

# Figuring Out Melody

*A way of thinking about melodic figures and metric placement that is helpful in inventing and working out your own musical ideas, as well as hearing and performing others' with clarity and insight.*

David Fuentes

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## Preface: About the current .pdf version

People who like to classify things may have a hard time with this book. It's part theoretical treatise, part textbook, and part compendium of compositional strategies and affects. There are no doubt other things that it might have tried to be, or at least include. I suppose it would have been good to provide some historical perspective about the practice of writing unaccompanied melody in the Baroque style, as that topic comprises one third of the book. And it may have been helpful to make comparisons to other approaches to thinking about and composing melody. I guess that in the end, there are always more things that a book isn't than what it actually is, so I'll stop apologizing now.

Well, almost. This current version is not quite done. I plan to revise several chapters over the summer of 2010, finish the workbook (currently unavailable for public use), add a chapter on accompanimental figures, provide appendices and an index. I am putting it out on the world wide web at this point for two reasons. First, I'd love some feedback, especially if you hope to comment on the direction it already seems to be going. If you have an idea about a better musical example, an additional application of one of the techniques I show, or can think of one I should have included, I'd love to hear from you. Second, I hope that you find it useful in your own music making and music enjoying. I'd especially like to hear from you if something in the book has been able to clarify something for you or make you more excited about music.

You'll notice that you can hear the musical examples by clicking on the graphics in the .pdf. Depending on how your browser is set up, a new window is likely to open, and block you from viewing the music as it plays. The best way around this is to make the window that opens very small and move it to a place on the screen where it won't bother you. You might not notice that you can click on page numbers in the Table of Contents to jump to the first page of any given chapter, so I'll tell you.

You are welcome to use this material for your own personal edification, which for the rest of 2010 includes printing a personal copy if you wish. And again, I'd love to hear from you. Please include the title of the book in the subject line so your email doesn't look like spam.

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**T**his book is based on three ideas:

- 1) that melodies are made of common groupings of notes—of “figures”—rather than individual notes,
- 2) that these figures sound and behave differently depending on their metric placement (where their first and last notes fall),
- 3) and that once you become aware of melodic figures and how they line up with beats, you will have deeper insight into the musical intentions of great composers, and will be able to incorporate many of their techniques into your own work.

While these three ideas are not actually new, it’s rare to put much stock in them. But as soon as we do, it becomes possible to talk quite specifically about a whole slew of things that normally evade explanation. For example, “Why do we often get a clear sense of harmony from a single line of melody?” or, “What does it really mean to “develop” a melody?”

Rest assured that I have no intention of subverting existing wisdom on melody. Rather, I submit that by bolstering one’s understanding of many of the roles that melodic figuration plays, a person will come away with a sharper perception of both things we know, and things we take for granted.

If there is any doubt about how Beethoven composed, just check his sketchbooks. What we don't find is pages full of three- or four-note motifs with the last note crossed off each time. Instead, Beethoven writes out entire phrases, replacing or transposing whole groups of notes in each new version.

There's no standard way to talk about little groups of notes. The most common term is "motive" (or "motif"), commonly defined as "a small, recognizable grouping of notes that is reworked to construct larger musical ideas in a given piece of music." Still, different authors have different stipulations.

Many use the following terms interchangeably: motive, gesture, group, cell, segment, phrase, phraselet, figure, riff, diminution, coloration, or just plain "idea." In this book, however, "motive" and "figure" are not synonymous. A "motive" will be defined as it is above, implying that it is particular to one piece or section. A "figure" is something far more generic.

## MELODIES ARE MADE OF FIGURES, NOT INDIVIDUAL NOTES

Perhaps you've seen the skit on [Monty Python's Flying Circus](#) that shows Beethoven sitting at a piano in an agonizing search for just the right note to complete the opening melody of his *Fifth Symphony*? His wife compounds his frustration by interrupting with one trivial question after another, like whether he wants peanut butter or sandwich spread for lunch. The skit supports a common myth about composers: that we write melodies one note at a time. It's hard to know why anyone might believe this, because if true, music would be the only human endeavor where people work with fragmented bits of information rather than recognizable units—what psychologists refer to as "chunks."

An equally crazy notion is that composers have psychic powers, frantically dictating an entire composition in a moment of sheer inspiration before the apparition vanishes. In reality, composing begins with a small nudge of inspiration followed by huge amounts of perspiration. There may be spots where we fiddle with individual notes, but the largest amount of time is spent wrestling with small groups of notes, trying to get them to follow logically and interestingly from what just occurred, while suggesting possibilities for what might happen next.

This is most obvious in melodies built of repetitions of one or two motives. You'll see below that each group in this *Fifth Symphony* theme has the same structure: three repeated notes (unaccented), dropping to a fourth (accented) note. There's such a natural, free-flowing logic to the way that one *idea* follows the next that we're hardly aware of *individual notes*.

BEETHOVEN: *Fifth Symphony*, I, bars 6-10



Still, while all the motives have the same overall structure, the specific intervals don't match. Most are chordal skips (arpeggiation) in c minor, but then there's the neighbor motion of the A<sup>b</sup> to G in the second iteration. So we have one *motive*, worked out through two different types of *figuration*.

**Haven't I seen you someplace before?** As suggested above, not all melodies are built by reworking just one motive. Actually, most aren't. That doesn't mean that they have no recognizable patterns. They absolutely do. In fact, it is nearly impossible to compose a melody that is not made from small patterns we have heard thousands of times before. To demonstrate, let me show how this same principle holds true for words, using the previous sentence as an example. Numbers in parentheses refer to how many times each little phrase came up in an internet search.

"In fact" (107,000,000), "it is nearly impossible" (1,030,000), "to compose a melody" (1,670), "that is not" (132,000,000), "made from patterns" (6,230), "we have heard" (171,000,000), "thousands of times before" (75,700).

Although writers and speakers end up drawing from the same pool of short phrases, the way we group the

phrases into sentences is unique. For example, the sentence I just dissected, “In fact, it is nearly impossible to compose a melody that is not made from patterns we have heard thousands of times before,” is entirely original, thank you very much.

To sum up, there are two sorts of patterns we are apt to recognize in melodies: 1) motives, which become very obvious as they are asserted through repetition, and 2) figures, which feel so natural and familiar that it requires a little closer scrutiny to notice them—for a little while, at least.

**All tonal music is made from just three types of figures.** This isn’t so hard to believe if you recognize that there are only three ways to combine chord tones with non-chord tones. 1) With only chord tones, you get an arpeggio; 2) add passing tones to chord tones and get a scale; and 3) you can embellish chord tones with neighbor notes. Each type can be flexed, twisted, stretched out, or squashed down to produce specific figure shapes in each category. Plus, you can combine different types.

BACH: **Gigue**, bars 1–4, from *Violin Partita #2*

arpeggio      scale      scale      neighbor      scale      the last two are part neighbor, part scale, and part arpeggio

We can safely say that Bach didn’t actually invent the E Major triad, he merely chose it as his opening figure. The same holds true for the other figures I’ve marked. As with words, it’s *the context* – the way that individual figures are combined – that makes for an original statement.

**Rhythmic variety can personalize a figure.** Any given set of notes can sound generic or highly unique, depending on the rhythm a composer gives it. Let’s test this out by looking at five melodies that use the same figure, in this case a descending c minor scale starting on G.

BEETHOVEN: **Piano Concerto #3, I**

scale

BACH: **Fugue #2**, bars 1–3, from *Well-Tempered Clavier, Book I*

scale

R. STRAUSS: **Sonata in E<sup>b</sup>**, I, second theme

BEETHOVEN: **Third Symphony**, II, bars 1–4

scale      scale

**“There’s no such thing as a new melody. Our work is to combine the old phrases in a new way so that they will sound like a new tune.”**

– Irving Berlin

**Keep in mind that the figures introduced here are merely types. In the next several chapters, we’ll use (and name) specific versions of each type.**

**Once again, “repetition” in this melody is not literal: the end of Beethoven’s repeated phrase substitutes neighbor motion for arpeggiation – just as the Fifth Symphony did. In neither case was it necessary to do so; arpeggios were available. This is the sort of peculiarity we stand to learn a lot from, and will explore later in the book.**

Just because we can find a set of notes in a particular order with our eyes doesn't mean that our ears will hear them that way.

Before we can say what makes figures unique, we need to define what normal is. The same holds true for any area of study. For example, before we can talk about mental illness, we need to define what it looks like to be mentally healthy. (And this is tough. Aren't we all a little nuts at one time or another?)

DVORAK: Slavonic Dances, Op. 46, No. 7

Something feels strange about marking these notes as a figure, right?

Of the five instances of G-F-E<sup>b</sup>-D-C in these melodies, some are more memorable than others. There's practically a formula: the more uniform the rhythmic values, the more generic the figure. With this in mind, the two Beethoven excerpts are the most unique, and the Bach is the plainest. This is in no way a value judgement. Each treatment works well in its context. At the same time, there's something of a problem with labeling the appearance of G-F-E<sup>b</sup>-D-C in the Dvorák dance tune as a scale. (Read on.)

### METRIC PLACEMENT: FIGURES LINE UP WITH BEATS IN SPECIFIC WAYS

A melodic figure is not just a particular collection of notes in a particular order. To qualify as a figure, there needs to be some sort of convincing, musical clue that certain notes belong together. That's why marking the notes G-F-E<sup>b</sup>-D-C as a figure in the Dvorák dance tune didn't seem right. Wouldn't a far better parsing group the notes as follows, grouping notes to coincide with the main beats? While we're likely to hear bars 5-6 as one continuous idea (i.e., a "little phrase"), the grouping I've marked yields recognizable (conventional) figure patterns.

Meter is the main criteria in determining where a figure starts and ends. A rough comparison might be to the role that spaces play in helping us separate groups of letters into words as we read. With or without spaces, the same letters can have quite different meanings. For example, add one space to "God is nowhere," and get "God is now here."

Now I'd like to show two basic ways that meter not only helps us locate figures when we analyze, but that meter actually guides what we hear and how we think.

**1) Metric placement affects what we hear.** Let's take this 4-note figure , and repeat it in sequence three more times.



Look what happens when I take the exact same series of 17 notes and shift them so that the pattern begins on a different portion of the beat each time (versions b, c, and d). I actually get different music! Each version sounds different from the others, even though the notes are exactly the same. (Some slurs and articulation marks have been sketched in to suggest how we hear each pattern as it repeats.) Moral of the story: what we hear is not only dependent on the order of the notes, but where they fall in relation to each beat.

a) *implied harmony*  
D: I ii I IV

b) D: ii I IV V

c) D: I ii I (IV)

d) D: ii I IV V

**Eyes and ears have a tricky relationship in music. The ear is the primary organ, but what we see on a page—at least when music is notated properly—can reveal a lot about how our ears actually process musical information. The main issue, though, is learning to notice patterns so that you might master them.**

Details about implied harmony can be found in Chapter 1.

Something else happens when I redistribute these 17 notes: new figure-patterns emerge! Look below and you'll see that I've copied the first full beat of versions a-d from the previous example, each yielding a different pattern of notes. As I'll show later in this book, each of these different figures has specific musical affects which determine how they will normally be used, plus some possible special effects. The descriptions of each figure give but a little foretaste of what is to come.

a) **a 4-note scale:** *The smoothest outcome implies continuation by step, which explains the "choppy" feeling we sense from version (a) above.*

b) **a 3-note scale plus a small leap:** *The smoothest outcome implies filling in the hole. Version (b) above sounds somewhat agitated because the highest note of each iteration feels like a "goal," and comes on an upbeat.*

c) **two neighbor notes between a repeated pitch:** *The smoothest outcome implies continuation up by step. The placement of the leap in this figure makes the 17 notes seem like one gradually-ascending line.*

d) **a leap plus an extended pickup:** *The smoothest outcome implies continuation up by step. Version (c) above distributes pickup notes and goals (on each beat, this time) in a way that feels very natural, easy-going.*

**Each of these figures will get a name later in the book, which will make everything a lot easier to remember.**

**2) Metric placement also affects how we think.** Musicians have an intuitive connection between figures and beats, reflected in the way that notation has evolved. One of the best ways to demonstrate this is to play different metric notations of the same music. Go ahead and try this for yourself.

Beat-thinking is just as strong for people who read music as for those who play by ear. You can confirm this by spending some time with jazz or rock musicians.

MOZART: *Sonata in C, K. 545, bars 1–4*

The image displays two systems of musical notation for the first four bars of Mozart's Sonata in C, K. 545. The top system is the original notation in common time (C). The bottom system, labeled '(re-notated)', shows the same music with a 9/8 time signature and a 3/4 time signature, illustrating a different rhythmic interpretation.

In Mozart's version, the eighth note beams underscore a repeating four-note accompanimental pattern, such that the beginning of each group coincides with a beat. All the notes in each group belong to one harmony, in each case a familiar friend we recognize at a glance. In the melody, longer and shorter notes line up with the meter in a way that suggests a simple synchronicity with both the accompanimental patterns and harmonic rhythm. However, all these vivid relationships magically disappear in the re-notated version because the division into beats doesn't follow the music's inherent structure—its patterns, harmonies, and balanced rhythms. Even pianists who are familiar with K.545 find it nearly impossible to play smoothly when reading such a cockamamie notation.

**Which beat?** The time signature for Mozart's "Sonata in C" tells us to count half notes, but I have watched both players and listeners tap their feet to the quarter note pulse. What's more, the accompanimental figures in the left hand follow a 2-beat pattern, while the right hand figures seem to, well, be moving in larger swipes—four beats at a time. This highlights a rather obvious problem with saying that figures line up with beats: which beats are we talking about? Every beat? Just the strongest? All of them?

You're not likely to like my answer. Eventually, you "just know." What we have here is a "chicken and the egg" situation: "Which came first, the beat or the figure?" Saying this is in no way a cop out: beats are in large part defined by the figures that align to them. Try this: play the accompaniment part to K. 545 and ask whether you hear figures because of the beats, or beats because of the figures. (And then go play a video game or something to untangle your brain.)

So here's the plan. First, I'll introduce about a dozen melodic figures. I'll do this in a "controlled environment" (relatively uniform note values) so that the patterns are easy to keep track of. Then, once you're familiar with a basic set of melodic figures, you'll be able to spot them in more varied metric settings.

Now about that controlled environment. You may remember from a few pages earlier that varying the rhythm can make the same group of notes sound different. In fact, one very specific group of notes—G-F

Speaking of foot tapping, one has to wonder if there is a connection between the common nervous habit of young men to quickly jiggle one knee when seated, and the attraction to rock music styles that use a wicked-fast bass drum pulse.

-E<sup>b</sup>-D-C–occured in five melodies, but sounded unique every time. There happens to be a body of music that manages to achieve great melodic nuance and expression while maintaining (relatively) constant rhythmic values. Here, I refer to Baroque music. In particular, I’ll focus on Bach’s music for unaccompanied violin and ‘cello, although I’ll include several of his other melodies as well.

To enhance comparison in our learning environment even more, we’ll focus on 4-note figures as we learn the most basic patterns and principles. In short time, you’ll be able to transfer your skills and knowledge to shorter and longer figures, as well as to figures that use more variable rhythm.

**There’s an added simplification to studying music that moves in steady eighth or sixteenth notes: the beams group notes into figures, and make them especially easy to spot.**

## DRAWING INSIGHTS AND APPLICATIONS FROM FIGURES AND BEATS

So far, we’ve seen that melody is made of common note patterns we’re calling figures, and that these figures line up with beats in orderly and musically intuitive ways. In this last section, I’d like to go just a bit deeper with these ideas, in part, because it is really cool and world-changing, and in part because it sets the stage for what follows in the rest of this book.

To say that figures line up with beats in an orderly way is absolutely true, but there’s something far more important than organization going on. The melodic notes in each figure actually take on characteristic metric *energy*, such that we can feel the pull of “upbeat” as they move toward some future “downbeat” note. This up and down action happens again and again in music, but it never gets tedious because it plays out a bit differently each time, depending on which figures and harmonies are involved.

Learning about figuration, then, means getting a sense for which figures are likely to produce which effects in which musical contexts. On one hand, the number of possibilities is staggering; fortunately, everything happens in the same tiny arena: downbeat–upbeat–downbeat.

Another way to say this is that each beat is a goal, and the notes that come before it lead into it. Or not. Let me clarify. The normal thing to do with a musical goal is the same thing we do with any other goal: approach it directly. But musicians being people (OK, by most standards very odd people), sometimes we like to get a little fancy and show off. Actually, as you’ll see, in certain situations getting fancy isn’t really an option. Music sounds too geeky if we always take the straightforward solution. Then again, if you get fancy too often (or in the wrong places!), your music will sound all crazy-headed. So one thing I’ll do throughout this book is suggest when and how to use an unpredictable solution.

At the beginning of the chapter, we heard several descending c minor scales beginning on G. What if a composer wanted to use G and C as goals, but didn’t want to use a simple scale? This next example lists but a few other options.



Version a gets from G to C in the most direct way. Versions b-d getting from G to C in a less direct way.

Versions e and f sound intentionally indirect (but *deliberately* so!). And the last version, well, seems more interested in making a spiky shape than getting from here to there. The next example uses this spiky figure. We have to wonder whether Bach wrote a plain scale, heard that it sounded boring, and then revised it by substituting neighbor notes for passing tones. (Even if *he* didn't, *you* might, now that you know that this option.)

**Instructions for the technique of replacing passing tones come in Chapter 4.**

BACH: *Allemande* from *Keyboard Partita #2*

(possible first draft)

(actual)

I need to be up front about my objectives here. By getting you to treat certain notes as goals, I am, in a sense, hoping to strongly shape the way you think about music. Composers need to be able to see through (or better, “hear through”) apparent complications to the basic underlying structure, so that when a prototype is altered, its ghost still inhabits the passage and gives it cohesion and life. Soon (with a little help from the text), you’ll automatically find yourself examining other people’s music with a type of reductive imagination, looking for how they treat beats and figures, and getting ideas for your own music.

part one:

*the basics*



# 1

## harmonic melody

**W**hy do some melodies “make sense,” while other groupings of notes sound random? In part, getting the melody right means getting the harmony right. In other words, even a single melodic line, all by itself, needs to have a logical harmonic underpinning. But how? Doesn’t “harmony” mean “accompaniment?”

Normally, when musicians use the word “harmony,” we mean the way things called “chords” run their own circuit behind something else called “melody.” We automatically assume that if a melody needs harmonic support, there’d better also be an accompaniment, since we think of chords as vertical structures and melody as a single horizontal line. Hogwash!

This chapter starts off by showing a simple way to use chord tones to compose a melody. As long as you start with a reasonable chord progression, and you follow the stipulations about using non-chord tones, the melody you write will have a solid harmonic underpinning, and it’ll “make sense,” harmonically speaking.

Then, after you get a good feel for the “how” part, the rest of the chapter explains “why” it works.

Even if you can spell chords pretty quickly, you probably can't remember several different sets of chord tones all at once.

A professional composer can, which is why she can write so much faster and better than you. To give yourself an advantage, do what we did here – pencil in little stacks of chord tones. Sure, it seems tedious, but in a few months, your harmonic power will have increased exponentially.

Notice how we analyze:

- 1) Label the Roman numerals beneath the staff. (No need to label inversions in unaccompanied melody)
- 2) Label all chord tones above the staff, leaving non-chord tones unmarked. (This is explained on the next page.)
- 3) Whenever the leading tone is a chord tone, mark it "T" (for "ii" in solfege).

## How to WRITE A MELODY

**Step one:** Make a sketch by choosing one chord tone to put at the beginning of each beat. For now, limit your on-the-beat choices to either the Rt or 3rd. (We'll explain why and allow for other options later in this chapter.) Similarly, only use sevenths in dominant (and secondary dominant) harmonies.

G: I vi ii V V<sub>7</sub> vi ii V

**Step two:** "Connect the dots" with sixteenth notes (we'll incorporate other rhythms later on), keeping the following guidelines in mind: treat the note on the beat as a goal, use mostly step-wise motion as you do, and only leap between chord tones.

G: I vi ii V V<sub>7</sub> vi ii V

**Step three:** Listen critically, revising any spots that sound dull or awkward. Don't be surprised if most of it sounds pretty good already. Here, only two changes were made from the step 2. The first change is necessary: The 7th at the end of the first bar doesn't resolve properly. (We cover tendency tone treatments in a few chapters. For now, apply what you remember from harmony class.) The second change is optional: this time, the second to the last beat moves more directly to its goal.

G: I vi ii V V<sub>7</sub> vi ii V

now you try do 1.1-2

Everything you'll do in this book (plus every principle you'll learn) will be based on these three basic steps. So in case your memory isn't top notch, have them tattooed on your forearm.

Now, as promised, the rest of this chapter explains several important principles behind each step.



