

VOICE LEADING IN MOZART'S FIGURED BASSES FOR ATTWOOD

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Since their publication in the *New Ausgabe sämtlicher Werke* in 1965, Mozart's figured basses composed for Thomas Attwood, as part of his course in composition, have gone without the close examination they merit.¹ These lessons, which were probably undertaken first in Attwood's course of study, contain more work in Mozart's hand than any other part of the instruction, and because they are nearly complete, they offer an unparalleled opportunity to explore some of Mozart's working principles as a teacher and a composer. Yet the editors have given them substantially less attention in the "Kritische Berichte" than the exercises in counterpoint and free composition, and the few studies done so far have focused for the most part on the preliminary instructions on scales, intervals, and chords.² The realized and corrected figured-bass exercises have yet to be interpreted.³

The lessons differ from those found in thoroughbass manuals of the time, and they are exceptional among the extant documents of Mozart's teaching.⁴ Although the rules for realization are familiar, they do not correspond, taken together, to any instruction in a single treatise or by a single theorist (Federhofer 1971). The presentation, in figured-bass instruction, of only two chord types—the common chord and the seventh chord—and the derivation of all other chord structures from these is unusual. The earliest descriptions of the Attwood studies recognized the novelty, among Viennese theories, of this way of teaching figured bass, and Hertzmann's (1959) identification of an influence from Rameau, as received through Kirnberger, has been accepted without question. However, the association with Rameau's and Kirnberger's theories should not be assumed to extend to the rest of the instruction.

Although the main purpose of the figured basses is to provide efficient practice in realization, as exercises in composition apart from performance,⁵ the problems they pose are cast in a form that exceeds this aim and merits study in itself. The design of the exercises, taken in sequence as an ongoing course of study, is the object of investigation here.

The following observations are, of course, determined in part by a knowledge of later theory, but the author has made a sustained effort, in accordance with historical method, to base the argument on eighteenth-

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century principles. Only by comparing these lessons to contemporary treatises and analyzing the exercises using harmonic principles that were a part of that milieu, can the significance of the instruction as an aspect of Mozart's thought or as corroboration for later speculations be rightly understood.⁶

These lessons do not constitute a theory of music—they lack sufficient explication—and they are not intended for the education of a broad public of music lovers or for the speculation of scholars, as are most published theories. They are a product of the composer's workshop. Consequently, they are free to exceed the limits imposed by the marketplace and free to transcend the separation into distinct styles. It will be shown here that the sequence of instruction, the harmonic designs of the exercises, and the annotations and corrections by Mozart reach across the boundaries that separate the pedagogical styles of his time to unify the principles of harmony, counterpoint, and form with an insight into the tonal system and a pedagogical economy that have no parallel in the published theories.

The lessons are organized into sets, much as they are in practical figured-bass manuals where chord structures are introduced one at a time. Included among the extant pages (some sheets have been taken from the manuscript but the instruction in figured bass appears to be complete) are five exercises limited to root-position triads, followed by five that introduce the sixth chord, six that add the six-four, four that have the seventh chord, and three with ninth chords. Each set is preceded by instructions in Mozart's hand on the structure of the featured chord and how it is realized in a context. It should be noted that while the inversions of the common chord are presented separately, the inversions of the seventh chord are not.

Unlike the figured basses in manuals, the exercises here do not take the form of little pieces.⁷ They are free of rhythmic detail and their harmonic designs are too proportionately unbalanced to be considered reductions or parts of compositions. They also lack the regular phrase patterns and motivic interplay that typify composition instruction of the time, including Mozart's own, further on in this manuscript and elsewhere.⁸ There are no exercises in minor keys, although minor is a prominent internal element. All begin with a C-major triad, but final cadences appear, sometimes abruptly, on every degree of the C-major scale except B and also on E-flat, C-sharp, and G-sharp, often with the effect of a conclusion on a new dominant. The exclusion of rhythmic detail in exercises as long and complex as these makes for a highly economical pedagogy.

Attwood's work probably began with the realization of two basses (AS 8 and 9), which are set apart by the nature of their harmonic progressions.⁹

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Both feature repeated interval patterns that give systematic practice in connecting all possible root progressions. They are preliminary exercises of limited musical interest. The first has no figures or accidentals. It is the only exercise that contains the diminished triad in the set limited to root position. The second incorporates all twelve tones of the octave (including F-sharp, C-sharp, G-sharp, D-sharp, B-flat, and E-flat) and includes a succession of four whole notes moving through the fifths, each figured with a change from a minor to a major third (Figure 1, AS9). The realization of this exercise was difficult for Attwood. There are eighteen stepwise progressions in 31 bars, eight involving altered tones. He wrote, "I don't know how it is possible to put the 5th here,"¹⁰ and marked five of them.

Figure 1.



His revision is realized correctly—but at the cost of a directionless melodic line (mm. 20-24, just below the uppermost part). Mozart's corrections show how the melody may be given shape and significance within the whole (mm. 20-24, uppermost part). The F, emphasized by a chromatic stepwise approach, creates a climax for the line and secures a strong melodic drive to the tonic by the half-step descent to E (which is repeated to support a crucial harmonic change) and the continuation to the leading tone. By using both semitones of the scale to re-establish the tonic C after the chromatic passage over the fifths, Mozart's corrections add an element of secure melodic support to the harmonic progression.

Although the whole-note sequence is common in pedagogy of the period, it has an extra significance here. The inclusion of the flat third over G and C, two triads that can serve as dominants in a chain without

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alteration, not only makes an elegant sequence and gives Attwood repeated practice, but provides consistent melodic reinforcement to the emergence of each new dominant without recourse to dissonance.

From this point on, the exercises having only root-position triads are limited to consonant harmony—that is, they contain only triads having the perfect fifth. In this regard, the exercises do not correspond to most contemporary figured-bass pedagogy, where the diminished triad is introduced freely.

Furthermore, nearly all the final cadences in the figured-bass exercises, even those featuring the seventh chord, are entirely consonant—they use a major triad on the final dominant—whereas to use the seventh chord to create a final dominant was nearly universal in contemporary theories of harmony (Mitchell 1963). Only two of the exercises call for the seventh in a final cadence (AS 23 and 24) and in one of these it is only a passing tone left unrealized and uncorrected.

The implication is that tonic definition is a function of consonant tonal relationships. A dominant emerges from a context of harmonic and melodic relationships rather than the addition of dissonance to a perfect chord. The most cogent support for this conclusion can be found in the way the seventh chords are introduced in the exercises. Rather than singling out the root position to show perfect cadences, Mozart presents all inversions at once. The instructions on the seventh emphasize its role in the creation of obligatory stepwise motion. The seventh is added to a harmony for the sake of voice leading. As a pedagogical device, the limitation to consonance in these early lessons forces the student to hear and understand in terms of larger contexts rather than the chord-to-chord level most often found in descriptions of the time.

Having begun with consonant triads alone, the lessons expose and differentiate certain techniques for long- and short-term voice leading clearly and systematically, because they inhere in the step-by-step introduction of inversions of the common chord and chords requiring specific resolutions in the parts. The basic principles of this system appear in rudimentary form within the structure of Mozart's preliminary demonstration of chord progressions (Figure 2, AS 5).

Figure 2.



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The demonstration begins with an example of root movement down a fifth and up a second, involving the tonic, dominant, and submediant harmonies. The next two examples include the stepwise progression after a fifth upward. Each time the stepwise progression occurs, the soprano is in a different position and doubling must involve different parts.

