

APPENDIX 1: INVERTIBLE COUNTERPOINT, COMPOUND MELODY, AND IMPLIED HARMONIES

INVERTIBLE COUNTERPOINT

Definitions and Effects

We have already learned that the intimate contrapuntal relationship between the bass and the soprano is the foundation of the standard four-voice harmonic texture. Composers take advantage of an important aspect of this contrapuntal relationship that allows them to spin out their musical material.

EXAMPLE 1.1 Mozart, Piano Sonata in G major, K. 283, *Allegro*



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Listen to Example 1.1. The sections marked “1” and “2” have similar sounds, and, in fact, there is a very strong relationship between them. If you compare the outer-voice counterpoint in section 1 with that of section 2, you will discover that the soprano and bass melodies swap places: What was on top is now on the bottom, and vice versa. Therefore, even though the lines trade places, they retain their original contour. This swapping of

parts between voices is called **invertible counterpoint** or **double counterpoint**, and it is an important compositional procedure, for two reasons. First, economically, it allows composers to reap twice as much musical value from a single idea. Second, it allows the music to remain clearly unified because the listener is repeatedly exposed to material in different ways. The registral exchange of figures in invertible counterpoint creates sections of music that, although strongly related, have their own distinctive sound. The result is a perfect mix that satisfies the listener's desire for variety and contrast. Listen to the example several more times so that you are able to sing fragments X and Y and their transfer to the opposite register.

In the music of Example 1.1, Mozart has inverted his tunes at the octave (or its compound, the double or triple octave); that is, the rearrangement of upper and lower material is accomplished solely by octave leaps in one or both voices. This octave switching is called **invertible counterpoint at the octave**. It is also possible to invert two-voice counterpoint at other intervals, most commonly the twelfth, but we will restrict the following discussion to the octave.

EXAMPLE 1.2 Intervals Inverted at the Octave

A. B. C. D. E. F. G. H.

1 → 8 2 → 7 3 → 6 4 → 5 5 → 4 6 → 3 7 → 2 8 → 1

Remember from Chapter 1A that when intervals are inverted *at the octave*, they maintain their consonant or dissonant characters (see Example 1.2). This retention of consonance and dissonance is what allows for invertible counterpoint. For example, any dissonant seventh in an upper voice that properly resolves downward to a sixth will in inversion resolve in the same way; a second will resolve to a third because the moving voice is now in the bass. Dissonances can be treated correctly in inversion if they were treated correctly in the original version. The only potential danger is the interval of a fifth, which turns into a dissonant fourth when inverted. Consequently, composers writing invertible counterpoint must be careful to treat all perfect fifths as potentially dissonant intervals (by preparing and resolving them and by generally placing them on the weak beats). Example 1.3 presents two instances of invertible counterpoint. Example 1.3A is written in one-to-one counterpoint that includes a few examples of two-to-one counterpoint. Example 1.3B is written in two-to-one counterpoint, but the faster-moving notes are distributed across both voices.

Of course, the use of invertible counterpoint is not restricted to piano music, but is found in all genres, including large symphonies, as illustrated in Example 1.4, which is taken from the developmental section of one of Haydn's late symphonies.

EXAMPLE 1.3 Invertible Counterpoint Procedures

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A.

X: Y:

Y: X:

B.

X: PT Y: PT

Y: PT X: PT

EXAMPLE 1.4 Haydn, Symphony no. 91 in E \flat Major, Hob. I.91, *Allegro assai*

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The technique of invertible counterpoint is found throughout common-practice music. In fact, the late-nineteenth-century composer Johannes Brahms regularly employed invertible counterpoint in his older-style imitative pieces (such as fugues and chorale preludes) and in his forward-looking piano works, such as the intermezzi. When Brahms was in his mid-twenties he invited his close friends Clara Schumann (arguably the most

famous pianist in Europe at the time and the wife of Robert Schumann) and Joseph Joachim (the leading violinist in Europe) to form a “counterpoint club” in which each musician would write various contrapuntal exercises and pieces. Needless to say, invertible counterpoint was at the center of their activities. Example 1.5 presents a passage of one of Brahms’s later pieces for piano, in which recognition of the inversion of melodies (at the octave) is far more revealing of his compositional procedure than trying to determine roman numerals. That Brahms both closes and begins the passage on C major indicates that the invertible counterpoint is there in order to extend that underlying harmony contrapuntally.

