

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Daniel B. Stevens (stevens@udel.edu)

“Twenty Questions” is written for students and musicians with little background in tonal counterpoint, linear analysis, or dissonance-treatment analysis. Although this introduction is part of a collection of “Twenty Questions” resources, it can also be read apart from these related materials. The ideas it contains are meant to be helpful both to students of music theory and to musicians who seek to develop their understanding of the contrapuntal relationships in the music they perform.

The Q&A format breaks the ideas into manageable units and will help readers use the document as a resource when they begin their work. It is important that readers take time to consider the importance of what is being asked and to make the questions their own before attempting to absorb the answers.

This introduction assumes that readers are familiar with the following concepts: basic music notation and fundamentals, triads and seventh chords, Roman numeral analysis, figured-bass symbols, and non-chord tones. In this document, readers will learn how to think about and hear music from a linear perspective, as opposed to the vertical emphasis of various chord-labeling systems. Linear analysis and dissonance-treatment analysis can provide valuable insights into the principles at work in tonal music, and through this introduction, students will learn the tools they need to gain these insights. Technical terms, concepts, and important definitions that relate to linear analysis are in **bold face**. At the end of this introduction are:

- (1) a one-page handout that summarizes important information and provides a step-by-step guide to beginning a linear and dissonance-treatment analysis; and
- (2) four sample analyses, four assignments, and commentaries that apply the concepts and analytical tools explained in this introduction.



“Twenty Questions” Documents and Resources (see also the bookmarks in this PDF):

- Introductory Guide and Bibliography
- One-page Summary Handout
- Sample Analysis No. 1: J.S. Bach, Chorale, “Christus, der ist mein Leben”
- Sample Analysis No. 2: Beethoven, Sonata in C# Minor, Op. 27, no. 2, i, mm. 1–7
- Sample Analysis No. 3: J.S. Bach, Prelude in D Major (*WTC*, book I), mm. 1–13
- Sample Analysis No. 4: Beethoven, Piano Sonata in F Minor, Op. 2, no. 1, ii, mm. 1–8
- Assignment No. 1: J.S. Bach Chorale “Mach’s mit mir, Gott, nach deiner Güt”
- Assignment No. 1: Answer Key and Commentary (in document for verified instructors)
- Assignment No. 2: Beethoven Sonata in C# Minor, Op. 27, no. 2, i, mm. 7–28 (NB: this assignment is a continuation of sample analysis no. 2)
- Assignment No. 2: Answer Key and Commentary (in document for verified instructors)
- Assignment No. 3: J.S. Bach Prelude in C Major (*WTC*, book I)
- Assignment No. 3: Answer Key and Commentary (in document for verified instructors)
- Assignment No. 4: F. Schubert “Heidenröslein,” Op. 3, no. 3, mm. 1–16
- Assignment No. 4: Answer Key and Commentary (in document for verified instructors)

Topics Covered by Each Question

- Q1 Definition of counterpoint
- Q2 Counterpoint analysis
- Q3 Musical significance of counterpoint analysis
- Q4 Consonant intervals
- Q5 Dissonant intervals
- Q6 Resolution of dissonant intervals
- Q7 Summary of dissonance resolution
- Q8 Approach to dissonant intervals
- Q9 Chordal dissonances
- Q10 Effect of chordal dissonances on counterpoint
- Q11 Ornamental dissonances
- Q12 Bound vs. free ornamental dissonances
- Q13 Distinguishing essential and ornamental dissonances
- Q14 Ornamental figurations
- Q15 Pedal tones
- Q16 Accented vs. unaccented dissonances
- Q17 Non-normative dissonance resolutions
- Q18 Other tendency tones
- Q19 Dissonances as signs, dissonances as traces, and elisions
- Q20 Relative motion, ambitus, and line

A Note to Instructors

The analytical approach developed in “Twenty Questions” can be taught over a range of time spans. Because the approach is practical and literal-minded, the most important points (Q4–Q10) can be covered in one to two weeks (3–6 class meetings). In the past, I have successfully taught the majority of these concepts as well as the concepts in Q19 in four classes, two of which were devoted entirely to Bach’s Prelude in C Major (*WTC*, book I). Of course, the entire “Twenty Questions” collection, including the sample analyses, assignments, and detailed commentaries provides material for a half-semester or more study of counterpoint analysis. In a full-semester course, teachers could explore more pieces than provided here and apply analytical insights to developing interpretations for performance or applied teaching.

Acknowledgments

The approach to linear analysis developed in “Twenty Questions” is based on ideas and analyses found in Wayne Petty’s unpublished textbook, *Basic Tonal Analysis: A Guide to the Analysis of Tonal Music* (1997). In particular, my use of symbols showing dissonance treatment matches Petty’s in most respects, and I draw several key concepts (*e.g.* “consonance is free, dissonance is bound” in Q3 and “bound consonances” in Q10) from Petty’s text. Finally, my sample analysis of the first seven bars of Beethoven’s “Moonlight” Sonata, Op. 27, no. 2 reproduces an example found in *Basic Tonal Analysis*. While the remaining explanations, examples, and commentaries that follow are my own, I remain grateful for the opportunity to have studied with Petty and happily acknowledge the influence of his teaching throughout this document.

I also thank William Wheeler and three anonymous reviewers for their helpful suggestions.

[Q1] *What is counterpoint?*

Counterpoint is a melodic line composed above or below another melodic line. Counterpoint also refers to the vertical intervallic relationships between lines in a musical texture as well as the logic and aesthetic principles that govern those relationships. Figure 1 provides a two-voice example and counterpoint analysis.¹

Figure 1 Two-voice Counterpoint



Historically, the practice of writing contrapuntal music has an impressive pedigree that spans the compositional practice of 16th-century composers like Palestrina, whose graceful, balanced style is reflected in the practice of **species counterpoint** codified by Fux, to the freer, more ornate 17th- and 18th-century styles associated with Buxtehude, J.S. Bach, and others.² Many great composers of the common practice, including Haydn, Mozart, Beethoven, Schubert, Mendelssohn, Schumann, Chopin, and Brahms, developed their compositional skills through the study of counterpoint. Contrapuntal writing pervades the music of 20th-century composers such as Schoenberg, Bartók, Stravinsky, Hindemith, and Ligeti, all of whom found new ways of structuring linear relationships using post-tonal musical languages. The analytical approach to counterpoint and dissonance-treatment developed in this document applies primarily to common-practice composers and repertoire of the 18th and 19th centuries. The bibliography provides numerous studies of counterpoint in the music of composers from the 16th through 21st centuries.

[Q2] *What kind of analysis do I apply to counterpoint that contains multiple melodic lines?*

In a multi-line texture like that in Figure 2, many different combinations of lines and intervallic relationships exist (*e.g.* soprano to alto, alto to tenor, and so on). However, music analysts commonly privilege the intervals created by the upper lines above the lowest, the **bass line**. Because **figures measure intervals above the bass**, **figured-bass analysis** provides an ideal starting point for analyzing a piece's contrapuntal structure (see Figure 2).³

Figured-bass analysis has the advantage of being fairly concrete, since the *figures*—it is worth repeating—refer to the *intervals above the bass* and not to more abstract relationships such as

¹ When labeling intervals, it is acceptable to include only the size and omit the quality (*i.e.* “6” instead of “m6”). One exception would be augmented 4ths and diminished 5ths, which may be marked with the appropriate symbol (+ or °) to distinguish them from perfect 4ths and 5ths.

² For a good introduction to species counterpoint, see Johann Joseph Fux, *The Study of Counterpoint*, translated and edited by Alfred Mann (New York: W.W. Norton & Company, 1965); and Felix Salzer and Carl Schachter, *Counterpoint in Composition: The Study of Voice Leading* (New York: Columbia University Press, 1989).

³ Though marking diminished fifths in a figured-bass analysis is not conventional, doing so when using figures to study dissonance treatment is recommended.

chord root, quality, or inversion. Because counterpoint involves the study of lines and their relationships, you may find this mode of analysis to be quite different in orientation from those that focus on chord identity and functional harmony. To use a simple analogy, contrapuntal analysis connects the musical dots differently than harmonic analysis, so you should not be surprised if a completely different picture appears.

Figure 2 J.S. Bach Prelude in C Major, from *The Well-Tempered Clavier [WTC]*, Book I, mm. 1–4, Rhythmic Reduction and Figured-Bass Analysis

The figure displays a rhythmic reduction of the first four measures of J.S. Bach's Prelude in C Major. The notation is presented in a grand staff with treble and bass clefs. The notes are reduced to their rhythmic values: quarter notes and eighth notes. Below the staff, the figured bass is provided for each measure.

	Measure 1	Measure 2	Measure 3	Measure 4
Figured Bass	5	6 4	6 °5	5
Analysis:	3	2	3	3

[Q3] How does counterpoint work, and what does analyzing counterpoint tell me about the music?

The linear—and even the harmonic—structure of tonal music is largely based on counterpoint. Thus, learning the logic of counterpoint will help you better understand how tonal music works. The basic principle of counterpoint involves the movement between stable **consonant intervals** and unstable, active **dissonant intervals** (see Figure 3). **Consonant intervals are free:** if a melodic line forms a consonant interval above the bass line, the notes that form the consonance are free to move where they will. Consonances are stable: they do not sound like they need to resolve. Because the notes in a consonant interval, by virtue of their consonance, do not suggest any particular notes to follow, they do not elicit expectations in listeners and are thereby free. (NB: as per Q18, if a consonant interval contains a leading tone, this note may in fact suggest that the tonic will follow.) Further, the stability of consonant intervals makes them suitable intervals of resolution for dissonant intervals.

Dissonant intervals are bound: if an upper line forms a dissonance with the bass, the motion of the dissonant note is bound, and this note will tend to resolve according to the possibilities described below. Dissonant intervals create expectations in listeners about what notes will follow, and the perception that dissonances need to resolve make these intervals fundamentally unstable and bound to resolve. Dissonant intervals typically resolve immediately to stable consonances; any variation from this norm deserves careful analytical attention.

Counterpoint provides an account of how listeners expect music to proceed and offers a compelling basis for understanding why music moves forward as it does. Counterpoint explains why we may feel satisfied or surprised by a particular moment, based on whether a dissonance resolves how we expect or not. Paying attention to how dissonant intervals are **approached** and **resolved** is called **dissonance-treatment analysis**. Because counterpoint analysis addresses the expectations we develop in our imaginations as listeners, it teaches us that the musical

experience — the *music we experience* — goes well beyond the notation symbols on the musical score to include aspects of our perception. Studying counterpoint and the treatment of dissonant intervals helps musicians become more sensitive to musical processes including the creation of tension and release, musical expression, and forward motion. In short, counterpoint and dissonance-treatment analysis is meant to change the way you think, communicate, listen, and perform.

[Q4] *What intervals are consonant?*

Consonant intervals can be **perfect** or **imperfect**. The **perfect consonances** include the perfect unison [P1], fourth [P4] (when formed between upper voices), fifth [P5], and octave [P8]. Major and minor thirds and sixths [M3, m3, M6, m6] are **imperfect consonant** intervals.

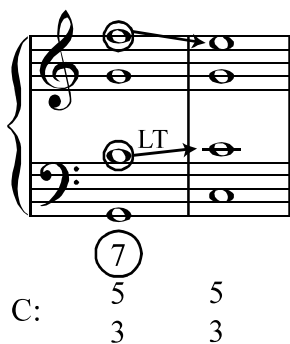
[Q5] *What intervals are dissonant?*

The following intervals are dissonant: M2, m2, P4 (when formed above the bass), M7, m7, and all augmented and diminished intervals (of which the ⁺4 and ^o5 are the most common). Note that P4's created between upper voices are not dissonant; those that involve the bass are. Marking augmented fourths and diminished fifths in your figures with their superscript symbol (⁺ or ^o) to distinguish them from perfect fourths and fifths is recommended. The dissonant P4 above the bass resolves differently than the ⁺4, and the P5 is a consonant interval. Failing to properly distinguish between them can lead to problems in your analysis.

[Q6] *How do dissonances normally resolve? What resolution is each dissonant interval bound to?*

Most often, contrapuntally dissonant notes (also called “essential dissonances;” see Q11) resolve immediately (*i.e.* in the next interval or chord) in the voice in which they occur.⁴ For instance, if a dissonant note occurs in the upper voice, it will normally resolve in the upper voice in the following note. Figure 3 shows a dissonant 7th above the bass, and the dissonant F5 resolves down by step in the soprano to E5.⁵

Figure 3 Dissonance Resolution in the Same Voice



⁴ Alternative possibilities include **delayed resolutions**, **transferred dissonances**, **transferred resolutions**, and **decorated resolutions**, which are covered in the answer to Question 17.

⁵ This document employs the pitch-register designation system in which middle C is “C4.”

The following table provides the dissonant note of each dissonant interval, its expected resolution, and the common movement of the other note of the dissonance that occurs at the point of resolution. While the other note in the dissonant interval is free, its movement often adheres to the norms given below. Sometimes, the bass note may also be a **tendency tone**—a tone that tends to resolve a particular way (*e.g.* in Figure 4(d), the bass is a leading tone that resolves up by step).

Dissonance Type	Dissonant Note	Resolution	Other Note's Normal Mvt.	Figure
M/m 2 nd	Bottom Note	Down by Step	Static or Up a 4 th ⁶	4a
P4 (above the bass)	Top Note	Down by Step	Static	4b
⁺ 4	Top Note	Up by Step	Down by Step	4c
^o 5	Top Note	Down by Step	Up by Step	4d
M/m/ ^o 7 th	Top Note	Down by Step	Up a 4 th or 2 nd , or Static	4e

In the examples in Figure 4, dissonant intervals and notes are circled, and arrows show the notes' resolution. Leading tones, which have the tendency to resolve up by step, are also circled, labeled, and shown to resolve. Notice that in Figure 4(c), the dissonant tone is also the leading tone.

Figure 4 Resolution Patterns for Common Dissonances

(a) 2nd (b) 4th (c) ⁺4th (d) ^o5th (e) 7th

"expands" "contracts"

The dissonant P4 is further restricted by its metrical placement. Perfect 4ths should be placed only on beats 1 or 3 (*i.e.* the metrical strong beats) in a quadruple meter, beats 1 or 2 in a triple meter, and beat 1 in a duple meter. The P4th should never be placed on an offbeat. Most importantly, the *resolution* of the P4 should occur on a *weaker* metrical pulse than the dissonance itself, with only one exception: it is acceptable to place the resolution on a downbeat (beat 1) when the dissonance itself falls on the previous downbeat.

[Q7] How can the information above be summarized so that it is easier to memorize?

Notice that with one exception, the dissonant note is the **top note** of the interval. Only in dissonant 2nds is the dissonant note the **bottom note**. There is more variation in how the other note in each interval tends to move, so these possibilities may require patient memorization. It is useful to remember that:

⁶ Movements up a fourth could also be inverted into descending fifths (see Figures 4(a) and (e)). However, an ascending fourth is privileged in these examples because it creates contrary motion between the voices.

- each dissonance resolves to a 3, 5, or 6;
- 2nds and 7ths, as intervallic inversions, are set against similar motions in the other voice: unison and up a fourth;
- the bass note in a dissonant 7th may also resolve up by step.⁷

Another way to group dissonant intervals is by how the dissonant note **resolves**. In most cases, the dissonant note resolves **down by step**. However, the top note of a ⁺4 usually resolves **up by step**. Given that ⁺4 and °5 are inversions of one another, it can also be helpful to remember that ⁺4's *expand* and °5's *contract*.