The concepts represented by these two progressions—the fifth and the step—are fundamental to the treatment of harmony in the figured-bass instruction. These examples arrange the dominant and submediant, the most important relationships to the tonic, so as to contrast the *natural* or consonant progression of the fifth with the *unnatural*, diatonic progression of the step. The distinction was an important one in eighteenth-century musical philosophy, where the highest value was placed on relationships of sounds that were smooth to the ear—those with the simplest ratios—the fifth and third. This value applies not only to the sounding intervals but to the progressions of chords. The idea appears in a diagram on one of Attwood's fair copies (AS 29), which shows the fifths and thirds above and below C. It bears the comment, "By the above rule one easily sees what modulations are best and most natural."

Mozart's teaching is consistent in its treatment of this distinction. It is supported by the priority he gives to the subdominant. The inclusion of the subdominant among the natural relationships (as a fifth below the tonic) was not universal in theories of the time, where the fourth degree was sometimes placed among the distant relationships within the key.¹¹ Throughout these lessons, the fourth is consistently treated as one of the most important natural relationships. Even when it appears as an interval over the bass, it is not required to resolve downward unless it is accompanied by a fifth.

In some harmonic theories, progressions having the most complex ratios—the tone and semitone progressions—were given a significance subordinate to the natural progressions. They were regarded as extensions within a passage—a way of delaying and providing interest or elaboration for a natural progression. This function was recognized by Kirnberger and described by his pupil J. A. P. Schulz ([1783] 1979, 192):

In harmony there are passing chords that are not based on any fundamental harmony. They are to be considered in the same manner as melodic passing notes, from which they arise when various voices progress in a passing fashion . . . passing chords are intermediate chords that are formed by the stepwise and mostly consonant progression of one or more voices from the preceding to

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the following fundamental chord. They always stand between two fundamental chords that are either the same or at least follow one another very naturally Passing chords can be further recognized by their unnatural harmonic progressions. These progressions are unnatural either because some dissonance is left unresolved or because the passing chords, even when they appear as regularly treated fundamental chords, would nevertheless *inhibit the natural progression of the fundamental harmony* [my italics].

The examples that illustrate this text use inversions of seventh chords for the passing harmonies, but since there are no such chords in Mozart's first set of exercises, the idea will be extended here to apply to the stepwise progression of root-position triads. The following analysis of the exercises will be founded in the different implications of the fifth- and step-progressions and the special function of the third as a natural progression but one not capable, in itself, of tonic definition.

The longer central example in Mozart's demonstration of the chords shows the harmonies related to C successively from closest to most remote, a subject included in many treatises. Mozart's order, G-A-F-E-D, is evident in the first appearance of each new harmony. Note the placement of the subdominant early in the succession, in recognition of its priority as a natural fifth relationship to the tonic. He closes with a cadence to the dominant that relates the D to G (a natural relationship) rather than C (an unnatural relationship) while completing the order of tones.

In the context of the lessons that follow, the example is the first indication of a conception of key not limited to the notes of the individual scale, but incorporating the elements that place that scale within the system of all scales. To be sure, conclusions on the dominant are common in instruction from that time, but what is not common is the extension of the idea to its limits in the subsequent exercises, where cadences appear on other chords as well, including the most remote harmonic relationships.

The example also shows in brief form the basic harmonic design of the exercises. Into the succession of harmonies described above, tonic and dominant notes are interspersed so as to show the relationships of each harmony within the key. After the first appearance of the dominant, A replaces C to divide the progression from C to the subdominant, F; F steps to G, to show the whole-tone progression created by the fifths in harmonic

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opposition from C (as it is done in some of the most venerable theoretical writings); and E extends from G to divide the fifth to the tonic. The design of the example is related to Attwood's diagram of natural modulations. It places those relationships in context. They create a structure that becomes a prototype for the exercises that follow.

An analysis of voice leading based on the contrasting functions of the natural fifth and third and the unnatural step progressions, shows the following: 1) once the dominant has been reached, two chords in stepwise relation to it delay the natural progression away from it; 2) a progression from G back to C moves through the mediant so that the fifth is interrupted and its significance as a dominant is weakened; and 3) a new dominant is introduced abruptly to close on G. The melody does not begin on C, as it will in the exercises, where the design is more extensive. Here the E at the beginning calls for a descent that unites the melodic progression smoothly with that of the harmony. The delay of the natural progression from the dominant, the weakening of the dominant, the comparatively abrupt appearance of a final dominant-to-tonic progression, and the attention to smooth voice leading in the uppermost part are all characteristic of the subsequent exercises.

The last three exercises in root position have a more concise and balanced form than the first two, and each moves away from the original key. Two of them present the dominant melodically in the bass in a way that extends its appearance in time and enhances its formal significance.

In the first of these (Figure 3, AS 5), the initial C chord becomes a dominant to F, but it returns as a tonic at the end of the exercise. Mozart constructs the modulation not merely by going to the new key and supplying its primary chords to confirm it but by progressing to the note that will effect the change and lingering there by means of stepwise progressions that delay the natural progression to the next chord tone. I will call this technique *harmonic elaboration* in preference to Schulz's too-specific designation *passing harmony*, which precludes any expansion of the idea of passing to include more than one chord.

Figure 3.

a.

b.

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B-natural appears for the first time in measure 4, where it is the third of the G chord. From this point it would be a simple matter to proceed to C and confirm that key and be done with it, but that would be unconvincing, especially in a context that admits no dissonance. Instead, the bass line moves to D (m. 6), the fifth of the new dominant, and on to B-natural, now the root of a chord, and after a brief delay using neighboring harmonies, continues to G. Although there is one natural progression between the two B chords, it is approached and left by step. There is no harmonic progression that advances to a tonic. Although a tonic of E minor is suggested, by the time an E chord appears, it is subordinated to the new dominant, G.

The pattern of chords between the two B-major harmonies is an extension of a familiar melodic diminution to the progression of the harmony. It momentarily suspends the directionality of the modulation and gives greater significance to the B. In addition, the progression in measure 6, from a major harmony downward by third to another major harmony, contributes a melodic element to the brief suspension of natural progression by forcing a chromatic line. The motion of the soprano in both Attwood's and Mozart's realizations from D to D-sharp to E points away from F but not toward the final key, C.

The harmonic progression of this exercise extends the appearance of the new dominant in time so as to highlight the melodic motion that creates a dominant—the chromatic change from B-flat to B-natural. The technique can be related to principles first evident in the second exercise in the change of thirds over the progression of whole notes. The chromatic change is now applied to the bass line and elaborated.

The techniques for delay of the natural progression will be expanded systematically as the lessons proceed and the dominant will be succeeded by longer and longer suspensions of natural or key-defining activity.

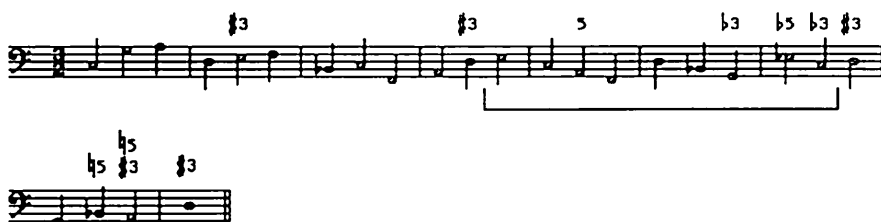
It might be noted, too, that this exercise is in duple meter but the harmonic progression does not outline a regular phrase pattern. Sometimes the bar line contradicts the harmonic significance of a progression. For example, it fails to support the confirmation of F in measure 3. On the other hand, it allows the significance of the B-natural harmony to grow as it moves from an unaccented to an accented position. In addition, the appearance of the new dominant on the accented part of the bar in measures 11 and 12 adds conviction to the approach to the new key. In the absence of clear phrase structure, the importance of meter as an adjunct to harmony in the treatment of key, to help establish a key or to weaken it as need be, becomes clear.¹²

The next exercise (Figure 4, AS 5) features a progression of downward thirds extending from E/C major (m. 5) and ending with E-flat/c-minor (m. 7). This long succession is reminiscent of the order of scales in the preliminary instruction. There the succession also moves toward the

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subdominant through the circle of fifths, dividing each fifth with the relative minor.¹³ The progression through the thirds shows the usefulness of that natural progression in moving continuously through a harmonic distance without making a cadence; and because it stops on the parallel minor, it continues to treat the change of the third of the chord, which appeared in other aspects in the earlier exercises, by showing the harmonic distance covered by the alteration and justifying it as an elision.

