to incorporate these ostensibly Phrygian-mode compositions into the more commonly accepted framework of major-minor tonality.

One difficulty with these approaches is that they have assumed that the harmony based on the final of the mode must be taken as a *tonic* harmony. One reasonable alternative to this, which would incorporate Phrygian into a comprehensive theory of major-minor tonality, could be based on the assumption that the harmony on the final of the mode is *not* a tonic harmony.

The interpretation of Phrygian's characteristic semitone, E-F, as a dominant indicator would be the key to this approach. An E Phrygian composition would be based on the treatment of E as a dominant rather than as a tonic and in its most remote structural level would project A as tonic.[217] Both E Phrygian and A minor are part of the same diatonic system, of course, and the cadences associated with the E Phrygian mode are

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[214] Ibid., 137.

[215] Dahlhaus, *Studies*, 246.

[216] Novack, "Significance of Phrygian," 87.

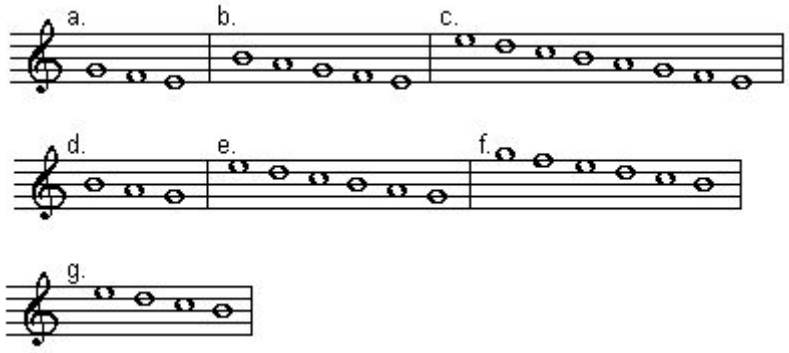
[217] The discussion here of examples out of context will assume an untransposed diatonic system (that is, E Phrygian/A minor), which, in fact, is the case with most examples of this sort of composition from the tonal period. Perhaps the second most common is G Phrygian/C minor.

analogous with those of A minor. The cadential chord progression A minor-E major forms a plagal cadence in E Phrygian, by far the most common in that mode, and is essentially indistinguishable from a half cadence in A minor. The cadential progression D minor 6/3-E major forms "the Phrygian cadence" and is to be found in A minor as a common half cadence.

Modern scholarship contains some, although far from overwhelming, acknowledgement of this view, even though many musicians seem to be perfectly comfortable with the idea that a piece might end on the dominant of its key. In a study of the church tones in French Baroque organ music, the observation is made that during this period, "the treatment of Tone IV as A minor, cadencing on its dominant, becomes more sharply defined."[218] To be sure, the Phrygian mode has generally been acknowledged to have a certain focus on its fourth degree, but this usually takes the form of an assertion that a *plagal* cadence is most appropriate for this mode. The presentations of the "Church Tones" by Guillaume Gabriel Nivers and Adriano Banchieri discussed above, both indicate a close relationship between E Phrygian and A minor.

There are several remote-level linear structures that can be hypothesized for Phrygian pieces. Lines whose boundaries are contained in an E minor harmony and whose passing notes are drawn from the untransposed diatonic collection are the obvious solution. (These are given in Figure 53). Of these, several possibilities are descending linear progressions whose goal is the final of the mode.

Figure 53. Hypothetical remote-level linear progressions for Phrygian mode.

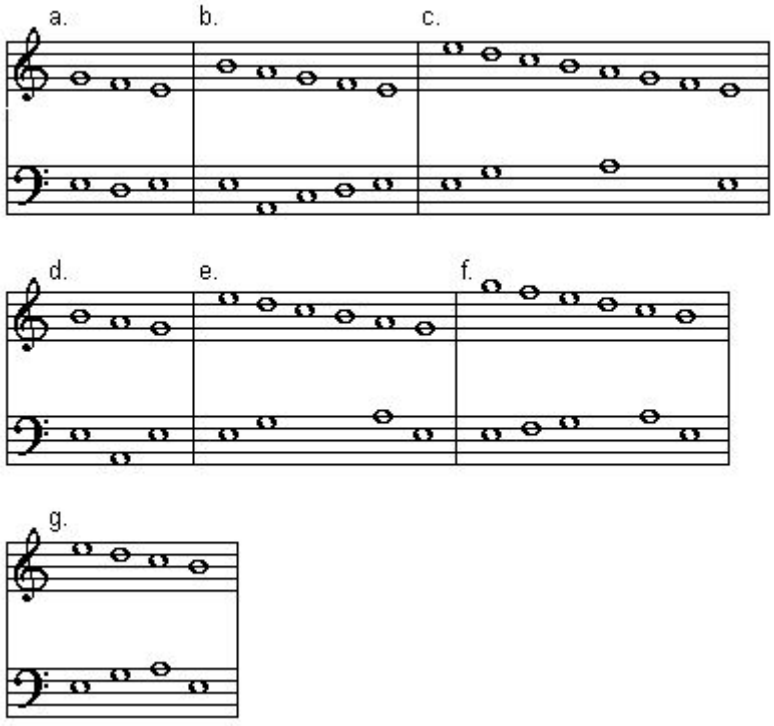


There are some difficulties, though, with the possible linear progressions for Phrygian mode illustrated in Figure 53. Scholars have long noted that the minor second degree of Phrygian mode (F in the examples) prevents the formation of a major harmony on its fifth degree without alteration (an alteration that would significantly affect the character of the mode), and consequently prevents the formation of a true dominant for the mode. Looking at the situation from another viewpoint, one can say that a piece on E with a dominant harmony is E minor, not E Phrygian.

[218] Howell, "French Baroque Organ Music," 112.

Even if one can imagine a bass line that might support lines like those of Figure 53, that bass line will not express an E harmony in a simple and coherent fashion and will therefore fail to project E as a tonic. For some possibilities, see Figure 54.

Figure 54. Hypothetical remote-level linear progressions for Phrygian mode with bass lines.



The same criticism seems to apply to other hypothesized remote-level structures for Phrygian. A recent pedagogical work suggests that "one may encounter plagal structural cadences, modal rather than diatonic lines (even a fundamental line $\hat{4}$-$\hat{3}$-($\flat\hat{2}$)-$\hat{1}$ in the Phrygian mode)...."[219] And concludes that

> the natural tonal space for the sixteenth and seventeenth-century chorale repertoire is the octave, subdivided into fifth and fourth ($\hat{1}$-$\hat{5}$, $\hat{5}$-$\hat{8}$ or $\hat{5}$-$\hat{8}$, $\hat{1}$-$\hat{5}$; but in some circumstances also $\hat{1}$-$\hat{4}$, $\hat{4}$-$\hat{8}$ or $\hat{4}$-$\hat{8}$, $\hat{1}$-$\hat{4}$).[220]

Taken at face value, the structures indicated above also will not unfold an E harmony in a simple and coherent fashion and will therefore fail to project E as a tonic. But if one ignores the representation of the idea (the scale degree numbers) and observes the relationships contained in them, one will notice the focus on A embedded in E Phrygian.