## RECONSIDERING NON-CHORD TONES

The traditional way to analyze (and think about) non-chord tones is to identify each note that doesn't belong to a given harmony and peg it with a name to describe its relationship to the surrounding note.

BACH: **Sarabande-Double**, from *Violin Partita #1*

The image shows a musical staff in G major, 9/8 time. The melody consists of several eighth-note groups. The first group has notes G, A, B, C, D, E, F, G. The second group has G, A, B, C, D, E, F, G. The third group has G, A, B, C, D, E, F, G. The fourth group has G, A, B, C, D, E, F, G. The fifth group has G, A, B, C, D, E, F, G. The sixth group has G, A, B, C, D, E, F, G. The seventh group has G, A, B, C, D, E, F, G. The eighth group has G, A, B, C, D, E, F, G. The ninth group has G, A, B, C, D, E, F, G. The tenth group has G, A, B, C, D, E, F, G. The eleventh group has G, A, B, C, D, E, F, G. The twelfth group has G, A, B, C, D, E, F, G. The thirteenth group has G, A, B, C, D, E, F, G. The fourteenth group has G, A, B, C, D, E, F, G. The fifteenth group has G, A, B, C, D, E, F, G. The sixteenth group has G, A, B, C, D, E, F, G. The seventeenth group has G, A, B, C, D, E, F, G. The eighteenth group has G, A, B, C, D, E, F, G. The nineteenth group has G, A, B, C, D, E, F, G. The twentieth group has G, A, B, C, D, E, F, G. The twenty-first group has G, A, B, C, D, E, F, G. The twenty-second group has G, A, B, C, D, E, F, G. The twenty-third group has G, A, B, C, D, E, F, G. The twenty-fourth group has G, A, B, C, D, E, F, G. The twenty-fifth group has G, A, B, C, D, E, F, G. The twenty-sixth group has G, A, B, C, D, E, F, G. The twenty-seventh group has G, A, B, C, D, E, F, G. The twenty-eighth group has G, A, B, C, D, E, F, G. The twenty-ninth group has G, A, B, C, D, E, F, G. The thirtieth group has G, A, B, C, D, E, F, G. The thirty-first group has G, A, B, C, D, E, F, G. The thirty-second group has G, A, B, C, D, E, F, G. The thirty-third group has G, A, B, C, D, E, F, G. The thirty-fourth group has G, A, B, C, D, E, F, G. The thirty-fifth group has G, A, B, C, D, E, F, G. The thirty-sixth group has G, A, B, C, D, E, F, G. The thirty-seventh group has G, A, B, C, D, E, F, G. The thirty-eighth group has G, A, B, C, D, E, F, G. The thirty-ninth group has G, A, B, C, D, E, F, G. The fortieth group has G, A, B, C, D, E, F, G. The forty-first group has G, A, B, C, D, E, F, G. The forty-second group has G, A, B, C, D, E, F, G. The forty-third group has G, A, B, C, D, E, F, G. The forty-fourth group has G, A, B, C, D, E, F, G. The forty-fifth group has G, A, B, C, D, E, F, G. The forty-sixth group has G, A, B, C, D, E, F, G. The forty-seventh group has G, A, B, C, D, E, F, G. The forty-eighth group has G, A, B, C, D, E, F, G. The forty-ninth group has G, A, B, C, D, E, F, G. The fiftieth group has G, A, B, C, D, E, F, G. The fifty-first group has G, A, B, C, D, E, F, G. The fifty-second group has G, A, B, C, D, E, F, G. The fifty-third group has G, A, B, C, D, E, F, G. The fifty-fourth group has G, A, B, C, D, E, F, G. The fifty-fifth group has G, A, B, C, D, E, F, G. The fifty-sixth group has G, A, B, C, D, E, F, G. The fifty-seventh group has G, A, B, C, D, E, F, G. The fifty-eighth group has G, A, B, C, D, E, F, G. The fifty-ninth group has G, A, B, C, D, E, F, G. The sixtieth group has G, A, B, C, D, E, F, G. The sixty-first group has G, A, B, C, D, E, F, G. The sixty-second group has G, A, B, C, D, E, F, G. The sixty-third group has G, A, B, C, D, E, F, G. The sixty-fourth group has G, A, B, C, D, E, F, G. The sixty-fifth group has G, A, B, C, D, E, F, G. The sixty-sixth group has G, A, B, C, D, E, F, G. The sixty-seventh group has G, A, B, C, D, E, F, G. The sixty-eighth group has G, A, B, C, D, E, F, G. The sixty-ninth group has G, A, B, C, D, E, F, G. The seventieth group has G, A, B, C, D, E, F, G. The seventy-first group has G, A, B, C, D, E, F, G. The seventy-second group has G, A, B, C, D, E, F, G. The seventy-third group has G, A, B, C, D, E, F, G. The seventy-fourth group has G, A, B, C, D, E, F, G. The seventy-fifth group has G, A, B, C, D, E, F, G. The seventy-sixth group has G, A, B, C, D, E, F, G. The seventy-seventh group has G, A, B, C, D, E, F, G. The seventy-eighth group has G, A, B, C, D, E, F, G. The seventy-ninth group has G, A, B, C, D, E, F, G. The eightieth group has G, A, B, C, D, E, F, G. The eighty-first group has G, A, B, C, D, E, F, G. The eighty-second group has G, A, B, C, D, E, F, G. The eighty-third group has G, A, B, C, D, E, F, G. The eighty-fourth group has G, A, B, C, D, E, F, G. The eighty-fifth group has G, A, B, C, D, E, F, G. The eighty-sixth group has G, A, B, C, D, E, F, G. The eighty-seventh group has G, A, B, C, D, E, F, G. The eighty-eighth group has G, A, B, C, D, E, F, G. The eighty-ninth group has G, A, B, C, D, E, F, G. The ninetieth group has G, A, B, C, D, E, F, G. The ninety-first group has G, A, B, C, D, E, F, G. The ninety-second group has G, A, B, C, D, E, F, G. The ninety-third group has G, A, B, C, D, E, F, G. The ninety-fourth group has G, A, B, C, D, E, F, G. The ninety-fifth group has G, A, B, C, D, E, F, G. The ninety-sixth group has G, A, B, C, D, E, F, G. The ninety-seventh group has G, A, B, C, D, E, F, G. The ninety-eighth group has G, A, B, C, D, E, F, G. The ninety-ninth group has G, A, B, C, D, E, F, G. The hundredth group has G, A, B, C, D, E, F, G.

Here is the same passage analyzed the way I'd like you to do it from now on. Notice that it takes the opposite approach about what to mark and what to leave blank. Some rationale follows.

The image shows the same musical staff as above, but with fingerings (R, 3, 5, 3, R, 3, R) and 'T' markings above the notes. The chord symbols b:i, iv, VII, III, VI, iv, V, V, i are written below the staff.

**1) Let's focus on the notes that create harmony**, rather than highlight (through marking) notes that contradict it. Marking the chord tones not only strengthens your understanding of harmony, but as you'll soon see, it helps prevent harmonic errors.

**2) Let's reinforce a wholistic approach to melodic ideas.** By thinking of non-chord tones as “something extra” – something that doesn't really belong – we fail to recognize them as full-fledged members of any figures they inhabit. Each melodic figure is a building block, and its non-chord tones are necessary to give it distinction.

Now that we have a sensible method for marking chord tones, you're probably wondering how to determine the harmony of an unaccompanied melody in the first place. The rest of this chapter shows the four basic factors involved: 1) a preponderance of chord tones, 2) timing (where the chord tones come in relationship to the beat), 3) leaps (to and from the right notes), and 4) context and common sense. You can remember them by using the acronym “PoT LuCk.”

### FACTOR #1: A PREPONDERANCE OF CHORD TONES

By analyzing the chord tones in melodic figures, we can quickly understand why we hear harmony from melody: each melodic figure is built mostly from chord tones. In the example below, made mostly of arpeggio figures, there are hardly any non-chord tones. But even in music made from scale and neighbor figures, chord tones far out-number non-chord tones. Think of it this way: to make chords, play several chord tones simultaneously. To make melodic figures, play chord tones one at a time.

**Learning to recognize figures will not only help you compose, it will improve your sight reading, analysis, and improvisation skills, too.**

BACH: *Allemande-Double*, bars 1–2, from *Violin Partita #1*

b:    i    ii°    V    i    VI    ii°    V    i    V    i

now you try    do 1.1-2

Even when chords change ahead of the beat (e.g., in jazz), we can tell that they come just ahead of the beat—even without drums.

## FACTOR #2: TIMING

Why did we mark a new harmony every beat in the previous example? Because like chords, each figure’s harmony is linked to the pulse. You’re probably already familiar with the phenomenon called “harmonic rhythm,” which, put very simply means the rate at which chords change. Chords never change erratically; there’s a pattern to the pacing. And that pattern always has a direct relationship to the music’s pulse. Namely, the most likely place for a chord change is right on a beat. Watch how muddled everything suddenly becomes when we disregard the meter and change harmonies any old place.

This is but one possible way to analyze the harmony incorrectly.

*the previous excerpt, analyzed incorrectly*

b:    i    iv    V    i    v    iv ...

So if harmonic patterns coincide with beats, doesn’t it make sense that melodic patterns (figures) do too? The following equation holds true in just about all cases: one beat = one harmony = one figure.

Outside of this book, “figurehead” isn’t used as a musical term. Its most common use is nautical—referring to the carved human figure or face at the front of a wooden ship. Oftentimes, a figurehead doesn’t look human at all, but like the carved volute at the top of a fiddle. Such figureheads are also called “fiddleheads,” the same name given

## FIGUREHEADS

Since melodic figures are made mostly of chord tones, and since harmony changes with the beat, it follows that the first note of a figure—the only one that falls on a beat—is going to be harmonically gravitational, a type of harmonic/melodic nucleus, if you will. (And you should.)

A “figurehead” is a chord tone we put on a beat for the purpose of writing figures. So in the melody-writing method introduced at the beginning of this chapter, you wrote figureheads, then used them as a framework—as regularly-spaced goals—for the figures that eventually made up the final melody.

## DID COMPOSERS REALLY PLAY CONNECT THE DOTS?

There’s no evidence that composers ever *consciously* used the figuration method presented in this text. However, when we examine what happens between beats of any tonal piece, a very consistent system emerges, such that it seems as though composers handled beats and melodic figures *intuitively*.

For us, studying how composers treat each beat as a goal provides a consistent way to make measurable comparisons from one musical situation to the next. This will lead to valuable insights: about basic compositional procedures (for example, which chord tones to use), variation (how to find more varied solutions to ordinary problems), and strategy (knowing why, how, and where to apply a more varied solution).

Each melody below contains a series of figureheads descending step-wise from C. Listen to how different composers fill them in differently.

BACH: **Allemande**, bars 10-11, from *Violin Partita #2*



MOZART: **Introitus**, bars 35-37, from the *Requiem*

BEETHOVEN: **Fourth Piano Concerto**, III, bars 21-24



CHOPIN: **Etude**, op. 25 No. 2



STRAVINSKY: **Rite of Spring**



now you try do 1.3-4

to young shoots of the ostrich fern, which are edible, provided you gather them before the tender coils unfurl too far—about the first or second week in May. Fiddleheads grow in abundance next to mountain brooks of northern New England, and locals harvest them with pocket knives. Incidentally, the German word for brook is “Bach.” And Beethoven, after hearing Bach’s music for the first time, is reported to have exclaimed, “This is no brook, this is an ocean!” bringing us to seaworthy vessels once again.

These examples might be a bit misleading in that figurehead outlines don’t usually make scales. A normal set of figureheads is a little more jagged; irregularities smooth out when you add figures. In fact, varying the space between figureheads when you sketch forces you to come up with less-predictable figures, which are potentially more interesting.

How can step-wise melodies define harmony? Don't steps create scales? (For that matter, how do we distinguish between "I love you" and "Isle of view?") Sections at the end of this chapter explore this question more fully.

### FACTOR #3: LEAPS MUST BE TO AND FROM THE RIGHT NOTES

It's easy to understand why arpeggio melodies sound "harmonic": putting all the leaps between chord tones defines the harmony exactly so. For instance, when we hear a leap from E to B in a figure, both notes sound like chord tones. Not only that, but we peg the root of the harmony as E because it's the only way to order the notes in thirds. There's a thinking involved; our ears do this automatically as we listen. For this reason, leaping to a non-chord tone can create a harmony you probably don't want (a big reason student melodies sound like student melodies).

*improper leaps*

b:      i            ii°            V            i            ii°            V

### ADDING NON-CHORD TONES WITHOUT WRECKING THE HARMONY

Imagine a figure's chord tones as forming a type of skeleton (or perhaps an exoskeleton, but with individual bones rather than a shell). We often add non-chord tones to fill in or embellish that skeleton. Here's the rule: any non-chord tones must attach to the chord tones by step.

Careful when using 7ths and 9ths. Sure, they're chord tones, but there are some stipulations about where and how to use them. See Chapter 5.

**Scale figures** A passing tone connects two different chord tones.

b:      i            ii°            V            i            VI            ii°            V            i

**Neighbor figures** A neighbor note embellishes just one chord tone. Here, each chord tone is before and after the neighbor.

b:      i            ii°            V            i            VI            ii°            V            i

In Chapters 3 and 4, you'll see other ways to include leaps involving non-chord tones.

now you try do 1.3-4

## FACTOR #4: CONTEXT AND COMMON SENSE

Play a C Major triad on a piano. Did you hear harmony? No, you heard a chord. There's a difference. A chord is a thing; harmony is a phenomenon. Harmony depends on relationships—hierarchical relationships. That C Major triad will be heard very differently, depending on its context. If we're in the key of C, it will sound settled. In the key of G, it may sound ornamental, or as if it is on the way somewhere. In the key of F, it will sound edgy; in need of resolution. How will it sound in the key of E Major?

Harmony can be indicated by a single note just as well as a chord. Say we hear a Symphony that begins with a big ol' sustained D in all the instruments. How likely is it that the D is the 3rd of a B $\flat$  harmony? Or the 11th of some kind of A chord? The key is common sense: something we automatically use when we are just listening, but suddenly abandon when we study. Yes, there's always a chance that one or two people might claim to hear something that the vast majority of listeners deem unlikely. This mustn't every dissuade us from learning what most people will hear.

Knowing that listeners make accurate assumptions about the harmony when presented with less than complete harmonic information, Haydn began a piece in b minor with a little joke: tricking listeners to believe that it begins in D Major.

HAYDN: **String Quartet, Op. 64, No. 2, in b minor**

**Allegro spirituoso**

*[vn. I]*  
*p*  
**D: I**  
*f*  
**b: V** **VI**

The principle behind what we are calling context and common sense in is known as “the law of parsimony,” or “Occam’s Razor.” It states: “All things being equal, the simplest alternative is most correct. What we often call intuition typically follows this principle subconsciously.”

Notice the double “punch line” as the surprising V7 resolves deceptively.

The Allemande excerpt below is a lot like what you'll encounter when you analyze unaccompanied melody out in the wild in that it contains a lot that is straightforward, plus a few spots that are “tricky.” Listen to it several times before looking at the analysis symbols and reading the tips that follow.

BACH: **Allemande, bars 17-22 from ‘Cello Suite #4**

**B $\flat$ : I** **E $\flat$ : V** **I** **V** **I** **c: V**  
**c: i** **V** **i** **iv** **V** **i** **V** **i**

*The interrupted treatment of this 7th is rare. It helps set off the next iteration of the idea.*

*There are several possible ways to analyze harmony during this sequential repetition. Note that this occurs in the middle of a phrase; the beginning and end are quite clear.*

These principles are written from an analysis perspective. Slightly re-worded, they provide good guidelines for composition.

**1) Recognize the obvious.** Whenever a figure contains scant harmonic information (just one or two chord tones), listeners assume: “It’s most likely I or V.”

**2) Locate the beginning and end of each phrase.** Expect most phrases to begin on I, sometimes V. Similarly, expect cadences to involve I and V (account for modulations, when necessary). Finally, your knowledge of harmonic rhythm will direct you to look for harmonic changes in logical places, such that the strongest changes are apt to occur on downbeats, then the strongest beats, etc.

**3) Hone in on characteristic voice leading.** Following from the previous point, expect a melody to encapsulate the most recognizable voice leading of a  $V^7$ -I resolution. Our Allemande excerpt contains the three examples: first, the opening melodic leap of a 4th most often indicates  $Rt \rightarrow Rt$ ; next, we can hear the motion of 7th  $\rightarrow$  3rd from beat 4 of bar 17  $\rightarrow$  beat 1 of bar 18 (and again during the next two beats); finally, we can hear “ti  $\rightarrow$  do” at the very end of the excerpt.

**4) Get a feel for downbeat and upbeat in a passage.** Most often, music that feels the most strongly downbeat will be tonic; music that feels the most strongly upbeat will be dominant.

**5) See accidentals as big clues.** Harmonies with accidentals are often the easiest to analyze, as they most clearly betray harmonic inclination. Statistically, most accidentals indicate secondary dominant function.

**6) Expect progressions to “make sense.”** Remember everything you learned about basic root motion in harmonic progression—things like following the circle of fifths, descending by third, ascending by step, etc. So in bar 19, we must rule out the F and  $A^b$  on beat 2 as iv, because  $V \rightarrow iv$  makes no sense, harmonically.

**7) How does it feel?** If the harmony of a passage doesn’t feel smooth and connected, don’t expect the harmonic progression to follow typical guidelines. The most typical spot for something like this to happen is during sequential repetition: places where a repeated pattern takes the driver’s seat (bars 21-22 above).

**8) Fill in the blanks.** If you don’t know what a particular harmony is on a certain beat, skip it, and find a place where you do recognize a clear harmony. Often, the less-obvious harmony will reveal its identity in context. (Sometimes, though, a composer will intend to be vague. See “harmonic double meaning” below.)

For your own work, it is a good idea to make every figure show a clear harmony until you get that skill under your belt (or wherever else you keep your skills).

## CLARIFY LESS-OBVIOUS HARMONIES

To compose effectively, you need to understand what an audience will infer from the cues you give us. For instance, if you write a figure that you think produces dominant harmony, but no one else hears it that way, you've got yourself a problem.

**1) Include the root of a secondary function chord** to distinguish vi from I, ii from IV, and iii from V.

B $\flat$ : I V vi V I V vi V

*foggy: We'll hear Tonic here, not vi.*

*clear: Putting in vi's Rt leaves no doubt.*

**2) Include the leading tone of a secondary dominant chord** to distinguish from diatonic equivalents.

B $\flat$ : I V ii V I V ii V

Notice how context also plays a role in what we hear. In the example above, the ii harmony on beat 3 of the first (wrong) version actually sounds more like IV until the V/ii is made clear in the revision.

now you try do 1.5-6

## THE RATIONALE FOR USING CERTAIN CHORD TONES AS FIGUREHEADS

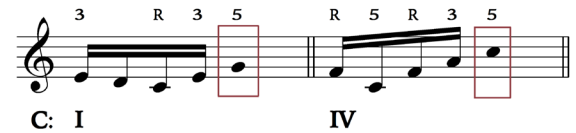
It's time to explain the simple suggestion we made early in the chapter: "For now, limit your on-the-beat choices to either the Rt or 3rd." The reason can be found by looking at your driver's license. Why does the Secretary of State use a picture of your face and not your foot, or your belly button? Because it makes sense to post your most distinguishing feature. It is the same with the Rt or 3rd of any harmony. Hear how this plays out when moving to a) tonic harmony, and b) subdominant harmony. As you listen, notice that 5ths are more ambiguous.

a) clear R 3 5 clear 3 5 questionable 5 b) clear R 3 5 clear 3 5 impossible 5

C: V I V I ii I? I IV I IV I IV?

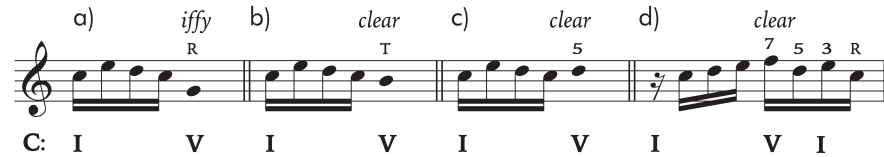
As you'll soon see, when used intentionally, harmonic ambiguity can be advantageous, allowing shifts of harmony to occur after a figurehead.

When you want to continue a harmony for more than one beat, using a 5th for the second or third figurehead is fine.



The potential problem with using the 5th as a figurehead arises when you hope to establish a *new harmony*, because a 5th is quite likely to be taken as the root of some other harmony. An exception comes with dominant harmony, which can be clearly projected by any of its chord tones (including the 7th). In fact, as we can hear from the example below, 5th can be more effective than the root when establishing V harmony. A lot depends on common tones, the subject of the next section in this chapter.