Figure 4.



Once again, the final cadence does not have the force of a new tonal center. Most of these exercises do not conclude on what Kirnberger ([1771 and 1776] 1982, 135) would have called a new “main tonic.” There is no confirmation of a new tonal center. However, the confirmation of key, implemented by time spent modulating within a key or by repetition of a cadential progression, is one of the rhetorical elements that have been excluded in this pedagogy. Conclusions on harmonies other than the original tonic need not imply a change of the principal tonal center. They only show how different kinds of modulations may be made. In fact, one exercise has been given twice, with alternative conclusions (AS 20 and 22). The first version ends on E-flat while the second averts that cadence and returns to C.

The last exercise in root-position chords (Figure 5, AS 12) concludes on E and has a more thoroughly worked-out harmonic structure than any other. After the bass outlines a G-minor triad (m. 8), a melodic sequence incorporates an alteration of the third to restore G as a dominant. Three triads appear, outlined within an adjusted circle of fifths that runs from A to D to G, on through B-natural, and around to G once again (mm. 7-15). Three of the fifths in the circle are divided by thirds so as to make each tone of the G-major dominant the root of a melodically outlined triad: D/B-flat/G, F/D/B-natural, and A/F/D (mm. 10-15). The harmony then moves from G to C minor.

Figure 5.

Figure 5 is a musical score in bass clef, showing a sequence of chords and melodic lines. The score is divided into four systems. The first system starts with a common time signature 'C' and a key signature of one sharp (F#). The second system has a key signature change to one flat (Bb) and includes a bracketed section labeled 'c minor'. The third system has a bracketed section labeled 'sensed tonics' and an asterisk '*'. The fourth system starts with a key signature change to two flats (Bb, Eb) and includes a bracketed section labeled 'E'.

The passage remains in the new mode until it moves again to G (m. 20). The following progression from E-flat to A-flat (m. 21) introduces five bars that contain only unnatural progressions along with a pair of downward thirds and an upward fifth. Here the unnatural progressions are augmented by the third and the upward fifth progressions to create an evasion of key definition. This evasion is reinforced by the three foreign tones (outside C minor) of the A-major triad (m. 23), which is approached and left by step.

To momentarily lose the sense of the tonic in the course of a piece was acknowledged practice in late eighteenth-century theories, but the technique was usually described only as a series of modulations through other keys, such as the progression through the circle described above.¹⁴ As Kirnberger says (p. 138):

. . . experienced harmonists are not always satisfied with such a timid way of modulating [to keys with fundamentals in the original scale]. They digress into more remote keys where the ear sometimes loses the main key entirely, yet know how to direct the modulation back to it at just the right moment.

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Kirnberger (pp. 149-50) points out that while quicker modulations can be made by enharmonic shift, the most powerful way to achieve surprise is by using simple triads to go to remote harmonies. However, like most theorists of the time, he does not describe how key definition may be suspended or how a tonic emerges from tonal relations beyond its own local dominant, except for the use of an intermediate modulation to reach a remote key. Nor do his examples include progressions that suspend key definition on a scale comparable to Mozart's. His only suggestions regarding the establishment of a new "main key" are to remain in that key for sufficient time for the ear to become accustomed to it or to introduce the principal theme in it (p. 135). The appeal to duration and reminiscence would be inappropriate to a consideration of Mozart's exercises, where tonal structure results entirely from tonal relations. In the eighteenth-century theories, modulation, in the sense of a progression of harmony and melody either within a key or to a new key (Rousseau 1768), is described, for the most part, as a local occurrence. There is little discussion of long-term harmonic relationships, and when it occurs, it employs a different set of terms (see the discussion of digression below).

However, progressions of perfect chords that avoid key definition had been described earlier in the century by the French theorist Jean Laurent de Béthizy (1764, 160-67), who had called them "sensed tonics." He had included in this category progressions up a fifth, down a third, through the circle either up or down, and stepwise and had briefly explained that these can serve to obscure the sense of key, especially if they occur at the beginning of a piece. However, Béthizy, like Rameau, held that true dominants are the result of dissonance as well as the downward fifth progression. Passages of this kind must be distinguished from what Kirnberger calls a *digression*. These pass through the keys, but sensed tonics do not, unless they take the form of a succession of downward fifths. (However, in this analysis the word *digression* will be used to designate the section of an exercise that departs from the original key, whatever form it takes.)

The appearance of the parallel minor in a section of this exercise has an effect similar to the shift to the minor third within a single triad. The change calls for a continuation whether it occurs as an alteration of a single triad or as an extended passage.¹⁵ The introduction of B-flat in the dominant triad initiates an extended digression that moves not only from the original key but from key definition itself. Used in this way, the parallel mode can not be regarded as a new key but as a way of introducing new tones that will allow smooth departures to remote harmonies. Nearly all the figured basses introduce the minor form of the dominant before moving through

the key-suspending progressions. The role of the flatted seventh is to replace the leading tone, which demands a resolution to the original tonic. However, even though it can initiate a departure from the key, the flatted seventh is regarded as belonging within the key. In the second figured bass, already considered, which introduced the twelve tones of the octave, B-flat is the only chromatic tone to appear in the bass. All others are altered thirds or fifths.¹⁶

Here the passage in C minor initiates the motion away from the original key, beginning with the minor dominant harmony. However, the change of mode does not move toward the final key but away from it. The modulation to a new key is effected not by pivot or sudden chromatic or enharmonic shift but by a three-stage process that begins with a gradual escape from the limits of the original key, in which the progression first moves away from the original tonic (mm. 16-21) and then suspends the definition of key (mm. 21-25). The cadence to a new key is approached only after this escape has been made. The two-part digression is characteristic of many of the figured basses and it is expanded there by a variety of techniques.

Although the final harmony in this exercise belongs within the original scale, it must be noted that any new key can be established smoothly and with integrity by using this procedure. It need not be limited to the degrees of the original scale.¹⁷

In this exercise, the bar line once again adds reinforcement to the treatment of key. This is one of very few exercises that have a clear phrase structure. For the first 20 bars, every second measure is approached either by a fifth down or a fourth up or through the notes of a triad. By measure 21, the expectation of the two-bar phrase has been established, but the harmonic progression does not again match this pattern until the final key is approached in measure 26. The use of successive unnatural and non-key-defining progressions suspends both the definition of key and the regular pattern of phrases. By showing the emergence of rhythmic organization in the coincidence of natural harmonic progression with metrical stress, but especially in also showing the suppression of rhythmic pattern by a succession of sensed-tonic progressions, the exercise confirms that in this system the conceptual origins of rhythm lie within the harmonic process.¹⁸

As might be expected, the exercises using inversions of the perfect chord show a greater concern with stepwise motion of the parts than those limited to root position. Among its possible uses, the sixth chord is an alternative way to harmonize a stepwise bass—a way that enhances the continuity of a progression by introducing an element of instability. Kirnberger recognized this function of the consonant sixth chord (p. 117):

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. . . it is also necessary to employ the second means of bringing chords into close association—using the inversions of chords instead of their root position. Since the former do not harmonize as perfectly as the latter, they create the expectation of chords that are even more consonant. The most beautiful harmonic connection occurs when the ear is kept in a state of constant expectation of a more perfect harmony, which comes only at the end of the entire period. . .