EXAMPLE 1.5 Brahms, Intermezzo in A minor, op. 76, no. 7

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The musical score for Brahms' Intermezzo in A minor, op. 76, no. 7, is presented in two systems. The first system shows the piano introduction with a 'dolce' marking. The melody in the right hand is marked with 'X' and 'Y' above it, and the bass line is marked with 'Y' and 'X' below it, indicating invertible counterpoint. The piece begins and ends on a C major chord.

Invertible Counterpoint Below the Music's Surface

Occurrences of invertible counterpoint are often far subtler than the literal contrapuntal switch seen in the previous examples. Through various embellishing processes, composers camouflage their use of invertible counterpoint as a structural agent, in which it becomes the backbone of the harmonic progression itself. In Example 1.6, Schubert uses a full, homophonic texture that disguises the invertible relationship between the soprano and the bass.

The first six measures serve to expand tonic, first by V_3^4 , then V_5^6 , and finally by V_2^4 . But one might go so far as to say that identifying roman numerals in this context identifies symptoms more than causes as to what motivates this passage's unfolding.

EXAMPLE 1.6 Schubert, Impromptu in A^b major, D. 935

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A ^b :	I	V ⁴ ₃	I ⁶	V ⁶ ₅	I	I	V ⁴ ₂	I ⁶	V ⁶⁻⁵ ₆₋₅	I
	I	(P)	I ⁶	(IN)	I		(IN)	I ⁶	(IN)	I
T										

Indeed, we seem to be missing the forest for the trees here, since an important melodic relationship between the bass and the soprano governs these measures. Example 1.7A shows a two-voice contrapuntal reduction that reveals a large neighbor figure ($\hat{1}-\hat{7}-\hat{1}$) occurring over a large passing motion ($\hat{1}-\hat{2}-\hat{3}$). These figures can be seen in the stemmed pitches, which represent the structural counterpoint. Unstemmed pitches, such as the

EXAMPLE 1.7 Schubert, Impromptu: Outer Voice Counterpoint

A. Mm. 1–8

B. Mm. 5–8

suspension $A^{\flat 4}$ on the downbeat of m. 2, do not participate in the large-scale voice leading. The swap is literal, except that the neighbor (N) in mm. 1–3 of the soprano is followed in the bass by an incomplete neighbor (IN) in m. 3.

An understanding that invertible counterpoint holds together mm. 1–4 can bring new meaning to how we hear mm. 5–8 (Example 1.7B). First, the large $A^{\flat 4}-C^5$ passing motion in the soprano from mm. 1–4 reverses direction in mm. 5–7. The descending portion is loosely mirrored by the bass ($A^{\flat 2}-C^3$), creating a large-scale voice exchange. Second, the use of $V_2^4-I^6$ in the bass (mm. 6–7) brings out the $D^{\flat 3}-C^3$ motive, which is immediately imitated two octaves higher in the soprano.



WORKBOOK 1

Assignments
App. 1.1–1.2



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ANALYSIS

1.1 Analysis of Invertible Counterpoint

In the following excerpts, label any invertible counterpoint by using brackets and *X* and *Y* for the material in the upper and lower voices, showing how they are exchanged in the repetitions. Do *not* analyze with roman numerals.