The Rt of V is listed as “iffy” and not “impossible” because context often determines whether or not we hear V. For example, when we expect a cadence, our ears will interpret any little clue as V.



When hearing just the 5th or the 5th & 7th, listeners typically hear V rather than ii.

## HARMONIC DOUBLE MEANING

Not every harmony in an unaccompanied melody will be crystal clear. Nor should it be. Composers don’t always want to be blunt; sometimes we want to mildly suggest a harmony, or create a possible double meaning. The thing to remember here is that if an experienced composer wants an audience to hear a specific harmony at a specific moment, he will provide all the clues we need. If not, it is not a deficit in his abilities (or the figuration system), but rather a matter of composerly choice.

Expect most figures with possible harmonic double meaning to share the same function. For example, it’s often hard to tell the difference between IV and ii. (We could say the same thing about V7 and vii°, but we already analyze them as one chord – see Appendix A).

**1) For a clear change of harmony,** use a figurehead that *is not a chord tone* from the previous beat. We will hear a change of harmony on the beat. Remember, keep your harmonic reasoning simple: we hear V and I more often than anything else. Examples on the previous page should suffice to clarify this idea.

**2) For a subtle shift of harmony,** choose *a common tone* from the previous beat as your figurehead.

Chord tones that clarify the new harmony can be brought in later in the figure, and that is where we will hear the actual change of harmony. Any common tone is good for this.



In each new figure, we don’t hear the actual change of harmony until after the figurehead, which is always a common tone with the previous harmony.

**3) (regarding analysis only) If you can’t tell, it probably doesn’t matter.** For harmony to be clear does not automatically mean that you will be able to find a definitive Roman numeral to fit every beat. So long as the general sense of direction is clear, there can be a few ambiguous spots along the way – places where there are two or more possible analyses, or places where the harmony is actually vague. (we already mentioned that this frequently happens in sequences.)



In the following example, it's hard to tell whether the third beat of the first measure is I or V (and either harmony makes equal sense).

BACH: *Courante*, bars 1–3, from *'Cello Suite #1*

However, this is not at all the case when Bach re-uses the descending  $\hat{5}-\hat{4}-\hat{3}-\hat{2}$  scale later in this section. (Notice that we've modulated to D.) Bar 12 begins with two beats of tonic (as did the opening bar of the piece), so at first, it might appear that the descending scale beginning on  $\hat{5}$  has the same harmonic options: hearing it as either tonic or dominant. This time, however, the figure beginning on A can't be heard as I because Bach is making a cadence, which makes us hear V at this spot.

BACH: *Courante*, bars 11–13 from *'Cello Suite #1*

now you try do 1.7-8

A beginner shouldn't try to pull off anything more complicated than possible reinterpretations of  $\hat{1}$  &  $\hat{5}$  as found in bars 1 & 2 here. It is actually more likely that you will create a problematic harmony than an ambiguous one. For this reason, until you gain confidence, do something rather unprofessional: show a crystal-clear harmony on every beat. Then as you begin to understand more about how figures work – especially regarding gesture and connection (the topics of the next two chapters) – you can *gradually* begin easing up regarding rigid harmonic clarity.

## points for review

- A single line of melody emits harmony because its figures contain mostly chord tones.
- Every figure starts with a figurehead—a chord tone that falls on the beat.
- (Most often) one beat = one harmony = one figure.
- Within a figure, leaps define harmony, so leaps should be to and from chord tones. Non-chord tones must connect to chord tones by step. (New possibilities appear in Chapter 3.)
- Non-chord tones embellish a figure's chord tone skeleton.
- You can control the degree of harmonic contrast by deciding which figureheads to use.
- Harmonic ambiguity and harmonic dimness are in no way flaws; in fact, composers intentionally vary the level of harmonic clarity within phrases as a means of expression and to aid in formal coherence.

# 2

## predictability

**N**ot that long ago, anyone who wanted to learn composition had to spend a few years doing something no student today would tolerate for a even few days: copy music by hand. Copying seems like a pointless assignment until you realize what an intelligent mind inevitably does with a mundane task: finds shortcuts.

At first, the inexperienced copyist would work one note at a time: look at G, copy G, look at A, copy A, look at B, copy B, and so on. But it wouldn't take long before he started assimilating groups of notes: look at G-A-B, copy G-A-B, look at C-B-C, copy C-B-C. And after a while, he could just glance at a group of notes—memorizing its shape and copying it perfectly without even thinking about note names.

Guess what happened when it was time to start composing; Did the student plod along one note at a time? Not likely! The figures he copied over and over would come to mind as gestures that he could combine to make his own melodies.

The information in this chapter can give you that same power in just a fraction of the time—without the painstaking work that prompted the invention of the xerox machine.

## BUT FIRST, A GENERAL OVERVIEW OF PREDICTABILITY IN MUSIC

Music is orderly, yet flexible. It follows well-established tendencies and conventions—although not in a rigid, stiff-shirted way. In any good piece of music, we know exactly what to expect: that the music will follow a relatively predictable course of events as it also yields a few surprises along the way—much like a good story. Although this chapter focuses on the way that melodic figures follow (and break) predictable patterns and behaviors, I'd like to set the stage by pointing out ways that predictability applies to other musical elements. We'll start with a piece of music that is extraordinarily predictable, and then look quickly at an excerpt that pushes the envelope.

TRADITIONAL: **Tune of the Tuna Fish**, as published in the *John W. Schaum Piano Method*

Tu-na fish, tu-na fish, sing a song of tu-na fish! Tu-na fish, tu-na fish, it's a fav'rite dish!

F: I V I I V I V I

Ev-ry bo-dy loves it so, from New York to Ko-ko-yo! Tu-na fish, tu-na fish, it's a fav'rite dish!

F: V I I V I V I

**1) harmony.** The only two harmonies in this entire song are I & V, which happen to be the two principal harmonies in all tonal music. V adds its predictable contrasting lift when it appears, then resolves predictably to I.

**2) cadences.** This 16-bar melody is comprised of four 4-bar phrases, although not all of the cadences (“endings” or “arrival points”) that close those 4-bar phrases are equal: the cadences in bars 8 and 16 are decidedly stronger than the ones in bars 4 and 13. Variation of cadence weight is entirely predictable, as is the formula for strong closure: V moving to I.

**3) melodic material.** We hear uses simple repetition on a number of levels in this song, all quite predictable. Starting with the smallest bits, we hear that the opening motive in bar 1 is repeated down a step in bar 2. Repeating an idea while transposing it is perhaps the most simple and common form of variation. That three of the four phrases begin with this same 2-bar “head motive” is quite conventional. Moving on, after establishing a pattern through repetition, we typically hear a contrasting idea. This happens in bars 3-4. Not only is the idea different in its melodic figuration and direction (an ascending scale rather than descending arpeggiation), but more importantly, in its length (one 2-bar unit rather than two 1-bar motives). This makes the music feel like it moves differently. It's a rhythmic change, not just a melodic

The words “cadence” and “phrase” are slippery terms in music, in that not everyone uses them in the same way. For instance, some musicians wouldn't consider the endings in bars 4 and 13 as cadences. However, in certain contexts, it makes sense to use terms more broadly in order to make apt comparisons—“apples to oranges,” so to speak. Despite certain technical differences, they bear significant similarities.

one. Finally, if we compare the music in bars 7-8 with the music in bars 3-4, we notice that the contrast here feels the same, yet different. The melody moves from F to C each time, but the trip takes four beats in bars 3-4, yet just two beats in bar 7.

**4) form.** We already mentioned elements of repetition and contrast within and between the basic 4-bar melody. Repetition and contrast operate on the larger level, as well, and in the most predictable schema possible: A-B-A. The contrasting B section, of course, comes in bars 9-13. Like many pieces, the return to A needn't be complete to provide an effective sense of return and closure.

**5) metric alignment.** Notice that every melodic idea and every harmony begins squarely on beat 1. Also, the accompaniment pattern is heavily weighted (down) at the beginning of each bar, and feels more upbeat on the upbeats.

Now let's take a look at a short excerpt that exhibits less-predictable features.

RODGERS & HAMMERSTEIN: *The Sound of Music*

The hills are a - live with the sound of mu - sic,

F: I ?

**1) harmony.** Once again, there are only two main harmonies. The song starts on tonic, but rather than a simple 3-note triad, Rodgers adds a 2nd (or 9th) to thicken up the harmony. Even more unusual is the harmony we hear in bars 3-4: not the standard harmonization of  $\hat{7}$ —nearly always V (occasionally iii). Actually, if we play the “correct” chord V under the word “music” it actually sounds *wrong*.

The hills are a - live with the sound of mu - sic,

F: I V

**2) cadence.** As just mentioned, the word “music” gets the most unconventional harmonic treatment imaginable. That it happens to occur at a cadential point makes it all the more significant (and weird).

**3) melodic material and meter.** This song is basically a big descending scale; no leaps at all (not even in the next several bars). Yet the melodic figure in the first bar doesn't begin with a chord tone as figure-head—the strongest note is the “too high” appoggiatura D (a pictorial reference to the “hills?”) rather than

the chord tone C. Also, the alignment of the melody with the meter utilizes predictable features of metric weight and upbeat, while at the same time, employing an asymmetrical contrast between the two melodic iterations. To hear this, focus on the way that each bit of the melody begins and ends. Which notes feel metrically “down?” Which feel metrically “up?”

Now that you have a bit of an overview of how various musical elements might receive predictable and non-predictable treatment, let’s turn our focus to the ways this principle affects melodic figures.

## MOST FIGURES HAVE ALREADY BEEN INVENTED

Perhaps what you’ve just read has spoiled the secret, but here it is anyway. The figures that work the best have already been used about seventy zillion times. In this book they’re called “predictable” figures for two reasons. First, they have conventional shapes. Each figure shape is given a descriptive name to help burn it permanently in your memory so that you can write its shape quickly, hardly thinking about individual notes at all. Second, predictable figures travel a predictable distance from figurehead to figurehead, meaning that there’s a conventional choice for filling in most gaps. (However, they also have fancier uses, which we’ll explore later.)

### Three predictable scale figures

The Run: D: I I

the Return: D: I I

the Roll: D: I I V I V I

Detailed description: Three musical examples of predictable scale figures in D major. Each example is shown in two parts: a 2/4 measure and a 4/4 measure. 'the Run' features a sequence of eighth notes with fingerings R, 3, 3, 5, 5, 3, 3, R, R. 'the Return' features a sequence of eighth notes with fingerings R, 3, 3, 5, 3, R, 3, 5, 3, 5, 3. 'the Roll' features a sequence of eighth notes with fingerings R, 3, R, R, 5, 7, 5, 3, 5, 3, 5, 7, 5, 3.

And here’s an example that uses all three.

### MOZART: Jupiter Symphony, Allegro vivace, bars 24-27

C: I V I V

Detailed description: A musical example from Mozart's Jupiter Symphony, bars 24-27, in C major. The example shows two staves: the right hand (treble clef) and the left hand (bass clef). The right hand features a sequence of eighth notes with fingerings R, 5, 7, 5, 7, 3, 5. The left hand features a sequence of eighth notes with fingerings 3, 3, 3, 5, 3, 5, T, 5, R, T. The figures 'Run', 'Roll', and 'Return' are labeled above the right hand staff. The chords I, V, I, V are labeled below the left hand staff.

Constructing each figure anew is a big waste of time. Conserve brain power for grappling with more significant matters.

Try a predictable figure first. If the obvious choice sounds boring, try a different predictable figure or invent your own.

Always think of passing tones in context: as inseparably linked to the figures they belong to rather than free agents.

We introduce more figures based on the 3-note scale later in the chapter.

## A BETTER WAY TO CONCEIVE OF PASSING TONES

Most of us think of a passing tone as a note that comes between two chord tones. While correct, it's also myopic. Can you imagine Bach saying to himself, "I have a D here, and an F# there, Now what, pray tell, might I possibly use between them?" Such thinking has no breadth, no recognition of pattern—the very things that gives music vitality.

Another conceptual problem is that even the term "non-chord tone" (a.k.a. "non-harmonic" tone) implies that certain notes are somehow inferior. Musically, this is far from true. While passing tones don't technically "belong" among the members that define this or that harmony, they are certainly fully incorporated into melodic ideas, giving them shape and distinction.

All in all, you'll have best success with figuration when you recognize that scale figures might have two different strategies, which are in large part determined by how their passing tones are used.

**1) A scale figure can establish harmony within a beat.** Two of the figures introduced on the previous page, the Return and the Roll, are built around something we'll call a "3-note scale." This is convenient, because most chord tones happen to be a 3rd apart from each other. The passing tone fuses them together. The specific profile of figures built around a 3-note scale depends on what the "fourth note" does. (In the Roll, the 3-note scale might come at the front or the end.)

The key to harmonic success with figures built around a 3-note scale is relatively simple: the outer notes must be chord tones. Why "relatively" simple? Because the extra distance between the 5th and the Rt means that a 3-note scale going up from the 5th or down from the Rt will fall short of the next chord tone and make bogus harmony. Drat!

D: I I ?

Here are two and a half ways to adjust a "3-note scale" to fit the 5th-Rt gap.

1) Make a faux 3-note scale between the Rt and 5th. When ascending, always leap to "ti" rather than from "la." When descending, do the opposite.

A: I V

2) Make the end of a problematic 3-note scale into a passing tone

A: I IV I

2.5) In any 7th chord, a 3-note scale going up from the 5th lands on the 7th, a chord tone.

A: V V

**2) A scale figure can focus on getting to the next beat.** Sometimes, clearly establishing an undisputable harmony within a figure isn't the top priority. Rather, the focus is on making an absolutely smooth connection to the upcoming figurehead (or beyond!). This is what Runs frequently do. The last note of a Run most often feels like a passing tone, whether or not it actually is one. For an example of Runs used in this way, look at the "Prelude" below.

## "MOST PREDICTABLE" DESTINATIONS

What's the most obvious use for a broom? Recognizing that it is designed primarily for sweeping floors, a broom has an additional number of good uses: removing cobwebs from ceiling corners, shooing away large spiders, or, by just using the stick end (in a sense, using it "backwards") one might retrieve a wayward iPod caught between a refrigerator and a wall. That said, we can also identify a number of poor uses for brooms: as a substitute for a pool cue, a toothpick, or a hammock.

Similarly, every predictable 4-note figure has several good and reasonable destinations (by "destination," we mean the distance from the figurehead of the predictable figure to the next figurehead). And there are a number of poor uses for any predictable figure, as well. How can we tell which destination is the most predictable? In part, the answer is nearly Euclidian, having to do with whether or not we can make "a straight line between two points." In music, the notion of a straight line is not always literal: lines which feel "straight" actually include subtle changes of direction. Predictability and unpredictability are determined by *where* such changes fall within each beat. (This will be explored further in Chapter 3.) We don't need to get all mathematical about this; our musical intuition provides a reliable gauge. The most predictable outcome will not only sound the smoothest, it will also be the easiest to play quickly.

Here are predictable destinations for the run, return, and roll; the most predictable ones are flagged.

**1) the Run.** The most predictable destination ends up a 5th away.

BACH: **Prelude**, from *'Cello Suite #3*

C: I V I V

Another frequent goal lies a 3rd away from the initial figurehead.

BACH: **Courante**, bars 14b-17, from *'Cello Suite #6*

A: I vi IV ii

**2) the Return.** The most predictable destination ends up back on the initial figurehead.

BACH: *Allegro*, bars 21-23, from *Brandenburg Concerto #6*, bars 21-23

Another frequent goal lies a 3rd away from the initial figurehead.

This application of the Return is somewhat less predictable, and a bit harder to play.

**3) the Roll.** With the Roll, we need to consider whether the 3-note scale comes at the front or the end of the figure. Either way, the most predictable destination is a step away from the initial figurehead.

a) When there's a little hole at the end of the figure, fill it.

BACH: *Allegro assai*, from *Brandenburg Concerto #2*

b) When there's a scale at the end, continue it.

HAYDN: *String Quartet, Op. 64, No. 5, Finale*, bars 63-66

This option is actually easier to play than when the little hole comes at the end, but for some reason, it is not used as frequently in the literature.

A roll with the little hole at the end can also keep leaping (typically, down a third).

HANDEL: *Adagio*, from *Sonata #3 for Violin & Piano*, bar 20

Here's what predictable figures sound like when used in unpredictable ways. It's hard to call them "wrong," but they're certainly agitated—and a bit harder to play than the one's introduced above. Try for yourself!

a) runs, used unpredictably      b) returns, used unpredictably      c) rolls, used unpredictably

now you try do 2.1-2



## OTHER 4-NOTE FIGURES THAT USE THE 3-NOTE SCALE

The roll has two close cousins: both are 4-note scale figures that contain a 3-note scale and a leap. However, because of variables in the direction of the scale and the size of the leap, they are neither as compact as the roll, nor do they return to the initial figurehead on the fourth note of the figure.

**1) the Contrary Leap.** The 3-note scale and the leap move in the opposite direction.

D: I I vi IV V I

**2) the Similar Leap.** The 3-note scale and the leap move in the same direction.

D: I I IV ii V I

Since Similar and Contrary Leap figures can stretch and shrink, depending on the size of the leap to or from the 3-note scale, they don't travel a fixed distance like Runs, Returns, and Rolls do.

Even so, there's still a "predictable" way to use Similar and Contrary Leap figures: put the 3-note scale at the end and connect to the next figurehead by step.

BACH: *Allemande*, from *Cello Suite #1*

Contrary Leap Similar Leap

(unpredictable)

Similar Leap Roll

The next chapter further explains smooth ways to connect less predictable figures. It also explains unpredictable treatments of predictable figures, like the leap from G to A in bar 3.

now you try do 2.3-4

**10:1 odds are that if you practice your instrument today, you'll play several dozen predictable figures in the first minute.**

**Appoggiaturas are not common in unaccompanied melody, except for certain 3-note figures, which you'll read about in Chapter 6. And instructions for writing appoggiaturas when other voices are present can be found in Chapter 19, along with some rationale about why we find them so satisfying.**

**Knowing about predictable figures doesn't dictate your every move, it just spells out the most obvious solutions so you don't waste time and energy figuring everything out from scratch.**

**Explore other options one figure at a time. Just changing one or two notes can have a drastic effect.**

**Don't hesitate to change your first version whenever you feel that your tune needs more zing.**

## PREDICTABLE SCALE FIGURES IN THE CLASSICAL STYLE

Even though our focus has been unaccompanied melody, we've included several examples from homophonic and polyphonic music along the way. By and large, the general guidelines for figuration apply, regardless of texture. The biggest difference, perhaps, is one of duty: an unaccompanied melody not only has to sound good, it must make a clear harmonic impression, as well.

Once you learn the patterns for the predictable 4-note scale figures, you'll start to see them practically everywhere. Depending on the style, though, chord tones and non-chord tones might work differently in homophonic and polyphonic pieces than what I've outlined for unaccompanied melody. For example, in the Classical Period, many predictable scale figures start with an appoggiatura.

MOZART: *Theme and Variations*, from *Piano Sonata #6 in D Major*, K. 284

The image shows a musical score for Mozart's *Theme and Variations*. The piano part is written in D major, 4/4 time. The treble clef part features a melodic line with a 'Run' figure. Two red boxes highlight specific intervals: '2 → 3' and '4 → T'. Above these boxes are the markings '(appog.)'. Below the treble clef part, chord symbols are provided: D: I, vi, ii, V, I, ii, V. A note indicates that a typical connection in a 'Run' is interrupted.

## ACHIEVING BALANCE: PREDICTABILITY AS A FUNDAMENTAL PRINCIPLE

When a composer uses a predictable melodic figure in a predictable way, the outcome will sound predictable. This is an equation, not a value judgement. However judgement does play a role: as a composer, you need to develop a sense for knowing when something predictable or unpredictable is called for, and you also need to know exactly how much or what to change to get this or that effect. Here's a good place to start. Always write the predictable solution first. Then listen to it, carefully and critically. Wherever it sounds dull, experiment with something less predictable. Often, changing just a note or one figure is plenty. The next examples pretend that this is how Bach worked. First, we hear the most predictable route between figureheads, then a simple switcheroo that makes the melody more interesting.

BACH: *Allemande*, bars 1–2, from *'Cello Suite #1*

The image shows two versions of the first two bars of Bach's *Allemande*. The top version is labeled 'possible first draft' and 'predictable', with red arrows indicating the flow. The bottom version is labeled 'actual' and 'not predictable', with red arrows and asterisks indicating changes.