In the same work (p. 117) he also recommends the use of tied suspensions as an “even better means of weaving chords together.” Mozart introduces ties with increasing frequency in the lessons that follow. The ties in the basses are associated with a proliferation of ties, both in suspensions and between consonant common tones, in the upper parts of Mozart’s corrections. The enhancement of contrapuntal effect created by the tie, especially in the soprano part, is the focus of several corrections or realizations that were disappointing but not incorrect in Attwood’s original.

It is in this set of lessons that Mozart introduces the diminished triad. The first sixth chord to challenge Attwood is an inverted diminished triad that appears in passing motion over the bass (Figure 6, AS 14). The sharp reinforces the stepwise melodic motion from the chord by making it obligatory. The rest of the sixth-chord exercises present the diminished triad in all its positions and possible resolutions. The root position is introduced separately, after the sixth chord, and allowed to progress by step or by fifth. However, there is no commentary to set the diminished triad apart from the consonant triads already presented. Only the limited choice of resolutions, evident not in the preliminary instructions but in the realizations, distinguishes it from the perfect chord. If Mozart regarded this chord as a consonance, his position would be consistent with some theories of the time—Schulz ([1773] 1979, 169) classifies this chord among the consonant harmonies—but its banishment from the root-position exercises gives it a special status.

Figure 6.



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Apparently Mozart did not regard the diminished triad as a dominant seventh chord without a root, as did Rameau. Some evidence for his view can be found in his corrections of a free-composition exercise (Figure 7, AS 197), which indicate that his notion of chord roots was limited to the tones actually sounding. Here he shows the sounding root consistently in spite of the appearance of a diminished third or fifth over it. Attwood's fair copy of the first two examples has the comment, "the same chord" (AS 36).

Figure 7.



The fundamental bass did not have the same significance for Mozart that it had for Rameau. By using the sounding roots, Mozart admits a leading tone, with its half-step progression, into what for Rameau was to consist only of natural progressions. Rameau's system required the interpolation of an unheard root or harmony, to be regarded as elided, to resolve the problem of diatonic progressions. Mozart's fundamental bass is not an interpretation of harmonic progression; it is a melodic line, subject to melodic rules. It retains a relation to counterpoint that Rameau's had abandoned. In the free-composition exercises, the fundamental bass allows Attwood to control the harmonic progression while creating a good bass melody, a task not required in the figured-bass lessons. Even so, the fundamental bass is useful only in the beginning of study and is soon abandoned. The way Mozart uses it shows that it would be inappropriate to interpret any unnatural progressions or key-suspending passages created by the use of inversions as elided natural progressions.

In this set of exercises, the sixth chords are interpolated into sensed tonic progressions through the circle of fifths or the scale. Because they are less stable, they serve to embellish these progressions and extend them in time. All the sixth chords function in this way. However, the sharp on the first sixth forces the stepwise motion of a part. The change in the quality of the sixth limits the possibilities for motion away from the chord and deprives it of its autonomy. It is not subject to elaboration. In this regard it is subordinate to the more natural harmonies. The term embellishment

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will be used here to distinguish elaborations such as this, which only occur at a chord-to-chord level, from those that are themselves subject to elaboration, such as horizontizations of a harmony or sensed tonic progressions.

The ways a sixth chord may be used to embellish are shown most concisely in the third sixth-chord exercise (Figure 8a, AS 16), where a progression through the fifths is marked by root-position chords while sixth chords intervene. From B in measure 4, the progression descends and ascends again through the circle. The chords on the circle are separated by sixth chords that form embellishment patterns. The embellishment is made in three ways (Figure 8b): a root-position harmony may be extended by its own inversion (marked a in the example), which may occur either before or after the root position chord; or it may be embellished by a preceding dominant or leading-tone chord—either in root position or inverted (marked b); or by a combination of the two (marked c). These patterns occur frequently in the exercises that follow.

The shortsightedness of Kirnberger's theory of passing harmonies, as expressed by Schulz ([1783] 1979), is evident in a comparison to this passage. Schulz says that passing chords normally occur only on weak beats because every chord on a strong beat will be heard as a fundamental chord. Here these harmonies appear in both accented and unaccented positions. The principal chord appears on the weak beat when the fifth moves downward and on the strong beat when it moves upward, so as to reinforce the escape from tonic definition in each instance.

The sixth-chord exercise in example 8a also shows how the evasion of key definition is enhanced in an embellished progression. At the beginning the major third is made minor repeatedly over a progression of long notes through the fifths. In the latter part of the exercise, from the progression A to E in measure 8 until the final cadence, all root-position triads are changed from major to minor or have a five-to-six progression that creates a minor harmony. The avoidance of major prevents any ambiguity as to which chord is the final dominant, but it also reinforces the evasion of key definition carried in the motion through the circle.

The evasion of cadences is treated by both Kirnberger and Rameau, but neither applies it to an extended progression. Rameau ([1722] 1971, 82-3) separates the technique into two categories, imitation (*l'imitation*) and avoidance (*l'éviter*) but says of the first, "To imitate cadences only in part is already to avoid them." Imitation is effected by using inversions. Avoidance is a term he reserves for the alteration of chords. However, alteration is inseparable from dissonance in Rameau's theory. To alter a consonant chord, one adds a third to create a dissonant seventh over the root. To alter a dissonant chord one changes the major third to minor.

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Figure 8a.

[illegible]

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Figure 8b.



Kirnberger (p. 117) points out that the addition of the seventh “prevents the dominant harmony from being heard as a place of rest,” and suggests that “if one wants to keep the full cadence and yet prevent its effect of repose, the seventh need only be added to the tonic triad, whereby it becomes the dominant of a new key.” If dominance is understood in terms of the harmonic instability that results from dissonance, it can only be seen as a local function. In both Rameau’s and Kirnberger’s explanations, the word *cadence* refers to any progression by perfect fifth, whether it occurs in the middle or at the end of the phrase.

Mozart achieves repose by using the major third in both triads in a cadence—in keeping with a time-honored rule of counterpoint. He avoids it by a variety of techniques, the simplest of which is to change the third of one of the triads to minor. However, a point of repose is not necessarily a true closure, although theorists of the time did not make the distinction using that term (cf. Kirnberger’s description of the *new key* already cited), and Mozart’s exercises do not always end in closure. The consonant chromatic alternation that creates a pair of major triads in fifth relation is sufficient for closure only when it is supported by the rest of the harmonic progression.

Mozart’s corrections of this exercise reveal more about the melodic aspect of his conception of key. Three comments by Attwood appear in connection with the corrections: regarding the unison doubling he writes, “Tis always better if possible to have all the parts full,” implying a more contrapuntal orientation to the art of realization than one would find in many thoroughbass manuals where ease of reach on the keyboard is more important; in regard to the melodic augmented second he writes, “this does not sing well,” calling for the smooth progression of the melodic line—a point constantly evident in his corrections and frequently reiterated in his comments¹⁹; and regarding the position of the soprano in the final chord, he writes, “Tis always better to finish with the octave uppermost,” emphasizing the need to make the final cadence as clear and unequivocal as possible within the consonant context. Mozart treats the motion to the final note strictly, regardless which tone of the chord is in the soprano, by requiring

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that a final third be approached by the half-step descent from the fourth,²⁰ and that a final fifth be approached from the sixth.²¹

A realization by Mozart of part of the exercise begins by avoiding the unison doubling referred to in the comment and resolving the melodic problem created by Attwood's augmented second (Figure 8c, AS 16). Mozart also takes the melody to E, whereas Attwood had not gone higher than D. The higher note not only creates a melodic climax for the exercise, but it establishes a turning point within the original tonic harmony from which to descend chromatically to G, the final tonic. The long notes E and D divide the melodic line into two parallel descending segments that allow a G-sharp to be reinterpreted as an A-flat before the final progression to G (compare Figures 8c and 8a).