[Q8] *How are dissonant notes approached?*

Dissonant tones are approached in the voice in which they occur. Dissonant tones may be approached in any way (*i.e.* by step, leap, or static motion) *except* a leap in the same direction as the note resolves. Dissonant notes that resolve *down by step* are approached by a descending step, ascending step, ascending leap, or by static motion—*not* by a descending leap. Dissonant notes that resolve *up by step* (namely, the ⁺4) are approached by descending step, ascending step, descending leap, or by static motion—but *not* by an ascending leap. It is worth repeating: *avoid approaching a dissonant note by a leap in the same direction as the note resolves*.

Each approach-resolution pattern may be labeled according to the type of non-harmonic tone that it resembles. Each of the approach-resolution patterns is demonstrated in Figure 5.

<u>Approach</u>	<u>Resolution</u>	<u>Label</u>
Step	Step in the Same Direction	Passing Figuration [P]
Step	Step in the Opposite Direction	Neighbor Figuration [N]
Leap	Step in the Opposite Direction	Appoggiatura Figuration [App]
Static	Step	Suspension Figuration [S]

Figure 5 Four Approaches to Essential Dissonant Notes

(a) Passing Figuration Step+Step (same dir.)	(b) Neighbor Figuration Step+Step (opp. dir.)	(c) Appoggiatura Figuration Leap+Step (opp. dir.)	(d) Suspension Figuration Static+Step
---	--	--	--

When a dissonant tone is approached by step or leap, the dissonant note itself is **unprepared**. A dissonant note is **prepared** when it is approached by static motion. Prepared dissonances are

⁷ The upper voice in a dissonant 2nd may not resolve up by step because this would result in a dissonant P4, which may not serve as an interval of resolution for a prior dissonance.

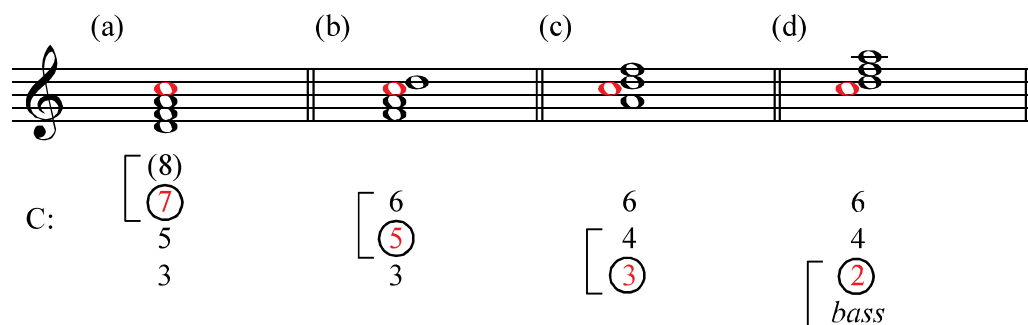
special in that the dissonant tone is first heard as a consonant note that then becomes dissonant as the counterpoint changes around it, forcing the static note to resolve. In your analyses, show the approach to unprepared dissonant notes with a solid line and appropriate label, as in Figure 5(a) through (c). In contrast, show the approach to prepared dissonant notes with a curved, dotted line. This unique marking will remind you of the special quality of prepared dissonances so that you pay attention to how you articulate their notes of preparation in performance.

[Q9] Are there other types of dissonance that need to be accounted for in a dissonance-treatment analysis?

Yes. Apart from contrapuntal dissonances above the bass, your linear analysis should take into account **chordal dissonances** and **ornamental dissonances**, each of which will affect how you recognize and interpret consonant and dissonant intervals.

Unlike contrapuntal dissonances, which occur above the bass, vertical 2nds in a chord are dissonant even when they occur between two upper voices. These dissonant 2nds are called **chordal dissonances**, and they occur most frequently when a seventh chord has been inverted. Figure 6 provides the full figures for a seventh chord in every inversion. Each set of figures contains an adjacent 2nd between two notes above the bass (8 to 7, 6 to 5, 4 to 3, and 2 to the bass note), and each adjacency in the figures corresponds to a chordal dissonance. In each case, it is the *bottom note* of the adjacency that is dissonant.⁸ Notice that the dissonant note in each chord in Figure 6 is the E3, the chordal seventh; this fact leads to the general principle that the chordal seventh of seventh chords resolves down by step.

Figure 6 Chordal Dissonances



[Q10] What effect do vertical chordal dissonances have on how we interpret linear contrapuntal relationships?

The presence of chordal dissonances above the bass may change the status of intervals in the counterpoint from free to bound *or* bound to free.

⁸ In root position seventh chords, the dissonant 7th above the bass may also create a chordal dissonance when the bass note is doubled at the octave.

First, notice that in Figure 6(b) and (c), the circled dissonant intervals (5 and 3) are *consonant* intervals above the bass. Yet these intervals behave like dissonances; that is, the 5th above the bass in Figure 6(b) and the 3rd above the bass in Figure 6(c) must each resolve down by step. These intervals are called **bound consonances**, a paradoxical category given the foundational principle that dissonances are bound and consonances are free.

Chordal dissonances also cancel the dissonant quality of any P4's above the bass. Thus, the P4's above the bass in Figure 6(c) and (d) are free, consonant intervals. When analyzing dissonance treatment, be aware of chordal structures that would render consonant any P4's above the bass.

[Q11] *What are ornamental dissonances, and how do they affect the counterpoint?*

So far, most of the examples in this document have employed 1:1 note counterpoint.⁹ When the notes in multiple melodies align in a 1:1 relationship, each interval in the counterpoint is **essential**. Any dissonance in this context would be considered an **essential dissonance** and would be expected to resolve according to the guidelines given above.

Few pieces, however, adhere to a strict 1:1 note relationship between lines. The soprano and bass melodies in Figure 7(a), for instance, employ different rhythms, giving them a sense of independence and enriching the counterpoint with new intervallic relationships between the lines. Compare Figure 7(a) with its rhythmic reduction in 7(b); the former has over 50% more intervals than the latter, and most of the additional intervals are dissonant.

Notice that most of the dissonances in Figure 7(a) *do not resolve according to the guidelines*. While the ⁵ in beat 2 of m. 1 does contract, the lower note of the dissonant 2nd on beat 3 and the top note of the 7th on beat 4 do not resolve as might be expected.

If you sing these melodies with a friend or play them on the piano, you will probably agree that the counterpoint is quite satisfying, and that no dissonances seem to be treated incorrectly. From your experience performing them, you could rightly conclude that *at least some dissonances are not bound to resolve according to the guidelines*. On beat 3, the bass note C3 of the dissonant 2nd does not need to resolve down by step, and on beat 4, neither does the C5 at the top of the dissonant 7th. These dissonances are **ornamental** in nature; they embellish the underlying essential contrapuntal structure.

[Q12] *Are all ornamental dissonances free like the ones on beats 3 and 4 in Figure 7(a)?*

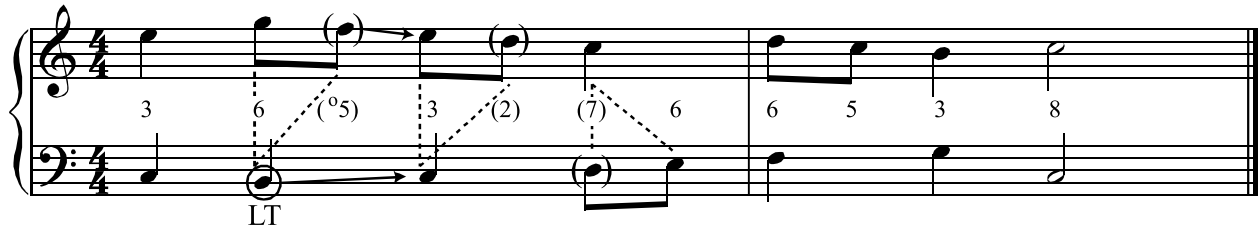
No. Some ornamental dissonances are still bound to resolve as if they were essential. These **bound ornamental dissonances** include those created by suspension and retardation figurations (see Q14) and those that involve ⁴ths and ⁵ths at the end of the ornamental figuration (*e.g.* Figure 7(a), beat 2). Bound ornamental dissonances usually resolve according to the guidelines for dissonance resolution given above. Other dissonances, like those resulting from passing or neighboring figuration, are considered **free ornamental dissonances**. Given their similar roles

⁹ Notice that the 1:1 note relationship in Figures 1, 4, and 5 results from the homorhythmic quality of each example. Put simply, all the melodies have the same rhythm.

as embellishing tones, both bound and free ornamental dissonant notes and their figures can be placed in parentheses (see Figure 8).

Figure 7 Counterpoint with Ornamental Dissonances and Rhythmic Reductions

(a) Two-voice Counterpoint with Ornamental Dissonances



(b) Rhythmic Reduction #1



(c) Rhythmic Reduction #2



(d) Rhythmic Reduction #3



[Q13] *How can I distinguish between ornamental and essential dissonances?*

Ornamental dissonances can be distinguished from essential dissonances in four ways: (1) by their free resolution, (2) by their contextual participation in a 2:1 note relationship, (3) by their ability to be removed from the texture without harming the essential contrapuntal structure, and (4) by their figuration (*i.e.* their approach and resolution pattern). Free ornamental dissonances satisfy all four criteria, while bound ornamental dissonances satisfy criteria (2), (3), and (4) only.

The first three criteria are described below; the fourth merits its own question (Q14).

(1) Free resolution. If a dissonant note does not resolve according to the guidelines, it may be an ornamental dissonance.¹⁰ Close study of the dissonance in context is required to make a final determination.

(2) 2:1 note relationship. Whereas essential dissonances always have a 1:1 relationship with the other note in the counterpoint, ornamental dissonances have at least a 2:1 relationship. As Figure 7(a) shows, each of the dissonances in m. 1 are created through a 2:1 note ratio. This ratio enables the ear to hear the consonant interval in each pair of notes as the essential interval and the unresolved dissonant tone as ornamental.

(3) Rhythmic reduction. The essential interval can be also clarified by using a **rhythmic reduction**, a process of simplifying the music by removing embellishing tones to reveal an underlying structure. The rhythmic reductions in Figure 7(b) and (c) offer two alternative interpretations of the underlying essential contrapuntal structure. In 7(b), the F5 on beat 2 is interpreted as an ornamental dissonance, and the C5 in m. 2, beat 1, is interpreted as an ornamental consonance. Because the $\text{F}^{\flat}5$ in m. 1, beat 2, resolves according to expectation, we may also interpret that tone as part of the essential structure, such that the G5 on beat 2 is heard as an appoggiatura-like ornament to the F5. Figure 7(c) captures this interpretation by including the F5 as part of the essential structure; it also offers a different interpretation of the underlying counterpoint in m. 2, beat 1. Both 7(b) and 7(c) represent valid interpretations.

The rhythmic reduction offered in Figure 7(d) represents an invalid interpretation; it does not correctly distinguish between essential and ornamental notes in the original, resulting in essential dissonances that do not resolve correctly. The F5 on beat 2 resolves down by leap instead of step, and the C3 and C5 to follow do not resolve down at all.

So far, you have learned that ornamental dissonances can be recognized by their (1) avoidance of normal resolution, (2) context (2:1 note ratio), and (3) ability to be removed from the counterpoint without harming the essential structure. Ornamental dissonances and their figures can be shown in your analyses using parentheses (see Figure 8). Free ornamental dissonances are not bound, so arrows showing resolution are not required. However, you may include lines and arrows showing the approach and resolution to bound ornamental dissonances, *e.g.* Figure 7(a) and Figure 8(e) and (g). Because the bound ornamental dissonances in Figure 8(e) and (g) are approached by static motion, curved dotted line have been used to show their preparation, as is done with prepared essential dissonances.

[Q14] *What types of ornamental figurations are used, and how might these help me recognize ornamental dissonances?*

Ornamental dissonances can also be recognized by their figuration type. These types include passing [P], neighbor [N], suspension [Susp], retardation [Ret], and pedal [Ped]. Figure 8 gives

¹⁰ Be careful, though, as there also exist non-normative resolutions to essential dissonances, as mentioned in footnote 4 and explained in Question 17. Telling the difference between a free ornamental dissonance and an essential dissonance that does not resolve normally may take keen ear, careful eye, and plenty of experience.

examples of each of these common figurations.¹¹ The chart below describes each of these figurations in terms of how they are approached and left.

Ornament/Symbol	Approached by:	Left by:
Passing Tone [P]	Step	Step (same direction)
Neighbor Tone [N]	Step	Step (opposite direction)
Suspension [Susp]	Static	Step down
Retardation [Ret]	Static	Step up
Anticipation [Ant]	Step	Static
Pedal [Ped]	Static	Static

The analytical markings in Figure 8 are *interpretive* in nature: they attempt to make sense of the music within the framework of expectations regarding consonance and dissonance described earlier in this document. This framework begins with (a) the principle that consonance is free and dissonance is bound and (b) the set of expected dissonance resolutions described in Question 6. When dissonances do *not* resolve according to our expectations, we interpret them as ornamental dissonances, based on their (1) free resolution, (2) 2:1 note context, (3) unessential quality (*i.e.* they can be removed), and (4) recognizable ornamental figuration type.

These analytical markings suggest how we may *hear* these tones. For example, Figure 8(a) interprets the D3 as a passing tone, suggesting that we do not hear the C5 above as needing to resolve by step but rather as the consonant upper voice to the essential E3 that follows in the bass. Similarly, Figure 8(g) suggests hearing the B4 not as an essential dissonant 7th that needs to resolve down but rather as a retardation, by which the consonant B4 from the previous measure hangs over into m. 2 before resolving up to the C5. Because the analytical markings in Figure 8 suggest ways of hearing, you will find it advantageous to play, sing, and hear the examples.

[Q15] *How might I understand and interpret the dissonances created by pedal tones?*

Figure 8(h) presents ornamental dissonances created by a pedal tone in the bass. Little consensus exists about how best to apply analytical symbols in this situation. On the one hand, using figures literally—as in Figure 8(h)—obscures the fact that the chord on m. 2 beat 1 is a root position V7 with a tonic pedal in the bass. Musicians who privilege chordal analysis would likely prefer to bracket the bass C3 as a tonic pedal and simply interpret the chord as a V⁷.

¹¹ Music theorists use a variety of terms to label and interpret ornamental tones. Please refer to your theory textbook and instructor for more information regarding ornaments, non-chord tones, and related terminology.

Figure 8 Ornamental Dissonances

(a) P

(b) P, LT

(c) N

(d) P, LT

(e) Susp, LT

(f) Ant

(g) LT, Ret

(h) Tonic Ped (V⁷)

On the other hand, the unique collection of ornamental dissonances created above the pedal and the tension between the tonic and dominant harmonies are precisely what make this moment arresting and beautiful. Approaching this moment from a linear orientation, the unusual figures do not obscure the contrapuntal structure. Rather, *they clarify it*, allowing us to point out the interplay between the essential, dissonant F5 in the top voice and the ornamental lines that unfold beneath. After all, linear analysis operates from the assumption that the dissonances are formed *above the bass*. By privileging the bass as fundamental to the structure and meaning of the contrapuntal relationships, linear analysis would suggest that we hear the upper voices as ornamental dissonances. Taken together, all four chords participate in a contrapuntal expansion of a single tonic harmony. From a linear perspective, the Roman numeral V may be seen as a *supplemental marking added to clarify the harmonic meaning of the contrapuntal relationships*. Using Roman numerals to clarify complex contrapuntal relationships is remarkably different from using these symbols as the basis for a chordal analysis.