EXERCISE INTERLUDE

A. Handel, Suite no. 7 in G minor, HWV 432, Passacaglia

B. Bach, Two-Part Invention no. 6 in E major, BWV 777

C. Giardini, from *Six Duos for Violin and Cello*, op. 14

MINUETTO
Grazioso

D. Beethoven, Piano Sonata in E major, op. 109, “Gesangvoll, mit innigster Empfindung,” Variation 3

Allegro vivace

E. Handel, Sonata no. 1 in E minor, for Flute and Continuo, op. 1, HWV 359b, *Allegro*

F. Mozart, Piano Concerto in E \flat , K. 449

legato

WRITING

1.2 Writing Chord Progressions That Create Invertible Counterpoint

From the following models, on a separate sheet of manuscript paper:

1. Provide an outer voice to complement the given voice, such that the voices will produce invertible counterpoint at the octave.
2. Swap the voices to create invertible counterpoint.
3. Determine the contrapuntal/harmonic progression that is implied from the outer-voice counterpoint.
4. Add roman numerals and inner voices.

The first exercise presents one possible solution. Write at least one more for the first exercise and two solutions for B and C. Play solutions, first the outer voices only and then in four voices.

Optional: In a meter and a rhythmic setting of your choice, string together two or three of the progressions to create a four- to eight-measure piece.

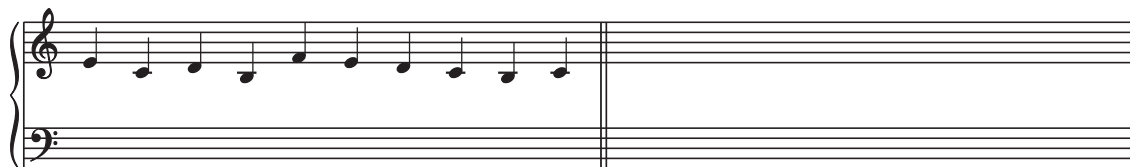
A. Given: bass scale degrees $\hat{1}-\hat{2}-\hat{3}-\hat{4}-\hat{3}$

3 8 6 +4 6 6 8 3 °5 3

I vii°6 I⁶ V₂⁴ I⁶ I⁶ vii°6 I V₅⁶ I

B. Given: bass scale degrees $\hat{1}-\hat{7}-\hat{1}-\hat{6}-\hat{3}-\hat{2}-\hat{1}$

C. Given: soprano scale degrees $\hat{3}-\hat{1}-\hat{2}-\hat{7}-\hat{4}-\hat{3}-\hat{2}-\hat{1}-\hat{7}-\hat{1}$



HARMONIC IMPLICATIONS OF SINGLE MELODIC LINES: COMPOUND MELODY

Definitions

You often will encounter compositions written for one or two voices that do not present explicit harmonies (triads and seventh chords). Indeed, much Baroque music, particularly that of Johann Sebastian Bach, is presented linearly rather than harmonically. Even though such pieces are written for three or fewer voices, their construction strongly implies a clear harmonic structure, as in the most traditional homophonic compositions.

Numerous compositional techniques allow composers to imply harmonies without using a fully voiced chord. The most important of these is called **compound melody**. A compound melody occurs when a single melodic line implies two, three, or even four voices. A composer achieves this illusion by means of registral leaps in the melody so that a single line splits into multiple voices delineated by register. When performing such music, it is important to consider the possibility that two or more voices are implied by a single melodic line. An understanding of compound line will help you hear the implied chord progression, thus allowing you to control and shape more effectively the energy of the music you play (Example 1.8).