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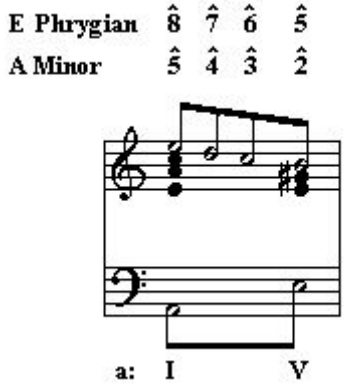
[219] David Neumeyer and Susan Tepping, *A Guide to Schenkerian Analysis* (Englewood Cliffs, N.J.: Prentice Hall, 1991), 113.

[220] Ibid., 115.

The remote level structure for Phrygian compositions that will be proposed is the one in Figure 53g. The fourth-line, E-B, is tonally ambiguous, that is, it allows two interpretations. One possibility is that the line may arise from the composing-out of the upper fourth of an E harmony. Another interpretation would derive this fourth-line from the fifth-line, E-A, through the process of interruption (see Figure 55). The former asserts E as the tonal center of the piece and necessitates that we posit Phrygian as a third sort of key. The latter asserts A as its tonal center and is the one that will be preferred here, because such an approach causes the least disruption of the prevalent concept of the tonal system.[221]

Figure 55. Proposed remote-level linear structure for Phrygian mode.



The notion of utilizing interrupted linear progressions as remote-level structures leads one to consider whether other linear progressions might serve in this situation, particularly the interrupted third-line. This, too, is reasonable with the restriction that the piece will not be able to begin in the E harmony, the only useful possibilities being A minor and C major.

The fourth fugue from Johann Ernst Eberlin's *Neun Tokkaten und Fugen* is one of the more advanced of the compositions in the Phrygian mode from the Baroque period and will be used here to demonstrate the analytic approach described above.[222] Figure 56 presents sketches of the middleground of portions of the composition.

Figure 56a is a sketch of the exposition of the fugue. The fugue's subject was designed to exploit the half-step relations that occur above the first and fifth degrees of Phrygian,

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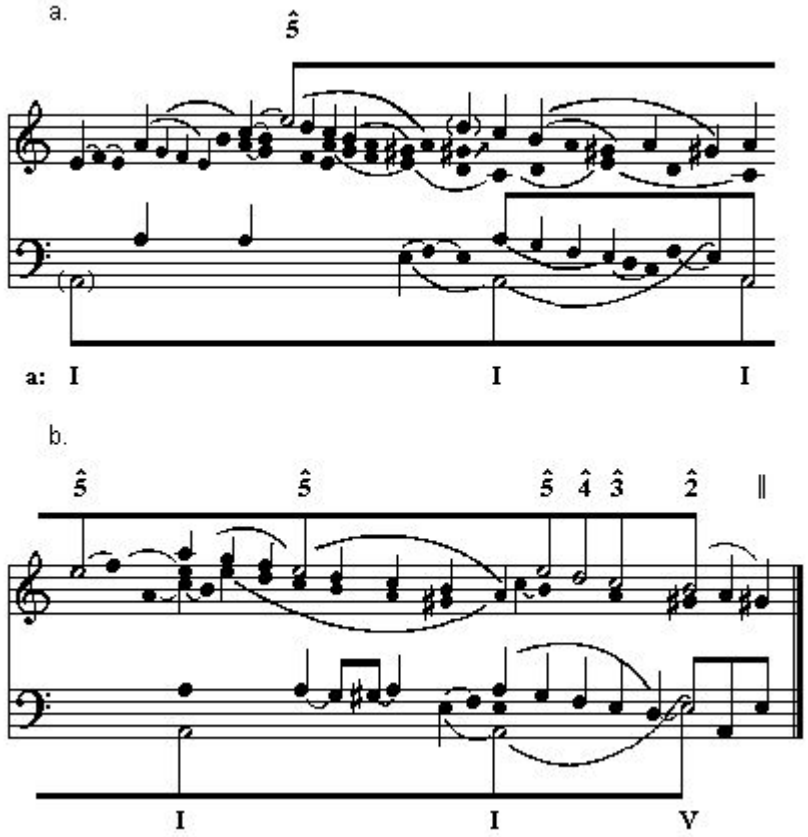
[221] An early analysis by Schenker himself is a precedent for positing an interrupted line as the remote tonal organization of a piece. See his "J.S. Bach: Zwölf kleine Präludien, Nr. 3," *Der Tonwille* 5 (1923): 3-4. Schenker does not, however, suggest that this piece is in any sense in Mixolydian.

[222] Johann Ernst Eberlin, Toccata and Fugue Number 4 in *Neun Tokkaten und Fugen* (Augsburg, 1747), edited by Rudolf Walter in *Süddeutsche Orgelmeister des Barock* 4 (Altötting: Musikverlag Alfred Coppenrath, [1958]). Numerous composers of the seventeenth and early eighteenth centuries produced compositions which are apparently in Phrygian mode. These include Johann Sebastian Bach, Adriano Banchieri, Girolamo Frescobaldi, Giovanni Gabrieli, Jean Adam Guillaume Guilain, Johann Kaspar Kerll, Nicolas Lebegue, Franz Xaver Anton Murschhauser, Johann Pachelbel, and Jean Titelouze.

but nevertheless projects strongly the tonality of A minor. Figure 56b deals with the conclusion of the fugue and presents the final descent of the fundamental linear progression.

Figure 56. Analytic sketches of the exposition (at *a*) and the conclusion (at *b*) of the fourth fugue from Johann Ernst Eberlin's *Neun Tokkaten und Fugen*.

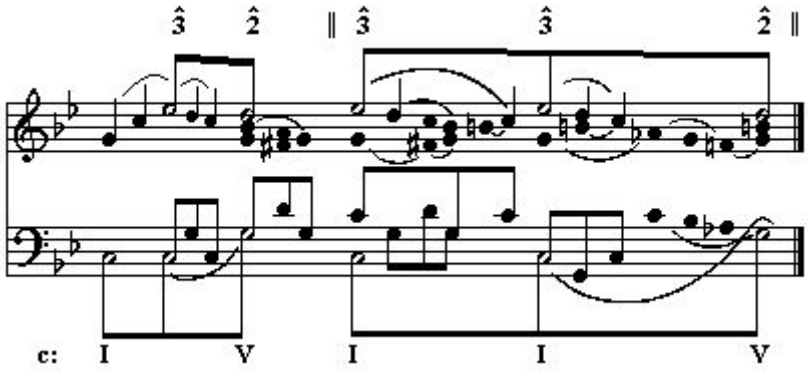


There is little in this piece that would tempt one to claim E minor as the key; the only tonicization of E is that which occurs in the penultimate measure, a foreground composing-out of the motion from A minor to E major. There is actually more extensive tonicization of D minor in this piece; a situation which strongly supports the assertion of A minor/E Phrygian as the key of the piece and which would appear to deny E minor as the key of the piece just as strongly.