Rather than trying to resolve the tension by defaulting only to a linear or chordal perspective when we listen, music invites us to embrace both interpretive options, such that the tension

between them becomes a beautiful part of the musical experience itself. The choice of analytical symbols depends on the type of analysis to be undertaken. For linear analysis, using figures consistently to describe intervals above the bass is recommended, as is done in Figure 8(h) and throughout this document.

[Q16] *What is the difference between accented and unaccented dissonances?*

An **accented** dissonance occurs when the dissonant note begins at the same time as the note with which it is dissonant; Figures 8(c), (e), and (g) contain examples of accented dissonances. An **unaccented** dissonance occurs when the onset of dissonant note is *not* aligned with the onset of the note with which it is dissonant, as seen in Figures 8(a) and (b). Figure 8(d) contains both accented and unaccented dissonances. Accented dissonances need not fall on a strong beat; indeed, the term has nothing to do with metric placement. For the purposes of linear analysis, the distinction between accented and unaccented dissonances does not have much significance. However, this distinction holds suggestive implications for how you might articulate these notes in performance.

[Q17] *I understand that essential dissonances (and bound ornamental dissonances like suspensions) normally resolve immediately in the voice in which they occur, but how do the non-normative resolutions mentioned earlier [see footnotes 4 and 9] work?*

There are at least four common ways that composers avoid resolving dissonances immediately in the voice in which they occur: (1) by dissonance prolongation, (2) by transferred dissonance, (3) by transferred resolution, and (4) by decorative embellishment.

- (1) **Dissonance Prolongation.** Composers often prolong dissonant notes by repeating them *before* their resolution in a new contrapuntal context. Prolonging a dissonance delays its resolution while increasing and intensifying the expectation for it. For example, in Figure 9(a), the F5 is established as a dissonant note in m. 1 and then repeated in two subsequent contrapuntal contexts before resolving down by step in m. 3.¹² Figure 9(b) illustrates a common prolongation, in which a chordal dissonance is prolonged by a cadential 6/4 before resolving down by step to the leading tone on beat 4. As Figure 9(c) shows, dissonant notes can be prolonged through repetitions that are not themselves dissonant: the F5 in m. 1 begins as a dissonance, then becomes consonant in the passing IV⁶ chord, and finally returns to its dissonant status before resolving.¹³ Importantly, the consonant F5 in m. 1 does not satisfy the need for resolution of the dissonant F5; in context, it serves to prolong the dissonant tone itself. Generally, a prolonged dissonance may be repeated as a consonance so long as its final repetition is dissonant, so that the first dissonant note's need for resolution can be satisfied. In your analyses, prolonged dissonances can be shown by curved solid lines that connect each repetition of the dissonant note.

¹² Figure 8(h) contains a similar instance of a prolonged dissonance.

¹³ In Figure 9(c), the voice exchange between the bass and tenor suggests a linear expansion of the dominant harmony, as shown by the accompanying Roman numeral analysis. This analysis further clarifies how the F5 on beat 1 persists as a dissonance through the first three chords, since the middle chord is a passing chord between two inversions (root and first) of the dominant seventh chord.

Figure 9 Examples of Dissonance Prolongation

Figure 1 displays musical notation and chord diagrams for the first system of the 'The Sound of Music' score, illustrating the progression of chords and dynamics across measures 1 through 9.

(a) Measures 1-5: Musical notation shows a piano (P) dynamic. Chord diagrams below the staff indicate the following sequence: C: 5, 3, 6, 4, 5, 3, 6, 5, 7, 5, 3, 3. The chords are labeled V, IV, V, I, P.

(b) Measures 6-7: Musical notation shows a long trill (LT) dynamic. Chord diagrams below the staff indicate the following sequence: 6, 5, 6, 5, 5, 3, 3, 3, 3. The chords are labeled Cad. (Cadenza).

(c) Measures 8-9: Musical notation shows a voice exchange. Chord diagrams below the staff indicate the following sequence: 7, 5, 6, 5, 3, 3, 3, 3. The chords are labeled V, IV, V, I.

(2) **Transferred Dissonance.** Composers occasionally transfer dissonant notes from one voice to another *before* their resolution. Transferred dissonances are similar to prolonged dissonances in that the dissonant tone is repeated before its resolution, except that the repetition is *in a different voice*. Often, transferred dissonances involve seventh chords, and the transfers themselves usually result from a voice exchange involving the chordal seventh or chord inversion. For example, each transferred dissonance in Figure 10 results from a voice exchange, shown by the crossing black lines. In Figures 10(a) through (c), the voice exchange occurs between upper voices, whereas the voice exchange in Figure 10(d) is between the outer voices. Dissonance transfers can have a dramatic effect as the ear follows the dissonance from one voice and register to another for its resolution. To show a dissonance transfer in your analyses, draw a solid line connecting the first instance of the dissonant note with its later repetition in another voice.

Figure 10 Transferred Dissonances

Figure 1 illustrates four different types of Labeled Transitions (LT) in a piano score, labeled (a) through (d). Each example shows a musical staff with a treble and bass clef, and a corresponding diagram below it showing the piano keyboard layout with numbered circles indicating the transition points.

- (a) Shows a transition from a bass note (C4) to a treble note (C5). The diagram shows a circle labeled 7 on the C4 key and a circle labeled 5 on the C5 key.
- (b) Shows a transition from a treble note (C5) to a bass note (C4). The diagram shows a circle labeled 7 on the C5 key and a circle labeled 5 on the C4 key.
- (c) Shows a transition from a treble note (C5) to a treble note (C5). The diagram shows a circle labeled 7 on the C5 key and a circle labeled 5 on the C5 key.
- (d) Shows a transition from a bass note (C4) to a treble note (C5). The diagram shows a circle labeled 7 on the C4 key and a circle labeled 5 on the C5 key.

The voice exchange that occurs in Figure 10(b) is worth special consideration, because on the surface, the essential dissonant 7th—the F4 in the tenor in the first chord—appears to resolve

down by step on beat two. However, because the chord on beat two is a second-inversion triad containing the dissonant P4, this chord is fundamentally unstable and cannot serve as a chord of resolution for the dissonance on the previous beat. In other words, the dissonant P4 renders the consonant 6th unstable, and thereby incapable as serving as the tone or resolution for the previous dissonance.¹⁴ Taking a step back, it is clear from the context that a dissonance transfer is taking place through a voice exchange, and the 6/4 chord serves as a passing chord connecting the seventh chords on beats one and three. Where then does the tenor voice's F4 on beat one resolve down by step? It resolves to the E5 on beat one of the following measure, and not a moment before. To summarize: when a dissonance appears to resolve to a 6/4 chord, use the context to help you figure out how the 6/4 chord is being used to prolong or transfer the dissonance. The 6/4 chord itself cannot serve as chord of resolution.

- (3) **Transferred Resolution.** Transferred resolutions occur infrequently in tonal music, given the strong expectation to hear dissonant tones resolve in the voice in which they occur. In a transferred resolution, the dissonant note “jumps” voices at its resolution, so that it does *not* resolve in the voice in which it occurs (see Figure 11). Consequently, transferred resolutions frustrate listeners’ expectations and threaten the integrity of the lines. Transferred resolutions can often be explained as the product of an **elision**. An elision occurs when we perceive from the local musical context that something (*e.g.* a chord or a measure) has been omitted. Further, the context itself usually makes clear *what* was omitted, making it possible to recompose the music to show what was omitted and how the omitted music helps explain what happens in the music. In other words, the concept of an elision is one way that musicians make sense of passages that might otherwise seem to violate a principle of musical structure, such as when dissonances fail to resolve as expected. Elisions also highlight the important role our imaginations play as we listen by showing yet another way that the music we perceive goes beyond the notational symbols on the score.

Figure 11 Transferred Resolutions and their Derivation as Elisions

Figure 11(a) and (b) show transferred resolutions. In Figure 11(a), the resolution of the dissonant C4 in the tenor is transferred to the soprano. On the surface, the C4 seems

¹⁴ Although the 6th is unstable, it is not bound like a dissonance. Typically, the 6th of a 6/4 chord will resolve up or down by step, as in Figure 10(b).

incorrectly to resolve up by step, but interpreting this moment as a transferred resolution would suggest that the tenor's C4 really resolves to the B4 in the soprano voice. Figure 11(c) interprets this transferred resolution by imagining an intermediary chord (shown in parentheses) that facilitates a voice exchange, bringing the dissonant note into the soprano. Figure 11(b) shows another transferred resolution, in which the F5 in the soprano quite extraordinarily resolves in the bass to E2. Again, this non-normative resolution can be explained as an elision of an intermediary chord that transfers the dissonance down to the bass through a voice exchange, as shown in Figure 11(d).

Figure 12 Essential and Ornamental Dissonances with Decorated Resolutions

(a) Suspension: 4 - 3

(b) Suspension: 4 - 3

(c) Suspension: 4 - 3

(d) Suspension: 9 - 8

(e) Suspension: 9 - 8

(f) Suspension: 9 - 8

(g) Suspension: 9 - 6

- (4) **Decorative Embellishment.** A fourth exceptional resolution type occurs when a resolution is delayed by decorative embellishment. Usually, a decorated resolution involves the use of a suspension, either as a prolongation of an earlier essential dissonance or as a free-standing bound ornamental dissonance. Figures 12(a) through (c) show a multi-stage process of embellishing a simple resolution of an essential dissonant 7th. In Figure 12(b), the resolution of the essential dissonant 7th is already embellished through prolongation by the 4–3 suspension. In Figure 12(c), the resolution of the suspension itself is embellished by an incomplete lower neighbor on beat 2. Figures 12(d) through (g) provide examples of bound ornamental suspensions whose resolutions receive decorative embellishment. The examples below are not exhaustive; many embellishments are possible. In Figure 12, the essential dissonances and suspensions are marked as usual with circles and parentheses, and a curved, solid arrow connects the note of suspension with its eventual resolution. The dotted lines show the 2:1 relationship of each ornamental dissonance and help clarify that the intervening notes decorate the resolution.

[Q18] *Are dissonances the only tones in counterpoint that have a tendency to resolve in a particular way?*

Like dissonances, **leading tones** [LT] in dominant-functioning harmonies invite special attention given their propensity to resolve up by step to the tonic. In linear analyses, circle all leading tones and draw arrows pointing to the note of resolution. Keep in mind that as the tonal center changes, so will the leading tone. Further, secondary dominants and diminished sevenths each contain a secondary leading tone that functions as a tendency tone. Secondary dominants can most often be recognized by their accidentals and their quality, especially when the chords themselves contain a seventh. Dominant seventh chords and fully-diminished seventh chords all contain a leading tone, their third and root, respectively. Other chromatic chords, including half-diminished seventh chords, need to be studied in context to determine if they have a dominant function and contain a leading tone. Figures 3 and 4(d) provide examples of leading tones along with the recommended circle/arrow notation.

[Q19] *The answers to Q3 and Q17 suggest that the music we experience exceeds what is notated on the score. How does this work?*

This question challenges our notions of what music is and where it resides. Does music exist external to us as the sounds of a recording or the symbolic notation on the score? Or do music's boundaries also include internal experiences, such as the expectations we develop and the music we imaginatively construct during and after listening to better understand some interesting musical feature? Does "hearing" involve only the external stimuli that reach our ears, or does it involve the interaction between external and internal musical experiences?

So far, we have learned two ways through which the music we experience can exceed the musical score and its performance: through listeners' expectations (see Q3) and through musical elisions, after which listeners retrospectively imagine—and experience—the music that has been omitted (see Q17). In what follows, we will focus on these two types of internal experiences so that we can understand them with greater depth and precision and appreciate how these experiences can shape our musical interpretations.¹⁵

(1) **Dissonances as signs.** One principle for understanding the power of musical lines and counterpoint create expectations is: **tendency tones in music** (e.g. dissonances and leading tones) **function as musical signs that point to and make perceptually present the note to which they resolve.** In other words, to experience the sign is *already* to experience that to which the sign points. Figure 13 provides two straightforward examples to illustrate this important principle. The chord progression on the grand staff is the musical stimulus, and the notations on the top staff indicate the additional music experienced by the listener.

For clarity's sake, Figure 13 shows the additional perceptions that occur only in measure two of each example, though the dissonances in measure one of each example will cause a similar perceptual response. Also, this figure does not show the resolution of leading tones: given the

¹⁵ Music's potential to evoke surplus music in the mind of the listener is almost limitless. Although this document focuses only on the expectations created by dissonance and on contrapuntal elisions, other facets of this internal dimension of musical experience remain to be explored.

strong arrival on tonic by the melody, the leading tones here resolve down to the fifth scale degree. Finally, it is important to note that the exact onset of perception of the additional notes, shown in red solid note heads, will occur after the onset of the chord on beat one, though the delay may vary from one listener to another.¹⁶

Figure 13 Musical Stimuli with Additional Perceptions Notated

Figure 13 consists of two musical examples, (a) and (b), each showing a piano accompaniment and a vocal line. In (a), the piano accompaniment has a melody in the right hand and a bass line in the left hand. The vocal line has a single note in the second measure. In (b), the piano accompaniment is similar to (a), but the vocal line has a more complex melody. Red note heads indicate additional perceptions. Below each example is a sequence of numbers in parentheses, some of which are circled.

(a)

Additional Music Perceived: (7)

Musical Stimulus: 6 5 6 5 5
3 3 (4) 3 (4) - 3

(b)

Additional Music Perceived: (7) (9) - 8

Musical Stimulus: 6 5 6 5 (7) - 5
3 3 (4) 3 (4) - 3

In Figure 13(a), the tenor's F4 in the second measure is a sign that makes present the E4 to which it resolves. The E4 on the top staff suggests that listeners hear this tone of resolution in advance, (nearly) simultaneously with the sign that points to it. To verify this claim, simply play the progression in Figure 13(a) for a group of peers, pause on the downbeat of measure two, and ask your peers to sing the note that follows. Without hesitation, they will collectively sing the E4, suggesting that this tone is already perceptually present to them. From this experience, we may conclude that when listeners hear a dissonance, this dissonance makes the note of resolution present even *before* it has been sounded. The satisfaction we derive from hearing the note of resolution when it literally arrives is increased by the fact that the tone *that we already hear in advance* has finally been realized.

How might taking account of this additional music influence our musical interpretations? Like Figure 13(a), the cadence in Figure 13(b) is embellished by ornamental dissonances that result from the suspension of tones in the previous measure. When interpreting the music based on score study, some musicians mistakenly respond to the question "Where does the final tonic chord arrive?" by answering, "beat three." This response fails to take into account the structural priority of the bass. The tonic arrival in the bass signals the arrival of the tonic harmony; only in this view can the upper voices be understood as arriving *late*. But more to the point, this response does not take into account the perception of the tonic harmony that already occurs on beat one, a perception made possible by the function of the first beat's dissonances as signs that make present the pitches to which they resolve.

¹⁶ If this document is printed in gray scale, the additional pitch perceptions will likely appear as a shade of gray.