Figure 8c.

The image displays two systems of musical notation. The first system consists of a treble and bass staff. The treble staff contains a melodic line with a slur over the first four measures and a box around the fifth measure. The bass staff contains figured bass notation: 6, 6, 6, b6, 6, b5, b3, 5, 6, b6, 6. The second system also consists of a treble and bass staff. The treble staff has a melodic line with a slur over the first two measures. The bass staff has figured bass notation: 5, 6, 6, #3, b3. Below the second system, the word "[sic]" is written.

The last exercise in sixth chords embellishes a progression through the scale, this time downward (Figure 9, AS 18). This is the only figured bass to indicate a repeated pattern of quarter notes. Here every chord in the scale pattern is harmonized with a major triad and is in root position. The tones of the scale pattern appear in unaccented positions where they function as points of rest after the activity over the long notes. The motion down the

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scale progresses to F (m. 9), which appears within a suspension of key defining extending from the dominant G. The progression through the fifths from B-flat in measure 3 to D in measure 5 shows each member of the fifth pattern represented by its first inversion and preceded by its own leading-tone triad, also inverted. This digression is also in two sections, the second an intensification that suspends the key defining progressions.

Figure 9.

The figure shows three staves of musical notation in bass clef. Above the notes are figured bass symbols. The first staff contains the sequence: $\sharp 5$, 6, $\flat 6$, 5, $\sharp 5$, 6, $\flat 6$, 5, $\sharp 5$, 5, 6, $\flat 6$, $\flat 6$, 6, 5, $\sharp 6$, 6. The second staff contains: $\sharp 6$, 6, 5, $\sharp 6$, 3, $\sharp 3$, 6, $\sharp 5$, $\flat 6$, 5, $\sharp 6$, $\flat 3$, $\sharp 3$, $\sharp 5$, $\sharp 5$, $\sharp 5$, $\sharp 6$, $\sharp 5$, $\flat 5$, 6. The third staff contains: $\flat 6$, $\flat 6$, 6. Brackets and asterisks are used to group notes and indicate specific musical structures.

In a reversal of the functions so clearly presented before, the root-position chords are not a part of the pattern of fifths but serve as an initial position from which to introduce the diminished triad in a stepwise progression. The device adds considerably to the continuity of the progression. The exercise concludes with a progression through the circle from F-sharp through the enharmonic shift and back to C. Thus the return to C extends from the most remote harmony.

The F in measure 9 stands out as one of only two unfigured whole notes in the lessons. The relationship of F to the dominant is prefigured in the tied notes of measures 2 and 3 as if to signal that this is an important structural idea. The principle of reversal that originates in the harmonic opposition of F and G with respect to C may be the key to the structure of this exercise. Here reversal is extended beyond pitch relations to the metrical position of the chords in the embellished circle and the respective functions of the root and inverted positions. Once again, a further enhancement of continuation is the result.

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The six-four chord, like the sixth chord, is a means of continuation or embellishment. As an arpeggiation, it extends a harmony; as a passing chord, it embellishes a harmony; as a suspension, it delays a harmony (cf. Attwood's explanation of the ninth as "a kind of lagging note," AS 38). Mozart calls the second inversion a "consonant fourth chord" and explains, "The sixth is needed in this chord, and it is consonant because it can enter by itself without being prepared, and the fourth can resolve in every way."²² However, in the exercises it invariably resolves downward. Of particular interest is the way the fundamental basses interpret the six-four according to its function in the continuation or closure of the period. They show the root of the chord when it is part of a perfect cadence (AS 167, top, m. 7; 168, m. 5; 169, top, m. 7; and 173, m. 15) and the bass tone when it is part of a half cadence (AS 168, m. 4; 169, top, m. 4; 169, bottom, m. 4; and 173, m. 12). There is only one exception (AS 170, m. 15), and it appears uncorrected in a fundamental bass by Attwood that is part of an exercise having more serious problems for Mozart to address. Although this treatment would support a differentiation comparable to Kirnberger's *essential* and *non-essential* functions, it does not correspond to his explanation (pp. 71-79). The difference lies in Kirnberger's classification of the six-four into dissonant and consonant categories. Nevertheless, both theories require the root of the six-four to be determined retrospectively, in the context of what follows.

The five-four suspension is contrasted to the six-four and described as the "dissonant fourth chord":

The difference between these two chords is that in the first it is the sixth and in the second, the fifth. Because it is not possible to enter by itself, the fourth should always be prepared. And the fourth can only resolve downward. In this chord, the figures other than the fourth are not shown; the fifth is always understood.²³

This treatment of the fourth was somewhat controversial, since there is no harmonic principle to justify the transformation of a consonance into a dissonance, or vice versa, by means of its accompaniment. The qualification of this chord as dissonant is anomalous. The instructions require the fourth to behave as a suspension, yet other suspensions, such as the ninth and the nine-four double suspension, are not called dissonances. However, the idea is consistent with the theories of Sorge, Albrechtsberger, and the Salzburg theorists (Federhofer 1971, 102-105).²⁴

The instructions on the seventh chord do not identify it as a disso-

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nance, either, but repeatedly specify its melodic resolution. The demonstration of seventh chords shows all inversions and their figures, along with a caution against doubling the third and a *nota bene* that the seventh must always resolve downward. Attwood's fair copy (AS 36) adds, "in case of necessity *neither* the seventh nor any of those chords derived from it are obliged to be prepared. Yet, 'tis always better when they are." This emphasis on the conduct of lines, along with the inconsistent use of the term *dissonant*, are further indication that Mozart was more concerned with the contrapuntal aspect of the realizations than with the chord as such.

Like the sixth chord and the six-four-chord lessons, the exercises using the seventh are based, at least in part, on a pattern of fifths or steps. However, what appears to be the first seventh-chord exercise is a "rule of the octave"—an unembellished harmonization of major and minor scales with an extended cadence (Figure 10, AS 23). The rule of the octave is common to most treatises and manuals.²⁵ The dominant seventh appears in all inversions in this exercise. In the scale harmonizations it relates only to the tonic or the dominant. The pattern of whole notes shows the seventh as a passing tone and resembles the pattern in the second exercise that altered a minor third to major over the same bass note.

Figure 10.



In addition to the dominant form, the exercise includes a diminished seventh (m. 11). Like the diminished triad, it appears without any accompanying commentary regarding its different interval structure. This chord follows another seventh, a four-two, by means of an exceptional resolution.

To find a chromatic progression of this kind in the first seventh-chord exercise, especially one otherwise constructed on a conservative plan, raises a question.