Such an approach as that outlined above solves a number of problems that have been associated with the Phrygian mode. The absence of a perfect fifth above the fifth degree, preventing a true dominant, is no longer crucial since the mode's final is now functioning as the dominant of the "relative minor." Actually, there is nothing to prevent the formation of a dominant for E, even in Phrygian, by means of accidentals. In the situation that E is being tonicized, such would be the case. Composers, however, do not always take advantage of this, apparently because they use Phrygian mode as an opportunity to focus on E as a dominant, rather than as a tonic.

The creation of a major harmony on the fifth degree of the mode, tonicizing the final by functioning as its dominant, is quite possible and not all ostensibly Phrygian pieces avoid this tonicization in the way that Eberlin's fugue does. One fugue from Johann Pachelbel's *Magnificat Fugen*, in fact, exhibits rather extensive tonicization of the final. This collection, like many others, organizes the pieces according to the "church keys," the prevalent conceptualization of the modal system of this period. The following example from the fugues in mode 7 is apparently in C minor with a significant focus on G, its dominant, closing with a G major harmony.[223] A sketch of this piece is given in Figure 57.

Figure 57. Analytic sketch of the "Magnificat septimi toni 3" in Johann Pachelbel's *Magnificat Fugen*.

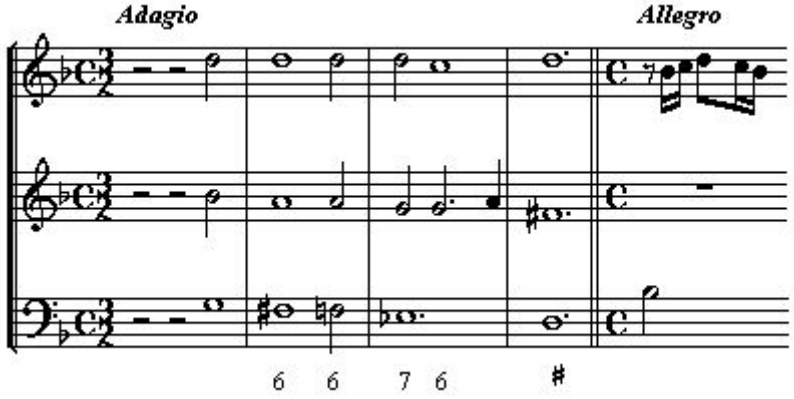


The extensive tonicization of G in this piece argues for the possibility of taking G, rather than C, as the tonality of the piece. Nevertheless, the interpretation of the piece as G Phrygian/C minor is preferable, because remote-level linear progressions fit more comfortably as C-minor lines. The treatment of the dominants in this composition is actually quite similar to that of a typical interruption in a minor key. For a comparison, see the figure in Chapter III illustrating the Interruption Scheme in a Minor Key.

There is compositional procedure, prevalent in the late Baroque, that appears similar to that of the apparent-Phrygian of the pieces discussed above, yet must be distinguished from it. A moderately common practice in the instrumental music of Bach, Handel, and Corelli is the inclusion of a rather short interior movement composed of only a short chord progression that concludes with the typical Phrygian cadence. The following example (Figure 58) illustrates this practice.

[223] It is not at all clear how this piece is to be understood as an expression of mode 7. Like all of the other mode 7 compositions in this collection, it has its final on G with a key signature of two flats. Some of these pieces also have a certain focus on C, as does this one. The fundamentally minor character of these compositions, however, seems to contradict the normal understanding of Mixolydian mode.

Figure 58. Adagio movement of Corelli's Sonata, op. 1, no. 5. From Corelli, *Les Oeuvres*, 1:32.



In some cases, these "movements," rather than standing alone, are appended to the preceding complete and self-contained movement. The effect is clearly transitional in both cases.

In his examination of this procedure, La Rue focuses on the key relationships involved and concludes that a sort of "bifocal tonality" was operative in the Baroque.[224] His thesis is that the dominant harmonies of relative major and minor keys were essentially interchangeable. In Figure 58, he would view the B♭-major, tonic harmony that begins the succeeding movement as resolving the D-major harmony that appears to function as a dominant harmony of G minor. This clearly contradicts the more prevalent view in which the dominant harmony of a half cadence is seen as a "back-relating" dominant that does not resolve into the following harmony.

These quasi-Phrygian movements rarely exhibit any remote-level structural characteristics that would tend to elevate them to the status of complete and self-contained musical thoughts. As a result, one must conclude that, although they share some common characteristics, they are fundamentally different from the Phrygian/minor compositions considered above.

Mixolydian Mode in a Tonal Context

The conventional interpretation of a composition like that by William Byrd from *The Fitzwilliam Virginal Book* entitled *Selinger's Round* would be to place it in the Mixolydian mode.[225] The piece, apparently concerned with expressing G as its central pitch class, turns quickly to the key of C where it remains for most of the piece, returning to G for the

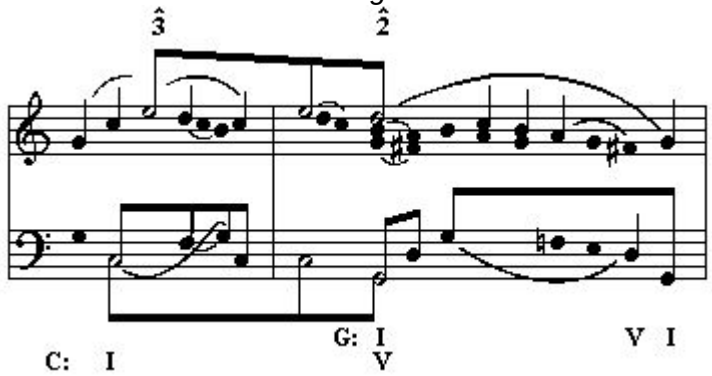
[224] Jan LaRue, "Bifocal Tonality: An Explanation for Ambiguous Baroque Cadences," in *Essays in Honor of Archibald Thompson Davison* (Cambridge, Mass.: Department of Music, Harvard University, 1957), 173-184.

[225] William Byrd, *Sellinger's Round*, ed. J.A. Fuller Maitland and W. Barclay Squire in *The Fitzwilliam Virginal Book* (Leipzig: Breitkopf & Härtel, 1899; reprint, with corrections by Blanche Winogron; New York: Dover, 1979-80), 1:248-253.

conclusion. Even this concluding reference to G major is contradicted by the F♮ in the bass of the typical Mixolydian cadence.

Since the relationships are analogous, it would seem that the concepts developed above for minor/Phrygian may be transferable to problems associated with major/Mixolydian. In this approach, a composition that is ostensibly in G Mixolydian would be interpretable as being "in the dominant" of the relative major key, or C major. A sketch of the opening theme of *Selinger's Round*, which is followed by eight variations, is provided in Figure 59.