(2) **Dissonances as traces.** As we have seen, dissonant tones function as signs, pointing *ahead* to notes to come while already making these tones perceptually present. Similarly, some dissonances—namely, chordal 7ths and their inversion as 2nds and chordal dissonances—may act as **traces** of their notes of origin. These notes of origin refer not to the literal tone of approach found on the score but rather to a deeper-level contrapuntal structure of which the notated music is an embellishment. As traces, these dissonances call to mind notes that exist in an original contrapuntal framework but not necessarily at the musical texture at higher, more elaborate compositional levels (*i.e.* at the musical surface).¹⁷ In other words, these dissonances project notes into the immediate, perceptual *past*—notes that may figure into the musical experience, despite their absence in the musical score, and depending on context may have musical, interpretive significance. Figure 14 illustrates how the trace notes suggested by chordal sevenths in Figure 14(c) and (g) have their origin in species counterpoint.

Figure 14 Trace Notes from Chordal Sevenths, with reference to J.S. Bach, Prelude in C Major (*WTC*, book I)

(a) first species (b) second species (c) free style

Musical Stimulus
(with **additional perceptions in red**):

(d) J.S. Bach, Prelude in C Major, from *WTC*, book I, mm. 1–4

(e) first species (f) second species (g) free style: C Major Prelude, reduction and trace perceptions

LT

5 6 6 5
3 4 5 3

Figure 14(a) and (e) establish a first species (1:1 note) contrapuntal framework in which all intervals are consonant. In second species (2:1 note) counterpoint, passing motion is allowed,

¹⁷ It is possible that the note of approach on the musical surface is the same as the contrapuntal note of origin.

opening the possibility of contrapuntal dissonances, but only as linear passing tones that fall on weak beats. Figure 14(b) and (f) embellish the first species frameworks by filling in their linear thirds with stepwise passing tones. The move from these second species frameworks to the free contrapuntal style of Figure 14(c) and (g) is accomplished by verticalizing the linear passing tones to form essential, chordal dissonances.¹⁸ Despite having been eliminated from the score, the notes of origin of these vertical dissonances linger in our ear as traces of the contrapuntal structure from which they arise. As traces, chordal 7ths in each of their contrapuntal contexts make perceptually available the chordal root from which they originate through the history of contrapuntal practice, if not from the composition itself.

This explanation of dissonances as signs and traces might seem far fetched, as many musicians are accustomed to thinking of music strictly in terms of the notations on a score and their performance. On the contrary, remember that:

- The notes evoked by dissonances are not mere theoretical constructs or figments of our imagination but real, concrete notes to be experienced just like the other notes of a composition, the only difference being that these notes are performed by our imaginations, not the performers. To ignore these notes or deny their existence is to miss part of the musical experience that the score makes available.
- The study of species counterpoint was an integral part of composers' training from the 16th through 19th centuries (and beyond). For example, consider the many counterpoint exercises that Mozart assigned his composition student Thomas Attwood, which provided Attwood a point of departure as he moved into free composition.¹⁹ Mozart's emphasis on counterpoint was shared by many other composers from Bach to Brahms. The musical, systematic logic of species counterpoint was fundamental to the compositional style of composers throughout the common practice period. Undoubtedly, these composers were aware of the particular responses which dissonance evokes in listeners.
- Ultimately, theories of music attempt to account for the ways in which pieces of music are structured and produce potential meanings. While the concept of dissonances as signs and traces may not change how you hear and understand every piece, the inner workings of some pieces, like J.S. Bach's Prelude in C Major (*WTC*, book I), may not be fully understood without this concept.²⁰

(3) **Elisions.** In the answer to Question 17, the concept of an elision was cited as a way to explain and justify transferred resolutions (see Figure 11). An elision occurs when something that we expect to occur in a particular musical context has been omitted. In the case of transferred resolutions, the chord that would have served to transfer the dissonance to another voice *before*

¹⁸ In Figure 14(g), inner voices have been added to represent the five-voice texture of J.S. Bach's Prelude in C Major.

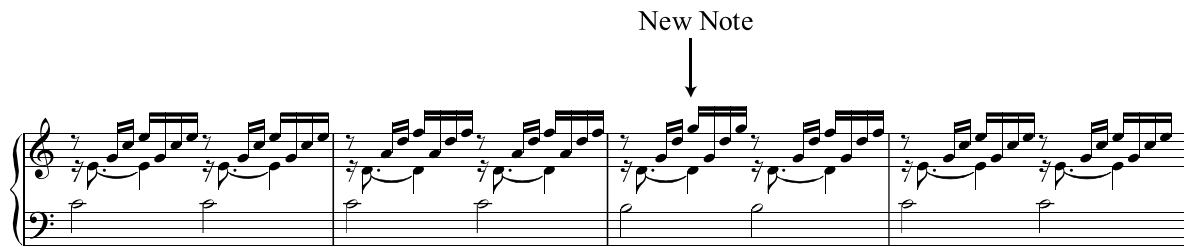
¹⁹ Attwood studied theory and composition with Mozart in Vienna from 1785 to 1786. Happily, the Mozart-Attwood notebooks that document his study are now available online as part of the digital reproduction of the *Neue Mozart Ausgabe* (New Mozart Edition), accessible at <http://dme.mozarteum.at/DME/nma/start.php?l=2>. The Mozart-Attwood studies are found in the Series X: Supplement, document 114 (NMA X/30/1); the section on species counterpoint begins on page 39. To access this document, click the eighth note icon on the far right of the webpage.

²⁰ Bach's Prelude in C Major is the subject of one of the related analysis assignments published with this introduction to counterpoint.

resolving is perceived as omitted, so that the dissonance itself seems to jump voices at its resolution.

The concept of an elision may also explain the disappearance of the notes of origin of the chordal 7th discussed above. Consider the recomposition of Bach's Prelude in C Major offered in Figure 15. In this figure, the G5 that served as the note of origin in Figure 14(f) is *included* in Bach's Prelude as a new note. Hearing the parallel moment in Bach's version as an elision, listeners may perceive the G5 as omitted, with only a trace of its presence (the dissonant F5) left in its place.²¹

Figure 15 Recomposition of J.S. Bach Prelude in C Major



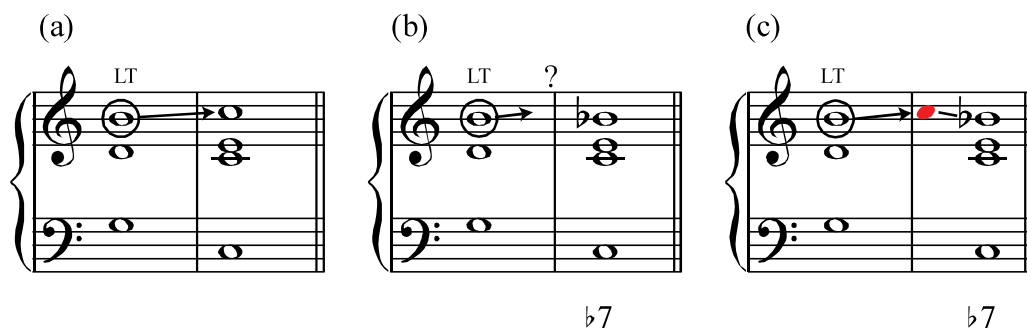
One of the most common types of elisions in tonal music involves the resolution of leading tones in dominant functioning chords. With only a few exceptions, leading tones tend to resolve up by step to the tonic; this resolution, shown in Figure 16(a), is the normative expectation for listeners.²² In Figure 16(b), the leading tone apparently denies expectation by descending a chromatic half step.²³ Figure 16(c) explains this resolution as an elision in which the leading tone is understood to have correctly resolved up to a tone that has been omitted from the musical surface. Listeners experience the tone of resolution through its absence. It is fitting to note that the B $\flat$ 4 to which the leading tone moves is a chordal seventh, which calls to mind the C5 as the tone from which it passes. Thus, in Figure 16(c), the C5 is suggested to the ear not only in advance by the leading tone that points to it as a sign, but also by the chordal seventh, that projects this same tone into the immediate perceptual past. It should not be surprising that this particular resolution of the leading tone down by chromatic half step is used so frequently. This figuration takes full advantage of the capacity for tones in counterpoint to make present music that exceeds that which is found on the score.

²¹ In Charles Gounoud's (1818–1893) setting of "Ave Maria" to Bach's C Major Prelude, the vocal melody in m. 3 reaches G5, confirming the implication of this tone by the counterpoint while simultaneously disregarding Bach's purposeful effort to avoid it.

²² One frequent exception occurs when melody moves from the supertonic to tonic at a cadence; in this context, the leading tone may move to the dominant.

²³ A half step is chromatic if it involves different inflections of the same note (e.g. D to D $\flat$). Diatonic half steps involve different note names and could thus be understood to fit into a diatonic scale (e.g. C to D $\flat$, which could be Ti to Do in D $\flat$ major).

Figure 16 Elided Resolution of Leading Tones



[Q20] *What other musical relationships in contrapuntal music are worthy of attention?*

Contrapuntal music's appeal derives not from any one of its musical elements but rather from the elegant balance and intricate play between them all. Accordingly, this study of linear relationships and dissonance treatment is but a first step toward understanding how contrapuntal pieces achieve their delightful effects. Below, we will consider three other musical aspects—**relative motion**, **ambitus**, and **line**—that contribute significantly to the aesthetic appeal of contrapuntal music.²⁴ The outline below lays out the topics covered in this section:

- (1) Relative Motion
 - (2) Ambitus
 - (3) Line
 - a. Contour, Direction, and Ambitus
 - b. Balance
 - c. Linear Structure
 - d. Rhythm

(1) **Relative motion.** Relative motion refers to the composite gestures formed by the movement of two lines. Between two moving lines, five types of relative motion are possible:

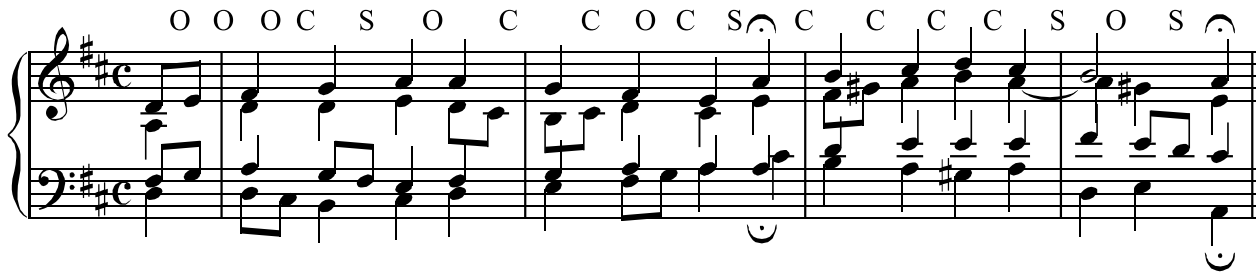
<u>Type of relative motion</u>	<u>Description</u>
Similar [S]	Voices move in similar direction
Parallel [P]	Voices move in similar direction by the same interval
Static [St]	Neither voice moves
Contrary [C]	Voices move in opposite directions
Oblique [O]	One voice moves while the other remains static

To simplify analyses of relative motion, it is usually sufficient to group parallel and static motion together with similar motion and to use the following three labels: similar [S], contrary [C], and oblique [O]. In a multi-voice texture, focus on the relative motion between bass and soprano, since these voices have the greatest structural-rhetorical importance. Figure 17 demonstrates a relative motion analysis of excerpts from two pieces by J.S. Bach; the analysis in 17(a) focuses on the relative motion between the bass and soprano.

²⁴ Other elements of contrapuntal music such as phrase structure, form, use of chromaticism, and motivic repetition and development lie beyond the scope of this document, though each are worthy of careful study.

Figure 17 Analyses of Relative Motion in Two Excerpts by J.S. Bach

(a) “Mach’s mit mir, Gott, nach deiner Güt’,” mm. 1–4



(b) Sinfonia No. 4 in D Minor, mm. 1–2



(c) Sinfonia No. 4, mm. 1–2, reduction



The excerpts in Figure 17 illustrate three common features regarding relative motion found in good contrapuntal writing. First, and most importantly, **contrary motion is privileged in counterpoint**. Contrary motion helps project a sense of voice independence, such that the movement of one voice does not seem to control the movement of any other.²⁵ Second, no one particular quality of relative motion (even contrary) is used to the exclusion of others. Finally, oblique motion is most often caused by rhythmic differences between the voices. When the music is simplified to its essential contrapuntal tones, as in Figure 17(c), the oblique motion disappears, leaving instances of contrary motion in a clear majority.

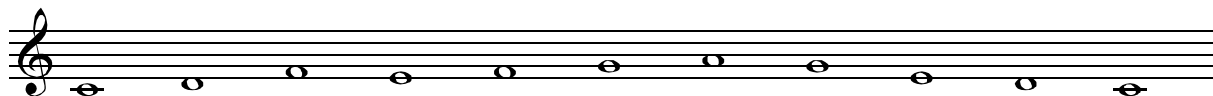
Being sensitive to relative motion can help musicians perceive new relationships on the score and hear the outer voice contrapuntal structure more clearly. Students who attend to relative motion in an aural skills context rarely confuse the directional movement of the outer voices on harmonic and contrapuntal dictations.

(2) **Ambitus**. Ambitus is the range within which a musical figure operates, i.e. the distance between its highest and lowest note. Ambitus is most often applied to a single melodic phrase or subject, though it can also refer to the range of a single voice or piece in its entirety. In 16th-century counterpoint, the normal ambitus of a cantus firmus was a between a 5th and a 10th. This range was preferred for both practical and musical reasons: it was considered to be the range of a normal human voice, and musically, it was deemed large enough to project a sense of space and freedom of movement and small enough to leave room in the texture for other voices to move. These qualities of projected space and freedom of movement can be felt by singing the famous

²⁵ Imagine the opposite: too much similar motion would make one voice seem to control the other. To preserve the aesthetic autonomy of each voice (i.e. the sense that these voices move independently of one another), similar motion must be balanced with contrary and oblique motion. In practice, the latter two usually occur more often than the former.

cantus firmus written by Heinrich Schenker given in Figure 18. Although this line only has an ambitus of a 6th, it does not feel as if it occupies too small a musical space.²⁶

Figure 18 Cantus Firmus (Schenker)



Composers in the 18th century used ambitus to similar effect, crafting musical subjects that moved within—and sometimes pushed against—the boundaries set in place through the practice of species counterpoint. The following subjects by J.S. Bach given in Figure 19 illustrate the striking effect that ambitus can have as each piece is set in motion.