If you were to analyze the chord progression in Example 1.8 simply by moving from note to note, the result would be unmusical, in that you would be forced to label the second sixteenth note in m. 1 as a dominant chord and the third sixteenth note as a six-four

EXAMPLE 1.8 Mozart, Piano Sonata in D major, K. 284, *Andante* (Polonaise en Rondeau)

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25

cresc. *f* *p* *cresc.*

E: I V^4_3 V^6_5 I

I

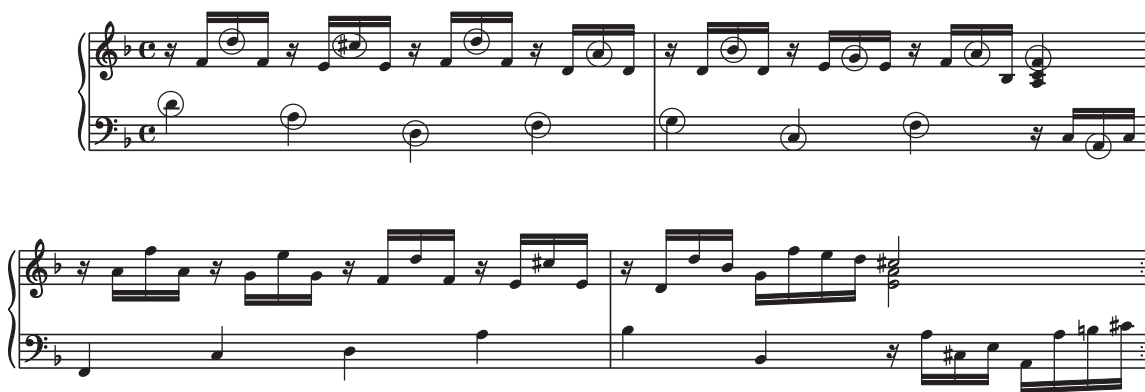
chord on C#. Such an approach ignores the fact that three voices, which group together to form harmonies, unfold *temporally* rather than *spatially* in the left hand. Therefore, a single tonic harmony unfolds in m. 1. The tonic is then contrapuntally expanded in m. 2 by upper and lower neighbor harmonies (V^4_3 and V^6_5), only to return in m. 3. The accompanimental figure seen in the left hand of Example 1.8, called an *Alberti bass*, is an important type of compound melody seen in much music of the high Classical period. Beyond this, each of its voices follows standard voice-leading rules to progress to the next harmony. See Example 1.9 for a reduction of the excerpt's left hand, which shows the smooth connections between each chord and its voices.

EXAMPLE 1.9 Reduction of Mozart, Piano Sonata in D major, K. 284



A second example illustrates the role of compound melodies in the upper voices. Listen to Example 1.10. As you can hear, the right-hand voice is partitioned into two clear voices that move primarily in parallel sixths. The procedure provides the sensation of full three-note triads in a two-voice texture, and it rhythmically animates a one-to-one bass–soprano framework composed of the circled pitches in Example 1.10.

EXAMPLE 1.10 Handel, Suite no. 3 in D minor, HWV 428, “Air and Variations,” Variation 5



So far we have considered only instances of compound lines that emerge from broken-chord formations where all voices play harmonic tones. Sometimes the effect of two-voice counterpoint can be disguised through arpeggiations and nonchord tones, as in

Example 1.11. Although it may not appear so at first, Mozart constructs the compound melody in the opening of this remarkable movement similarly to the previous example. Again, this example illustrates a soprano melody that is composed of parallel sixths in descending motion (Example 1.12).

EXAMPLE 1.11 Mozart, Piano Concerto in A major, K. 488, *Andante*



EXAMPLE 1.12 Mozart, Piano Concerto (analysis of compound melody)

f#: i ii: $\frac{6}{4}_2$ V: $\frac{6}{5}$ i ii: $\frac{6}{5}$ V: $\frac{6}{4}_3$

In Example 1.13 the voices are stacked to show the three-part harmonic structure.

EXAMPLE 1.13 Mozart, Piano Concerto (reduction)

i V: $\frac{6}{5}$ i — 6 ii: $\frac{6}{5}$ V: $\frac{6}{4}_\#$
i N i — 6 ii: $\frac{6}{5}$ V: $\frac{6}{4}_\#$
T ————— PD — D —

ebb and flow of rubato. This type of analysis also illuminates important motives as well as parallel elements within and even between movements.