The editor has suggested that a sheet from this part of the study may be missing—one that would have presented Attwood with the sevenths more systematically (KB 20). The fair copy by Attwood of the resolution of the various inversions has no corresponding instruction in Mozart's hand. However, the lessons seem quite complete otherwise. In the course of this set of exercises, Mozart systematically introduces all types of seventh chords in common use. The first exercise features dominant sevenths and introduces one diminished form. The second uses dominant and diminished sevenths and introduces one major seventh (m. 4), the only one to appear in the exercises, and one half-diminished form (m. 6). The third continues this cumulative pattern by introducing one minor seventh along with the other forms. The fourth uses all forms. At least in this aspect, the lessons that remain are systematic and complete. And they imply a classification of the different types of seventh-chords that augment the verbal instruction. Although these chords are derived from the dominant form, they are separately distinguished as problems in realization. In addition, the notion that the augmented-sixth chords originate in the inversions of the seventh is further supported in the second exercise, where an augmented six-four-three results from a chromatic alteration to a half-diminished six-four-three (Figure 11, m. 8, AS 23).

In this set of lessons the seventh is used repeatedly within a harmonization of scales and all genera are represented. The second exercise features a harmonization of a chromatic scale passage and an intensely chromatic digression that includes a prolonged enharmonic change (Figure 11, AS 23).²⁶ Between measures 11 and 13, the bass moves within a constrained area, first from G to F-sharp to E-sharp and back the same way, then on to G, G-sharp, and back to G before the final cadence. All these bass tones belong to seventh chords or have fourths above. None are roots. At the cadence the E-sharp is reinterpreted as an F to unravel the tonal knot created by the progression. The passage embellishes the dominant by compounding the use of leading tones. (It should be noted that the F-sharp does not take a leading tone until it has become part of a consonant harmony). There is a sense of accumulating weight in this progression, an aural effect of distortion, as the harmonies are bent away from a natural path. The final cadence emerges as a lightening and a straightening of the progression. The enharmonic reinterpretation has been prolonged to create the effect of harmonic distortion in the absence of a temperament that would have allowed an audible difference of pitch.²⁷

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Figure 11.



Despite its antiquity, the idea of the genera, like that of the hexachord, was still viable in some theories of the late eighteenth century, where it was most often associated with the recitative. The persistence of Pythagorean tunings as well as Zarlino's system of temperament account for some debate on the subject. But in practice, an enharmonic progression would not have been audible within the types of well-temperament commonly in use. As Kirnberger says (p. 28), it requires some skill at harmony to create such an effect:

It is possible to get even smaller progressions than the minor semitone, called *enharmonic*, by deceiving the ear . . . Even though enharmonic intervals do not actually exist in our system, they can be made audible by the correct treatment of harmony. It is a known fact, and every ear perceives it, that such enharmonic changes create the most pleasant harmonic effects.

However, he shows the enharmonic progression only as a local progression.

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This figured bass calls for many irregular resolutions of sevenths, including direct resolutions to other sevenths. The fluidity of motion, especially in bars 9-14, results not only from the intense chromaticism, but from the ties that syncopate the bass and the placement of comparatively consonant harmonies in metrically weak positions. The dense chromaticism severely restricts the motion of the lines and Attwood must think far ahead wherever he has a free choice. He has fewer and fewer opportunities for choice as the lessons progress. Like the second exercise, this one was too challenging for him. He made five attempts at the last part of this realization.

Yet the overall design is simple. The harmony moves from C to G, a digression moves down an octave where G is embellished, and a final cadence returns to C. The final cadence is the only progression of its kind in this exercise. The digression from C occurs in two sections, as it did in the earlier exercises. Here key definition is suspended through both sections but the second is an intensification of the techniques of the first. The fluidity of motion, especially in bars 9-14, results not only from the obligatory motion required by the chords and the intensity of the chromaticism but from the ties that syncopate the bass and the placement of comparatively stable harmonies in metrically weak positions.

The two exercises on the *verso* of this sheet (AS 24) have the greatest conceptual simplicity of any in the set, but they too are not easily realized. The first bass line is entirely stepwise until the final cadence. Attwood's realization is also constantly stepwise in all the parts up to the same point. Although it may have been invented in a certain tongue-in-cheek spirit, which would not be uncharacteristic of Mozart, it also appears to be a focal point in the progression of exercises. The continuous stepwise progression of all parts culminates the systematic introduction of elaboration and embellishment patterns.

The second exercise on this page moves in somewhat perfunctory fashion through the circle to G-sharp, beginning with a repeated embellishment pattern but elaborating each subsequent fifth in a different way. Each chord on the circle is embellished by its own dominant in one shape or another and sometimes by the fifth of the dominant as well. The conclusion on G-sharp is no more logical than a conclusion at any other point on the circle. However, it is the limit to which the progression can extend without making an enharmonic change to the flats.

Mozart's instructions on the ninth chord (AS 25) are concerned with the rhythmic nature of the suspended tone rather than its dissonant quality. He gives Attwood only two examples, one a nine-five and the other a nine-four, but the nine-seven is included in an exercise. On the *verso* of Attwood's fair copy is written, "The ninth has no fundamental but is a kind of lagging

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note belonging to the octave" (AS 38). Mozart's corrections ensure that the ninth is suspended in every appearance. Only two exercises add the ninth to the figures already studied and both are reviews of structural principles already made clear. The ninth only adds another means of binding harmonies and enhancing the continuation of lines.

Attwood's example of the seven-four-two and the five-four-two (AS 38) accommodate these chords in the absence of inversions of the ninth. He shows the seven-four-two over a tonic pedal with and without the root, and analyzes both as sevenths with exceptional accompaniments, an explanation common among Viennese theories. The five-four-two, which is created by a suspension of the bass, is contrasted with the six-four-two, which results in a fifth to the dominant in the same circumstances. Nowhere are any of these chords called dissonant, and their description as accompanied intervals preserves a characteristic of earlier figured-bass teaching.

Throughout the entire course for Attwood, beginning with the figured basses and extending through the counterpoint and free composition as well, Mozart's teaching exposes the basic principles of long-term voice leading. In the figured-bass exercises, their appearance is the outcome of a pedagogy of harmony founded in natural relationships and developed by a systematic presentation of the rules governing the motion to and from each chord structure. The exercises successively show: 1) the prolongation of a harmony by horizontalization, that is, by presenting its tones in the bass progression one at a time; 2) the delay of a natural progression by elaboration, that is, by surrounding it with other harmonies in unnatural relationships to it; 3) the extension of the process of delay into digression from the key and even further, from key definition, by means of sensed tonic progressions; and 4) the embellishment of harmonies within all these progressions by less stable harmonies and harmonies requiring specific resolutions. The presentation is strictly controlled and is unified from the first demonstration of the chords throughout the entire composition course. Although the design of this instruction is exceptional for Mozart's time, the idea of long-term harmonic and melodic significance did have a place in the contemporary aesthetic. At the end of the century, the theorist Francesco Galeazzi ([1796] 1968) asserted that art is to be found in the "grand line of a composition."

Although Heinrich Schenker probably was not aware of this document,²⁸ the exercises corroborate certain aspects of his theory (1906, 1910 and 1922, 1935),²⁹ and it is instructive to make a comparison. Because they are founded in consonance, the figured basses distinguish the dominant of the key, which is subject to elaboration, from the dominant that embel-

lishes—a distinction in keeping with Schenker's notion of the scale step. The delay of natural progressions by unnatural progressions and sensed tonics and the addition of embellishing chords exposes a system of harmonic subordination, and although it was not recognized in eighteenth-century theories, harmonic subordination creates structural levels. The progressions described here as elaborations would belong to a middle-ground level while the embellishment patterns are characteristic of the foreground.³⁰

Also consistent with Schenker is the way the harmonic progression of an exercise is clarified and supported by the strict contrapuntal control of the uppermost line. Without rhythmic detail, there is no conventional melody here, only voice leading. In the exercises, if not in all the preliminary instructions, Mozart requires all dissonant tones to resolve downward. His realizations place ties in the soprano part to enhance its continuity, and they expand the line so that it has a clear arch that turns at a point within the tonic harmony. His comments and instructions call for a singing line—the *cantilena*—which moves smoothly within clearly defined harmonic limits and incorporates the correct resolutions of the active tones of the scale. Although the progression of melody is the first consideration, he asks for the preservation of the four-part structure to the extent possible.