The first subject, Figure 19(a), has an ambitus of a sixth: C4 to A4. Its overall contour and ambitus are remarkably similar to that of Schenker's cantus firmus in Figure 18; both lines use mostly stepwise motion, and both outline several perfect fourths. The subject's juxtaposition of conjunct and disjunct motion and its breezy rhythmic gestures give it a playful character. By way of contrast, compare the C Major Fugue subject to those of the Fugues in C# Minor and Bb Minor, found in Figures 19(b) and (c). The ambitus of the subject of the Fugue in C# Minor is a diminished fourth (B#3 to E4), an interval whose small size feels even further compressed by its dissonant character and the tendency of the B# to ascend to tonic. The Bb Minor subject in Figure 19(c) rests at the other end of the spectrum: its ambitus of a ninth is among the largest of Bach's fugue subjects.²⁷ Like the C# Minor subject, the subject of the Bb Minor Fugue features an unusual interval—a minor ninth—created by the octave displacement of the upper neighbor tone Gb4 to Gb5. The stark open quality of the perfect fourths and fifths that begin each subject and answer, the large ambitus, the breath-like rest in m. 2, and the poignant dissonant ninth give this subject a character both intimate and sublime, like the thoughts of person gazing dolefully into the vast night sky.²⁸

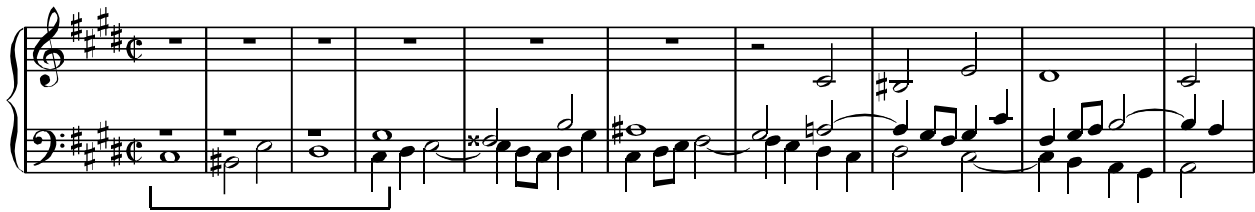
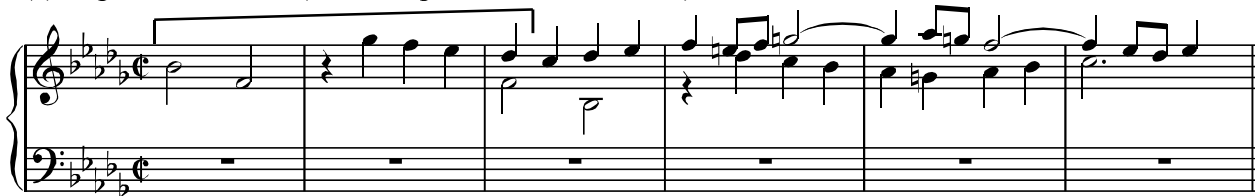
²⁶ By contrast, notice how much smaller the space feels when this cantus firmus is sung without its sixth and seventh pitches (the first G and A).

²⁷ For an example of a fugue subject with a larger ambitus, see the Fugue in Bb Major from the Well-tempered Clavier, Book I. This rather lengthy subject spans a tenth and features compound melody.

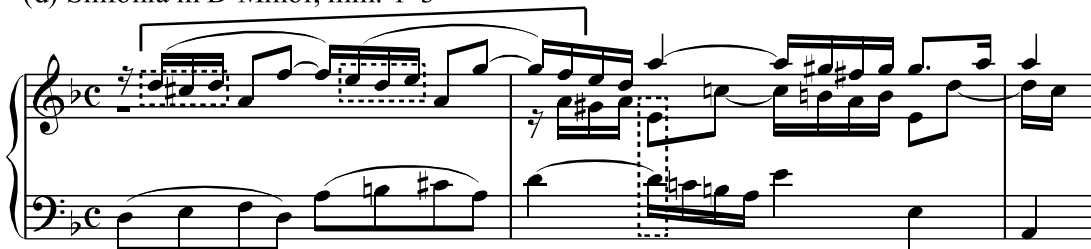
²⁸ The **answer** in a fugue is the repetition of the fugue subject in another voice. In the Bb Minor Fugue, the answer, which enters in m. 3, is a **tonal answer**, because it modifies the intervals of the subject so as to fit the harmonic and tonal design of the fugue exposition. When a fugue's answer preserves the interval content of the subject exactly, as in the answer in the C# Minor Fugue, it is called a **real answer**.

Figure 19 Four Subjects (shown in brackets) by J.S. Bach

(a) Fugue in C Major (Well-tempered Clavier, Book I), mm. 1–4

(b) Fugue in C[♯] Minor (Well-tempered Clavier, Book I), mm. 1–10(c) Fugue in B[♭] Minor (Well-tempered Clavier, Book I), mm. 1–6

(d) Sinfonia in D Minor, mm. 1–3



Bach's Sinfonia in D minor, the first two measures of which are offered in Figure 19(d), offers a set of interconnected musical features that involve ambitus. The subject has an ambitus of a seventh, formed between the root and seventh of the dominant harmony. Within the subject, however, there is a tension between two gestures with sharply contrasting ambituses. First, there is the lower neighbor gesture (D5-C[♯]5-D5, shown in the dashed box) that begins the subject and is repeated a step higher on beat 3. The ambitus of this gesture is a second, an interval that is pressed twice on the listener in the first bar alone and many more times as the sinfonia continues (see mm. 21–23 in Figure 20(a)). This compact three-note gesture yields to the far more spacious arpeggiations of the tonic and dominant harmonies. Together, these contrasting gestures form the sinfonia's basic motive, which is subsequently transformed over the course of the piece.

The D minor subject's tension between the narrow range of the neighbor figure and the larger ambitus of the arpeggiations is reproduced between the interaction of lines and at the level of the piece as a whole. As shown in Figure 19(d), the bass and soprano voices in m. 1 begin an octave apart. This space is quickly collapsed by the ascent of the bass up an octave in mm. 1–2. As a result of the smaller range between bass and soprano in m. 2, the entrance of the subject in the alto voice produces another dissonant second, shown in the dashed box in Figure 19(d), as if the alto cannot avoid bumping into the adjacent voices. The linear and vertical dissonant seconds accumulate in m. 3, shown in Figure 20(a). The interweaving lines in m. 3 form a bridge that prepares the tonic arrival of the subject in the bass in m. 4, where for the first time, two dissonant seconds are superimposed and the notes D3, E5, and F5 sound simultaneously. At this moment, the E5 is the contrapuntal dissonance, a 9–8 suspension whose resolution is decorated according to the pattern shown in Figure 12(d). The E5 and F5 create a secondary, vertical dissonance, one that increases the musical tension of this moment.

The salient dissonance found in m. 4 beat 1 is maximally dissonant: two dissonances are the most that can be formed between three lines. Further, this dissonance prefigures similar moments in mm. 20 and 23, shown in Figure 20(b). By m. 19, the *sinfonia* is at the end of a three-measure process of register compression, and the four-note pattern in the bass, first heard in m. 1, brings this process to completion. For a brief moment, on the downbeat of m. 20, the *sinfonia* reaches a state of maximal dissonance and minimal range.²⁹ This striking moment, which must be brought out with care by the performer, is one of profound musical tension. Here, the range of the *sinfonia*'s voices, whose overall ambitus spans almost five octaves, is narrowed down to the smallest possible space that three voices on different notes can occupy in a tonal context: a minor 3rd. After this point, the *sinfonia* draws to a close with a series of motivic repetitions, replete with dissonant 2nds and guided by ascending and descending chromatic lines in the soprano voice. The *sinfonia* ends as it began: with bare octaves, now one register lower than those at the piece's opening.³⁰

As we have seen, the ambitus of 16th-century *cantus firmi* and 18th-century contrapuntal subjects affects the sense of space within which these musical lines move and impacts how individual voices move within their own space and interact with adjacent voices. Instead of a looking reductively at the movement of individual notes, focusing on ambitus helps musicians to perceive larger relationships that unfold within and between voices over the course of a piece and to respond to these relationships in their interpretations and performances.

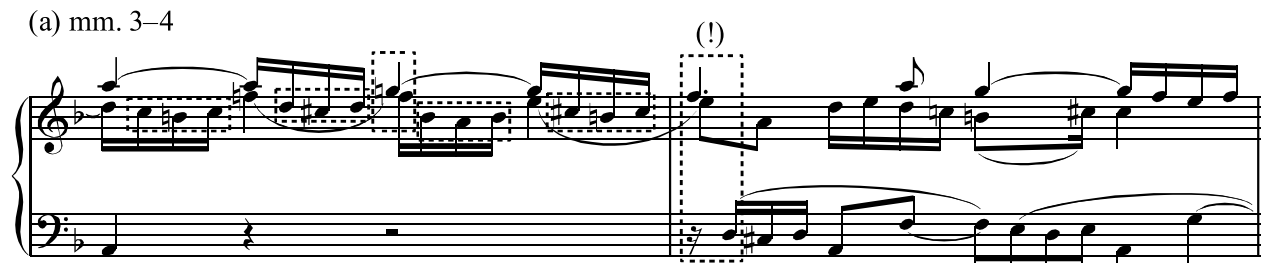
(3) **Line.** This document's primary focus has been on the relationships between musical lines and the treatment of dissonant intervals. However, as the discussion of ambitus above showed, it is also important to attend to the composition of the individual lines of contrapuntal music. After all, the beauty of good contrapuntal music lies not only in the (correctly configured) relationships between lines, but in the quality of the lines themselves. What do composers consider when crafting good musical lines?

²⁹ Given three voices in a tonal context limited to a diatonic collection, a minor 3rd is the smallest possible interval these voices can achieve.

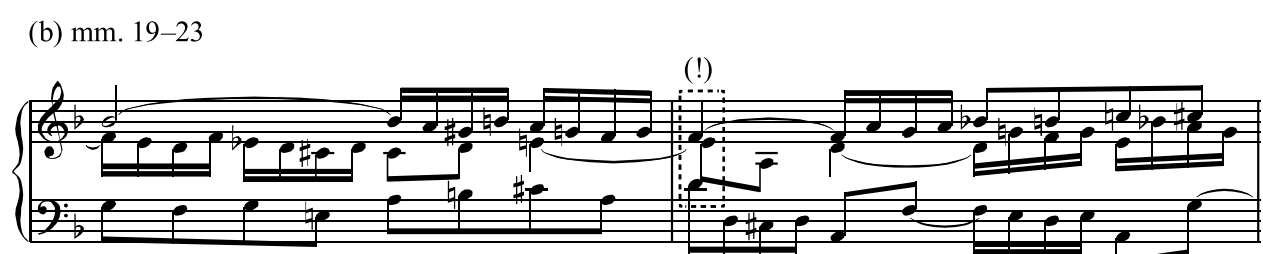
³⁰ For other pieces by Bach that go through similar processes of compression, see the Prelude in C Major (from Well-tempered Clavier, Book I) and the Prelude in G Major (from the First Suite for Solo Violoncello).

Figure 20 J.S. Bach Sinfonia in D Minor

(a) mm. 3–4



(b) mm. 19–23




Like contrapuntal music in general, the beauty of a particular line usually results from the balance and interaction of several different elements. Those given below offer musicians some useful categories for explaining the ineffable charm of good melodic lines.

- a. **Contour, Direction, and Ambitus.** The contour of a musical line is its basic shape. For a line to have a sense of direction, its contour will usually have no more than one high point. If the line is in the bass, it may have either a high or low point. This focal point serves as a goal for the line, such that the motion before it is heard as working toward the goal, and that which follows as leading the line to its conclusion. Musical lines that feature two or more high points (at the same pitch level) often suffer a perceivable loss of direction, as if the line is meandering along without goal or purpose. For examples of lines with a strong sense of direction, see the cantus firmus in Figure 18 and the subjects in Figure 19. As discussed above, the ambitus of a line also plays an important role in establishing its sense of space and relationship to neighboring lines.
- b. **Balance.** Balance is the general proportion of descending and ascending intervals in a melody. Melodies that exhibit good balance avoid excessive motion in the same direction. Balance does not pertain simply to the number of ascending and descending intervals, since a leap in one direction might balance several steps in the opposite direction. For example, the

subject of the C# Minor Fugue in Figure 19(b) is well balanced: its three descending steps evenly counter the single ascending leap. The other subjects presented in Figure 19 and the cantus firmus in Figure 18 are similarly well balanced. Occasionally, composers will deliberately leave a melody in what seems to be a state of imbalance. Consider the melody written by Mozart given in Figure 21:

Figure 21 Mozart Theme from Sonata in F Major, K. 332, mm. 1–12



The Sonata in F Major opens with a gesture composed almost exclusively of ascending leaps. While the first four measures are tonic-expanding and function as a presentation, their melodic construction also demands that the phrase continue to balance the ascending leaps of the opening with descending motion.³¹ By attending to the balance of a melodic line, performers can gain insight into the shaping of phrases in performance.

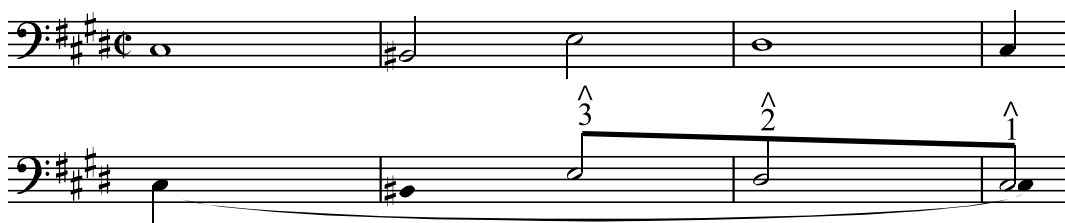
- c. **Linear Structure.** Many melodies have an underlying linear structure, a stepwise line to which every other melodic tone relates. Identifying the linear structure of a melody is a fundamentally interpretive process that involves studying its ornamental figuration and its implied contrapuntal and harmonic frameworks. Figure 22 presents four subjects and analyses showing the linear structure of each subject. In each analysis, the notes of the linear structure are represented by open note heads and are beamed together; other durational symbols, beams, slurs, and scale-degree markings are used to clarify the relationship of each note to the linear structure. With the exception of the C# Minor Fugue subject, each linear structure ends on the third scale degree, leaving the subject open to continuation.³² All four subjects also imply compound melodic structures. The C#3 that begins the C# Minor Fugue is prolonged through a lower neighbor that returns to tonic in m. 4; the connection of the B#2 to C#3 is shown by the slur. This lower voice is accompanied by the upper voice's structural descent from scale degree three to one. In the subject of the Sinfonia in D Minor shown in Figure 22(b), the structural ascent to scale degree three occurs above the repeated dominant tone A4, which serves as an inner voice in the three-part texture. The linear structures of the subjects in Figure 22(c) and (d) are similar: both structural lines descend from scale degree five to three, and both of these lines project compound melodic structures with a lower voice moving from scale degree one to three. In the G Minor Fugue shown in Figure 22(d), the lower line is articulated more strongly than those of the other subjects: notice that some of its notes are, like the upper voice, embellished with neighbor and passing tones. To clarify the linear structure, the notes of the structural lower voice are marked with downward stems. Finally, in each analysis, slurs are used to indicate prolongations that occur through neighbor motion (e.g. Figure 22(a), (b), and (d)), passing motion (Figure 22(c) and (d)), and chordal skips (Figure 22(b) and (c)). The passing motion in the G Minor Fugue subject is unique, in that it connects the lower and upper parts of the compound line. In Figure 22(d), the flagged note indicates that an upper neighbor tone prolongs scale degree five in the structural melodic

³¹ Music theorists commonly refer to phrases as beginning with a **presentation**, in which the basic ideas of the phrase are given. After the presentation, a **continuation** may follow, leading the phrase to its final **cadential** material.

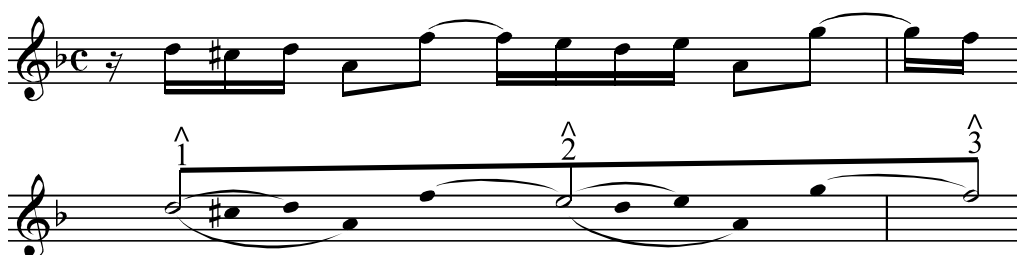
³² A majority of Bach's fugue subjects end on scale-degrees three or five.