Figure 59. Analytic sketch of the theme of William Byrd's *Selinger's Round* from the *Fitzwilliam Virginal Book*.



There is a potential problem of the third line in this context. The initial tone of the linear progression of the most remote level of structure, E in the example above, is the third of the actual tonic harmony (C major) and consequently not a member of the dominant harmony, that is, the apparent tonic. As a result, the initial harmony at the surface cannot be that of the "real" tonic. This is admittedly not a serious problem, since there is no requirement that a tonal piece must begin in its tonic harmony at the surface. Nevertheless, at this early stage of development of major-minor tonality a beginning outside the tonic would have to be considered unusual. Byrd's solution is to introduce an upward arpeggiation to the head tone of the line. This arpeggiation begins on G and allows a beginning in the harmony of the apparent tonic.

The argument for taking this piece as being essentially in C major rather than in G major will never be conclusive. This will be true as well of all such apparently Mixolydian compositions. Unlike the case with Phrygian, which has a minor second degree, there is nothing that unambiguously precludes the taking the final, G, as tonic. A reinterpretation of Figure 59 in these terms would result in the final descent to G, taken there as a phenomenon of the second level of the middleground, being promoted to the background. The extensive tonicization of C at the beginning of the piece would be reconstrued as a large-scale neighboring tone of the first level. It may not be possible to resolve these conflicting interpretations of compositions by appealing to internal evidence. Analytic judgment in such cases may have to appeal to the compositional tradition of which the particular composition is a part.

Conclusion

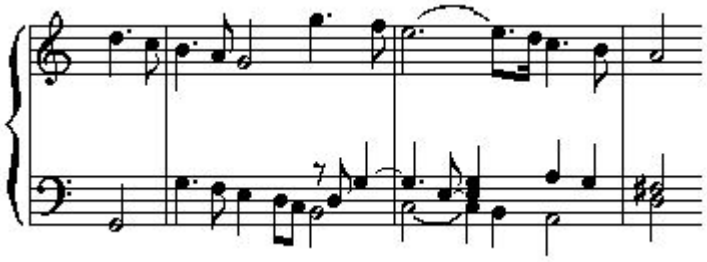
It seems clear that one aspect of the consolidation of the modes into keys was the inclination to associate an apparent mode with its relative major or minor key, a key that shares the same diatonic system. And even though such a treatment would not be useful for all modes, is does seem productive for others. Neither should one expect that any particular mode be limited to only this sort of interpretation. Even Phrygian mode, for which the case seems strongest, may be expressed by other means.

Surface-Level Modal Characteristics

The modes can also be represented in a more superficial way in tonal compositions. In some cases, the characteristics that apparently derive from the modes are merely features of the foreground. A G-Mixolydian composition might, for example, be a straightforward example of G major, in which the characteristic F♮'s would be said to reside at the foreground. It would still be expected that the F♮'s derive from a tonal focus on the subdominant side of the key, C major or A minor, but here they would be phenomena of the musical surface. This is distinctively different from the treatment of Mixolydian outlined above.

The following example illustrates a fairly common procedure in G major/Mixolydian.

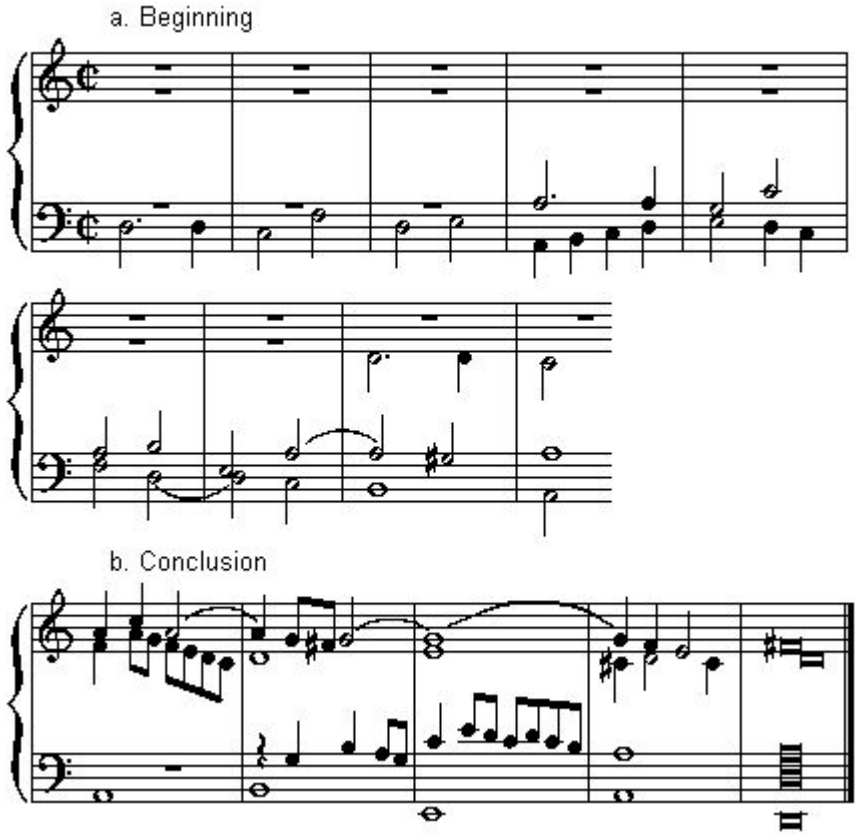
Figure 60. Beginning of a Gaillarde by Louis Couperin. From L. Couperin, *Pièces de Clavecin*, 86.



The F♮'s in the first complete measure of this piece seem clearly to derive from the subdominant harmony and they serve to sharpen the focus on the ensuing subdominant chord. In situations such as this, where the subdominant harmony is introduced very near the beginning of a composition, there is a danger of creating confusion as to the identity of the piece's actual key. In this case, however, the prompt introduction of an F♯ as part of the D-major harmony of measure 3 turns the key decisively back toward G major and prevents any confusion regarding key.

The feature that would seem to distinguish the Dorian scale from minor would be the use of a major sixth degree, a B♮ in D Dorian. As was noted above (see above), one of the attractions of Dorian as a model for minor was the ease with which a fugal answer could be constructed in that mode. The following figure illustrates this usage (see Figure 61a).

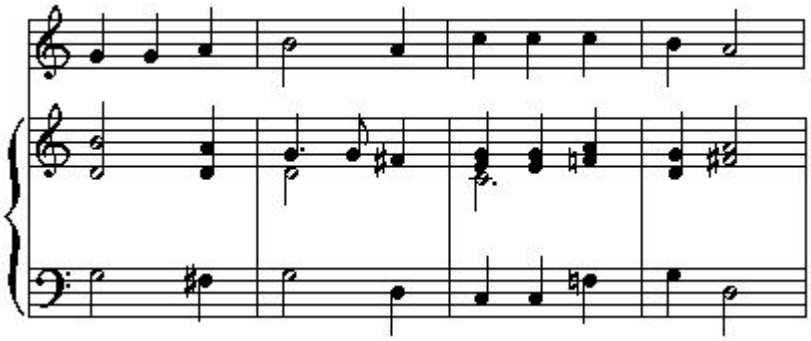
Figure 61. Two excerpts (Beginning at *a*, Conclusion at *b*) of Froberger's Ricercare XIV. From Froberger, *Orgel- und Klavierwerke*, 3:99.