BACH: *Courante*, bars 1–8, from *Cello Suite #1*

The image shows three staves of music in G major, 3/4 time. The top staff is the original score, with a circled '3' above the third measure. The middle staff is labeled 'possible draft' and 'all predictable', showing a sequence of eighth-note figures with red dotted arrows indicating a consistent upward motion. Below it is the figured bass: G: ii V I IV V. The bottom staff is labeled 'actual' and 'not predictable', showing the same eighth-note figures but with red 'X' marks and arrows indicating unexpected leaps. Below it is the figured bass: G: ii V I IV V I V I.

The alterations in this example are more extensive than the previous one. Notice that the figureheads have been moved to a new octave.

This will be the general approach throughout the rest of this book. New topics will be introduced by first learning formulas for achieving the predictable (or normal) effect. Afterward, we'll explore less predictable options—both by discussing strategy and by offering specific advice for what notes or chords to alter.

The more you understand about the predictable outcome of musical ideas—both in terms of the ways harmonic, melodic, and rhythmic forces dictate they should behave and the ways a general audience will expect them to behave—the more expressive control you will have when you compose. Unless you're just having one of those days when nothing comes out right.

now you try do 2.5-6

## LARGE-SCALE APPLICATIONS

Predictability can affect the overall mood of a passage. When we're hearing exactly what we expect, we sit back to enjoy the ride. On the other hand, we automatically perk up and listen harder when we have no idea about what might happen next. And there are other reasons that less-predictable music catches our attention: it's often flashier, more dramatic, and harder to play.

So goes the contrast in the following excerpt (marked "A B A"). Each bar of the (predictable) "A" section combines three predictable figures predictably to make longer, sweeping scales. A 2-bar pattern emerges. Suddenly in bar 7, Bach chops up the line into little 4-note jabs that shoot off in all directions! Notice that Bach is still using scale figures, but as mentioned a few pages back, these (the Similar and Contrary Leap figures) happen to be only somewhat predictable. The way Bach uses them here—applying frequent direction changes and spreading out to create large leaps—there's nothing predictable about them at all. In bar 10 the longer sweeping scales resume.

BACH: **Courante-Double**, bars 1–11, from *Violin Partita #1*

The image shows a musical score for Bach's Courante-Double, bars 1–11, from Violin Partita #1. The score is written in treble clef, 3/4 time, and D major. It consists of three staves. The first staff starts with a box labeled 'A' above the first measure. The second staff has a box labeled 'B' above the fifth measure. The third staff has a box labeled 'A' above the first measure. The music is a continuous melodic line with various rhythmic patterns and accidentals.

now you try do 2.7-8

### points for review

- Every element of music has both a predictable (conventional) and non-predictable treatment.
- Most melodic figures have already been invented.
- Many 4-note scale figures have contain a 3-note scale that determines their harmony.
- Predictable scale figures not only have recognizable shapes, but also predictable destinations.
- A good rule of thumb is to start with a predictable figures, then revise the parts that need more sparkle or punch.

# 3

## melodic motion in time

**B**ehind all musical motion lies a simple principle: instability yearns for stability. Harmonic instability yearns for resolution. Melodic instability yearns for cadence. And rhythmic instability, or upbeats, yearn for downbeats. In fact, the rhythmic motion of upbeats to downbeats is so strong, so prevalent, that musicians use the terms “upbeat” and “downbeat” as synonymous with “instability” and “stability,” whether we’re talking about rhythmic, harmonic, or melodic behavior.

In this chapter we take a microscopic view of metric stability and instability as it applies to melody. This might sound more scientific than musical, but you’ll find several practical applications that will not only help avoid common amateurish mistakes, but give you power to achieve smoothness and accentuation at a professional level.

## BEATS, UPBEATS, AND AFTERBEATS

We'll use the following three metric designations frequently in this book. Notice that they are not all qualitatively equal. Only the first refers to a specific metric position; the other two are types of motion.

**The beat.** No matter how many notes we hear in any particular beat, only one occurs precisely on the beat. We think of that note as “down” and everything else as “up.” Since each beat occurs in time, a beat isn't actually anchored down, it just touches down, much like a footstep on its way to the next footstep.

**Upbeat motion** approaches or leads into a beat. The archetypal upbeat motion starts off a beat and lands on the next beat.



**Afterbeat motion** pushes away from a beat. The archetypal afterbeat motion starts on a beat and stops before reaching the next beat.



Upbeat motion has a more intense need to land on the upcoming figurehead than afterbeat motion does.

## CONTINUOUS MOTION

Putting a note on every part of the beat leaves open the possibility for several different effects. Here are but three.

**In a melody with no leaps,** afterbeats meld seamlessly into upbeats, such that we're hardly aware of either.



**A leap at the front of a figure,** just after the figurehead, produces upbeat motion in the remaining step-wise group.



**A leap at the end of a figure,** just before the figurehead, produces afterbeat motion in the initial step-wise group.



A gesture that begins before the beat and lands on the upcoming beat is also called a “pickup.”

Continuous motion doesn't have to last for several beats for these comments to apply.

Keep in mind that we are talking about meter on a very small level of operation: one beat plus the next figurehead. Other principles will begin to kick in when we start considering several beats at a time.

## LOCATION, LOCATION, LOCATION

Notice that when steps and leaps are used in combination, the leaps cause the steps to group together into little gestures, smaller or larger than a whole beat (a whole figure). Hold that thought. Now notice that the size of the leaps in the previous two examples didn't affect on the smoothness of the line. Once you know where to leap, you can leap as far as you want. But be careful! Leaping in the wrong spot will cut off one of the little step-wise groups before it has a chance to land. Watch.

Both versions of Invention #11 use the same notes in the same order. Although the metric placement of the leaps changes in the second version, the actual intervals (all minor 7ths) remain the same both times. Now imagine that you lost a bet and have to sing one of these two versions all alone in front of a large audience. Which one would you choose? Audience members are holding water balloons.

BACH: **Invention #11**

a) as Bach wrote it



b) with the leaps moved to just before the beat



Think of each figurehead as a goal. The most sensitive place for a leap comes just before reaching a figurehead, the precise moment where upbeat motion is about to land. The most secure place for a leap is one note later – right after a figurehead.

## FORMULAS FOR SMOOTH AND HARD CONNECTIONS

The connection between figures consists of exactly three notes: the last two notes of one figure plus the next figurehead. (This holds true in any meter.) The proper placement of steps and leaps within a connection is essential to control the degree of smoothness or accentuation in a melody.

**When the last two notes move by step**, you must move by step to the next figurehead to get a smooth connection.



To interrupt a connection (to make an accent), leap between figures after step-wise motion in the opposite direction (if the last two notes ascend, leap down, and vice-versa).



Teachers have traditionally recommended composing mostly step-wise motion and strictly limiting the size and number of leaps in melodies to avoid scraggliness. However, as Invention #11 shows, such advice doesn't hold up in the literature, where frequent and large leaps abound.

We marked an accent in parentheses on beat 3 of bar 2 to show that Bach intentionally leaps away from stepwise motion. The player can't help but emphasize such a figurehead. In this case, he accents D because it initiates a cadential preparation.

The concept of a "hot zone" is convenient because it pinpoints areas of music that need special treatment. We'll continue to identify hot zones for topics in this book.

When leaping away from step-wise motion, it is best to leap from a chord tone.

Whenever you adjust a figure to make a better connection, it's always best to alter the notes just after the figurehead rather than at the end of the figure.

By the way, the predictable figures introduced in Chapter 2 had built-in smooth connections (when used in the most predictable ways).

**A common blunder.** After step-wise motion, a small leap in the same direction sounds like you tried to connect to the next figurehead but couldn't quite reach it. Sloppy, sloppy, sloppy! To make such a connection sound clean and deliberate, leap just after the figurehead and lead all the way to the next figurehead by step.

**When the last two notes leap,** almost anything you do will sound relatively smooth. The exception is a big leap, which gets some accent.

**Make a hole and fill it.** To get the most deliberate sounding connection with the pattern "leap-step," step in opposite motion to the leap.

step-leap  
inept

step-step  
clean

A small leap in the same direction as the step makes it sound like you've got lousy aim.

Leap earlier so you can connect by step.

leap-step  
just ok

leap-leap  
excellent

leap-big leap  
excellent

now you try do 3.1-2

## RESERVE HARD CONNECTIONS FOR SPECIAL OCCASIONS

Remember the discussion about balancing predictable and unpredictable music at the end of Chapter 2? Mostly the former, judiciously spiced up with the latter. Smooth connections are predictable; hard connections unpredictable. Most of your connections should be smooth ones. But unless you include some accents, your music will sound overly cautious and dull. Here are some situations where you may want to make hard connections.

**1) To juice up a favorite note,** to make it poignant, spunky, or whatever.

BACH: *Allemande*, bars 1–2, from *Violin Partita #2*

GERSHWIN: *Fascinating Rhythm*



## 2) To emphasize a cadence or cadential preparation.

BACH: *Sarabande-Double*, bar 31–end, from *Violin Partita #1*

Interrupt upbeat motion in a careless way and it will sound choppy and ameturish. Interrupt it in a deliberate way and it can sound brilliant.

**3) To set up a syncopated pattern.** Starting in bar 2, Bach makes smooth connections to beats 1 & 3 and hard connections to beats 2 & 4. Accenting weak beats produces syncopation; the pattern continues throughout the rest of the piece (the syncopation doesn't stop until the coda in bar 30).

BACH: *Prelude #5*, bars 1–8, from *Well-Tempered Clavier, Book I*

OK, so it ain't exactly Gospel music, but clap yo hands anyway if you get the urge. This isn't the only time that Bach accents every other beat with a hard connection; see *Invention #4* for another example.

## SOME ADDITIONAL WAYS TO ACHIEVE STRESS

Aligning leaps and steps with specific portions of the beat is but one way to emphasize a note. According to the formulas for connections introduced a few pages ago, all the connections in the following example are smooth. Still, the figureheads on beat 1 (and to some extent those on beat 3) still sound accented. Why? Because the melody changes direction on a strong part of a beat after a relatively long scale. The high C is the most accented of all because it's the longest (and also the highest) note of the passage.

Music might be one of the only vocations where stress is actually a good thing.

“Agogic accent,” the technical term for accent resulting from length or weight, is not to be confused with “accident” resulting from weight. In the early days of air travel, each passenger had to weigh in before boarding. The crew made some quick calculations, then assigned seats in a way that might avoid an unbalanced load.

In a ligature, a slur to the next figurehead makes a better analysis symbol than marking specific chord tones because the notes in a ligature belong more to the upcoming beat than they do to the current one. Think of a high school graduate looking forward to his first semester away from home.

BACH: **Fugue #2**, bars 13–15, from *Well-Tempered Clavier, Book I*



An anticipation also creates an accent, bumping into, rather than connecting to the upcoming beat.

BACH: **Courante**, bars 1–4, from *Cello Suite #5*



## INTRODUCING THE LIGATURE

If we take the upbeat principle to (or past) its logical conclusion, we end up with something like this: a melodic idea where all the notes after the figurehead lead into the next one. This is actually quite common, and we call it a ligature.

The best way to write a ligature is to start with the upcoming figurehead and *work backwards*, proceeding entirely by step.



**Dissonance.** Listen to and look at the previous example once again. Note that in every case, there is a dissonant leap after each figurehead. How can the melody sound so good with so many “infractions?”

There is absolutely nothing wrong with dissonance, so long as it resolves. In the case of a ligature, that means following through to its intended goal. Listen what happens when the previous example’s ligatures don’t follow through properly.



**Discernment.** Notice that the ligature ends with a 3-note scale, which can make it practically indistinguishable from some of the scale figures we learned in the last chapter. Technically, the difference depends on whether or not the leap occurs between two chord tones. But such things only matter to geeks. So why should anyone else care? Because figures and ligatures *do* different things, and as a composer, you’ll want to have a full cadre of options for how to direct and shape your melodies.

- A figure’s top priorities include making a clear harmony and an interesting shape. Controlling the means of connection—smooth or hard—also matters a great deal.
- A ligature’s sole purpose is to make a strong link that embellishes the upcoming figurehead. Harmonic clarity hardly factors into the equation.

That said, sometimes you’ll set out to write a scale figure, and discover it behaves just like a ligature; or you’ll write a ligature, and find that the leaps are between chord tones. The important thing is to keep your

intentions clear, because they'll likely determine what happens next. To clarify things in your own mind, analyze differently: label the chord tones of figures, and mark ligatures with slurs.

**Harmony.** Most ligatures sound great, so long as you follow the directions above (starting with the upcoming figurehead and working backwards). However, some don't. Why? As mentioned above, harmony is not a top priority with ligatures, but that doesn't mean that the leap after the figurehead won't inadvertently suggest a harmony you don't want—or not suggest one you do.

*The A here contradicts any notion of V.*

*Better to just go with V than a ligature.*

**Nomenclature.** Ligatures come in two flavors: the Sweep has no direction changes during its route to the upcoming figurehead; the Curlicue hooks around from above and below.

**Application.** Using ligatures will add tremendous flexibility to your writing, Learning to plan ahead and sketch backwards is probably a composer's best kept professional secret. It yields the power to execute daring gymnastic moves that always land on their feet. Here are two such examples that involve somewhat longer ligatures.

BACH: **Minuet II**, bars 5–9, from *English Suite #4*

**Always listen to your ligatures to make certain that they don't conflict with the harmonic needs of the moment.**

**Another possible glitch with ligatures has to do with leading tones. See chapter on tendency tones.**

**Most often, the Curlicue goes beyond the upcoming figurehead, then circles back, but it doesn't have to.**

MOZART: *Allegro molto*, bars 66–73, from *Symphony #40*

The musical score is presented in two systems. The first system contains four measures. The first measure has a figured bass of  $B^b: I$  and an ornament (R) above the first note. The second measure has a figured bass of  $V$ . The third measure has a figured bass of  $IV$  and a triplet (3) above the first note. The fourth measure has a figured bass of  $I$  and ornaments (R) above the first and third notes. The second system also contains four measures. The first measure has a figured bass of  $IV$  and a triplet (3) above the first note. The second measure has a figured bass of  $I$  and an ornament (R) above the first note. The third measure has a figured bass of  $V$  and a fourth-note triplet (4->) above the first note. The fourth measure has a figured bass of  $T$  and an ornament (R) above the first note.

now you try do 3.3-4

### points for review

- Musical ideas tend to end on a beat.
- All by itself, most single figures are incomplete, as the afterbeats look forward in time to make some type of convincing landing on the next figurehead.
- Most of the time, that landing will be smooth. However, sometimes we make hard connections for interest and import.
- Writing a leap in the wrong place not only sounds like a mistake, it make the music harder to perform.

part two:  
*modifications*



# 4

## love thy neighbor

**A**dmit it. One reason you became a musician is because deep down, you like to show off. One of your secret dreams is to play faster, louder, and higher than anybody else on the planet. You want people to be so stunned when they hear you play that they fall on the ground in shock.

You're really going to like neighbor figures.

Passing tones have a humble purpose in life: to unobtrusively connect chord tones into smooth melodic strings. Neighbor notes are more daring—they flagrantly disregard the simplest, most direct route to the next chord tone and make a fancy side step, zany zigzag, or loopy flounce instead.

One problem. Neighbor figures scare most students off because they look incredibly hard to write. Not so. The way to see through the flimflam is to find the underlying structure: the figureheads and the chord tone skeleton. If you can do this (and it's actually not that hard), you'll have several foolproof ways to impress your friends.

Later on, “auxiliary” will come to mean more than just a neighbor note. The concept of “auxiliary motion” will prove essential to musical structure. For example, there’s such a thing as auxiliary chords.

## [1] THE AUXILIARY

Technically, “auxiliary” refers to a neighbor note that comes between two identical chord tones. An “auxiliary group,” then refers to all three notes. However, since the middle note wouldn’t be a middle note without the outer two, it’s safe to use the word “auxiliary” to peg all three notes, which is what we’ll do.

Mindset is important: any time you encounter an auxiliary, say to yourself, “Can’t fool me, that’s really just one chord tone made into a simple sandwich.” In most styles, the middle note is almost always a lower rather than an upper neighbor.



The primary reason to write an auxiliary is to “activate the rhythm.” In other words, rather than just playing one note, you can turn that note into an auxiliary, and suddenly have three notes. More notes, more rhythmic activity. There are two additional bonuses: 1) changing one note into an auxiliary doesn’t alter the harmony, and 2) you don’t have to worry about making smooth connections between figures, because whenever you use an auxiliary, the rhythm automatically becomes a bit agitated. All in all, the auxiliary is not only one of the simplest musical constructions available, it’s also one of the most versatile.

In triple meter, auxiliaries often look like the ones above. To make figures in duple time, you can start the auxiliary on different parts of the beat, for a total of three possible rhythmic effects.



The auxiliaries in this particular example happen to build a pedal tone.

**1) Quasi-dots.** Putting the first note of an auxiliary on a figurehead makes the other two notes feel like they stretch it out, producing the dotted-eighth sixteenth effect. Leap to the last note, a chord tone.

BACH: *Largo*, bars 9–11, from *Violin Sonata #3*

g: VI V V VI V iv V

(reduction)

**2) Back-kicks.** Putting all three notes of the auxiliary off the beat produces a strongly syncopated effect—the exact opposite of the Quasi-dot.



BACH: **Prelude #2**, bar 15, from *Well-Tempered Clavier, Book II*

(reduction)

**3) Pickups.** This time we treat the first two notes of the auxiliary as a ligature. By starting with an upbeat, the third note—a figurehead—gets a little whack.

BACH: **Allegro**, bars 1–2, from *Brandenburg Concerto #3*

G: I V

**Giddeyup!** Too many Pickups in a row sound silly. Bring in a contrasting rhythmic pattern every several beats or so.

## WHEN TO ADD AN ACCIDENTAL

A lower neighbor to any Rt sounds tightest when it implies the melody—“ $\hat{8}-\hat{7}-\hat{8}$ ” (do-ti-do) accompanied by the progression I–V–I. This won’t happen unless the lower neighbor is a half step below the Rt. So with certain harmonies, you need to manually raise the lower neighbor to the Rt, or it will probably sound all soggy and limp, even when it shoots by in an eye blink.

As for lower neighbors to other chord tones, there’s no rule, although you might opt to raise a lower neighbor to the 5th if it sounds better that way to you. Raising the lower neighbor to the 3rd sounds bluesy—stylistically tacky in Baroque counterpoint.

**This advice about lower neighbors holds true for any figure—not just the auxiliary. A lower neighbor to any Rt should sound like a leading tone.**

B $\flat$ : I ii V I

## How To SKETCH FIGUREHEADS FOR AUXILIARY FIGURES

**1) To write Quasi-dots and Back-kicks**, sketch a pair of chord tones.

(sketch of pairs for examples a-e)

D: I IV V

**2) Turn either the top or the bottom note into an auxiliary;** let the other stand alone. This yields four ways to break up each pair of chord tones.

a) Quasi-dot, lower note first      b) Quasi-dot, upper note first

c) Back-kick, lower note first      d) Back-kick, upper note first

e) mixing Quasi-dots and Back-kicks in asymmetrical groupings

**3) To write Pickups,** sketch only one figurehead. With any ligature, it's best to look ahead, then work backwards. The harmony takes care of itself, even leaping to a non-chord tone (boxed below).

(sketch) R 3 5 R      R 3 R 7

D<sup>b</sup>: I IV V

D<sup>b</sup>: I (h) IV V

now you try do 4.1-2

## [2] THE CRAZY DRIVER

Why is it that some people swerve left before pulling into a driveway on the right? Have they momentarily forgotten where they live? The following figure acts the same way. To arrive on a figurehead up a 3rd, it swerves down first, then pulls up to its destination (or vice versa).

A: I V IV V

now you try do 4.3-4

### [3] THE DOUBLE NEIGHBOR FIGURE

Think of the Double Neighbor figure as an auxiliary with two neighbor notes in the middle instead of one. Since the same figure has two predictable destinations, we add a number to its name according to how far it travels to the next figurehead.

plain auxiliaries R (N) R 5 (N) 5

Double Neighbor figures R (N) (N) R 5 (N) (N) 5

the Double Neighbor-2 lands on a figurehead a 2nd away

the Double Neighbor-3 lands on a figurehead a 3rd away

Listen for one note stretched over a whole beat.

Listen for a scale made by a stream of eighth notes.

Separating chord tones from non-chord tones makes for fascinating theoretical work, but can easily get in the way of fluid writing. Just memorize the specific pattern of steps and leaps, then learn how to use the figure predictably.

The Double Neighbor-3 reminds some people of going up the down escalator, or dragging a stick across a picket fence.

**Embedded patterns.** When used predictably, the Double Neighbor outlines underlying or embedded stepwise motion. Certain figures are so regular, so symmetrical, that we hear such motion more clearly.

**Watch the order of the middle notes!** If they aren't exactly right, the connection sounds slipshod.

In a Double Neighbor-2, the second note matches the upcoming figurehead.