Figure 22 Analyses of Four Subjects by J.S. Bach

(a) Fugue in C[#]Minor (Well-tempered Clavier, Book I), mm. 1–4



(b) Sinfonia in D Minor, mm. 1–2



(c) Fugue in C Minor (Well-tempered Clavier, Book II), mm. 1–2



(d) Fugue in G Minor (Well-tempered Clavier, Book I), mm. 1–2



line. The analytical symbols used in the analyses of linear structure suggest that the notes in a melody do not share equal weight and function. Further, by representing audible relationships between the notes, these symbols propose ways of hearing that may enrich listener's experiences.³³ Performers who study linear melodic structures can make informed interpretive choices and articulate the rich musical relationships found within individual melodic lines.

- d. **Rhythm.** The rhythm of a musical line in a contrapuntal texture establishes its expressive character, shapes and energizes it into a unique musical gesture, opens up possible rhythmic and contrapuntal relationships with other lines in the texture, and can segment musical lines into discrete ideas for motivic development. These four rhythmic effects are demonstrated by the subjects in Figures 19 and 22 and are described in greater detail below:
- **Expressive character.** The rhythm of the subjects in Figure 22(b) and (d) contributes to their contrasting expressive character. The stately D Minor subject is serious and unhurried, while the stormy G Minor subject proceeds with intensity and determination.
 - **Musical gesture.** The C Minor subject's rhythm in Figure 22(c), like that of the G Minor subject in 22(d), directs the motion forward to the final tone. In contrast, the austere C# minor subject of 22(a) features a relative increase in energy in the second measure followed by a return to the whole-note supertonic D# in m. 3 and decrease in forward energy.
 - **Rhythmic and contrapuntal relationships.** The rhythm of a subject also holds significant consequences for the composition of other lines in the counterpoint. Notice how the half and whole notes in the C# Minor and Bb Minor Fugue subjects, like the whole notes of a cantus firmus, invite a more active and varied rhythmic response in the countersubjects (see Figure 19(b) and (c)).³⁴ In contrast, the subjects in Figure 19(a) and (d) are more active, calling for a different quality of rhythmic treatment in the countersubjects. It is also common for Bach's fugue subjects to begin off the beat, which allows the later entrance of subject in other voices to be heard clearly, distinct from the downbeat arrivals of other voices in the texture. Subjects with notes held across the bar line create the possibility of suspensions, dissonances on the metrically strong downbeats, which allow subjects in other voices to enter on a dissonance or dissonance resolution, as shown in Figures 19(d) and 20(a) and (b).
 - **Motivic segmentation.** A subject's rhythm can segment that line into discreet motives for repetition and development, as occurs with the motivic units found in the D minor and G minor subjects in Figures 19(d) and 22(d).³⁵

Rhythm plays an essential role defining and energizing musical ideas in contrapuntal pieces. There is perhaps no better way to appreciate the role of rhythm than by recomposing subjects with a different rhythm. For instance, notice how the recomposed G minor subject shown in

³³ For an introduction to using slurs and other markings as analytical symbols to show hierarchical relationships and other musical patterns, see Allen Forte and Steven E. Gilbert, *Introduction to Schenkerian Analysis* (New York: W.W. Norton & Company, 1982). See also Allen Cadwallader and David Gagné, *Analysis of Tonal Music: A Schenkerian Approach* (New York: Oxford University Press, 1998).

³⁴ The **countersubject** in a fugue is the melodic material that occurs during and in counterpoint with the second entrance of the fugue's subject material, which is called the **answer**.

³⁵ In the Sinfonia in D Minor, the five-note motive heard twice in m. 1 is repeated and transformed throughout the piece (e.g. mm. 20–23). Similarly, both halves of the G minor subject find repetition and development through the fugue.

Figure 23 loses the motivic segmentation and driving character of the original and becomes slavishly tied to the metrically strong beats.

Figure 23 Recomposition of the Subject from the Fugue in G Minor (*WTC*, book I)



Attending to rhythmic structures and their contrapuntal consequences enables performers to articulate with intention and precision that complex interplay of pitch relationships and temporality that unfolds in tonal music.



This document has explored some of the rich linear, contrapuntal, and harmonic contexts in which notes take on musical meaning. Without understanding the meaning of every note, the process of preparing music for performance becomes mechanical and repetitive. Mimicking other performers' ideas or getting by on sheer intuition or stylistic competency only goes so far. It is incumbent on musicians to approach complex pieces of music with analytical tools that will help them understand and clearly articulate the various relationships that occur within it. The concepts and analytical techniques discussed in this document provide musicians a robust set of tools for analyzing and interpreting contrapuntal pieces so that they might more effectively communicate their beauty in speech and on stage.

Bibliography

- Benjamin, Thomas. *Counterpoint in the Style of J.S. Bach*. New York: Schirmer Books, 1986.
- Cadwallader, Allen, and David Gagné. *Analysis of Tonal Music: A Schenkerian Approach*. New York: Oxford University Press, 1998.
- Forte, Allen, and Steven E. Gilbert. *Introduction to Schenkerian Analysis*. New York: W.W. Norton & Company, 1982.
- Fux, Johann Joseph. *The Study of Counterpoint* (from *Gradus ad Parnassum*). Translated and edited by Alfred Mann. New York: W.W. Norton & Company, 1965. First published 1725.
- Gauldin, Robert. *A Practical Approach to Eighteenth-Century Counterpoint*. Prospect Heights: Waveland Press, 1988.
- Green, Douglass, and Evan Jones. *The Principles and Practice of Tonal Counterpoint*. New York: Routledge, 2016.
- Kennan, Kent. *Counterpoint*. 4th ed. Upper Saddle River: Prentice-Hall, 1999.
- Kirnberger, Johann Philipp. *Die Kunst des reinen Satzes in der Musik* [*The Art of Strict Musical Composition*]. Translated by David Beach and Jürgen Thym. New Haven: Yale University Press, 1982. First published 1771–79 by Decker und Hartung.
- Jeppesen, Knud. *Counterpoint: The Polyphonic Vocal Style of the Sixteenth Century*. Translated by Glen Haydon. New York: Dover, 1992. First published 1939 by Prentice-Hall.
- Lester, Joel. *Compositional Theory in the Eighteenth Century*. Cambridge: Harvard University Press, 1992.
- Owen, Harold. *Modal and Tonal Counterpoint from Josquin to Stravinsky*. Belmont: Schirmer Books, 1992.
- Parks, Richard. *Eighteenth-Century Counterpoint and Tonal Structure*. Englewood Cliffs: Prentice-Hall, 1984.
- Petty, Wayne C. *Basic Tonal Analysis: A Guide to the Analysis of Tonal Music*. Unpublished manuscript, 1997.
- Piston, Walter. *Counterpoint*. New York: W.W. Norton & Company, 1947.
- Salzer, Felix, and Carl Schachter. *Counterpoint in Composition: The Study of Voice Leading*. New York: Columbia University Press, 1989.

- Schenker, Heinrich. *Kontrapunkt [Counterpoint]*, Books I and II. Vol. 2 of *New Musical Theories and Fantasies*. Translated by John Rothgeb and Jürgen Thym. Edited by John Rothgeb. Ann Arbor: Musicalia Press, 2001. Translated edition first published 1987 by Schirmer Books. Books I and II of the original edition were first published in 1910 and 1922.
- Schubert, Peter. *Modal Counterpoint: Renaissance Style*. 2nd ed. New York: Oxford University Press, 1999.
- Schubert, Peter, and Christoph Neidhöfer. *Baroque Counterpoint*. Upper Saddle Creek: Pearson, 2006.
- Thakar, Markand. *Counterpoint: Fundamentals of Music Making*. New Haven: Yale University Press, 1990.

Twenty Questions: A Guide to Counterpoint, Linear Analysis, and Dissonance Treatment

Summary Handout

- 1. Consonance and Dissonance.** Dissonant intervals are: all 2nds, 7ths, augmented, diminished, and P4ths above the bass. All other intervals are consonant. Consonant intervals are free and essential dissonant intervals are bound. Special attention must be given to dissonances to determine if they are ornamental or essential and to follow their preparation and resolution.
- 2. Resolution of Essential Dissonances.** If a dissonance is essential, it will usually resolve according to the patterns given below. The dissonant notes and intervals are circled, and arrows show the proper direction of resolution. Note that the dissonant note is the top note, except in 2nds. Dissonant notes resolve down by step, except in +4ths. When P4ths occur above the bass, the bass must remain static or repeat at the octave through the resolution. Exceptional dissonance resolutions include dissonance prolongation, transferred dissonance, transferred resolution, and embellished resolution, which are covered in Q17 in “Twenty Questions.”

The diagram illustrates the resolution of essential dissonances for five intervals: 2nd, 4th, +4th, 5th, and 7th. Each example is shown on a grand staff (treble and bass clefs). The dissonant note is circled, and an arrow indicates its resolution. The +4th interval is labeled "expands" and the 5th interval is labeled "contracts".

Interval	Dissonant Note (Circled)	Resolution
2nd	2	3
4th	4	3
+4th	+4	6
5th	5	3
7th	7	3
7th	7	5
7th	7	6

- 3. Essential vs. Ornamental Dissonances.** Unlike bound essential dissonances, ornamental dissonances need not resolve according to the guidelines given above. Ornamental dissonances are not part of the essential contrapuntal structure, but rather embellish this structure as passing tones, neighbors, suspensions, retardations, and pedal tones. Ornamental dissonances can often be identified by their free resolutions and subordinate, ornamental relationship to an essential contrapuntal tone. For more information on ornamental dissonances, see Q11–15 in “Twenty Questions.”
- 4. Chordal Dissonances.** Chordal dissonances occur in inverted seventh chords and are found in the figures 6/5/3, 6/4/3, and 6/4/2. The bolded numbers (5, 3, and 2) represent the bottom note of a chordal second that occurs above the bass. In a chordal dissonance, the bottom note is dissonant and must resolve down by step. Interestingly, some chordal dissonances are contrapuntally consonant, creating the category of “bound consonance.” Also, chordal dissonances cancel the dissonant character of other notes above the bass, such as the “4” in 6/4/3 and 6/4/2, rendering them free.
- 5. Dissonance Approach.** Essential dissonances are usually approached in the voice in which they occur. (For exceptions, see Q17.) If the dissonance is approached by static motion, the dissonance is prepared. Show the preparation by drawing a curved, dotted line between the note of preparation and the dissonance. If a dissonance is approached by step or leap, it is not prepared, and its approach can be shown with a solid, straight line between the dissonance and the note that approaches it. Label all unprepared approaches by the approach-resolution figuration pattern they form (P, N, or App). For more on dissonance approach, see Q8 in “Twenty Questions.”
- 6. Leading Tones.** Leading tones, like essential dissonances, also tend to resolve in a particular manner. Leading tones usually resolve up by step (see Q17 and 19 for exceptions). All leading tones should be circled, labeled (“LT”), and marked with a straight arrow showing its resolution. Keep in mind that as a piece’s tonal center changes, so will its leading tone. Secondary leading tones, found in secondary dominant-functioning harmonies, should also be marked. The leading tones in the example above are correctly marked. For more on leading tones, see Q18 in “Twenty Questions.”

Step-by-Step Guide to Linear Analysis

- 1. Complete a figured-bass analysis.** Mark augmented and diminished intervals in the figures with (o or +). Do not use Roman numerals. When helpful, first simplify the music by completing a rhythmic reduction.
- 2. Circle essential and chordal dissonant notes and the figures that indicate them.** Ornamental dissonances can be put in parentheses and labeled P, N, Susp, Ret, or Ped. Only Susp, Ret, and Ped are shown in figures.
- 3. Draw straight arrows showing the resolution of bound dissonances.** If a dissonance is transferred, show this transfer using a straight line. If a dissonance is prolonged, show the prolongation using curved, solid lines.
- 4. Draw solid lines showing the approach to unprepared dissonances and label with P, N, or App.** Draw a curved, dotted line showing the approach to prepared dissonances.
- 5. Circle all leading tones and draw straight arrows showing resolution.** Also mark secondary leading tones. If a leading tone is transferred, show this transfer with a straight, solid line.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 1: J.S. Bach Chorale “Christus, der ist mein Leben”

Each of these four sample analyses follow the step-by-step instructions provided in the “Twenty Questions” handout. **Please note:** the ornamental suspensions in m. 3 are not rearticulated but are created by the sustain of the notes of preparation, the F4’s that occur on beats one and three. These dissonant notes of suspension are indicated by small red noteheads. In m. 5 and m. 6, changes in tonal center are given to indicate where new leading tones become active.

Comments:

The musical score is presented in two systems. The first system contains measures 1 through 4, and the second system contains measures 5 through 8. Annotations include circled letters (a-i) pointing to specific musical features, and labels such as 'LT' (Leading Tone), 'P' (Preparation), 'Susp' (Suspension), and 'IN' (Incomplete Neighbor). Below the staff, linear analysis figures are provided for each measure, showing the sequence of notes in figured bass notation. Some figures include circled numbers indicating specific notes of interest.

System 1 (Measures 1-4):

- Measure 1: F: 5 5 6 6 / 3 3 3 4
- Measure 2: 5 5 5 6 / 3 3 3 5
- Measure 3: (7)-6 5 5 / 3 5 3 (4)-3
- Measure 4: 5 3

System 2 (Measures 5-8):

- Measure 5: (7)-6 5 / 5 3
- Measure 6: (9)-6 5 / 5 3
- Measure 7: 6 5 5 F: 5 / 5 3 3
- Measure 8: (7)-6 6 6 5 / 3 3 5 3

Comments:

- a** The resolution of this leading tone to F3 in m. 1 is elided. See Figure 16 in “Twenty Questions.”
- b** The movements to E3 and G4 in the bass and alto are chordal, consonant skips [CS] that embellish the essential contrapuntal structure. CS are not shown in figures.
- c** The suspension is created through the sustain of the F4. The dissonant F4 is indicated by the added red notehead.
- d** The A2 in the bass is another CS. CS’s are not shown in the figures.
- e** “IN” means incomplete neighbor. The dissonant 9th created by the D5 does not resolve according to the guidelines explained in Q6; it is ornamental.
- f** The 9-6 suspension is caused by the change of bass that occurs at the resolution. Without this bass change, the suspension would clearly be 9-8.
- g** The D3 in the bass is a CS and is not shown in the figures.
- h** Bach commonly resolves leading tones at cadences up a fourth to the chordal third of tonic harmonies.
- i** At PAC’s, Bach usually resolves the leading tone down a third to the chordal fifth of the tonic harmony.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 2: Beethoven Piano Sonata in C[#] Minor, Op. 27/2, i, mm. 1–7

In the figuration of Beethoven's "Moonlight" Sonata, the three upper voices each occupy a specific position within the beat: the soprano is on the third eighth note, the alto on the second, and the tenor on the first. Given this texture, following the Sonata's linear structure is fairly easy. However, pay close attention to dissonance treatment in m. 4.