The turn toward the dominant, A minor, in the answer causes the need for the B♮, which simulates a Dorian mode. The remainder of this piece exhibits the focus on the dominant characteristic of D minor, reflecting its roots in the Dorian mode. There are other uses of B♮ in this piece, however, that cannot be attributed to an origin in a tonicization of the dominant. In some cases, these usages seem to derive from a concern with avoiding a prominent simultaneity or leap of a tritone, a concern more frequently associated with modality than with major-minor tonality. Although there is some motivic justification for the B♮'s in Figure 61b, they do lend an uncharacteristic modal flavor to this composition.

The desire to avoid a prominent tritone could also be the justification of the F♮'s in the typical Mixolydian cadence. It is not easy, however, nor necessarily useful, to disentangle the question of an F♮ generated thus from the question of an F♮ generated because of associations with the subdominant harmony. This is illustrated in the following example.

Figure 62. Beginning of Campion's My sweetest Lesbia [text omitted]. From Campion, *Selected songs*, 38.



Modalisms that originate at the foreground can be viewed as superficial. They can certainly lend an unmistakable modal flavor to a composition, but they do not in and of themselves make the composition modal. In the attempts during the nineteenth century to recapture some of the qualities of modality, attempts that can be described as "neo-modal," this was the compositional technique frequently used.[226]

Conclusion

The growth of tonal organization in music of the sixteenth and seventeenth centuries seems to have progressed from the foreground toward the background. Some pieces at the earliest stages of tonality appear to exhibit harmonic organization at the surface, but no more deeply. Others reveal tonal coherence that controls larger portions of the piece, but yet does not encompass the entire piece. Convincingly tonal compositions are entirely governed by a structural logic that presents the tonic harmony through multiple levels of structure.

The keys of major-minor tonality can be seen as, in some sense, the descendants of the modes of the sixteenth century. They contain the diverse qualities of the related modes that combined to form them. There are, as a result, a number of ways in which tonal compositions can contain modal characteristics. Some of these ways involve merely the emphasis on a particular feature of the foreground. Others are based on a certain treatment of the remote-level structure. To the extent that these compositions can be understood as the composing-out of a tonic harmony, they will be convincingly tonal.

[226] For a brief discussion of Schenker's views of some of these pieces, see page 24 above.

APPENDIX

This appendix contains transcriptions of the German texts translated in the text of the dissertation.

Schenker, Heinrich. "Geschichte der Tonkunst." *Der Tonwille* 2 (1922): 3-4.

> Eine Geschichte der Tonkunst ist noch nicht geschrieben worden. Sie müßte Antwort geben auf folgende Fragen:
>
> Wann und wie hat sich in den Tonfolgen, diese horizontal betrachtet, das Gesetz der Konsonanz mit Oktav, Quint und Terz zum erstenmal durchgerungen und erfüllt, so daß die Tonfolgen, weil Ausdruck eines Klanges, als Einheit empfunden werden konnten? Geschah dies noch vor Beginn der Mehrstimmigkeitsversuche oder später? Wie stand es um die Zeit dieser ersten geheimen Befruchtung der Horizontalen durch die Konsonanz um die Urlinie? Und nebenbei, wie weit ähneln die Musikäußerungen der Naturvölker von heute jenen frühen Tonfolgen?
>
> Nachdem das Gesetz der Konsonanz im Zeitalter der Merstimmigkeit Erfüllung in vertikaler Richtung gefunden hat, welche Künstler waren es, die als die ersten eine Übereinstimmung zwischen dem vertikalen und horizontalen Dreiklang erreichten und so einer auch durch die vertikale Richtung beglaubigten horizontalen (melodischen) Auskomponierung die Bahn gebrochen haben? Wie wurden die Dreiklangsauskomponierungen aneinandergeschlossen? Umschlang sie eine Urlinie?
>
> Wann geschah es, daß die Dreiklänge als Regler der Auskomponierung zu ihrer eigenen Ordnung gelangten und zu Stufen eines Systems emporwuchsen? Wann kam die Diminution in Motiv und Auszierung zu ihren Gesetzen? Wie wurden die Motive zuerst zusammengeschlossen? Wie war es nun zu dieser Zeit um die Urlinie bestellt, die eine so vollentfaltete Welt mit Sekundschritten zu binden hatte, damit sich die Diminution der Motive und Ornamente nicht ins Ziellose verirre?
>
> Wie haben endlich all diese Kräfte Formen erstehen gemacht im Sinne von Begrenzungen, wie sie jeglichem Menschenschaffen unentbehrlich sind? Und nun: wie heißen die Künstler, die die unendlich vielen unschätzbaren Schrauben und Schräubchen ersannen, um die Stimmen des Satzes im Dienste der Form, der eigenpersönlichen Erzählungskunst, der Mannigfaltigkeit ein- und auszuspannen?

> Dies alles müßte erst beantwortet werden, wollte man die geeignete Grundlage für die Auswahl der Künstler, für Darstellung ihrer Lebensaufgabe, ja sogar ihrer Lebensschicksale finden.
>
> Wird es überhaupt je möglich sein, noch so viel Licht in die Vergangenheit zu bringen, um Licht auch für die Zukunft zu gewinnen? (Aus II^3.)

Heinrich Schenker, "Noch ein Wort zur Urlinie," *Der Tonwille* 2 (1922): 5.

> Es genügte, historisch bloss soviel zu wissen, dass vor Jahrhunderten die Diminution in der Auszierung einfacher Tonfolgen ihr Wesen trieb, um über das geringe Ausmass der allgemeinen Phantasie zu staunen, die nun umgekehrt den Weg aus den Diminutionen unserer Meister zu einer einfachen Folge von Tönen nicht zurückfindet. Caccini, der um das Sechzehnhundert gegen das Überwuchern der Verzierungen und für die sogenannte Monodie eintrat, meinte zwar: "Ich habe mich demnach bemüht, den Sinn der Textworte auszudrücken, dagegen die kontrapunktischen Künste zu verbergen"–aber dies beweist nur, dass er seine eigene Schöpfung missverstanden. Denn erstens war auch die Monodie Diminution einer einfachen Tonfolge, wenn auch anders geartet als das Ornament, und zweitens verschwanden zwar die kontrapunktischen Künste, aber nicht der Kontrapunkt, der sich sogleich einfinden muss, wo immer zwei Stimmen in ein Verhältnis zueinander treten. Ist es doch gerade der Kontrapunkt, der über das Intervall der Urlinie, sowie über die Diminution entscheidend aussagt.