In their avoidance of rhythmic pattern and the intensity of their voice-leading demands, as well as the strictness of realization required by the master, these exercises resemble species counterpoint according to Fux ([1725] 1966). They are not only problems in realization but essays in voice leading. They embody the fundamental principles of tonal organization in a way that is pure—freed of the elements of rhythmic or motivic interplay or melodic embellishment. They are abstractions from the practice of free composition in the same way that Fux's species exercises are abstractions from the learned style (Rothgeb 1975). Both cast out whatever belongs to musical rhetoric to expose a foundation of long- and short-term tonal relationships.

The contrapuntal orientation evident in the figured basses also characterizes the course in composition as a whole. More than half the extant pages of the manuscript contain counterpoint exercises and the characteristic patterns of the species continue to appear well into the lessons in free composition. Mozart's altered versions of Fux's, as well as his own, newly composed *cantus firmi* show a more conjunct and symmetrical progression than Fux's originals and are more clearly directed toward the fifth of the mode.³¹ Alfred Mann, who edited the lessons in strict counterpoint, points out that the changes Mozart makes bring Fux's exercises more into conformity with the newer style (KB 27), but Mozart's choices are legitimate alternatives within Fux's own scheme. They proceed with clearer harmonic

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direction without violating the rules of the mode. There is a leveling process at work in these lessons, to make the harmony instruction more contrapuntal and the counterpoint more compatible with the tonal style. However, in no case has it been necessary to depart from the rules for either style.

The shift to what has been designated "free composition" by the editors, appears to be a step backward. The first lessons continue ideas presented in the figured basses, including the sectional digression, and seem unrelated to the lessons in canon and fugue that preceded them in the edition. An examination of the manuscript shows a similarity of handwriting and ink at the beginning of each of the large segments of the course in composition, which suggests that these segments may not have been completed one at a time, but undertaken by alternating units or sets of lessons from each group. If this is the case, it would be consistent with the exceptional degree of conceptual unity among the three pedagogical styles.

However, the step to a fully worked-out composition is carefully extended from strict counterpoint into the later free-composition instruction. Within the counterpoint lessons there is no introduction of "free" writing. Instead, Mozart presents the florid style by giving Attwood a set of patterns for the melodic embellishment of suspensions (AS 68-69). Free writing is to emerge only gradually from embellishment techniques. Among the free-composition exercises, a series of lessons appear that relate to the counterpoint teaching. A set of harmonizations of a little march tune apply the principles of strict writing to the accompaniment (AS 175-180). Attwood is required to maintain continuous motion in eighth notes or sixteenth notes in a single part, against slower-moving lines in the other parts. Mozart's corrections are directed to the incorporation of suspensions and the enhancement of a progression from the dominant by using more inversions and more chromatic alterations to the harmony.

The harmonizations of the march tune, combined with the examples by Mozart, instruct Attwood in the rhythmic differentiation of parts, the pairing of parts, and the exchange of melody and accompaniment among the parts. They form a link from the canons and fugues in the strict counterpoint to the free composition to follow. The integration of all segments of the course of instruction is in keeping with Schenker's insistence that free composition, at the conceptual level, is an elaboration of a strict underlying voice-leading structure. The liaison from instruction in counterpoint to that in free composition is one he called for expressly in the second part of *Counterpoint* ([1922] 1987).

Further application of the principles shown in the figured basses will produce longer progressions, suitable for a composition. However, not all the patterns are directly applicable and, of course, the subordination of minor in the lessons does not apply in the same way to compositions. An

extended form of the suspension of key shown in the root-position exercises, created out of a combination of stepwise root progressions and progressions of downward thirds, will make only a partial appearance in a composition. The root-position exercises show the suspension of key definition in more abstract form than the later ones. As the exercises incorporate more elaboration techniques, more progressions associated with the familiar foregrounds of compositions appear. The sequence from an abstract form to one more in keeping with familiar practice is similar to the progressions of strict counterpoint through the species.

Some of the progressions in the figured basses are common in eighteenth-century music and are reproduced in the same form in Mozart's compositions. Their occurrences are too numerous and familiar to list here, but they include motion through the circle of fifths, either ascending or descending, descending motion through the thirds, as well as modulation supported by a continuous stepwise bass line, either diatonic or chromatic.³²

Also familiar, especially in Mozart's works, is the reliance on a shift to the minor tonic or dominant in a modulatory section. Mozart's first-movement forms in major keys use a shift to the minor dominant at the beginning of the development in the majority of cases. The replacement of the leading tone is an essential step in moving out of the key.

Even the sudden conclusion of an exercise in a distantly related key has its parallel in Mozart's music, in the sudden changes of key that mark some transitions and development sections. These changes are an essential part of the dramatic tension of a work. And the digression to a remote key is also evident in his compositions. In his study of Mozart's modulations, Hans David (1963) points out that in moving to a new key, Mozart's music will establish a conflict between the key of departure and the key in which the music will come to rest, and those conflicts sometimes include the furthest relationships on the circle of fifths.³³

The Attwood studies were not designed for a beginner. Attwood had already studied composition in England with Ayrton and Nares and in Naples with Cinque and Latilla. He was also an accomplished organist, and his musicianship had attracted the attention of the Prince of Wales, who had sponsored Attwood's trip to the Continent. The lessons were constructed in a way well suited to his experience and seriousness of purpose.

However, there is no way to know whether Attwood understood them as they have been described here. It is possible that their form was not intended for his immediate instruction but to yield some insight at a later time. Their design could be the result of a rigorous musical integrity, and their invention may have been undertaken out of the sheer joy of the intellectual exercise. Attwood had appeared shortly after the completion of the last of the six string quartets dedicated to Haydn. In these works

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Mozart's technique had reached maturity. They were followed, during Attwood's residence in Vienna, by a succession of masterpieces including *The Marriage of Figaro*, the "Prague" Symphony, and the "Hoffmeister" Quartet. It does not seem unlikely that at this point in his development as a composer, Mozart would seek to define his basic assumptions, and the course of study for Attwood, who was his first serious composition student, offered an opportunity to do so.

If a dual purpose informs these exercises, it would be consistent with what we know of Mozart's artistic aims. Believing, as did his contemporaries, that his work should provide pleasure for both *Kenner* and *Liebhaber*, he wrote to his father regarding some new concertos: ". . . here and there connoisseurs alone can take satisfaction, yet so that the non-connoisseur can be pleased without knowing why."³⁴ To conceal his learning beneath a simple exterior was consistent with the aesthetic of the time. As applied to a pedagogy, it would also have been consistent with certain aspects of Freemasonry, into which he had been initiated only a few months before Attwood's arrival. The transparent symbol, the hidden meaning that becomes evident only after the observer has acquired through hardship, trial, and error, the capacity to understand, is characteristic of the Masonic way to knowledge and perfection of soul and craft.

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NOTES

¹London: British Museum, MS 3-3505. Listed as "Attwood MS" in Köchel (1964), item 506a (485a). The complete manuscript, which dates from August 1785 to February 1787, consists of 141 leaves with 267 inscribed sides and includes lessons on the elements of music, figured bass, counterpoint in the manner of Fux, and free composition; as well as some limited study of orchestration and text underlay. These lessons as they appear in the published edition (1965) will be cited as AS. The "Kritische Berichte" to the edition (1969) will be abbreviated KB. All biographical commentary is based on the introduction to the AS. General descriptions of the manuscript and its contents were published by Bridge (1891); Oldman (1925); and Hertzmann (1959). The latter also appears in the introduction to the AS.