Comments:

Comments:

- (a) The "P" indicates the passing figuration created by the approach and resolution of the dissonant B1.
- (b) The curved, dotted line shows the preparation of the dissonant 7th (F[#]4) in the following measure.
- (c) Given the 6 and 4 above the bass, the C[#] and E cannot serve as stable tones of resolution of the leading tone and dissonant 7th from beat 1. The C[#] prolongs the leading tone as an upper neighbor. The F[#] passes through E to D[#] and remains unresolved at beats 2 and 3. For further information, see Q17, part (2), in "Twenty Questions."
- (d) At beat 4, the unresolved dissonant 7th (F[#]4) from beat 1 is transferred down an octave into a lower, inner voice before resolving down by step in the following measure.
- (e) Like in the Bach Chorale in the first sample analysis, the leading tone at this PAC resolves down a third to G[#]3.
- (f) One striking effect of the dissonance transfer in m. 4, which submerges the top voice's dissonance into a lower voice, is that the register around G[#]4 is cleared. Consequently, the entry of the G[#]4 on beat 4 seems to hover far above the arpeggiations that continue beneath it.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 3: J.S. Bach Prelude in D Major (*WTC*, book I), mm. 1–13

The figuration of the D Major Prelude outlines a linear and chordal structure that is clarified in the rhythmic reduction below the staff. When performing linear analysis of more ornate textures, simplifying the music using rhythmic reduction can be a useful tool for determining voice leading relationships and dissonance treatment. Analytical markings are provided on both staves for comparison. Comment indicators are given between the staves. Unless labeled otherwise, ornamental notes are passing.

The score shows the first 13 measures of the D Major Prelude. The treble staff contains the main melody with various ornaments and grace notes. The bass staff provides a harmonic accompaniment. The rhythmic reduction below the bass staff simplifies the texture, showing the underlying harmonic structure. Analytical markings include 'LT' (Linear Treatment) and 'P' (Passing) with arrows indicating voice leading. Circled letters a through g mark specific points of interest. Fingerings are indicated by numbers 1-5. Chord symbols are provided at the bottom.

Chord symbols at the bottom:

- D: 5 3, 6 3, 7 5 3, 7 5 3, 5 3, 6 3
- A: #4 2, 6 3, 6 4 3, 7 5 3, 7 5 #, 5 3, 6 3
- e: #4 2, 6 3, 6 4 3, f# (7) 5 #, Tonic Pedal (vii⁰/iv), 8 6 4, (#9) (#7) 6 4, (vii⁰) (V)

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 3: J.S. Bach Prelude in D Major (*WTC*, book I), mm. 1–13

10

11

12

13

5 3 (i)

e: 7 5 3

Tonic Pedal (9) (#7) 6 (4) (vii°)

D: 7 5 3

Comments:

- a** This analysis interprets the dissonant D5 as prepared in m. 1. Alternatively, the D5 could be heard as passing from E5 in m. 2, beat 1 (not shown in the reduction). The first option is privileged in this analysis based on the inner voice played by the pianist's left hand, which clearly prepares the dissonant 7th. Throughout the Prelude, this inner voice often doubles a voice in the right hand (thus, a four-voice reduction); here, it also clarifies voice leading.
- b** Through a voice-exchange, the leading tone is transferred to and resolved in the inner voice in the bass staff. The texture is simplified in the rhythmic reduction, where the leading tone is shown to resolve in the alto.
- c** On beats 2 and 4 of m. 3, the figuration leaps up to ornamental dissonances C#5 and A5. These notes are interpreted as passing tones, implying that they follow from D5 and B5, respectively. On beat 4, the B4 is easily heard as a displacement of the B5 from which the A5 proceeds. Similar leaps to passing tones occur in mm. 4, 6, 7, and 10–12.
- d** The leading tone is transferred to another register for resolution. The F#4 on beat 4 turns the E5 into a bound consonance.
- e** Mm. 6–7 repeat mm. 3–4 at the level of the dominant.
- f** The harmonies formed above this tonic pedal are given using Roman numerals below the staff. Above a pedal tone, most dissonances may be considered ornamental. In this case, the P4 is interpreted as essential. The applied and diatonic leading tones drive mm. 8–9 to the downbeat of m. 10. In this analysis, the contrapuntal dissonances are only shown with parentheses on the reduction.
- g** The B4 and E#4 on beat 1 are both transferred up one octave before resolving.
- h** The leading tone is transferred through a voice exchange here and in m. 12.
- i** The contrapuntal dissonances above the tonic pedal are interpreted as ornamental.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 4: Beethoven Piano Sonata in F Minor, Op. 2/1, ii, mm. 1–8

Like that of the Bach D Major Prelude, the contrapuntal structure of this movement is embellished to form its elegant--and distinctly Classical--phrases and texture. This contrapuntal structure is provided beneath the linear analysis itself; it shows the foreground of the music without its ornamental dissonances, including the suspension figurations in mm. 2, 4, and 8.

Comments:

a The contrapuntal structure of this parallel period* involves a play between intervallic, parallel 3rds and 6ths and their relationship by inversion. Further, the 3rd outlined by the melody in m. 1 (A4-F4) is heard in inverted form in m. 2 in the cadential 6/4, the A4 having been transferred to the lower register.

b The contrasting idea of the antecedent phrase* reasserts the A-F relationship outlined by the basic idea in m. 1, now articulated by two voices, the soprano and alto. In other words, the contrapuntal structure suggested in the melody of m. 1 finds fuller expression in the upper voices in m. 3. At the cadence in m. 4, the third relationship is maintained (compare to m. 2).

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Sample Analysis No. 4: Beethoven Piano Sonata in F Minor, Op. 2/1, ii, mm. 1–8**Comments, cont.:**

b [Cont.] The C5 attained in m. 3 plays a number of subtle and expressive roles: (1) it serves as the focal point of the phrase, achieving the high point promised by the grace note in m. 1, (2) it reaches higher than what might have been expected (A4 on top in beat 1) based on the opening gesture (C4-A4), and (3) by making good on the promise of the opening grace note, it inverts the opening parallel sixths so that the antecedent may proceed in parallel thirds, adorned as they are by suspensions.

In this analysis, the B $\flat$ 4 in m. 3, beat 2 is treated as the essential contrapuntal tone and the C5 is understood as a rhythmic extension of the first beat. The suspension of the B $\flat$ 4 on beat 3 supports this interpretation.

c The leap to D5 suggests another inversion of an underlying contrapuntal third, as if an inner voice D4 suddenly reaches above the F4 to attain D5, setting up the parallel sixths that follow. This striving upward is intensified by the decorative embellishment of the leading tone's resolution (see Q17 in "Twenty Questions") with an appoggiatura.

d Following the dramatic ascent to G5 in m. 5, the consequent phrase* moves toward the cadence by drawing the upper voice back to the lower register. The descending steps on beat 1 outline the first third (D-B $\flat$) of a series of three, as shown below:



e In the reading given above, the move back to F4 is completed through a voice exchange on beat 3. G4's status as the structural upper voice on beat 3 is supported by the upper voice 9-8 suspension on the downbeat of m. 8. The contrapuntal structure given below the excerpt itself (on the previous page) offers a different outer-voice interpretation, positing the A4 on beat 2 as preceding the G4 on beat 3. However one understands the return to F4, the consequent phrase clearly employs register and inversion (of the upper voice relationship) in a manner that is breathtaking in its beauty and simplicity.

One final detail involving dissonance highlights how well crafted this phrase is. Notice how the tension in m. 5 is intensified by the outer voice essential dissonance +4, between B $\flat$ 3 and E5 in the outer voices. When this same outer voice dissonance reoccurs in m. 6, the E5 is heard as an ornamental dissonance, and the tension from the previous measure is gently resolved into the consonant D5.

*A parallel period refers to an 8-bar phrase structure consisting of two 4-bar phrases whose cadences proceed in a weak-strong relationship and whose basic ideas are essentially the same. In a parallel period, each phrase consists of a 2-bar basic idea followed by a 2-bar contrasting idea that prepares the cadence. The first phrase, called the antecedent, ends with a cadence that is weaker than that of the second phrase, which is called the consequent. The weak-strong cadential relationship and similarity of material binds the two phrases into a single period structure. In the excerpt above, Beethoven deploys a clear basic idea/contrasting idea division in the antecedent phrase. He challenges this structure in the consequent phrase, where the basic idea seems to continue without break toward the cadence in m. 8, a fact that also contributes to the heightened sense of tension that characterizes the second phrase of this period.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 1: J.S. Bach Chorale “Mach’s mit mir, Gott, nach deiner Güt”

Name: _____

Instructions:

- (1) Write the key of the chorale in the box provided. Then, follow the step-by-step guide to linear analysis provided at the end of the “Twenty Questions” document to analyze this chorale.
- (2) As you identify leading tones, keep in mind that the tonal center shifts to A in the second phrase. The tonal center returns to D in the third phrase, where it remains until the end.
- (3) Label the type and key of every cadence (e.g. “PAC/D”).
- (4) As you study the counterpoint, be aware that some unique harmonies are articulated only on off-beats (*e.g.* see m. 6, beat 2, and m. 7, beat 1). The dissonant intervals found above the bass note of these harmonies should be considered essential.
- (5) At two places in this chorale (m. 2, beat 1, and m. 3, beat 1), there are several possible ways to interpret the tones as either essential intervals or as consonant ornaments. At these places, use harmonic analysis and your knowledge of harmonic syntax and expansions to choose an interpretation that makes good harmonic sense.
- (6) When determining the figured bass symbols at m. 2, beat 4, measure the intervals above the bass note C#4. Though this note appears above the tenor on the score, in performance, it will sound an octave lower. Keep this fact in mind when measuring the interval between bass and tenor.
- (7) Using the space and staves on the second page, sketch out at least two plausible harmonic reductions to m. 5 based on the different ways of interpreting the tones in this measure as essential or ornamental. Below the reductions, explain which reduction seems most convincing, and why. Your analysis of the score below should reflect the interpretation that you find most convincing.

Cadences:

Key:

A:

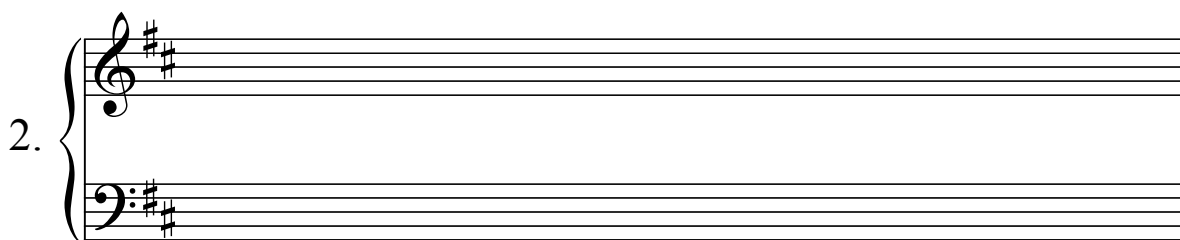
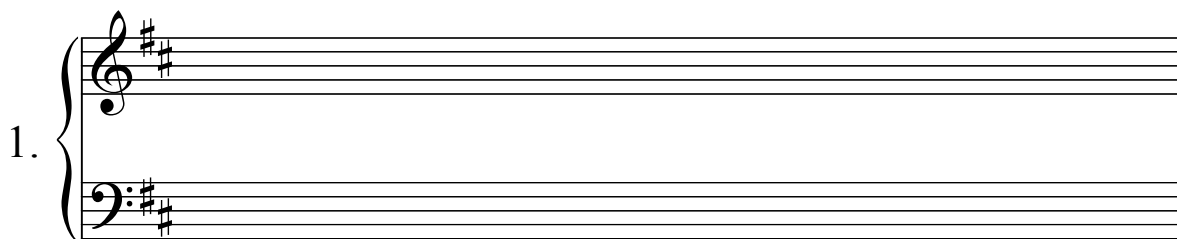
D:

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 1: J.S. Bach Chorale “Mach’s mit mir, Gott, nach deiner Güt”

Harmonic Reductions of m. 5:

Notate these reductions in four voices using quarter-note or half-note chords. In your comments, refer to the reductions using their designated number (1 or 2).



Comments about reductions:

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 1: J.S. Bach Chorale “Mach’s mit mir, Gott, nach deiner Güt”

The answer key and commentary for Assignment No. 1 is provided for verified instructors in a separate document on *Music Theory Pedagogy Online*.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 2: Beethoven Piano Sonata in C[#]Minor, Op. 27/2, i, mm. 7–28

Name: _____

Instructions and Questions:

- (1) Take some time to review the sample analysis of the first seven measures of this sonata movement provided at the end of the “Twenty Questions” document and to listen to the entire movement while following the score. (A public-domain score to this sonata can be downloaded from imslp.org or accessed here: <http://tinyurl.com/BeethovenMoonlight>.)
- (2) Follow the step-by-step guide to linear analysis provided at the end of “Twenty Questions” to analyze the continuation of the movement given in this excerpt.
- (3) The tonal center of the opening of this excerpt is provided at its beginning. As you study the piece, be sure to mark where the tonal center changes so that you can correctly identify leading tones.
- (4) Label the type and key of every cadence (e.g. “PAC/E”) in the boxes provided above the staff.
- (5) In mm. 16 and 18, treat the B1 as the functional bass throughout the entire measure. The ways the dissonances above this bass note resolve will provide important clues regarding their status as essential or ornamental.
- (6) The excerpt ends on the dominant harmony of C[#] minor with the leading tone in the upper voice. Where and in what register does this leading tone finally resolve? When the leading tone does resolve, is its resolution satisfying? Based on your study of this passage, would you consider m. 28 to be a half cadence? Provide a short answer to all three questions in the space below. (You will need to download the score of this movement using the link above and study the counterpoint to answer this question.)

Cadences:

7

c#:

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 2: Beethoven Piano Sonata in C[#]Minor, Op. 27/2, i, mm. 7–28

11

14

Bass note for whole measure.

17

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 2: Beethoven Piano Sonata in C# Minor, Op. 27/2, i, mm. 7–28

20

23

cresc.

26

decresc.

p

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 2: Beethoven Piano Sonata in C[#]Minor, Op. 27/2, i, mm. 7–28

The answer key and commentary for Assignment No. 2 is provided for verified instructors in a separate document on *Music Theory Pedagogy Online*.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

Name: _____

Instructions and Questions:

- (1) Provide the key of the Prelude in the box provided. Then, follow the step-by-step guide to linear analysis provided at the end of the “Twenty Questions” document to perform a linear and dissonance-treatment analysis of the Prelude.
- (2) This Prelude has five voices, and each voice occupies the same metrical position in the figuration. Most dissonances resolve in the voice in which they occur, but there are some important exceptions that require careful attention and study.
- (3) Write in the key at the beginning of the piece. The tonal center of the Prelude shifts in m. 6 and again in m. 12. Please study these measures carefully and keep these changes in mind when identifying leading tones. Leading tones also occur in dominant-functioning triads and seventh chords. Dominant-functioning chords can be identified in the following three ways:
 - a. Quality--all dominant seventh and fully-diminished seventh chords are dominant functioning
 - b. Accidentals--chromatic tones (and the accidentals that indicate them) often signal applied dominants
 - c. Resolution--Altered chords that resolve down by fifth or up by a diatonic second may be dominant functioning
- (4) Label the type and key of every cadence (e.g. “IAC/C”) in the boxes provided above the staff.
- (5) One note in m. 23 is an ornamental embellishment and should be ignored in the figures. However, there are two notes that could be interpreted as ornaments, and whichever one is chosen, the other must be considered essential and non-ornamental. The note you choose as ornamental will likely influence (or be influenced by) how you understand the harmonic root and function of this measure.
- (6) How are most chordal sevenths in this Prelude approached? Are most chordal sevenths prepared or unprepared? (See Q8 in “Twenty Questions.”) List some places where chordal sevenths are not prepared. Consider the approach to F4 in m. 30 in light of your responses to the first two questions and dissonance treatment in this Prelude as a whole. What do you think is its significance? (Part 2 of Q19 in “Twenty Questions” is relevant to this question.)
- (7) Where, and in what register, does the dissonant F3 in m. 24 finally resolve? There are at least four possible answers, and your response should consider more than one possibility. Explain which possibility you prefer, in light of the discussion of dissonance treatment in “Twenty Questions” (especially Q17–19).