In a Double Neighbor-3, the second note has the same swerve away from the destination as the Crazy Driver.

wrong way!

wrong way!

**Smooth and hard connections.** To make a smooth or hard connection with a Double Neighbor-3, don't watch the sixteenth notes—watch the underlying eighth note scale instead!

smooth connection

hard connection

**The Double Third figure.** Like the Double Neighbor-3, the Double Third figure also surfs atop an eighth note scale, however, it sounds gentler. The step-leap pattern in the Double Neighbor-3 figure sets up nothing but hard connections. The step-leap pattern in the Double Third figure sets up nothing but smooth connections.

BACH: *Invention #1*, bars 5b–7a

Technically, each 3rd represents a different chord, so there are actually two chords per figure. Still, realize that the main harmony of the beat is made by notes 1 & 2; think of notes 3 & 4 as a passing 3rd.

A: I (V I) I (V I) V (I V) V (I V)

**Get wild.** Try inverting the 3rds to 6ths—open them up and do the Cancan!

BACH: *Courante*, bars 26–28, from ‘Cello Suite #2

d: i iv V

now you try do 4.5-6

Single neighbors have technical names:

*cambiata*: leap to a non-chord tone, switch directions and resolve by step to a chord tone.

*échappée*: step away from a non-chord tone, then switch directions and leap to a chord tone.

## [4] SINGLE NEIGHBOR SUBSTITUTES

To make a scale figure fancier, replace passing tones with neighbor notes. It’s easy to believe that this is how Bach came up with such prickly figures as the ones below, because in case after case, dismantling a complicated neighbor construction reveals a simple predictable skeleton underneath.

In just about every case, lower neighbors work much better than upper neighbors, which can actually obliterate the intended harmony.

**In descending Runs**, notes 2 & 4 should leap beyond notes 1 & 3, then come back by step.

BACH: **Allemande**, bars 1–2, from *Keyboard Partita #2*

(possible first draft)



(fancified)



**In ascending Runs**, notes 2 & 4 should step down from notes 1 & 3, then leap to the next chord tone.

BACH: **Invention #9**, bars 8–9



**In any figure with a descending 3-note scale**, treat the passing tone in the 3-note scale the same way as the descending Run—leap a step beyond the chord tone, then come back.

BACH: **Allemande**, bar 1, from *French Suite #4*

(reworks Rolls)



BACH: **Allemande**, bar 3, *BWV 819a*

(reworks Contrary Leaps)



**Start substituting neighbor notes for passing tones, and chord tones start acting like neighbors—leap, step-leap, step-leap—as in the far right example.**

now you try do 4.7-8

## points for review

- Harmonically, auxiliary figures aren't very complicated. They serve mainly to invigorate the rhythm.
- The middle note of an auxiliary figure is called the auxiliary note. In just about every case, it's a lower, rather than an upper neighbor note.
- The lower neighbor to the Rt of any chord sounds funny unless it's just a half step away. Use an accidental to raise it if necessary.
- Only two neighbor figures travel a predictable distance from figurehead to figurehead: the Crazy Driver, which travels a 3rd, and the Double Neighbor, which travels either a 2nd or a 3rd.
- One way to revise a boring scale figure is to replace the passing tone(s) with a lower neighbor note.



# 5

## special treatment

**A**nyone who wants to write music made of block chords must first memorize a vast number of voice leading rules that determine exactly where each note should move. It's especially hard because there are myriads of special situations but very few broad guidelines tying them all together.

In contrast, melodic figuration seems remarkably free of fine print. By focusing on just three broad guidelines—build melodic figures from chord tones, use tried and true melodic patterns, and make convincing connections to the next figurehead—you can write nearly flawless music.

But notice the words “nearly flawless.” Once in a while, one or two notes will sound squawky, even though the chord tones are right, the connections are tight, and the figuration is downright dynamite. How come? Because of something called “tendency tones”—notes that have a pigheaded proclivity to go only where they want to.

So once in a while with melodic figuration, you do have to pay attention to voice leading. Most of the time your ears will tell you what to do to make tendency tones sound seamless. But just to make sure, this chapter spells out how to get tendency tones under control so they won't ruin your day.

## [1] EXPECT PROBLEMS WITH THE LEADING TONE

In any key, six notes are quite flexible in that they sound perfectly smooth when they go to any of the other notes in the key. However, the leading tone (alias “ti” or “ $\hat{7}$ ”) will often make a big stink if it doesn’t get to go to “do.” The following points flag the most common tough spots.

When you think dominant, remember that  $\text{vii}^\circ$  and V are more or less the same chord.

Also remember that tendency tones appear in secondary dominant chords as well as V in the home key.

Chords with (raised) accidentals are the easiest ones to analyze. Scan any page of music: nine out of ten times, a raised accidental will be a leading tone.

**1) The leading tone as a chord tone.** When the leading tone is a chord tone it usually sounds like it’s part of a dominant chord. Obviously, dominant wants to resolve to tonic, which explains why the leading tone has a frenzied itch to resolve to  $\hat{8}$ . So whenever the leading tone is a chord tone in a figure, you should resolve it to  $\hat{8}$  when the harmony change. (Failure to do so can sound crude, even painful.)

unresolved leading tone

resolved

D: I ii V I V I

Notice the phrase “when the harmony changes” in the previous rule. Otherwise, you’ll get confused if you try to resolve every leading tone right away.

BACH: *Adagio*, bars 1–2, from *Violin Sonata #1*

$\hat{7}$  T

$\hat{8}$  R

*This leading tone doesn't resolve. Rather, it's passed off ...*

*... to this one, which resolves when the harmony changes.*

g: i V i

**2) The leading tone as a non-chord tone.** Whenever the leading tone is the highest note of a melody, there’s a good chance that it will stick out and sound like a mistake. In this example, the sweet-sounding melody on the left is transposed. Suddenly the leading tone is the highest note and it ain’t so sweet.

a) a simple tune

b) same tune, up a step

G: vii $^\circ$  I IV V



If you run into such a snag in a melody you write, try one of these remedies for b) in the previous example.

a) Let "ti" go to "do."  
  
 G: I 3 IV V

b) Flat "ti."  
  
 G: I 3 V IV V

c) Omit the leading tone.  
  
 G: I 3 IV V

d) Go higher than the leading tone.  
  
 G: I 3 IV V

e) Change the harmony to "cancel" the diatonic leading tone.  
  
 G: I 3 vi ii

**3) What goes up must come . . . up.** A leading tone can descend when it's a middle note in some larger downward gesture (e.g., a scale). Conversely, any leading tone you ascend to should eventually go up.

MASON: *Joy to the World!*, bars 1–4

Joy to the world! the Lord is come! Let earth re-ceive her King

D:

now you try do 5.1-2

## FINDING THE STRONGEST TENDENCY TONES IN DIMINISHED 7TH CHORDS

$V^7$  and  $vii^{\circ 7}$  not only sound similar to each other, they also function the same way: both lead to tonic. But there's something that might confuse a person. The 7th of the  $vii^{\circ 7}$  doesn't have as much downward pull as a normal 7th does, so by focusing on resolving the  $vii^{\circ 7}$ 's 7th, you might ignore it's 5th, which is a much stronger tendency tone. It's easy to see why: the  $vii^{\circ 7}$ 's 5th is the  $V^7$ 's 7th.

b:  $V^7$   $vii^{\circ 7}$  9th 5th 3rd 4th 6th

BACH: *Allemande-Double*, bars 1–2, from *Violin Partita #1*

b:            i            ii            vii°            i            VI            ii<sup>o</sup>            V            i            V            i

now you try    do 5.5-6

If the arpeggio figures in example c) had been written in block chords, there would be much more attention to voice leading from chord to chord. Guidelines for working with arpeggio figures can be found in Chapter 9. For now, just focus on resolving the tendency tones.

## [2] 7THS OF SEVENTH CHORDS ALSO HAVE STRONG MELODIC TENDENCY

The 7th of any seventh chord is harmonically dissonant, and in all situations, it must resolve down by step when the chord changes.

a) V7's 7th resolving the wrong way (up)                      b) V7's 7th resolving the right way (down)

g:    ii<sup>o</sup>            i            V            i            ii<sup>o</sup>            i            V            i

c) dominant and non-dominant 7ths resolving the right way (down)

g:    ii<sup>o</sup>            V            i            iv            V            V            VI            ii<sup>o</sup>            V            i

## YOU CAN'T ADD A SEVENTH TO JUST ANY OLD CHORD

Some people who used to stick to a strict vegetarian regimen now add a little meat to some dishes—not as a source of protein, but to season their food. A few decades ago, such a notion would have raised the rancor of the good ol' boys in the sausage industry, but today you can see TV ads with flower children selling pig products.

Question: Does a 7th “season” a chord, or is a 7th more like a main course? It depends entirely on the style. In jazz, add 7ths to spice up just about every single chord, with no obligation to resolve them down a step in the next chord. But in Baroque and Classical music, voice-leading overrides harmonic spice. If you can't resolve it, don't add it.

### Three Places to use 7ths:

- Automatically include 7ths in all dominant chords—not only V and vii<sup>o</sup>, but all secondary dominants as well.
- Add a 7th to any chord during a sequence.
- Add a 7th to vi to increase its pull to ii; add a 7th to ii to increase its pull to V.

## THE FIRST SHALL BE LAST

When one figure contains both a leading tone and a 7th resolve the last tendency tone first.

(objectionable)  $\hat{7}$   $\hat{8}$   $\hat{7}$   $\hat{8}$   $\hat{7}$   $\hat{8}$   
7th 3rd 7th 3rd 7th 3rd

(repaired)  $\hat{7}$   $\hat{8}$   $\hat{7}$   $\hat{8}$   $\hat{7}$   $\hat{8}$   
7th 3rd 7th 3rd 7th 3rd

BACH: **Chaconne**, bars 32–36, from *Violin Partita #2*

d: VI V V V V/VII V/III i V i

While it's not a rule, most figures use the 7th as the very last note. Putting it there is a very effective way to propel the music forward.

now you try do 5.3-4

## LESS HOKEY CADENCES

A cadence that sounds too predictable can make the whole piece sound simple-minded. Here are two good ways to thwart tendency tones when you most expect them to resolve.

**Half Cadence.** Think of a Half Cadence as a big harmonic question mark. The cadential dominant chord might resolve at the beginning of the next phrase, but then again, there's no obligation to.

BACH: **Minuet II**, bars 1–8, from *'Cello Suite #1*

H. Cad. T → ?

H. Cad. T

(There is no resolution of 'T' upon the reprise of this phrase.)

BACH: *Gavotte en Rondeau*, bars 1–4, from *Violin Partita #3*

H. Cad.

E: I V I V I V I

*This time, the 7th is intentionally unresolved.*

**Transferred resolution is a practical joke that's funny no matter how many times you play it—unlike dousing your roommate's entire collection of underwear in water and then hiding it in the freezer, which is only funny the first three times.**

**Transferred resolution.** To make hoopla over important cadences, use Octave Displacement right at the resolution. Put  $\hat{8}$  in the “wrong register”—always down a seventh (up a minor 9th feels like biting a lemon).

BACH: *Allemande*, last two bars, from *Cello Suite #2*

d: vii° i V i vii° i

now you try do 5.7-8

## AUGMENTED LEAPS

All melodic intervals are not created equal. Augmented melodic intervals sound harsh unless you know these remedies.

**Remedy by inversion.** The diminished version of any melodic interval is a hundred times more graceful than its augmented alternative. Listen.

a)  $+4^{\text{th}}$   $^{\circ}5^{\text{th}}$  b)  $+2^{\text{nd}}$   $^{\circ}7^{\text{th}}$

painful eloquent deplorable insightful

BACH: *Invention #4*, bars 1–2

crude masterful

**A common augmented interval is found in the minor mode, between  $b\hat{6}$  and the leading tone ( $\#7$ ). To narrow the augmented 2nd to a Major 2nd, change  $b\hat{6}$  to  $\#6$ , or change the melody, using one of the remedies shown here.**

**Remedy by rhythmic placement.** Accenting the second note of an augmented interval is what sounds bad in a melody. To use an augmented interval properly, put the first note on a strong part of the beat.

BACH: *Prelude, bars 13–19, from 'Cello Suite #2*

The image shows two staves of musical notation in bass clef, 3/4 time, and B-flat major. The first staff contains bars 13-15, and the second staff contains bars 16-19. Three augmented intervals (marked +2nd) are highlighted with red boxes. The first two are labeled 'strong-to-weak' and the third is labeled 'strong-to-weak'.

now you try do 5.9-10

Once again, rhythm plays an important role in determining what sounds dissonant and consonant.

## points for review

- Good melodic connections usually solve voice leading problems automatically. Problems might arise in figures that contain the leading tone (or seventh of a seventh chord).
- Most tendency tones don't have to resolve until the chord changes. But sometimes when you ascend to a leading tone, it needs to go up immediately, lest it hurt somebody's ears.
- When there are two tendency tones in a figure, resolve the last one first.
- Melodic augmented intervals (chiefly the +2nd and +4th) often sound harsh. Either invert them (to a 7th or 5th), or adjust the rhythm to smooth them out.
- Resolve a tendency tone irregularly at a cadence if the regular resolution sounds hokey.

# 6

## more or less

### 4

-note figures provide a symmetrical, controlled environment where it's pretty easy to show how to keep a melody smooth, logical and balanced. Not only that, we can pinpoint which parts of a 4-note figure to manipulate to get an expressive accent or some fancy twists and turns whenever we want to spice things up.

As we fling open the laboratory doors to welcome figures with more or less than four notes, resist the tendency to think of them as alien beings, totally unrelated to what you've learned so far. The more you remember about the basic principles of figuration—particularly overlaps—the easier it will be to integrate these new rhythmic constructions into the mix.

In the end, you'll find that all figures operate by the same rules that 4-note figures do—more or less.

## LONG NOTES, SHORT NOTES, DOTS AND TIES

Long notes carry more weight than short ones. Consequently, they stick out. You can't just go altering the length of notes without having some effect whether the next connection will be hard or smooth.

**1) Front-stop.** If a figurehead is a landing spot, and it is, making a figurehead longer than the notes around it turns that landing into a punctuation point. IMPORTANT: Short notes that come after the elongated figurehead must form a melodic pick-up (a ligature) to the next beat.

BACH: *Allemande*, bars 1–4, from *'Cello Suite #2*

**Pick-up notes after a Front-stop are essential!** Imagine a Front-stop with no upbeats to get the line moving again: you'd have two downbeats in a row with no "up" in-between. It's awkward.

**2) Back-stop.** Making the third note of a figure into a long note emphasizes the upbeat—it becomes a pregnant pause. The bigger they are, the harder they fall; the real pow comes when the upbeat "lands."

As far as the harmony goes, the long note in a Back-stop must be a chord tone. If it's not possible to analyze the whole beat as one harmony, mark a chord change under the last (upbeat) note.

BACH: *Bourée*, bars 1–4, from *Violin Partita #3*

*"Agogic accent,"* the technical term for accent resulting from weight, is not to be confused with "accident resulting from weight." In the early days of air travel, each passenger had to weigh in before boarding. The crew made some quick calculations, then assigned seats to avoid an unbalanced load. Back then, circling cities before landing had nothing to do with crowded runways; rather, the curious were shifting to one side for an aerial perspective of the skyscrapers.

The figurehead after a Back-stop gets an automatic accent, so there's no point in trying to make a smooth connection—you'll get some accent whether you move by step or leap.

Here, the sped-up harmonic rhythm, as usual, comes just before a cadence.

**Making a note longer calls attention to it. If you lengthen “dead notes” (notes that don’t have any urge to go anywhere, for example, the Rt of the Tonic chord) your music will sound sluggish or choppy.**

**3) Dotted notes.** Adding a dot to a figurehead turns it into an exaggerated Front-stop. Rather than a 2-note ligature to the next idea, there’s a spunky 1-note pick-up.

BACH: *Allemande*, bars 9–16, from ‘*Cello Suite #1*



**4) Scuttlebutt.** Very fast notes in a line can do three things: 1) make a small ligature to a note inside the figure, 2) add passing tones to fill in extra large gaps, or 3) cram a miniature predictable figure inside a normal-sized one. All three uses appear in this example.

BACH: *Allemande*, bars 1–4, from ‘*Cello Suite #3*



**The effect can vary. Some tied notes dangle precariously, a few spring into the air playfully like pizza dough, and others feel more athletic—like running hurdles or pole vaulting.**

**5) Ties.** Tying a note will intensify whatever rhythmic meaning it already has. A Front-stop, normally a punctuation point, becomes a dramatic pause when tied to the next figurehead.

BACH: *Courante*, bars 24–28, from ‘*Cello Suite #1*



A Back-stop, which normally sets up a hefty thump on the next beat, becomes a defiant brat when it’s tied. A tied Back-stop scowls, “I refuse to gratify you by making a thump—make it yourself!” So we do. Watch the floor sometime; players tap their feet harder to compensate for tied beats.

NOTE: All of the techniques on this page work best when they occur several times rather than in isolation.



BACH: *Allemande*, last five bars, from 'Cello Suite #4

**The notes after a tie or dot form a ligature.** Although tied and dotted notes receive agogic accent, they're also "incomplete" in that they create an opportunity—or obligation—to start something new.

now you try do 6.1-2

## SYNCOPIATION IS PRACTICALLY TABOO IN THE BAROQUE STYLE

Making long notes or ties out of certain notes emphasizes an upbeat too much, resulting in syncopation.

- In a 4-note figure, only start a long note (or tie) on notes 1 and 3.
- In a 6-note figure, only start a long note (or tie) on notes 1, 3, and 5.
- In a 3-note figure, start a long note (or tie) on any note.

The following rhythmic configurations are banned, but there's always a good substitute.

instead of this

do this

Oscillate an octave (doesn't work well when holding the 3rd or 7th).

Arpeggiate to other chord tones.

Turn dotted notes into Back-kicks.

instead of this

do this

Oscillate an octave (doesn't work well when holding the 3rd or 7th).

Turn dotted notes into Back-kicks.

now you try do 6.3-4

Rests on a figurehead are rare in solo music, but quite common in counterpoint. The effect is very similar to a tie, in that the notes after a rest form a ligature to the next beat.

There's nothing wrong with garlic, per se, just that it doesn't taste good in oatmeal. There's nothing wrong with syncopation, per se, it just doesn't fit well in most Baroque music. (There's an exception to this prohibition: you'll find a little syncopation in 3-part and 4-part counterpoint.)

Whether a figure is three, four, or twenty-seven notes long, the figures last two notes determine how to connect it to the next figurehead.

Don't bother labeling both 4-note figures in an arpeggio or Run.

## 6-NOTE FIGURES COMBINE TWO 4-NOTE PREDICTABLE FIGURES

To build a 6-note figure, first write a 4-note figure, then use its last two notes as the first two notes of another 4-note figure. In other words, the middle two notes belong to both figures.

Back-kick Run Back-kick/Run Double Neighbor Roll Double Neighbor/Roll

two notes in common intersection two notes in common intersection

BACH: **Gigue**, bars 6–9, from *Violin Partita #2*

arpeggio arpeggio Return/Run Run Q-dot/arp. Q-dot/arp. Q-dot/arp. Q-dot/Roll

Crazy/Crazy S. Leap/arp. S. Leap/arp. S. Leap/arp. S. Leap/arp. S. Leap/arp. arpeggio arpeggio

now you try do 6.5-6

## 3-NOTE FIGURES

Meters that use 3-note figures feel inherently bouncier than meters that use 4-note and 6-note figures. So rather than trying to make mostly smooth connections (like 4-note and 6-note figures do), 3-note figures adopt a different mindset. Hard connections often outnumber smooth ones. But even smooth connections between 3-note figures manage to ruffle some feathers. A leap or direction change after a figurehead has more accentuating power in a 3-note figure than it does a longer one.

Appendix [x] has a chart which names 3-note figures by comparing them with their closest 4-note equivalent.

BACH: **Sarabande-Double**, bars 1–8, from *Violin Partita #1*

b: i iv VII III VI iv V V

i VII VI V/III V i iv V i V

## AIDS TO AGITATION

Two non-chord tones frequently appear in 3-note figures. Each one forces a little accent on a figurehead.

**1) Anticipations** jump the gun on the upcoming figurehead, giving it an attack.

BACH: *Gigue*, bars 1–4, from ‘*Cello Suite #1*’

G: I IV I I V I V

**2) Appoggiaturas** are always the first note of a figure—non-chord tones displacing a “real figurehead.”

In 3-note figures, look for a step followed by a leap to the last note. This example shows appoggiaturas that embellish a step-wise series of figureheads. In this case, the repeated notes look like anticipations.