Schenker, "Die Urlinie (Eine Vorbemerkung)," *Der Tonwille* 1 (1921): 22.

> Nicht also vom Tanz stammt die Instrumentalmusik, sondern von der Urlinie, die die rein musikalischen Assoziationen der Motive an ihrem Faden aufgereiht und sich so zu deren letztem Grunde gesetzt hat. Solange die Musik zum Tanz einer Urlinie noch entbehrte, war Tanz zwar Tanz, aber die Musik noch keine Kunst–erst mit der Urlinie begann die Kunstwerdung der Musik überhaupt, also auch der zum Tanz, und damit fällt die Theorie vom Ursprung der Instrumentalmusik aus dem Tanz samt allen Schlüssen, die daraus gezogen worden sind.

BIBLIOGRAPHY

Theoretical Sources

Apel, Willi. *Accidentien und Tonalität in den Musikdenkmälern des 15. und 16. Jahrhunderts*. Berlin: Trilitsch & Huther, 1936.

Atcherson, Walter. "Key and Mode in Seventeenth-Century Music Theory Books." *Journal of Music Theory* 17 (1973): 204-232.

Bashour, Frederick Joseph. "A Model for the Analysis of Structural Levels and Tonal Movement in Compositions of the Fifteenth Century." Ph.D. diss., Yale University, 1975.

_____. "Towards a More Rigorous Methodology For the Analysis of the Pre-Tonal Repertory." *College Music Symposium* 19, no. 2 (Fall 1979): 140-153.

Bates, Robert Frederick. "From Mode to Key: A Study of Seventeenth-Century French Liturgical Organ Music and Music Theory." Ph.D. diss., Stanford University, 1986.

Beach, David W. "A Schenker Bibliography." *Journal of Music Theory* 13 (1969): 2-37. Reprinted in *Readings in Schenker Analysis*, edited by Maury Yeston, 275-311. New Haven: Yale University Press, 1977.

Bergquist, Peter. "Mode and Polyphony around 1500: Theory and Practice." *The Music Forum* 1 (1967): 99-161.

Beswick, Delbert Meacham. "The Problem of Tonality in Seventeenth-Century Music." Ph.D. diss., University of North Carolina at Chapel Hill, 1950.

Bradshaw, Murray C. "Tonal design in the Venetian intonation and toccata." *Music Review* 35, no. 2 (August 1974): 101-119.

Browne, Richmond. "Tonal Implications of the Diatonic Set." *In Theory Only* 5, no. 6-7 (July-August 1981): 3-21.

Bukofzer, Manfred. *Music in the Baroque Era from Monteverdi to Bach*. New York: W.W. Norton, 1947.

Cazden, Norman. "The Definition of Consonance and Dissonance." *International Review of the Aesthetics and Sociology of Music* 11 (1980): 123-168.

Chew, Geoffrey. "The Perfections of Modern Music: Consecutive Fifths and Tonal Coherence in Monteverdi." *Music Analysis* 8 (1989): 247-273.

_____. "The Spice of Music: Towards a Theory of the Leading Note." *Music Analysis* 2 (1983): 35-53.

Crocker, Richard L. "Discant, Counterpoint, and Harmony." *Journal of the American Musicological Society* 15 (1962): 1-21.

Dahlhaus, Carl. *Studies in the Origin of Harmonic Tonality*. Translated by Robert O. Gjerdingen. Princeton, N.J.: Princeton University Press, 1990.

_____. "Tonality." In *The New Grove Dictionary of Music and Musicians*, edited by Stanley Sadie, 19:51-55. London: Macmillan, 1980.

_____. "Tonsystem." In *Die Musik in Geschichte und Gegenwart: Allgemeine Enzyklopädie der Musik*, 13:533. Kassel: Bärenreiter, 1966.

Gagné, David. "Monteverdi's *Ohimè dov'è il mio ben* and the Romanesca." *Music Forum* 6, no. 1 (1987): 61-91.

Goldschmidt, Hugo. *Studien zur Geschichte der Italienischen Oper im 17. Jahrhundert*. Leipzig: Breitkopf & Härtel, 1901-1904. Reprint. Hildesheim: Georg Olms, 1967.

Hermelink, Siegfried. *Dispositiones Modorum: Die Tonarten in der Musik Palestrinas und seiner Zeitgenossen*. Münchner Veröffentlichungen zur Musikgeschichte, Bd. 4. Tutzing: H. Schneider, 1960.

Hibberd, L. "'Tonality' and Related Problems in Terminology." *Music Review* 22, no. 1 (1961): 13-20.

Hoppin, Richard H. "Tonal Organization in Music Before the Renaissance." In *Paul A. Pisk: Essays in His Honor*, edited by John Glowacki, 25-37. Austin: College of Fine Arts, The University of Texas, 1966.

Horsley, Imogene. "The Diminutions in Composition and Theory of Composition." *Acta Musicologica* 35 (1963): 124-153.

_____. *Fugue: History and Practice*. New York: The Free Press, 1966.

Howell, Almonte C., Jr. "French Baroque Organ Music and the Eight Church Tones." *Journal of the American Musicological Society* 11 (1958): 106-118.

Hudson, Richard. "Chaconne," "Ground," "Passacaglia," "Passamezzo." In *The New Grove Dictionary of Music and Musicians*, edited by Stanley Sadie. London: Macmillan, 1980.

_____. "The Concept of Mode in Italian Guitar Music During the First Half of the 17th Century." *Acta Musicologica* 42 (1970): 163-183.

_____. "The Passacaglia and Ciaccona in Italian Keyboard Music of the 17th Century." Parts 1, 2. *The Diapason* 60, no. 12 (November 1969): 22-24; 61, no. 1 (December 1969): 6-7.

_____. *Passacaglio and Ciaccona: From Guitar Music to Italian Keyboard Variations in the 17th Century*. Ann Arbor, Mich.: UMI Research Press, 1981.

Jonas, Oswald. Review of *Structural Hearing*, by Felix Salzer. *Music Library Association Notes*, 2nd ser., 10 (1953): 439.

Judd, Cristle Collins. "Some Problems of Pre-Baroque Analysis: An Examination of Josquin's *Ave Maria ... Virgo Serena*." *Music Analysis* 4 (1985): 201-239.

Katz, Adele T. *Challenge to Musical Tradition: A New Concept of Tonality*. New York: Alfred A. Knopf, 1945.

Komar, Arthur. *Theory of Suspensions: A Study of Metrical and Pitch Relations in Tonal Music*. Princeton Studies in Music, No. 5. Princeton, N.J.: Princeton University Press, 1971. Reprint. Austin: Peer Publications, 1979.

Kühn, Hellmut. *Die Harmonik der Ars Nova: zur Theorie der isorhythmischen Motette*. Berliner Musikwissenschaftliche Arbeiten, Bd. 5. München: Musikverlag Emil Katzbichler, 1973.