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

- (8) Consider the subject (provided below) that begins the C Major Fugue, for which the piece analyzed in this assignment serves as a Prelude. How might the Fugue subject be pertinent to the compositional issues discussed in (7) and (8)?



- (9) What is unusual about the resolutions at mm. 20–21 and 31–32? How might you explain or justify this voice leading? (See Q19 in “Twenty Questions.”)

- (10) Given your responses to questions (7) through (10) above, describe how dissonance treatment and counterpoint are used to create, build, and release tension and to reach closure over the course of the Prelude as a whole.

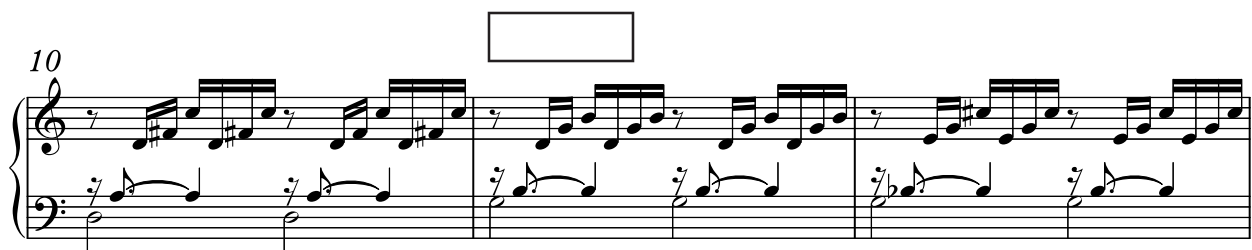
- (11) Is there a satisfying, conclusive authentic cadence (AC) at the end of the Prelude? What location(s) near the end of the piece could be an AC? At each possible location, what element(s) suggest an authentic cadence, and what element(s) resist it being heard as such?

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)



Key:



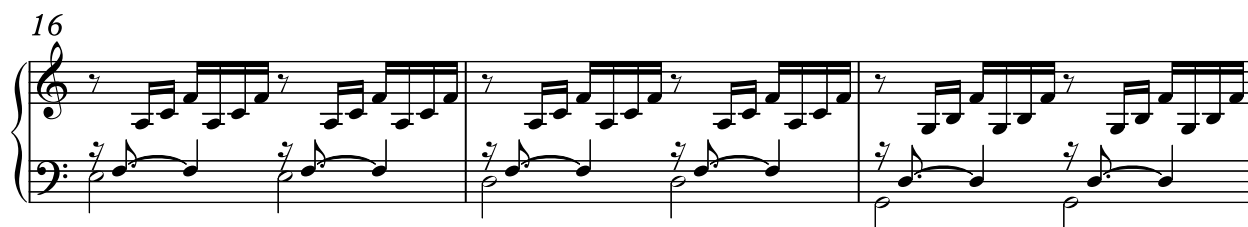
Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

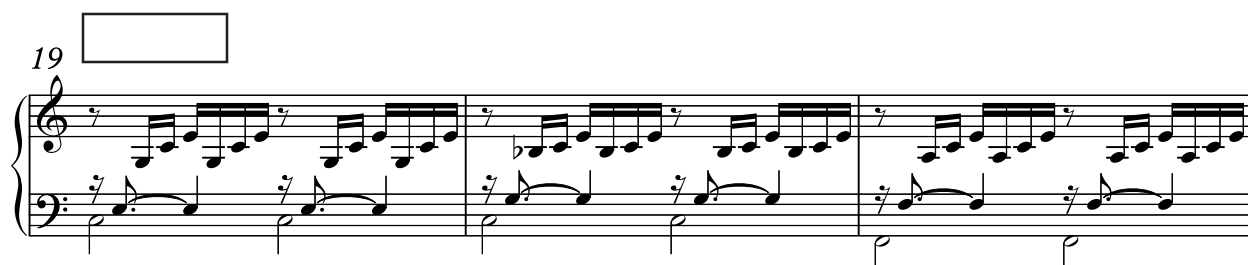
13



16



19



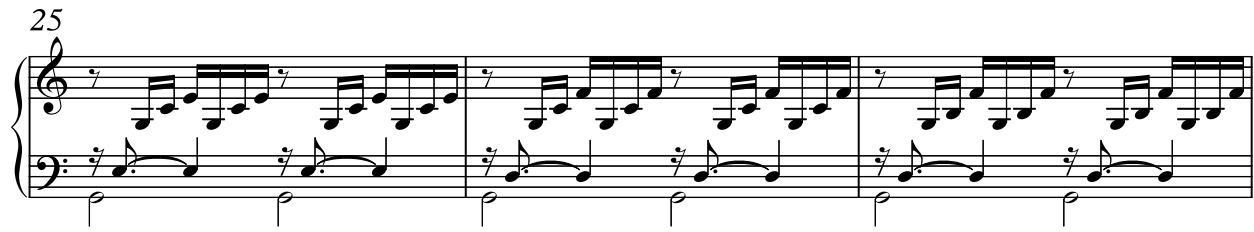
22



Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

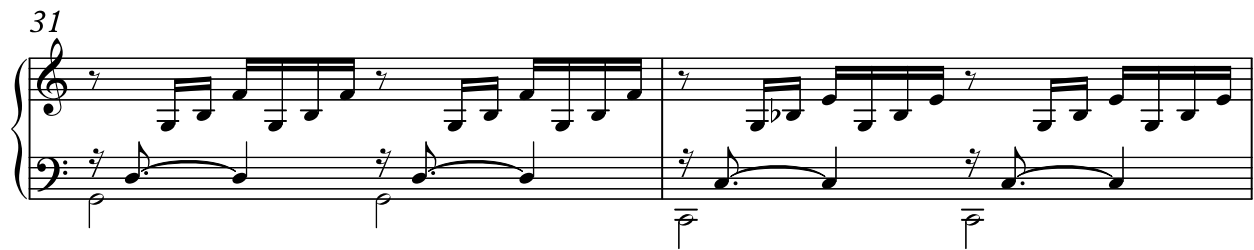
25



28



31



33



Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

Name: _____

Instructions and Questions:

- (1) Provide the key of the Prelude in the box provided. Then, follow the step-by-step guide to linear analysis provided at the end of the “Twenty Questions” document to perform a linear and dissonance-treatment analysis of the Prelude. The first four measures of analytical markings have been provided for you.
- (2) This Prelude has five voices, and each voice occupies the same metrical position in the figuration. Most dissonances resolve in the voice in which they occur, but there are some important exceptions that require careful attention and study.
- (3) Write in the key at the beginning of the piece. The tonal center of the Prelude shifts in m. 6 and again in m. 12. Please study these measures carefully and keep these changes in mind when identifying leading tones. Leading tones also occur in dominant-functioning triads and seventh chords. Dominant-functioning chords can be identified in the following three ways:
 - a. Quality--all dominant seventh and fully-diminished seventh chords are dominant functioning
 - b. Accidentals--chromatic tones (and the accidentals that indicate them) often signal applied dominants
 - c. Resolution--Altered chords that resolve down by fifth or up by a diatonic second may be dominant functioning
- (4) Label the type and key of every cadence (e.g. “IAC/C”) in the boxes provided above the staff.
- (5) One note in m. 23 is an ornamental embellishment and should be ignored in the figures. However, there are two notes that could be interpreted as ornaments, and whichever one is chosen, the other must be considered essential and non-ornamental. The note you choose as ornamental will likely influence (or be influenced by) how you understand the harmonic root and function of this measure.
- (6) How are most chordal sevenths in this Prelude approached? Are most chordal sevenths prepared or unprepared? (See Q8 in “Twenty Questions.”) List some places where chordal sevenths are not prepared. Consider the approach to F4 in m. 30 in light of your responses to the first two questions and dissonance treatment in this Prelude as a whole. What do you think is its significance? (Part 2 of Q19 in “Twenty Questions” is relevant to this question.)
- (7) Where, and in what register, does the dissonant F3 in m. 24 finally resolve? There are at least four possible answers, and your response should consider more than one possibility. Explain which possibility you prefer, in light of the discussion of dissonance treatment in “Twenty Questions” (especially Q17–19).

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

- (8) Consider the subject (provided below) that begins the C Major Fugue, for which the piece analyzed in this assignment serves as a Prelude. How might the Fugue subject be pertinent to the compositional issues discussed in (7) and (8)?



- (9) What is unusual about the resolutions at mm. 20–21 and 31–32? How might you explain or justify this voice leading? (See Q19 in “Twenty Questions.”)

- (10) Given your responses to questions (7) through (10) above, describe how dissonance treatment and counterpoint are used to create, build, and release tension and to reach closure over the course of the Prelude as a whole.

- (11) Is there a satisfying, conclusive authentic cadence (AC) at the end of the Prelude? What location(s) near the end of the piece could be an AC? At each possible location, what element(s) suggest an authentic cadence, and what element(s) resist it being heard as such?

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

The image displays the first ten measures of J.S. Bach's Prelude in C Major from the Notebook for Anna Bach. The score is written for piano in C major, 3/4 time. It features a continuous eighth-note pattern in the right hand and a bass line in the left hand. Below the first system, a key signature box is labeled 'Key:' and contains the numbers 5 and 3. To the right of the first system, there are three sets of harmonic analysis numbers: 6, 4, and 2; 6, 4, and 2; and 6, 5, and 3. The second system is marked with a '4' above the first measure. The third system is marked with a '7' above the first measure. The fourth system is marked with a '10' above the first measure. A small rectangular box is placed above the third measure of the fourth system.

Key: 5
3

6
4
2

6
5
3

4

7

10

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

13

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

25

28

31

33

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 3: J.S. Bach Prelude in C Major (from *WTC*, book I)

The answer key and commentary for Assignment No. 3 is provided for verified instructors in a separate document on *Music Theory Pedagogy Online*.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 4: Schubert, “Heidenröslein,” Op. 3, no. 3, mm. 1–16

Name: _____

Instructions and Questions:

- (1) Provide the key of the song in the box provided. Then, follow the step-by-step guide to linear analysis provided at the end of the “Twenty Questions” document to perform a linear and dissonance-treatment analysis of the first strophe of the song.
- (2) For this assignment, limit your analysis of dissonance treatment to the piano part. However, identify ornamental tones in both voice and piano as normal, enclosing them in parentheses and labeling their type (see Q11 in “Twenty Questions”). In the piano part, label the figuration type created by the approach and resolution pattern of each essential dissonance (see Q8 in “Twenty Questions”).
- (3) This song is homophonic: its texture consists of melody plus the four-voice chordal figuration in the piano. Most dissonances resolve as expected in the voice (*i.e.* the musical line, not the voice part) in which they occur. However, there are several exceptional dissonance approaches and resolutions that do not resolve according to the guidelines. Please refer to Q8 and Q17 as you study dissonance treatment in this song.
- (4) The tonal center of “Heidenröslein” shifts in m. 6 and again on the second beat of m. 11. Please study these measures carefully, write in the new tonal centers where they occur, and keep these changes in mind when identifying subsequent leading tones.
- (5) Label the type and key of every cadence (e.g. “PAC/G”) in the boxes provided above the staff.
- (6) The closing phrase in the voice (mm. 13–14) is repeated in the piano’s postlude (mm. 15–16). What are some of the similarities and differences between these measures?
- (7) The cadential status of m. 4 and m. 12 is one of the more complex questions in this piece. What musical features support hearing these moments as cadences, and what elements weigh against such a hearing?
- (8) The lilting melody in the voice includes a number of tendency tones (*i.e.* passing tones and dissonances), some of which do not resolve strictly according to expectation. Find and list some tendency tones in the voice that resolve normally, and also list some that do not resolve as expected. Discuss the dissonances you list that have unusual resolutions. What role does the piano play in resolving dissonances? How do unusual resolutions provide character to the voice part? (Continue your response on the back page if necessary.)
- (9) After you have completed your musical analysis, study Goethe’s poem (including its formal structure, poetic personae, poetic images, and their hidden meanings) and write on the back page three observations about how music and text relate. The best responses will consider both holistic features (like musical and poetic tone and structure) and the coordination of specific music-textual details (like punctuation and cadences, register, modulation, poetic and musical repetition, and changes in poetic persona).

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 4: Schubert, “Heidenröslein,” Op. 3, no. 3, mm. 1–16

Lieblich
(lovely)

Sah ein Knab ein Röslein stehn; Röslein auf der Heiden, war so jung und morgan schön,

pp

Key:

7

lief er schnell, es nah zu sehn, sah's mit vielen Freuden Röslein, Röslein,

cresc.

nachgebend
(yielding)

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 4: Schubert, "Heidenröslein," Op. 3, no. 3, mm. 1–16

12 *wie oben*
(as above)

Rös - lein__ rot, Rös - lein auf der Hei_____ den.

Text and Translation

Schubert's setting of Goethe's "Heidenröslein" is strophic in form: each of the three poetic stanzas below are set to identical music. The first strophe of the song is represented in the musical excerpt above. The translation below is freely adapted from Philip L. Miller, *The Ring of Words: An Anthology of Song Texts* (New York: Norton, 1963).

Sah ein Knab' ein Röslein stehn,
Röslein auf der Heiden,
War so jung und morgenschön,
Lief er schnell es nah zu sehn,
Sah's mit vielen Freuden.
Röslein, Röslein, Röslein rot,
Röslein auf der Heiden.

A boy saw a rosebud,
rosebud on the heath;
'twas so young and morning-fair,
fast he ran to see it near;
he gazed at it with great delight.
Rosebud, rosebud, rosebud red,
rosebud on the heath.

Knabe sprach: "Ich breche dich,
Röslein auf der Heiden."
Röslein sprach: "Ich steche dich,
Dass du ewig denkst an mich,
Und ich will's nicht leiden."
Röslein, Röslein, Röslein rot,
Röslein auf der Heiden.

The boy said: "I'll pick you,
rosebud on the heath."
The rosebud said: "I'll prick you,
so that you will always think of me,
and suffer it I will not."
Rosebud, rosebud, rosebud red,
rosebud on the heath.

Und der wilde Knabe brach
's Röslein auf der Heiden;
Röslein wehrte sich und stach,
Half ihm doch kein Weh und Ach,
Musst' es eben leiden.
Röslein, Röslein, Röslein rot,
Röslein auf der Heiden.

And the unruly boy picked
the rosebud on the heath;
the rosebud defended itself and pricked,
yet no grief and cries helped her,
she simply had to suffer.
Rosebud, rosebud, rosebud red,
rosebud on the heath.

Twenty Questions: An Introduction to Counterpoint, Linear Analysis, and Dissonance Treatment

Assignment No. 4: Schubert, “Heidenröslein,” Op. 3, no. 3, mm. 1–16

The answer key and commentary for Assignment No. 4 is provided for verified instructors in a separate document on *Music Theory Pedagogy Online*.