BACH: *Gigue*, bars 8–10, from ‘*Cello Suite #1*’

d: V V i iv

To write an appoggiatura to a 3-note figure, start with two chord tones per beat—Double Third figures work extremely well. Then go back and displace the figurehead—add a non-chord tone a step above it. (Nine out of ten appoggiaturas resolve down.)

(sketch)

Bb: V I V I IV I  
Bb: V I V I IV I

A good place to use a single appoggiatura (as opposed to a series of appoggiaturas) is just after a dominant or secondary dominant, where it’s obvious that the leading tone resolves to the wrong note first.

A: I IV I IV I IV V I I

now you try do 6.7-8

The rhythmic effect of an anticipation feels like skipping down the street—there’s no such thing as one skip—you have to skip at least a couple times to get going. Don’t write one anticipation unless you can write a bunch.

4-note and 6-note figures use appoggiaturas more than anticipations. However, in duple meter, both are rare in solo music, except at cadences.

## points for review

- Making some notes longer or shorter than others not only adds variety to the beat patterns, it also has an effect on where the accents fall within a melodic line. The overlap rules for hard and smooth connections still hold true with slight modifications.
- Notes after a rest or tie become a ligature to the next idea.
- Syncopation doesn't fit well in the Baroque style.
- Think of 6-note figures as a combination of two 4-note figures.
- 3-note figures have a built-in agitated feeling.

## 7

## ventriloquism

**W**e play musical games with our voices all the time—making a deadpan retort by speaking in monotone, mocking an overly excitable friend by imitating her squeaky falsetto, or pretending to converse with ourselves by splitting everything we say into high and low registers, the same way many people read stories to children.

Now, let's see. How might we make one melodic line sound like a musical dialogue? The same way we create the illusion while speaking. Divide the melody into high and low registers, as in this example.

BACH: *Violin Concerto in d minor, BWV 1043, I, bars 24–25*



(sounds like)



## SOME FIGURES CONTAIN INTERNAL BREAKS

Predictable figures fall into two categories: 1) figures that make one continuous motion (non-breaking), and 2) figures whose leaps give an opportunity to start a new motion (breaking figures). The breaks in breaking figures can be strategically placed to make a compound melody.

Breaking Figures
Non-Breaking Figures

*Contrary Leap*
*Similar Leap*
*Back-kick*
*Quasi-dot*
*Curlicue*
*Run*
*Return*
*Roll*
*C. Driver*
*Double Neighbor*

The bottom part in many compound melodies acts more like a bass line than a full-blown, independent tune.

BACH: *Prelude, bars 21–23, from 'Cello Suite #2*

now you try do 7.1-2

## OCTAVE DISPLACEMENT

Nobody could write much compound melody if there were only five figures to choose from. Luckily, it's easy to force a break in any figure. Remembering that the best place to leap is after a figurehead, just transpose (displace) everything after the figurehead up or down an octave.

Imagine that you wrote the first seriously inhibited version, then revised it by toying with the register. Maybe someday, a talk show host will do a spot on miraculous make-overs through Octave Displacement.

BACH: *Courante-Double, bars 7–9, from Violin Partita #1*

(in one register)

*Crazy Driver*
*Run*
*Crazy Drivers*
*Run*

(with forced breaks)

now you try do 7.3-4

## TWO ALTERNATIVE PLACES TO FORCE A BREAK

**1) Give the figurehead a boot.** Start with a simple non-breaking melody and move only the figureheads—leave the rest of the notes alone.

BACH: **Prelude #12, bar 1, from *Well-Tempered Clavier Book I***

(in one register)

(with octave displacement)



**2) Break before the last note of a figure.** In this excerpt, Bach puts some of the breaks just after the figurehead, others at the very end. Making the second descending scale longer than the first gives the impression that the idea is growing.

BACH: **Allemande, bars 6–8 from *Violin Partita #2***



## A PRAGMATIC REASON TO USE OCTAVE DISPLACEMENT

Every instrument only has a certain number of notes on it, making it impossible to go as high or low as you might really want to. But by planning ahead, you can accommodate any melody to fit any instrument.

BACH: **Prelude, bars 6–9, from *Cello Suite #3***

a) all in one register



b) impossible notes moved



c) Bach's version



now you try do 7.5-6

Once again, the practical skills you learned about connections give you something solid to rely on so you don't get lost when it's time to vary the main idea.

The trick is to find the best place to jump. Always look at several possibilities before you lock into one.

Some people call a Stationary Pitch “pedal point,” but other people’s definition of pedal point excludes the applications shown here.

You’d think that fast, hyperactive melodies would also have fast harmonic rhythm. Not so. Generally, the faster the notes move, the slower the harmony changes. Some of the fastest pieces you know change chords at a snail’s pace.

Make sure the tune (the moving part) sounds good by itself before you insert the Stationary Pitch.

## FOR INSTANT COMPOUND MELODY, ADD A STATIONARY PITCH

Starting with a simple tune in eighth notes, fill in the cracks with a repeated note.

BACH: **Prelude**, bars 9–12, from *Violin Partita #3*

### Specifications

- Keep the moving part simple. Predictable figures work best. Complicated figures sound muddled.
- The Stationary Pitch (the repeated note) should be the Rt or 5th of the chord.
- Keep the harmony simple. Holding one long chord works just fine.
- When using two chords, their roots must lie a fifth or fourth apart so the common tone between them is the 5th of one chord and the Rt of the other. For example, by alternating between I and V in A we can use the common tone, E, which is the 5th of I and the Rt of V.

## How To APPLY A STATIONARY PITCH

**1) Plan ahead.** Map out a chord (or chords) and find a Rt or 5th to use as Stationary Pitch.

**2) Sketch the moving part in eighth notes,** then add stationary sixteenth notes between them.

BACH: **Gigue**, bars 21–28, from *Cello Suite #3*

now you try do 7.7-8



## GETTING THREE VOICES OUT OF ONE LINE

Careful planning can yield three voices rather than the typical two. Look at the sketches below of bars 7–8 in the following example. Bach starts with a simple descending scale, then cuts off two notes at a time (following good overlap guidelines!) in three distinct registers.

BACH: *Courante*, bars 1–12, from *Violin Partita #1*

The image shows musical notation for Bach's *Courante*, bars 1–12. The top staff shows the original melody in G major, 3/4 time, starting with a descending scale. Below it, two staves show the melody decomposed into three registers. The first staff, labeled "in one register", shows the melody in the middle register. The second staff, labeled "with octave displacement", shows the melody in the high register. A red box highlights the notes in bars 7 and 8, which are the notes that are cut off in the original melody and then reappear in the three registers.

By choosing cut-off points between low, medium and high registers, you can transform a plain scale into something spectacular.

Notice that the compound melody doesn't start until bar 7. Arpeggio figures connect registers together. In a compound melody, there needs to be a sense of isolation.

## FUZZY BOUNDARIES

So far in this chapter, compound melody means dividing one line into two or more clear-cut voices. However, out in the wild, extra voices can appear just for a moment before vanishing into the shadows. In another scenario, you'll encounter a melody that feels compound, but upon closer examination both its lines share notes from a common middle register.

### 1) Even limited use of Octave Displacement makes a melody feel compound.

BACH: *Invention #4*, bars 1–2

The image shows musical notation for Bach's *Invention #4*, bars 1–2. The top staff shows the melody in G major, 3/8 time, starting with a descending scale. The bottom staff shows the melody in the same key and time, but with octave displacement, where the notes are shifted up and down to create a compound melody.

Composers have a name for putting just a note or two in a different octave: "opening up a new register." It creates tension, like saying, "Guess what happened to... Oh, never mind."

**2) Arpeggiation often blurs the boundary between high and low registers.** Not all leaps serve to make registral breaks. The next example sounds unmistakably compound. However, it's hard to pinpoint exactly where the splits fall.

BACH: **Sarabande-Double**, bars 1–8, from *Violin Partita #1*

now you try do 7.9-10

### points for review

- To separate groups of notes into a “call and response” dialogue, divide one line into high and low registers. That’s the recipe for compound melody.
- Predictable figures with internal leaps naturally split into two registers. To use non-breaking figures in compound melody, transport all the notes after the figurehead up or down an octave.
- Octave Displacement has two excellent uses outside literal compound melody: to open up the register in an otherwise cramped line, or to do just the opposite—to give a scraggly line a haircut.
- To embellish a slow-moving melody, add a Stationary Pitch in sixteenth notes between each moving eighth.

part three:

*figuration in context*



# 8

## segments

**U**nderlying every structure in the universe is a simple principle: small parts join together to make bigger parts. For example, Atom–molecule–cell–organ–Chihuahua, and Note–figure–segment–phrase–Allemande.

We made a quantum leap toward getting a grasp of the big picture just by pointing out that figures exist. It's impossible to understand music by thinking from note to note. Thinking from figure to figure is so much better.

Ready to have your horizons broadened once again?

The word segment means “a succinct portion of something bigger,” like an orange segment. Where there’s one segment, there are inevitably others. In fact, in music we don’t realize we’ve heard a segment until it comes back a second time—until it repeats.

Notice that repetition of segments is not literal repetition: the figure types repeat while the actual notes get transposed.

During segment repetition, it is essential that all the ‘a’s resemble all the other ‘a’s and all the ‘b’s resemble all the other ‘b’s. Also, ‘a’ needs to contrast ‘b’ in some way, because if ‘a’ were identical to ‘b’, we’d hear repetition from figure to figure (beat to beat) rather than from segment to segment.

**Common types of contrast between figures in a segment**

a) contrasting figure types



b) contrasting direction



c) contrasting rhythm



BACH: **Gigue**, bars 5–8, from ‘Cello Suite #1



*Even though ‘a’ and ‘b’ are similar here, there’s still enough different between them to make a good segment.*

normal treatment

special treatment

*The prototypical segment is two figures long. Most often we get two full segments before a series breaks.*

*Longer and shorter segments exist. You can also have more than two full repetitions with no break.*

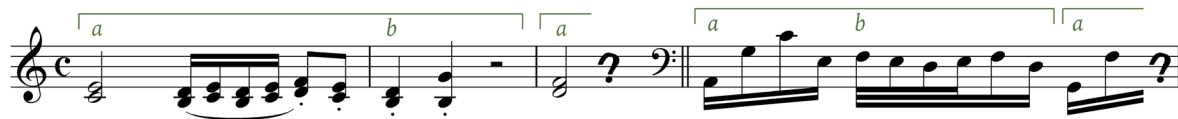
Using brackets will help you recognize immediately that a musical idea is repeating.

## EXPECTATION PLAYS A BIG ROLE

As soon as we think we recognize the beginning of another segment, we expect to hear the rest of it right away. Even if you've never heard the two pieces below, you can probably sing the next bar or so.

BEETHOVEN: **Piano Sonata** *Op.2, No. 3, Allegro con brio*

BACH: **Allemande**, bar 3, from 'Cello Suite #3



Imagine that you composed one of the previous segments, but neglected to follow it up with the appropriate repetition. Preposterous? Unfortunately not. Students do it all the time.

An audience takes signals from the composer. If you, as a composer, don't realize you're giving signals, how will you possibly follow up those inadvertent signals in a sensible way? How will an audience react to your music—will they think you're a genius or a rank amateur?

## WATCH THE WAY SEGMENTS MOVE

From the composer's angle, expectation means that segments repeat in a systematic way. Perhaps "ways" is more accurate. There are many different types of repetition, each type producing slightly different effects. There are good and bad times to use each type. Harmony plays a big role. So does rhythm. That's a lot of balls to juggle.

Marking segments in a very specific way will really help you feel more in control: always line up the brackets with the figureheads. There are many reasons for this, most of which will become clearer as we go. Here's one reason you should know about right away.

There is, however, a slight disadvantage to lining up brackets with figureheads: a bracket can make it look like segments always end before they reach the next beat. Sometimes they do—there's a natural break at the end of a portion of music that repeats (see the Beethoven excerpt at the top of this page). But other times the end of a segment needs to connect to the next figurehead, which lies outside the bracket you'll draw (see all four excerpts on the previous page). Just remember that the beginning of a bracket is indeed the beginning of an idea, but the end of a bracket isn't necessarily the end of an idea.

now you try do 8.1-2

In other books, segments are called motives, motifs, mottos, ideas, groups, phrases, or figures—but all these are loose terms with unspecified uses and definitions.

If you hope to write themes, sequences, imitation, accompaniments, variation, or development, you'll have to learn to:

- repeat all of an idea.
- repeat just part of an idea.
- repeat the exact notes.
- transpose the exact shape of an idea using other notes.
- repeat a general shape with calculated variation.
- repeat a general shape with freer variation.

# Concept

## AT A GLANCE:

Segments always follow a harmonic scheme: some make Themes, others make sequences.

At this point we come to a fork in the road—two types of music you can make with segments. Each has its own harmonic requirements.

**Themes** use tonic and dominant in a highly polarized way, with an end goal clearly in mind.

**Sequences** follow a series of equidistant chords—a harmonic merri-go-round which avoids setting up the dominant as a goal-oriented chord.

So harmonically speaking, the two are opposites. If this is starting to sound hyper-technical, relax! Even without analyzing, you can tell a Theme from a sequence. Themes sound serious (goal-oriented) and sequences sound playful.

BEETHOVEN: **Allegro**, bars 1–4, from *Piano Sonata*, Op. 2, no. 3

BACH: **Minuet**, bars 18-24, from *French Suite #2*

normal treatment

special treatment

Picture the 'a' figureheads as a type of track on which the "wheels" of the segments run their course.

*Keep the harmonic formulas for Themes & sequences simple and distinct from one another.*

*Use more complicated progressions. Use a sequential melody over a thematic progression.*

*Use a short sequential progression within a Theme.*



## SCHEMES FOR THEMES: THE DOMINANT RESTATEMENT

The first segment presents an idea, starting on tonic, then the second segment repeats that idea starting on dominant. Other chords might or might not fit between these: focus on the ‘a’ figureheads to keep everything straight. The chord under the first ‘a’ will be I; the chord under the second ‘a’ will be V.

BEETHOVEN: *Fifth Symphony*

Chord progression: c: I V

BACH: *Courante*, bars 1–4, from *Cello Suite #4*

Chord progression: Eb: I IV V I V I V V

HILL: *Happy Birthday*

Chord progression: F: I V V I

BACH: *Bourée I*, bars 1–4, from *Cello Suite #3*

Chord progression: C: I V V I

**Just the chords.** Even though there are several harmonic options for Dominant Restatements, they all fall into two groups: 1) those with only one chord for ‘a’, and 2) those that change chords during ‘a’.

Symphony #5

I V

Happy Birthday

I V V I

Cello Suite #4

I I V V

Cello Suite #3

I V V I

don't try yet just relax

Keep in mind that this only covers Themes that use segments. Other types of Themes use more flexible schemes.

Segments always fall naturally within the metrical structure of the piece—for example, it's rare to have 3-figure or 5-figure segments in Common Time. This holds true even when segments don't start on the downbeat.

If you change harmony from ‘a’ to ‘b’ in the first segment, you must also change harmony from ‘a’ to ‘b’ in the second segment.

We can't compose a Dominant Restatement Theme yet because the figures in the second segment are often “tailored” rather than transposed exactly. Sit tight. It'll be explained two chapters from now.

Instead of showing all sequences at once, this chapter covers the basics of composing the all-time most popular sequence type: the fifthfall sequence. Specifications for other types are found in Appendix x.

Some breaks sharply contrast the music in the previous segments while others are so subtle you barely notice something else has started up. A few segments even break late—in the ‘b’ figure. The most common thing to do at the break is to instigate a cadence.

## THE FIFTHFALL SEQUENCE

The fifthfall sequence has nothing to do with a succession of 5ths in the melody; it refers to one of the most popular progressions in music, the “circle of fifths” or “fifthfall” chord progression (like vi–ii–V–I). However, not all fifthfall chord progressions are sequences. To qualify as a fifthfall sequence, the figures must line up with the chords in a very precise way.

- We hear a two-figure segment in the melody (‘a’ is different from ‘b’).
- Every time the figure changes (from ‘a’ to ‘b’ and ‘b’ to ‘a’), there’s a new chord.
- Everything drops one step from segment to segment (figureheads, chords, figures—everything!)

DESMOND: ‘B Section,’ from *Take Five*

The musical notation shows a sequence of chords: VI, ii°, v, i, iv, VII, V. The melody is divided into segments 'a' and 'b' with brackets above. A 'break' is indicated above the final measure.

**Which chord to start with.** Don’t start a fifthfall sequence on tonic in the Major mode because you hit a snag with the vii° chord. When vii° falls on a strong beat in a fifthfall sequence, it has a strong urge to resolve to I, but the sequential progression requires it to go to iii.

- In the minor mode, start fifthfall sequences on i or VI. (The minor mode chords run through VII, not vii°.)
- In the Major mode, start fifthfall sequences on vi (sometimes IV or ii).

## How To WRITE A FIFTHFALL SEQUENCE

Never try to keep track of segments in your head! Always

- 1) draw a bracket above each segment.
- 2) label the two figures ‘a’ and ‘b’.
- 3) mark “break” at the point where the music abandons the segment.

**1) Sketch brackets** above the staff to show where your segments will go. For now, make all sequences two full segments, then break in the third.

The musical notation shows a staff with two segments 'a' and 'b' marked with brackets above. A 'break' is indicated above the third measure.

**2) Label** where the ‘a’ and ‘b’ figures will go in each segment.

The musical notation shows a staff with two segments 'a' and 'b' marked with brackets above. The segments are labeled 'a' and 'b'.

**3) Mark chord symbols** under each ‘a’ and ‘b’—one chord per letter.

The musical notation shows a staff with two segments 'a' and 'b' marked with brackets above. The segments are labeled 'a' and 'b'. Chord symbols are marked under each letter: i, iv, VII, III, VI.

**4) Compose the first segment.** Set up the first three figureheads (from 'a' to 'b,' then 'b' to 'a'). Find something catchy. Make sure the 'a' and 'b' figures contrast.

a: i iv VII III VI

**5) Follow the leader.** Keep transposing the first segment down a step until you reach the break.

a: i iv VII III VI

Make sure the third 'a' figurehead of a fifthfall sequence is a step below the second 'a' figurehead! playing the wrong note on that beat ruins everything.

**Option:** Experiment with more complicated chords. One of the most common places to add a 7th to a chord is in a sequence. Also, use secondary dominants where they sound good.

plain adding 7ths to the 'b' chords secondary V7ths on the 'a' chords

a: i iv VII III VI ii° i iv<sup>7</sup> VII III<sup>7</sup> VI<sup>7</sup> ii° V iv V III VI<sup>7</sup> ii°

now you try do 8.1-2

## SEGMENT LENGTH IN TRIPLE METER

Triple meter can be counted in two ways.

**1) One main pulse for every three beats:** put two 6-note figures (or the equivalent) in each segment.

BACH: *Prelude*, bars 63–69, from *'Cello Suite #5*

a: i iv VII III VI ii°

6/8 time works the same way, just with less bar lines.

Harmony changes from 'a' to 'c' in 3-figure segments – not from 'a' to 'b.'

## 2) Three main pulses: put three 4-note figures (or the equivalent) in each segment.

BACH: *Chaconne*, bars 48–51, from *Violin Partita #2*

d: i iv VII III VI ii° V

## LONGER SEGMENTS

Since fifthfall sequences always change harmony from 'a' to 'b' figures (one chord per figure), you can make a longer segment by postponing the harmony change, as in the example below. With such segments, "figure" takes on a looser meaning: the last two beats ('b') contrast the first two beats ('a').

At the break, most music will often move on to prepare a cadence, but sequences based on longer segments frequently break into another sequence with shorter segments.

BACH: *Invention #13*, bars 3–6

a: i iv VII III

C: vi ii V I ii V I

now you try do 8.3-4

## points for review

- Figures frequently link up with each other to form a repeating idea called a segment.
- Figures within segments contrast each other.
- In a sequence, the beginning of each segment (each 'a' figurehead) is usually transposed along an orderly series. This transposition continues into the third segment, the point where sequences usually break.
- In a fifthfall sequence, the most common type of sequence, the chords change from figure to figure (from 'a' to 'b' to 'a' etc.).

# 9

## arpeggio pitfalls

**S**ome people can tell stories and jokes for hours on end without prompting or approval from anybody. Others couldn't start a conversation if they just won the lottery. The only time timid people feel comfortable talking with anyone outside their immediate family is in the presence of a good conversationalist—someone who listens well and asks questions that make them feel like every word they speak is full of revelation and insight.

When it comes to making melody, arpeggio figures don't stand well on their own, at least not as well as scale and neighbor figures do. Non-chord tones in a figure actually give it some inner turmoil—dissonance moving to consonance—that makes all the notes hold together. Without any harmonic friction, it's harder to make a figure autonomous, and therefore, harder to use arpeggio figures in a melody.