Now listen to Example 1.16. Notice that the Double's line (an elaboration on the original Corrente) consists mostly of stepwise motion, a dramatic contrast to the arpeggiations

EXAMPLE 1.16 Bach, Partita for Solo Violin in B minor, BWV 1002, Corrente, Double

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of the preceding Corrente (Example 1.14). Also different are the melodic contours of the two openings: The descent and ascent of mm. 1 and 2 in the Double are the opposite of the ascent and descent that characterize mm. 1 and 2 of the Corrente. A look at the compound line at the opening of the Double will help us discover important similarities between the movements that we missed by considering only the surface figurations. Once again, the harmony unfolds at the rate of one chord per measure, and, again, the tonic harmony is prolonged in mm. 1–3, with m. 2 functioning as a lower neighbor V_5^6 , exactly as we saw in the Corrente. The similarity continues in the following measures with the A dominant seventh harmony moving to D major in m. 5. The similarities do not stop with the chord progression; the voice leading confirms the connection. After extracting the structural pitches in all the voices (Example 1.17A), Example 1.17B verticalizes this

EXAMPLE 1.17 Bach, Partita, Double (reduction)

A.



EXAMPLE 1.17 (continued)

B.

i V_5^6 i VII_5^6 III

structure for comparison. Notice that the compound melody, pacing, and harmonic implications are identical. Yet the surface rhythm and contours are wildly different. Bach creates a perfect blend of variety at the surface and organic consistency below.

Implied Harmonies

In analyzing works using compound line, discerning the harmonic progression is often only a matter of locating all the voices. Once you do, you frequently find that full triads and seventh chords are literally present in the music. But sometimes you will encounter compound melodies in which the harmonies—even when all voice-leading strands are considered—are still incomplete. Then you will need to infer missing chord members.

Listen to Example 1.18. The right-hand compound melody implies two voices, the lower of which is essentially a pedal. The combination of this compound melody with the single line in the left hand results in a three-voice texture. As you can see, many of the chords are incomplete, and harmonies must be determined by implication. A cursory glance at m. 1 reveals that the harmony is ambiguous. We may suspect initially that the

EXAMPLE 1.18 Schubert, Piano Sonata no. 16 in A minor, op. 42, D. 845, Rondo

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Allegro vivace

pp legato

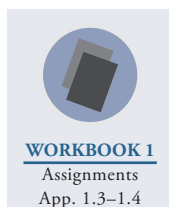
a: i^6 V_3^4 i V_2^4 i^{7-6} i V^6 V i^6 i V^6 V

i^6 P i IN i V i V

i V i V

implied harmony is C major, yet this intuition is contradicted in m. 2, when we discover that the key is A minor. Therefore, the opening sonority is i_3^6 , not an uncommon occurrence in the Romantic period. Now, because the entire example expands the tonic, we can apply our knowledge of what usually occurs in such a situation to decipher other partial harmonies. For example, a i_6^6 in m. 1 moves to i_3^5 in m. 2. The intervening chord with B^3 in the bass also contains E^4 and D^5 in the treble. Although the chord is incomplete, we can easily deduce that it is a seventh chord with a missing third (G^\sharp). Thus, the contrapuntal chord on beat 2 of the first measure implies V_3^4 . A similar situation occurs on beat 2 of m. 2, in which we suspect that the chord with D^4 , E^4 , and B^4 is a dominant sonority with a missing third (G^\sharp): an implied V_2^4 . In m. 3, the 7–6 suspension (B^4 to A^4) disguises the move back to tonic, but the bass resolution of the seventh (D^4) to the third of the tonic (C^4) confirms our suspicions that we’ve heard a V_2^4 properly resolve to i_6^6 .

TERMS AND CONCEPTS



- compound melody
- invertible counterpoint (double counterpoint)
- invertible counterpoint at the octave