²Federhofer (1971) pointed out correspondences to other theories and found that the instruction took place first in the chronology of Mozart's composition teaching. Chesnut (1976) made a study of doublings in the figured-bass lessons and a computerized examination of chord-to-chord modulations, the results of which are dissociated from musical ideas of the time. Chesnut (1977) also identified a variety of well temperament implicit in the interval exercises in the first part of the lessons.

³Some of the modulation techniques were described in my dissertation (1978). The present study substantially revises and extends that work.

⁴A survey of all extant sources and the techniques for identification of the handwriting is provided by Chesnut (1976).

⁵Since there is no mention of fingerings or embellishments and there are no repetitions in alternative keys or exercises in minor keys, they do not appear to be designed to develop keyboard competency.

⁶It should be understood that no attempt will be made here to argue for an influence or to show that a particular theory is a component of Mozart's thought. The theories referred to are the yardsticks by which Mozart's theory is measured. Therefore, it will not be necessary to prove that he was familiar with them. However, it may be safely assumed that as a result of his travels and his professional dialog with his father, documented in their correspondence, Mozart had a cosmopolitan awareness of the theory of his time.

⁷Mozart's lessons differ from those of Handel (1978) and J. S. Bach (Spitta [1889] 1951, 3:315-47), which begin in a rhythmically simple way but soon take on the character of pieces.

⁸The lessons in composition given to the niece of the Abbé Stadler are limited to instruction in counterpoint and free composition comparable to that in other parts of the Attwood manuscript. Cf. Lach (1918).

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⁹The edition does not show the lessons in the most likely sequence of instruction. It would not be in the nature of common human behavior for the lessons to have been written in strict sequence from the top to the bottom of a sheet or from one side to the other, but from time to time put down on whatever paper or space was handy. The exercises on pages 8 and 9 appear to have preceded the others. Both are written on sheets having instructions in intervals on one side or the other, which would indicate an early origin. The second exercise had to be resubmitted and appears again on page 13.

¹⁰Spelling is regularized in this study.

¹¹For example, Kirnberger places the fourth next to the last in the hierarchy of relationships to the tonic ([1771 and 1776] 1982, 127), while Sorge ([1747] 1980, 277-79), C. P. E. Bach ([1753 and 1762] 1949, 434), and Albrechtsberger ([1826 and 1837] 1855, 1:58) place it last. Heinrich Christoph Koch omits the fourth altogether ([1787 and 1793] 1983, 200).

¹²The use of incongruence of harmonic and metrical stress and the resultant condition of tonal instability was treated by the Abbé Vogler ([1778-81] 1974, 1:12). Grave (1980) associates this idea with passages in Mozart's compositions.

¹³The D-major, B-minor, and G-major scales are missing but may be assumed to have been included in the instruction.

¹⁴The notion of chord progression carried in this kind of description is attributed to the influence of Rameau by Wason (1985, 14).

¹⁵A survey of the use of minor interpolations in Mozart's music is included in Longyear (1971).

¹⁶The inclusion of B-flat in the system of C is a persistence of much older theory. Its classification as *musica recta* is discussed by Bent (1972).

¹⁷The restriction of modulations to tonics having perfect chords within the octave of the original key was common among the Viennese theorists. It was also advocated by Rameau ([1722] 1971, 268). However, Abbé Vogler's theory (1802) corresponds to Mozart's usage in this respect.

¹⁸The notion that rhythm is inherent in the long-term harmonic progress of a piece is taken up by Putnam Aldrich (1970) in his interpretation of Kirnberger's writings. The appearance of the idea in the theories of Kirnberger, Vogler, Riepel, and Koch is discussed by Grave (1980). Although some of the possible processes for continuation are evident in the examples in these theories, the discussion does not focus on them but on the techniques for the achievement of repose. A focus on continuation will become more common after the turn of the nineteenth century.

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¹⁹Below one of his own *rovescio* canons (AS 15), Mozart has shown a unison doubling as preferable to the octave, "Better yet for singing." (*Meglio ancora per la cantilena.*) The *cantilena* takes precedence over full voicing.

²⁰Also see the similar corrections on AS 7 and 19.

²¹See the correction on AS 25.

²²*Ci vuol la sesta in questo accordo ed è consonante, perchè puol entrare da se stesso senza che sia preparato, e la quarto può risolversi in ogni maniera* (AS 21).

²³*La differenza di questi due accordi è, che nel primo ci è la sesta, e nel 2do la quinta. Perchè non può entrare da se stesso, ma la quarta si deve essere già preparata—e che la quarta no può che risolversi in gui—in questo accordo non mettano altri zifferch' una quarta, la quinta già si suppone* (AS 21).

²⁴Sorge ([1747] 1980, 394-421) argues extensively for the consonance of the fourth. See also the commentary by Wason (1985, 7). Federhofer was able to show the spuriousity of the thoroughbass books published under Mozart's name (1809, 1822) by comparing the treatment of the fourth with the AS.

²⁵Most of the published sources give alternative harmonizations. Compared to the first presentations of the rule in Bach's ([1753 and 1762] 1949, 432) and Rameau's ([1722] 1971, 396) treatises, Mozart's shows more regard for the subdominant (which he treats as a perfect harmony rather than using the added sixth) and makes fuller use of the dominant seventh in place of the leading-tone chord.

²⁶An illustration of the three genera (AS 257), along with the four divisions of the octave: harmonic, arithmetic, geometric, and mathematic, is in the appendix to the edition. The page is in Attwood's hand and its purely theoretical nature places it among the studies brought from Naples.

²⁷Despite what may be inferred from the preliminary instruction in intervals (Chesnut 1977), the question of what temperament Mozart preferred is left unresolved in the lessons in figured bass. Since it is associated with performance, it would be out of place in lessons not directed to keyboard playing. However, an empirical test shows that the abandonment of an exercise on C-sharp or G-sharp, in a system of well temperament, has an effect slightly suggestive of a conclusion on a dissonance, and the progression from G minor to A-flat major in one of the root-position exercises is so jarring it creates a hiatus in the modulation. I am indebted to Professor Owen Jorgensen of the Michigan State University School of Music for this demonstration. A discussion of similar enharmonic transformations in Mozart's compositions can be found in Roger Kamien (1986).

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²⁸Conversations with Oswald Jonas at Riverside, California, ca. 1975.

²⁹The precedents to Schenker in eighteenth-century diminution theory are treated by Morgan (1978).

³⁰However, a description on this kind of model has not been made because it would not be in keeping with the eighteenth-century awareness of musical structure of assumptions regarding progress in time (Teggart ([1918] 1977, 82-98). The value of these lessons lies in the documentation they provide for an eighteenth-century pedagogy and any corroboration for Schenker must begin there.

³¹The counterpoint instruction, which is related to the lessons in the "Salzburger Studienheft" and the set for Stadler's niece published by Lach (1918), is of considerable interest, but a thorough treatment would be beyond the scope of this essay.

³²An interesting and controversial treatment of Mozart's expressive use of these figures can be found in Born (1985).

³³A survey of the scholarship and a summary treatment of the harmonic techniques in Mozart's development sections is provided by Bushler (1986).

³⁴*Briefe und Aufzeichnungen* (1962-63, 3:245-46). . . . *hie und da—können auch kenner allein satisfaction erhalten—doch so—dass die nichtkenner damit zufrieden seyn müssen, ohne zu wissen warum*

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