LaRue, Jan. "Bifocal Tonality: An Explanation for Ambiguous Baroque Cadences." In *Essays in Honor of Archibald Thompson Davison*, 173-184. Cambridge, Mass.: Department of Music, Harvard University, 1957.

Ledbetter, David. *Harpsichord and Lute Music in 17th-Century France*. Music: Scholarship and Performance Series. Bloomington: Indiana University Press, 1987.

Leech-Wilkinson, Daniel. *Machaut's Mass: An Introduction*. Oxford: Clarendon Press, 1990.

_____. "Machaut's *Rose, lis* and the Problem of Early Music Analysis." *Music Analysis* 3 (1984): 9-28.

Lester, Joel. *Between Modes and Keys: German Theory, 1592-1802*. Harmonologia Series, no. 3. Stuyvesant, NY: Pendragon Press, 1989.

_____. *Harmony in Tonal Music*. Vol. 1, Diatonic Practices. New York: Alfred A. Knopf, 1982.

_____. "Major-Minor Concepts and Modal Theory in Germany, 1592-1680." *Journal of the American Musicological Society* 30 (1977): 208-253.

_____. "The Recognition of Major and Minor Keys in German Theory, 1680-1730." *Journal of Music Theory* 22 (1978): 65-103.

Lowinsky, Edward E. *Tonality and Atonality in Sixteenth-Century Music*. Berkeley and Los Angeles: University of California Press, 1961.

Mann, Alfred. *The Study of Fugue*. New York: W.W. Norton, 1965.

McClary, Susan Kaye. "The Transition from Modal to Tonal Organization in the Works of Monteverdi." Ph.D. diss., Harvard University, 1976.

Meier, Bernhard. *The Modes of Classical Vocal Polyphony Described According to the Sources*. Translated by

Ellen S. Beebe, with revisions by the author. New York: Broude Brothers, 1988.

Nalden, Charles. *Fugal Answer*. Aukland: Aukland University Press, 1970.

Neumeyer, David, and Susan Tepping. *A Guide to Schenkerian Analysis*. Englewood Cliffs, N.J.: Prentice Hall, 1991.

Norton, Richard. *Tonality in Western Culture: A Critical and Historical Perspective*. University Park: Pennsylvania State University Press, 1984.

Novack, Saul. "The Analysis of Pre-Baroque Music." In *Aspects of Schenkerian Theory*, edited by David Beach, 113-133. New Haven and London: Yale University Press, 1983.

_____. "Foreground, Middleground, and Background: Their Significance in the History of Tonality." In *Schenker Studies*, edited by Hedi Siegel, 60-71. Cambridge: Cambridge University Press, 1990.

_____. "Fusion of Design and Tonal Order in Mass and Motet: Josquin Desprez and Heinrich Isaac." *The Music Forum* 2 (1970): 187-263.

_____. "The Significance of the Phrygian Mode in the History of Tonality, " *Miscellanea Musicologica* 9 (1977): 82-127.

_____. "Tonal Tendencies in Josquin's Use of Harmony." In *Josquin des Prez*, edited by Edward E. Lowinsky, 317-333. London: Oxford University Press, 1976.

_____. "Tonality and the Style of Palestrina." In *Music and Civilization: Essays in Honor of Paul Henry Lang*, edited by Edmond Strainchamps and Maria Rika Maniates, 428-443. New York: W.W. Norton, 1984.

Oldroyd, George. *The Technique and Spirit of Fugue: An Historical Study*. London: Oxford University Press, 1948.

Palisca, Claude. *Baroque Music*. Prentice Hall History of Music Series. Englewood Cliffs, N.J.: Prentice-Hall, 1968.

Palisca, Claude, and Natasha Spender. "Consonance." In *The New Grove Dictionary of Music and Musicians*, edited by Stanley Sadie, 4:668-671. London: Macmillan, 1980.

Powers, Harold S. "Mode." In *The New Grove Dictionary of Music and Musicians*, edited by Stanley Sadie, 12:376-450. London: Macmillan, 1980.

_____. "Tonal Types and Modal Categories in Renaissance Polyphony." *Journal of the American Musicological Society* 34 (1981): 428-470.

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

Proctor, Gregory Michael. "Technical Bases of Nineteenth-Century Chromatic Tonality: A Study in Chromaticism." Ph.D. diss., Princeton University, 1977.

_____. "Systematic Discontinuity in Schenker." Paper presented at the Society for Music Theory, Baltimore, 1988.

Reese, Gustave. *Music in the Middle Ages*. New York: Norton, 1940.

Salzer, Felix. *Sinn und Wesen der abendländischen Mehrstimmigkeit*. Vienna: Saturn Verlag, 1935.

_____. *Structural Hearing: Tonal Coherence in Music*. New York: Charles Boni, 1952. Reprint. New York: Dover Publications, 1962.

_____. "Tonality in Early Medieval Polyphony: Towards a History of Tonality." *The Music Forum* 1 (1967): 35-98.

Schenker, Heinrich. *Counterpoint: A Translation of 'Kontrapunkt.'* 2 vols. Translated by John Rothgeb and Jurgen Thym. Edited by John Rothgeb. New York: Schirmer Books, 1987.

_____. "Essays from *Das Meisterwerk in der Musik*, Vol. 1 (1925)." Translated by Ian Bent. *Music Analysis* 5 (1986): 151-191.

_____. *Five Graphic Music Analyses*. New York: Dover Publications, 1969.

_____. *Free Composition*. Translated by Ernst Oster. New York: Longman, 1979.

_____. "Geschichte der Tonkunst." *Der Tonwille* 2 (1922): 3-4.

_____. *Harmony*. Edited and annotated, with an introduction, by Oswald Jonas. Translated by Elisabeth Mann Borgese. Chicago and London: University of Chicago Press, 1954.

_____. "Noch ein Wort zur Urlinie." *Der Tonwille* 2 (1922): 5.

_____. "Die Urlinie (Eine Vorbemerkung)." *Der Tonwille* 1 (1921): 22.

Sessions, Roger. "Heinrich Schenker's Contribution." *Modern music* 12, no. 4 (1935): 170-178.

Stern, David. "A Quotation from Josquin in Schenker's *Free Composition*." *Theory and Practice* 7, no. 2 (1982): 33-40.

_____. "Schenkerian Theory and the Analysis of Renaissance Music." In *Schenker Studies*, edited by Hedi Siegel, 45-59. Cambridge: Cambridge University Press, 1990.

_____. "Tonal Organization in Modal Polyphony." *Theory and Practice* 6, no. 2 (1981): 5-39.

Straus, Joseph N. "The Problem of Prolongation in Post-Tonal Music." *Journal of Music Theory* 31 (Spr. 1987): 1-21.

Thomson, William. "A Clarification of the Tonality Concept." Ph.D. diss., Indiana University, 1952.

_____. "The Problem of Tonality in Pre-Baroque and Primitive Music." *Journal of Music Theory* 2 (Apr. 1958): 36-46.

Wienpahl, Robert W. "The Emergence of Tonality." Ph.D. diss., University of California at Los Angeles, 1953.