Harder, but not impossible. This chapter shows how to make good melody with arpeggio figures by exposing the three pitfalls you're likely to encounter, and offering suggestions for overcoming them.

“Moonlighting” is slang for holding a second job on the sly—precisely what the Right Hand part does in bars 1–4, filling in as a temp for the real melody, which doesn’t get to work until bar 6.

## PITFALL #1: ARPEGGIOS ARE TYPE-CAST

Arpeggios tend to sound more like an accompaniment than a melody. Instance: the Moonlight Sonata. Its opening chord progression, albeit mournfully enchanting, is nothing more than a vamp. Just because it’s in the Right Hand doesn’t mean it’s an actual melody.

BEETHOVEN: *Adagio Sostenuto*, bars 1–9, from *Piano Sonata #14 (“Moonlight”), Op. 27, No. 2*

## SOLUTION: MAKE SEGMENTS WITH ARPEGGIO FIGURES

What makes arpeggios sound accompanimental? Regularity bordering on monotony. Use what you know about contrast within segments to make arpeggios more melodic.

**1) Use another type of figure** (a non-arpeggio) for an unmistakable contrast.

BACH: *Allegro*, bars 1–2, from *Brandenburg Concerto #6*

**2) Change direction** when you use two arpeggios.

If a simple reverse of direction sounds too goofy or going “up, down, up, down” makes you feel sea sick, vary the rhythm between the ‘a’ and ‘b’ figures: travel the same distance in more or fewer notes.

BACH: *Courante*, bars 1–7, from *Violin Partita #1*

(ours)

travels a 10th in five notes    travels a 10th in five notes

(Bach's version)

travels a 10th in five notes    travels a 10th in three notes

now you try do 9.1-2

The first version shows how most people would have constructed this segment: bar 2 yo-yos bar 1 exactly.

Bach's 'b' figure makes a more lively contrast—plummeting from C# to A# in three notes in bar 2, compared to the five notes it takes to unfold the same span in bar 1.

## PITFALL #2: IT'S HARD TO DISTINGUISH ONE ARPEGGIO FROM ANOTHER

A leap's size can vary drastically—anywhere from a 3rd to a 59th or beyond! In other words, with leaps, you never know where you'll end up, which makes it impossible to make predictable (“fixed shape”) arpeggio figures.

Step up twice from D and you always end up on F.    Leap up twice from D and you can end up anywhere.

## SOLUTION: ANALYZE GESTURE

The following method is slow, but it's the only way to maintain a pattern of arpeggios without being able to name figures.

First, record the direction each note travels. Mark U's and D's (for “ups or downs”) under the staff. Use lower-case letters for small leaps (leaps of a 3rd or 4th) and capital letters for big leaps (a 5th or more).

Ears recognize gesture as quickly as eyes recognize a familiar face. But when it comes time to write arpeggios, you rely on your eyes, and eyes are lousy when it comes to recognizing musical gesture. That's why you should use codes.

In a pinch, you can use a 4th as a big leap with no serious side effects.

Keep the codes straight: use one code for all the 'a's and another for the 'b's.

Next, translate the U's and D's back into leaps to write more segments over the new figureheads.

U d U d d d U d U d d d D u D u u u D u D u u u

## VARIATIONS

**1) Exaggerate.** Large leaps in the first segment become very large in the second.

U d d d U D U d d d U D

Turn a horse upside down and it still looks like a horse. Problem is, they don't like it. Musical inversion is not only safer, you won't get petulant calls from the Anti-cruelty Society.

**2) Invert the 'a' to get the 'b.'** Gesture codes are also useful for inverting arpeggio figures, especially the zigzaggy ones (inverting straight figures is a no-brainer). Switch U's for D's, but keep capital and lower cases the same (example: the code "u D u" inverts to "d U d.")

U d U D u D D u d U d u

inverts to inverts to

**3) Invert just part of the 'b' figure.** One little switch produces a new gesture—related to the original, but not exactly the same.

U d U D u u D u d U d d

inverts only two leaps inverts only two leaps

now you try do 9.3-4



### PITFALL #3: BAD HAIR DAY

Remember from Chapter 3 that it's easy to make smooth connections with figures that end with leaps. Unlike step-wise motion, leaps can continue to the next beat by step or leap and still sound smooth. So why do some of the leap-wise connections (even small ones) in the next example sound so distressing?

B $\flat$ : V IV V vi ii I V I

### SOLUTION: THINK OF ARPEGGIO FIGURES AS BLOCK CHORDS

When block chords move to other block chords, the top voice (called the soprano whether or not you hear ladies singing) should connect logically to the next top voice. Likewise, the bottom voice (the bass) should connect logically to the next bottom voice, and middle voices, of course, should also connect logically.

#### How To FIX UNRULY ARPEGGIO MELODIES

**1) Make a reduction.** Write arpeggios as block chords on scrap paper to check voice leading. Play the reduction. If the block chords sound brutal, so will the arpeggiated melody.

B $\flat$ : V IV V vi ii I V I

Don't confuse order with register. The soprano note can be the first, second, third or fourth note, depending on the pattern for that particular arpeggio.

**2) Fix the "soprano" part.** The main concern with arpeggios is not the figureheads. The ear is drawn to the top notes like moths to a porch light. Improvise various block chord voicings on the piano, working over the top line until you're happy with it.

B $\flat$ : V IV V vi ii I V I

Hint: make predictable figures with the quarter notes, then use them as the top voice.

In piano style, parallel octaves might suddenly appear to strengthen important notes.

In arpeggio figures, parallel octaves agitate short, single-beat segments. Moral: avoid parallel octaves unless you want to punch up the rhythm.

Note that the 7ths on beats 1 and 3 are “buried” inside but still resolve on the next figurehead.

**3) Sketch in the other parts.** You don’t have to account for every middle voice in the figure as you do with strict 4-part chorale-style writing. In block chords (piano style), a 4-voice chord might resolve smoothly to a 3-voice chord. The lower voices “follow” the top. Remember to deal with tendency tones.

B $\flat$ : V IV V vi ii I V I

**4) Arpeggiate the block chords.** Turn your reduction back into a melody. The codes for the figures below are taken from the very first version of this line, in step 1.

B $\flat$ : V IV V vi ii I V I

now you try do 9.5-6

## ADDITIONAL TIPS FOR VOICING ARPEGGIO FIGURES

**Divide large leaps in half.** Figures that span an octave or more sound unbalanced unless the large leaps divide as symmetrically as possible. For example, don’t split an octave into a 3rd and a 7th; split it into a 4th and 5th.

a) with unbalanced leaps attempting to span a wide register

D:

b) with more equidistant leaps spanning a wide register in a more balanced way

D:

**Avoid leaping a 3rd or 6th during “auxiliary motion.”** In order to return to the same note after going to one other note, that middle note should make a definite harmonic contrast to bind the outer notes together. This excludes 3rds and 6ths, which sound like insipid arpeggiations rather than vigorous auxiliaries.

**While you’ll encounter some exceptions to this rule in the literature, heed the advice anyway; it’s hard to make “auxiliary leaps” work. Most that do work involve the 3rd & 5th (rather than the 3rd & 6th).**

a) wobbly “auxiliary motion”... ...fixed by substituting lower neighbors

D: I IV V I (V I) IV (V IV) V

The notation shows two phrases. The first phrase, labeled 'wobbly auxiliary motion', consists of three chords: I, IV, and V. The I and IV chords are shown with a wobbly auxiliary motion (3 R 3). The second phrase, labeled 'fixed by substituting lower neighbors', consists of three chords: I (V I), IV (V IV), and V. The I (V I) and IV (V IV) chords are shown with a fixed auxiliary motion (R (5) 3 and R (T) R respectively).

b) wobbly “auxiliary motion”... ...fixed by leaping between 5th and Rt, which imply roots of different harmonies.

D: I IV V I (V I) IV (V IV) V

The notation shows two phrases. The first phrase, labeled 'wobbly auxiliary motion', consists of three chords: I, IV, and V. The I and IV chords are shown with a wobbly auxiliary motion (R 3 R). The second phrase, labeled 'fixed by leaping between 5th and Rt, which imply roots of different harmonies', consists of three chords: I (V I), IV (V IV), and V. The I (V I) and IV (V IV) chords are shown with a fixed auxiliary motion (R 5 R).

**Two arpeggios in the same direction will sound like one big chord.**

a) b) changing direction after the figurehead clarifies the harmony

D: V I V V I V

The notation shows two phrases. The first phrase, labeled 'a)', consists of three chords: V, I, and V. The second phrase, labeled 'b) changing direction after the figurehead clarifies the harmony', consists of three chords: V, I, and V. The first two chords in the second phrase are shown with a figurehead (a note with a dot) to clarify the harmony.

## points for review

- Arpeggio figures tend to sound accompanimental rather than melodic.
- To make an arpeggio sound more melodic, use it in a melodic segment—contrast the arpeggio with another type of figure, or by inverting the first arpeggio.
- Don’t use a dozen different types of arpeggio figures in one phrase. Pick just a few and establish some sort of pattern.
- There’s no such thing as a predictable arpeggio figure because leaps can vary so greatly in size.
- “Analyzing gesture” means watching the direction each note travels. Use codes like “u d U” and “D u” to keep track.
- When checking the voice leading, don’t confuse the order of notes within each figure with the register. This is easiest if you write the progression out in block chords.
- If connections are smooth in the soprano, the rest of the parts should follow naturally.

# 10

## tailoring figures

Something bizarre happens in bar 23 of Prelude #1: Bach slips in one bar of scale figures in a composition made entirely of arpeggios. No sirens go off, no young children clutch their parents' skirts in terror, no police barge in to arrest the pianist for breaking a figuration ordinance. In fact, we don't even flinch as it passes by.

BACH: **Prelude #1**, bars 19-24, from *Well-Tempered Clavier, book 1*



The material in this chapter shows how to find something just as good (or better) when you want to maintain continuity, but find there's no way to use the figure you had set your heart on.

# Concept

## AT A GLANCE:

Incongruent figurehead gaps prohibit cloning figures from one segment to the next.

Of course we hear continuity when segments are directly transposed, but even when latter figures merely resemble earlier ones, we understand that they “repeat.” Poets draw upon a similar pliancy when they rhyme words like “game” and “time.”

The tricky part is knowing which notes to change to come up with a believable match.

There are two basic approaches (which yield the same result). Either:

- 1) Find a figure that has a similar shape and travels the required distance, or
- 2) Tailor the first notes of the new figure so you can make a good connection to the next figure-head.

### Two segments with unequally spaced figureheads

The diagram shows two musical staves in G major. The first staff shows a sequence of notes: G (a), A (b), G (a), A (b), G (a). Brackets above the notes group them into three pairs: (a, b), (a, b), and (a). Below the first pair, an upward arrow is labeled '2nd', indicating the interval between 'a' and 'b'. Below the second pair, an upward arrow is labeled '3rd', indicating the interval between 'a' and 'b'. The second staff shows a more complex sequence: G (a), A (b), G (a), A (b), G (a). Brackets above the notes group them into three pairs: (a, b), (a, b), and (a). Below the first pair, a red box highlights the notes G and A, labeled 'Roll'. Below the second pair, a red box highlights the notes G and A, labeled 'Double Neighbor'. Below the third pair, a red box highlights the notes G and A, labeled '? Roll ?'. Below the fourth pair, a red box highlights the notes G and A, labeled 'Double Neighbor'.

The gap from ‘a’ to ‘b’ is a 2nd in the first segment, but a 3rd the next time. Consequently, a Roll won’t “fit”—it won’t allow a good connection. Are we stuck?

The diagram shows two musical staves in G major. The first staff is identical to the one above. The second staff shows a more complex sequence: G (a), A (b), G (a), A (b), G (a). Brackets above the notes group them into three pairs: (a, b), (a, b), and (a). Below the first pair, a red box highlights the notes G and A, labeled 'Roll'. Below the second pair, a red box highlights the notes G and A, labeled 'Double Neighbor'. Below the third pair, a red box highlights the notes G and A, labeled 'Crazy Driver'. Below the fourth pair, a red box highlights the notes G and A, labeled 'Double Neighbor'.

The melodic motion of a Crazy Driver is very similar to a Roll!  
The only real difference occurs in the first two notes of each figure.

normal treatment

special treatment

Keep the substitute figure as similar as possible to the original figure.

Experiment with less obvious matches.

Repetition in music is not necessarily literal. This is part of life and nothing to worry about.

Other examples of shape descriptions include: “It zigzags,” or “There’s a rise in the middle,” or “There’s a dip at the front.”

A passage that sounds sequential but doesn’t directly transpose the figures from segment to segment is called a “flexible sequence.”

Once again, we find that how a figure ends (how it reaches its goal) is more important than how it begins. However, as you analyze other people’s music, you’ll find a few places where the connections don’t match exactly. Still, it’s best to match every overlap exactly for now—you’ll gain flexibility as you gain experience.

Any adjustments you make to preserve a particular connection should take place at the beginning of the figure.

## WHEN IMITATING A FIGURE’S SHAPE, SPECIFIC INTERVALS CAN CHANGE

When exact repetition won’t work, you need to wrench open your mind to new possibilities. Rather than naming the original figure, describe it. Look at the ‘b’ figures in the following example. Technically, they are all different: the specific note-to-note increments change size. But because the description, “all the notes go in one direction,” applies to all of them, they sound similar to each other.

BACH: *Prelude*, bars 44–48, from ‘*Cello Suite #2*, a “flexible sequence” built over a pedal tone

7th 6th 5th 6th

d: V i V vii° V

a b c a b c a b c a b c

all in one direction (arpeggio) all in one direction (Similar Leap) all in one direction (Run) all in one direction (arpeggio)

## BUT THE CONNECTIONS USUALLY MATCH EXACTLY

We’re more apt to notice discrepancies where figures connect than early on in a figure. Take another look at the ‘Cello Prelude. Even though intervals at the beginning of those figures are treated very flexibly, connections from ‘a’ to ‘b,’ and ‘b’ to ‘c,’ and ‘c’ to ‘a’ are precisely the same: 1) a hard connection from ‘a’ to ‘b,’ 2) a smooth (stepwise) connection from ‘b’ to ‘c,’ and 3) a “hook around” from ‘c’ to ‘a.’

BACH: *Prelude*, bars 44–48, from ‘*Cello Suite #2*

a b c a b c a b c a b c

(1) (2) (3) (1) (2) (3) (1) (2) (3) (1) (2) (3)

**1) Keep smooth connections smooth.** In the next two excerpts, leaps replace steps to leave enough room to coast into the next figurehead by step.

BACH: *Courante*, bars 17–23, from ‘*Cello Suite #3*

step leap

5th 4th

BACH: **Fugue #8**, bars 1–5, from *Well-Tempered Clavier, book 1*

**2) Keep hard connections hard.** Wouldn't you say that an accent is an important feature of a musical idea? That's why, in the following example, the leap in the first figure gets scrunched in the corresponding spot later on—to leave room for a leap during the connection.

BACH: **Fugue #7**, bars 1–4, from *Well-Tempered Clavier, book 1*

now you try do 10.1-2

## WHY MOST DOMINANT RESTATEMENT THEMES NEED TAILORING

The harmony from segment to segment (from 'a' to 'a') goes from I to V—a 5th away. Most of the time transposing the melody the same amount (also a 5th) leads to a dead end. Listen.

BACH: **Bourée I**, bars 1–4, from *'Cello Suite #3*

**How to tell when tailoring is necessary.** Comparing the 'a' figureheads of both segments lets you know at a glance whether you can just transpose a segment or whether you must tailor a few notes. When both 'a' figureheads are the same chord tone (for example, they're both 3rds), just transpose the first segment to get the Dominant Restatement. When the second 'a' figurehead differs from the first (for example, one is a 3rd and the other's a 5th), the second part of the Theme will probably need tailoring.

In these two excerpts, the substitute figures come as part of a whole tune rather than just a segment. Not only that, they're in a different voice than the original—part of a contrapuntal texture. Repeating figures or segments in counterpoint, either exactly or by using substitutes, is called "imitation" (see Chapter 21).

This type of Theme was introduced in Chapter 8 (see page 69), but until now, you couldn't write one, because you can't just transpose figures directly.

## How To WRITE A DOMINANT RESTATEMENT

**1) Sketch the whole thing.** Draw two brackets, label an 'a' and 'b' figure in each, and mark a Roman numeral under each figure. Refer to page 69 for clarification or alternate schemes.

G: I V V I

Unlike this example, the rhythm of most 'b' figures demands continuation (a connection) to the next 'a.'

**2) Compose the first segment.** Revise it until you get something you really like.

G: I V V I

Exception: when the first 'a' figurehead is the 5th of tonic, rewrite it as a common tone for the second 'a' (Rt of V).

**3) Extract the figureheads from your first segment.** Then, starting a step above or below, mimic the overall shape the figureheads make in the first segment.

G: I V V I

**4) Compose the second segment.** First, scrutinize both the shape of the figures and the connections between them in the first segment. Do what's necessary to repeat the segment over the new figureheads. (Here, everything fits except the first part of the 'b.')

If you don't come up with anything you absolutely love, go back and choose different chord tones for the figurehead outline, then try again.

G: I V V I

now you try do 10.3-4



## WHY REPETITION SOMETIMES FLOPS

In the following example, the pattern of figureheads on beats 3-4 is identical to the pattern on beats 1-2, so we should be able to transpose the first segment without altering it. But there's a ghastly harmonic problem: to follow the sequence, E, the leading tone, must drop a 3rd. If it drops, it sounds raucous. If it ascends, it breaks the pattern!

Figureheads: *a* *b* *a* *b*

Fingerings: *R* *3* *T* *5* *9*

Chords: *f* *i* *iv* *V* *i* *vii°*

Tendency tones stubbornly follow their own inclinations—potentially deadly in segments, where everybody's supposed to follow the herd. Moo! That is, "move" any figurehead that doesn't follow the pattern.

So far, we've tailored figures to fit unequally-spaced figureheads. This time, it's the figurehead that's the problem. So get rid of it.

Actually, two new figureheads are needed—preferably two that make another descending 3rd to match the figurehead motion from beats 1 to 2. Sketch out the chord tone, and ... Aha! We're in luck! There's a C and an A. (Of course, if no 3rd were available, we'd have to use a 2nd or 4th.)

Figureheads: *a* *b* *a* *b*

Fingerings: *R* *3* *5*

Chords: *f* *i* *iv* *V* *i* *vii°*

now you try do 10.5-6

Problem figureheads pose no problem at all; you've been picking alternative figureheads since Chapter 2.

## COMPENSATING FOR JUNCTURE POINTS IN MUSICAL FORM

Sometimes the note that ends one phrase is also the first note of the following phrase. We call notes or chords that are simultaneously part of two phrases or sections "juncture points."

BACH: *Prelude*, bars 36–46, from *Cello Suite #5*

TONIC STATEMENT

DOMINANT RESTATEMENT

(continued)

**SEQUENCE**

juncture point

If you've ever tried your hand at carpentry, and especially if you've done any kind of joint work, you already have a feel for the type of give and take necessary for musical juncture points.

But what if a juncture point makes an awkward first note for the following phrase (maybe it's uncomfortably high or low)? This often happens at the beginning of a sequence, resulting in 'a' figureheads that don't all line up in the usual strict series. Listen.

BACH: **Fugue #2**, bars 7–10, (*Left Hand only*) from *Well-Tempered Clavier, book 1*

juncture point

*In this sequence, everything transposes as usual except the first figurehead, which completes the previous idea.*

You'll get confused unless you think about sequences like the previous one in a slightly flexible way. When the first 'a' figurehead of a sequence happens to be the cadential note of the previous phrase, think of the sequence as starting after the first 'a' figurehead. From that point on, it's essential to transpose the rest of the sequence according to the normal series—especially the rest of the 'a' figureheads.

“Development” can be a misleading term, especially when used to characterize the middle section of a piece.

The German word *Durchgang*, meaning “going through,” more aptly describes what happens.

## MELODIC DEVELOPMENT

So far, you've seen that tailoring figures is a necessary skill for writing flexible sequences, imitation in counterpoint, Dominant Restatement, and logical juncture points between phrases or sections. However, those same skills can be used in a less utilitarian, more decorative way: to take music down an unexpected path without wandering too far from the main road. This is commonly known as “melodic development.”

Outside of music, develop means “to gradually grow to a more complete, complicated, or desirable state.” Sometimes that's what happens in music. However, in the process of development, many ideas just repeat verbatim, others lose their identity when they get mixed with other Themes, and some even revert to an embryonic version of the opening Theme.

Instance: the Development Section of the first movement of Beethoven's 5th Symphony reaches its climax just before the Recapitulation. Now how can anyone say that the “developed” tune is “more complete, complicated, or desirable” than the original Theme? One thing for sure, it's certainly more obnoxious.