_____. "Modality, Monality and Tonality in the Sixteenth and Seventeenth Centuries." Parts 1, 2.

Music and Letters 52 (1971): 407-417; 53 (1972): 59-73.

Renaissance and Baroque Era Writings on Music

Banchieri, Adriano. *L'organo suonario*. Venice, 1605. Reprint. Amsterdam: Frits Knuf, 1969.

Beldomandi, Prosdocimo de'. *Contrapunctus*. Edited and translated by Jan Herlinger. Greek and Latin Music Theory, no. 1. Lincoln: University of Nebraska Press, 1984.

Campion, Thomas. *A New Way of Making Fowre Parts in Counter-point*. In *Campion's Works*, edited by P. Vivian, 188-226. Oxford: Clarendon Press, 1909.

Crüger, Johann. *Synopsis musica*. Translated in Jay Norwood Howard. "Johann Crüger as a Music Theorist: A Translation and Critical Commentary of His *Synopsis musica* of 1630." M.A. thesis, Ohio State University, 1968.

Frere, Alexandre. *Transpositions de musique reduites au naturel*. Amsterdam: Estienne Roger, ca. 1710. Reprint. Rochester: University of Rochester Press, 1955. Microcard.

Gassendi, Pierre. *Manductio ad theoriam musicae*. In *Opera omnia*, 5:629-658. Lyons: Laurent Anisson and Jean-Baptiste Devenet, 1658. Reprint. Stuttgart-Bad Cannstatt: Friedrich Frommann Verlag, 1964.

Masson, Charles. *Nouveau traité des règles pour la composition de la musique*. Paris: Christophe Ballard, 1699. Reprint. New York: Da Capo Press, 1967.

Nivers, Guillaume Gabriel. *Treatise on the Composition of Music*. Translated by Albert Cohen. Musical Theorists in Translation, vol. 3. Brooklyn: Institute of Mediaeval Music, 1961.

Playford, John. *An Introduction to the Skill of Musick*. 12th ed. Corrected and Amended by Henry Purcell. 1694. Reprint. New York: Da Capo Press, 1972.

Rameau, Jean-Philippe. *Treatise on Harmony*. Translated by Philip Gossett. New York: Dover, 1971.

Zarlino, Gioseffo. *The Art of Counterpoint: Part Three of 'Le Istitutioni Harmoniche, 1558'*. Translated by Guy A. Marco and Claude V. Palisca. New Haven: Yale University Press, 1968.

Musical Sources

Bach, Johann Sebastian. *Werke*. Leipzig: Bach Gesellschaft, 1853. Reprint. Ann Arbor, Mich.: J.W. Edwards, 1947.

Caccini, Giulio. *Euridice*. In *Die Oper von ihren ersten Anfängen bis zur Mitte des 18. Jahrhunderts, Erster Theil*. Edited by Robert Eitner. Publikation älterer praktischer und theoretischer Musikwerke, 10. Band. Leipzig: Breitkopf & Härtel, 1881.

Campion, Thomas. *Selected Songs of Thomas Campion*. Boston: David Godine, 1973.

Castello, Dario. *Sonate concertate in stil moderno. Prima parte 1644*. In *Selected Ensemble Sonatas*. Edited by Eleanor Selfridge-Field. Recent Researches in the Music of the Baroque Era, v. 23. Madison, Wisc.: A-R Editions, 1977.

Chambonnières, Jacques Champion de. *Les deux Livres de Clavecin*. Publiés par Thurston Dart. Monaco: Èditions de l'Oiseau-Lyre, 1969.

Corelli, Arcangelo. *Les Oeuvres*. 5 vols. Edited by J. Joachim and F. Chrysander. London: Augener, n.d.

Couperin, Louis. *Pièces de Clavecin*. Publiés par Paul Brunold. Revue d'après le manuscrit Bauyn par Thurston Dart. Monaco: Èditions de l'Oiseau-Lyre, 1959.

Eberlin, Johann Ernst. *Neun Tokkaten und Fugen*. Edited by Rudolf Walter. Süddeutsche Orgelmeister des Barock, 4. Altötting: Musikverlag Alfred Coppenrath, 1958.

The Fitzwilliam Virginal Book. 2 vols. Edited by J.A. Fuller Maitland and W. Barclay Squire. Leipzig: Breitkopf & Härtel, 1899. Reprint, with corrections by Blanche Winogron. New York: Dover, 1979-80.

Frescobaldi, Girolamo. *Orgel- und Klavierwerke*. 5 vols. Edited by Pierre Pidoux. Kassel: Bärenreiter, 1954.

Froberger, Johann Jakob. *Orgel- und Klavierwerke*. 3 vols. Edited by Guido Adler. Denkmäler der Tonkunst in Österreich, Bd. 8, 13, 21. Vienna, 1903. Reprint. Graz: Akademische Druck- und Verlagsanstalt, 1959.

Gabrieli, Giovanni. *Composizioni per organo*. 3 vols. Edited by Sandro Dalla Libera. Milan: Ricordi, 1957-59.

Gagliano, Marco da. *La dafne*. In *Die Oper von ihren ersten Anfängen bis zur Mitte des 18. Jahrhunderts, Erster Theil*. Edited by Robert Eitner. Publikation älterer praktischer und theoretischer Musikwerke, 10. Band. Leipzig: Breitkopf & Härtel, 1881.

Gardane, Antonio, comp. *Intabolatura nova di varie sorte de balli da sonare ... Libro primo*. Venice, 1551. In *Keyboard Dances From the Earlier Sixteenth Century*. Edited by Daniel Heartz. Corpus of Early Keyboard Music, vol. 8. N.p.: American Institute of Musicology, 1965.

Lasso, Orlando di. *Sämtliche Werke. Neue Reihe*. 21 vols. Kassel: Bärenreiter, 1956-

Liber usualis missæ et officii. Tournai: Desclée & Co., 1964, c1953.

Monteverdi, Claudio. *Tutte le opere di Claudio Monteverdi*. 17 vols. Edited by G. Francesco Malipiero. Asolo, 1926-1968.

_____. "Possente spirito" from *L'Orfeo*. In *Die Oper von ihren ersten Anfängen bis zur Mitte des 18. Jahrhunderts, Erster Theil*. Edited by Robert Eitner. Publikation älterer praktischer und theoretischer Musikwerke, 10. Band. Leipzig: Breitkopf & Härtel, 1881.

Pachelbel, Johann. *Magnificatfugen*. Edited by Hugo Botstiber and Max Seiffert. Denkmäler der Tonkunst in Österreich, vol. 17. Wien: Artaria, 1901. Reprint. *The Fugues on the Magnificat for Organ or Keyboard*. New York: Dover, 1986.

Palestrina, Giovanni Pierluigi da. *Le Opere Complete*. Per cura e studio di Raffaele Casimiri. Rome: Fratelli Scalera, 1939-