BEETHOVEN: **Symphony #5**, I. *Allegro con brio*, bars 6–13, 240–249

(opening)

(just before  
the Recap)

**1) Focus on the shape of the entire segment.** The overall effect is that the whole phrase is drawn out of the ideas of bar 1, but not overtly so.

BACH: **Allemande**, bars 1–4, from *'Cello Suite #1*

The figurehead outline of each bar is roughly the same: an overall descent to beat 3. If the figures in this excerpt didn't change so much, we could call it a Flexible Sequence.

The biggest departure comes in the middle of bar 3: the hard connection to A, making a gutsy diversion from the regular, gentle up-down motions.

In this excerpt, a two-figure segment from the end of bar 2 is reworked six more times to build the second phrase.

As the vertical alignment shows, whole figures don't repeat. Rather, just portions of the segments repeat—the last three notes of the 'a' figure and the first few notes of the 'b'.

The switch-over in bar 4 is especially interesting: the 3-note gesture from the end of the 'a' figure becomes the first part of the 'b' figure.

**2) Focus on little gestures within each figure.** The effect resembles a spider spinning a web, in the way the line seems to grow endlessly from one strand.

BACH: *Allemande*, bars 1–5, from *Violin Partita #2*

The image shows a musical score for the first five bars of the Allemande from the Violin Partita #2 by J.S. Bach. The score is written in G major (one sharp) and common time (C). The melody is presented in a single staff, with a vertical alignment of notes across five staves (labeled 1, 3, 3b, 4, 4b, 5, 5b) to illustrate the overlapping nature of two figures, 'a' and 'b'. Figure 'a' is a six-note phrase that ends with a triplet of notes. Figure 'b' is a six-note phrase that begins with a triplet of notes. The triplet of the end of 'a' becomes the beginning of 'b' in bar 4. Red boxes and vertical lines highlight these overlapping segments and the specific triplet gestures. The key signature has one sharp (F#) and the time signature is common time (C).

now you try do 10.8

### points for review

- When you can't copy the pattern of figures or figureheads exactly, imitate the figure's shape.
- Try to match the connection—link each figurehead exactly the same way each time.
- To incorporate a prominent tendency tone into a pattern, change the figurehead outline.
- Expect to tailor the beginning of a phrase at a juncture point between sections.

# 11

## character & contrast

**E**very personal music collection includes pieces that can shape or enhance moods—pick us up, calm us down, help us relish an occasional mope, or inspire us to heroism. But music doesn't have the same effect on everybody. The same piece that makes one person grin with glee can make the next guy crawl out of his skin. You are well aware of this fact if your roommate happens to like the Bee Gees.

This chapter explores how things like register, beat rhythm, harmonic rhythm, melodic gesture, the presence or absence of segments, and the length of those segments can affect what we feel as a piece unfolds moment by moment.

In particular, we'll see how each facet of figuration we have studied so far has a normal (predictable) treatment and a more innovative one. There's a time for each; the art comes in knowing when to do what.

## HOW PREDICTABLE IS TOO PREDICTABLE?

There's a very practical reason to study character and contrast. Either we overlook predictability when it's called for, or we make things far too simple: no variety, no sense of adventure. Effective music tends to start with a clear sense of convention—what “should” happen—and supplies just the right amount of *joie de vivre*. Listen to the following melody. Before reading further, try to identify several things that make it sound, well, like a finger exercise.

### A "Too-Plain Tune"



When I hear this music, I can identify four basic problems: 1) all the segments are the same length (two beats long), 2) there are far too many predictable figures, 3) all the notes are in the same register, and 4) the music sounds enslaved to the meter—there's no rhythmic nuance.

The next four sections suggest some ways to address these problems. Try not to get overwhelmed, though, because you don't have to apply all the techniques at once. Paying attention to just one aspect at a time will rescue your piece from dullsville. As proof, each separate section concludes with a revision that reworks just one aspect of the “Too-Plain Tune.”

Just as we are prone to keep everything in the same register, and just as we are prone to write lines with a limp profile, we are also prone to make every idea just as long as the others.

Gestures in bars 1–4 make gentle crests. Listen to how the idea “expands” at bars 6–7; as soon as we recognize the return of the ‘a’ figure, we patiently wait for the whole series of figures to work itself through.

## 1. DON'T MAKE ALL YOUR SEGMENTS THE SAME LENGTH

Short, medium, and long segments each produce a very different effect.

**1) Medium-length segments** (from 2–4 figures long) feel like a pleasant stroll down a familiar street.

BACH: *Allemande*, bars 3–4, from ‘*Cello Suite #3*’



**2) Very long segments** (over 4 figures long) open up a panoramic view, like looking down from a hill.

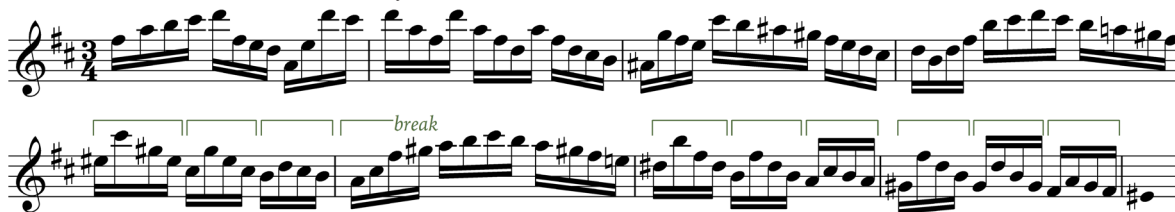
BACH: *Prelude*, bars 1–12, from ‘*Cello Suite #2*’





**3) Single-figure segments** serve the same purpose as driving over speed bumps: the experience should wake you up or slow you down.

BACH: *Courante-double*, bars 40–47, from *Violin Partita #1*



To vary segment length, you must plan beforehand. It's easy. Just draw in long and short brackets for long and short segments, then fill in figures and harmonies accordingly. Watch.

★ **First Revision of the "Too-Plain Tune,"** this time mixing up the segment length



now you try do 11.5-6

## 2. DON'T OVERUSE PREDICTABLE FIGURES

Of the three figure types, scale figures are the least sophisticated. Over-using them makes a line lose its shine. (But don't exclude them completely!) For variety, try using predictable figures in a non-predictable way.



Not all figure repetitions make segments: notice the two Runs in the first bar. To make a segment out of a single figure, you must emphasize every figure-head. Either make a hard connection or a sharp direction change right after the figure-head (see page 28).

All segments in the original were 2 beats long.

Notice that the figures on the left not only sound more easy-going than the figures on the right, they are much easier to play.

How frequently a melody changes direction has a direct effect on how complicated it sounds.

Question: How could you set up a “tongue twister” like the one in bars 33-35?

This time, the first half of the original Generic Tune is choppy, while the second half paints in broad strokes.

Believe in astrology? If your birthday falls between March and June, you tend to keep all the notes in a very small register. People born between July and October avoid using ledger lines. If you were born between November and April, you like compound melody when you hear it, but forget to use it yourself.

You can also contrast scale figures with neighbor figures. Neighbor figures have between two and four direction changes per figure, while scale figures have one or zero. In the next example, the gnarly gestures seem even gnarlier because they have a faster beat rhythm than the cursive gestures.

BACH: *Prelude (Allegro moderato)*, bars 28–36, from ‘Cello Suite #5



★ **Second Revision of the “Too-Plain Tune,”** using more direction changes



now you try do 11.3-4

### 3. DON'T WRITE ALL THE NOTES IN THE MIDDLE OF THE STAFF

Instructions way back in Chapter 1 suggest putting put some figureheads up high, some down low. That way, you can't help but jump around a lot. Also, a thorough review of topics in Chapter 7 should snap you out of registral monotony.

**1) Vary the span of your figures.** After over 50 bars of sprawling, two-octave arpeggios, Bach suddenly limits the ‘cello to smaller, more constricted figures.

BACH: *Prelude*, bars 52–58, from ‘Cello Suite #4





**2) Practice registral non-conformity.** Usually, a wide, two octave array of figureheads gets wide, far-reaching figures. Likewise, narrow, contiguous figureheads get narrow, tight figures. Switch ‘em.

outline far-reaching figureheads      normal way far-reaching figures      non-conformist way narrow, twisted figures

narrow figureheads      narrow, twisted figures      far-reaching figures

BACH: *Allemande*, bars 8–11, from *Cello Suite #1*

**3) Fake, then shoot.** Work up to a note as if you’ve gone as high as you ever intend to go, then dodge away from it, dart back, and jump to a higher note.

BACH: *Allemande*, bar 1, from *Violin Partita #2*

★ **Third Revision of the “Too-Plain Tune,”** using the register tricks we just discussed

now you try do 11.1-2

Beethoven would sketch out twenty or thirty versions of a Theme, making minor revisions before deciding to keep one.

Mozart wouldn’t use paper until he finished a Theme completely in his mind.

Single out one or two unsuspecting figures and make them go out of their way to pick up some extra notes.

Listen to how high the E sounds after Bach sets up B $\flat$  as a boundary line.

You can pivot and fake around low notes, too; look at the last two beats of the revision.

The key to this first excerpt is simple: start with scale figures and use octave displacement every fourth note.

#### 4. DON'T BECOME ENSLAVED TO THE METER

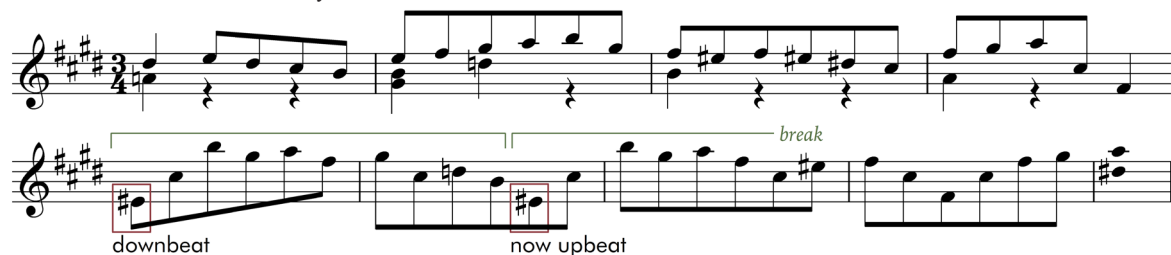
If you're ready for something a little more advanced, experiment with segment length contrary to the meter, for example, a 4-note segment in triple time, as in the following excerpt.

BACH: *Presto*, bars 32–37, from *Violin Sonata #1*

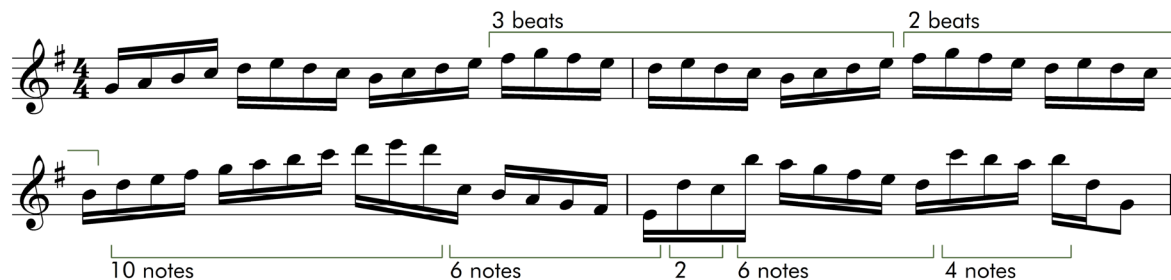


By taking a downbeat idea—the beginning of a segment—and making it start on an upbeat the next time, you can turn the meter inside out. Literal (non-transposed) repetition works best here.

BACH: *Minuet II*, bars 17–24, from *Violin Partita #3*



★ **Fourth Revision of the “Too-Plain Tune”** using asymmetrical segments that cut across the meter



now you try do 11.7-8

#### PUSHING THE BOUNDARIES

The figuration techniques described in Chapters 1–10 introduce all the basic techniques you will need to write effective music, provided you remember to combine convention with just enough innovation. “Just enough” refers to quantity, not intensity. You can (and should) experiment with all of the techniques we have covered so far.

Take Stationary Pitch, for instance. Here follow some advanced possibilities.

**1) Use a Stationary Pitch to slow down a sequence.**

BACH: *Gigue*, bars 12–14, from *Violin Partita #2*

**2) Expand each Stationary Pitch into an auxiliary group.**

BACH: *Courante*, bars 36–42, from *'Cello Suite #1*

**3) Freeze just part of the stationary auxiliary group, letting the rest of the line move against it.**

BACH: *Prelude #15*, bars 4–5, from *Well-Tempered Clavier, book 1*

**4) Create an audible illusion.** A clever treatment of Stationary Pitch can make a compound melody without a separation in register.

BACH: *Prelude*, bars 30–35, from *'Cello Suite #1*

Bars 3–4a appear exactly as they did in the original melody.

★ **Fifth Revision of the “Too-Plain Tune,”** using a Stationary Pitch.

Two staves of musical notation in 4/4 time. The top staff is a treble clef with a key signature of one sharp (F#). The bottom staff is a bass clef with a key signature of one sharp (F#). The melody consists of eighth notes and quarter notes, with a consistent pitch level across the two staves.

now you try do 11.8

Very few pieces stick to one texture all the way through.

## CONTRAST IN CONTEXT

The whole reason to vary texture is to arouse interest or curiosity, so whenever there’s a texture switch, expect a sharp contrast rather than a subtle one. In solo music, most texture changes occur in four places:

**1) Switch textures from figure to figure,** as an aid to making contrast within a segment.

BACH: *Courante*, bars 1–4, from *Cello Suite #3*

BACH: *Gigue*, bar 10, from *Violin Partita #2*

Two staves of musical notation. The left staff is a bass clef in 3/4 time, showing a sequence of eighth notes grouped into pairs labeled 'a' and 'b'. The right staff is a treble clef in 12/8 time, showing a sequence of eighth notes grouped into pairs labeled 'a' and 'b'.

BACH: *Bourèe*, bars 47–51, from *Violin Partita #1*

One staff of musical notation in treble clef, 3/4 time. The melody consists of eighth notes grouped into pairs labeled 'a', 'b', 'c', and 'b'.

Both examples here involve the beat rhythm, although any type of contrast would be equally effective.

**2) Switch textures half-way through a phrase.**

BACH: *Courante*, bars 25–28, from *Violin Partita #2*

One staff of musical notation in treble clef, 3/4 time. The melody starts with eighth notes and then switches to triplets of eighth notes labeled 'pushy triplets' and 'choppy dots'.

BACH: *Gavotte en Rondeau*, bars 1–8, from *Violin Partita #3*

One staff of musical notation in treble clef, common time. The melody starts with a simple eighth-note pattern labeled 'simple' and then switches to a more active eighth-note pattern labeled 'active'.

active \_\_\_\_\_ simple \_\_\_\_\_

**3) Switch back and forth between two textures within a phrase.**

BACH: *Bourée-double*, bars 28–33, from *Violin Partita #1*

chordy \_\_\_\_\_ compound melody \_\_\_\_\_ chordy \_\_\_\_\_ compound melody \_\_\_\_\_ chordy \_\_\_\_\_

This couldn't be the very opening of a piece. Why not?

**4) Switch textures from phrase to phrase.**

BACH: *Gigue*, bars 1–48, from *Cello Suite #3*

THEME alternates long and short gestures LONG SEQUENCE

5 9 a

b c d 13 a b c d 17 a b

c break 21 STATIONARY PITCH 25

29

DRONING PEDAL 33 37

SHORT SEQUENCE squirmy gesture broad gestures 45 squirmy gesture cadential arpeggio

now you try do 11.11-12

## points for review

- Fight against the tendency to write everything in the middle of the staff. Use compound melody. Vary the span of your figures. Connect figureheads that are close together with expansive figures, or vice-versa.
- Fight against the tendency to over-use predictable figures. Use neighbor and arpeggio figures, not just scale figures. Learn to connect predictable figures in unpredictable ways.
- Fight against the tendency to make every segment the same length. Short, medium and long segments all affect the pacing differently. Try drawing brackets first, then writing music to fit them.
- Fight against the tendency to let the barline rule your life. Experiment with a few asymmetrical groups of notes here and there (over-using them will make you sound like a hack).
- Sharp textural contrasts make music more exciting to listen to.
- Contrasts can appear on different levels: from bar to bar within a segment, part-way through a phrase, from phrase to phrase, and from section to section.

part four:

*harmonic figuration*





# 12

## hamburger helper

**D**rool glands remain relatively inactive at the mention of butterless bread, gravyless turkey or frostingless cake. Plain food has very little appeal until we add other food to it. Baked potato plus sour cream. Spaghetti plus meatballs plus marinara sauce plus parmesan. Coco Puffs plus milk.

Some remote part of our musical palate must resemble a musical drool gland, because composers automatically add chords to chords, just like chefs add food to food. However, many students have a hard time mastering even the most basic recipes for combining chords—and for good reason.

When a waiter brings out a slab of haddock and a little cup of tartar sauce, it's easy to tell which part cost \$18.95. On the other hand, figuring out which chord is the main chord and which chords are the add-ons can feel like sorting bagels from doughnuts—blindfolded.

But there's hope! This chapter suggests a reasonable way to tell a meaty chord from a saucy one. Once you know the difference, you can make a plain harmonic meal a heck of a lot more appetizing.

To write a melody, we set up figureheads, then add notes to connect or elaborate them. It's possible to conceive of harmonic progressions in the same way. Here are the most basic conventions:

- 1) Every bar has one main harmony. That main harmony most often comes on beat one.
- 2) Together, all the main harmonies of a phrase form a harmonic foundation (just as figureheads form a melodic foundation).
- 3) Other less-weighty chords can be added between the foundational harmonies, either to elaborate the current harmony, or to lead to the next one.

The main chords of each bar

E<sup>b</sup>: I I V V

Ligatures make the *melody* more interesting.

E<sup>b</sup>: I I V V

Chords can form ligatures, too, to make the *harmony* more interesting.

E<sup>b</sup>: I IV V I V I V V  
(B<sup>b</sup>: I IV V I)

BACH: *Courante*, bars 1–3, from 'Cello Suite #4

E<sup>b</sup>: I IV V I V I V V  
(B<sup>b</sup>: I IV V I)

The same principles behind melodic figuration apply to harmony as well.

normal treatment

special treatment

Add chords on the weaker beats of each bar to fill between the main chords on each downbeat.

Add chords between main chords set further apart than one bar (explained in the next chapter).

## HARMONIC PROLONGATION: FANCY NAME, SIMPLE CONCEPT

The process of combining food with other food to make dining more pleasurable is called cooking. The process of combining chords with other chords to make music more pleasurable is called prolongation.

Although the word “prolongation” implies something longer, it has absolutely nothing to do with extending the duration of a chord. It’s a fancy way of saying “what you do to a harmony to make it more interesting.” (See the side text for a more correct definition.) Say you have a bar of C Major harmony followed by a bar of G Major harmony. Add other chords around C during the first bar and you’ve prolonged it.

Look at the remainder of this chapter as a sort of cookbook. Each section deals with one type of prolongation at a time. However, prolongation techniques sound best when you combine a few types together within one phrase.

## AUXILIARY CHORDS

Auxiliary chords work like auxiliary notes: the first and last chords match, the middle one is different.

**Picking a middle chord** A melodic auxiliary has one particular neighbor note that works better than all the rest—one half step below the chord tone. Other auxiliary notes work OK, but they don’t tighten the string on the package quite so well.

It’s the same with auxiliary chords. One particular chord works better than all the rest: the dominant of the main harmony (a secondary dominant in many cases).

“Harmonic prolongation is created when a single harmonic entity is perceived in the listener’s imagination to be sustained through time, despite the presence of an intervening chord (or chords) of different harmonic meaning. The prolonged harmony thus remains in effect without being literally represented at every moment throughout the progression. The intervening chord can be considered a subordinate harmony because it remains under the influence and control of the prolonged harmony.” [William Caplin, *Classical Form*]

**One chord, or three?** Auxiliary chords, like auxiliary notes, quickly (and simply) activate an otherwise simple musical texture.

Auxiliary Prolongation								
middle chord	Major mode					minor mode		
	I	ii	IV	V	vi	III	VII	ii°
V or vii°	I-V-I	ii-V/ii-ii	IV-V/IV-IV	V-V/V-V	vi-V/vi-vi	III-V/III-III	VII-V/VII-VII	n.a.
IV	I-IV-I	n.a.	n.a.	V-I-V	vi-ii-vi	III-VI-III	VII-III-VII	ii°-v-ii°
ii	I-ii-I	n.a.	n.a.	V-vi-V	vi-vii°-vi	III-iv-III	VII-i-VII	ii°-III-ii°
v	n.a.	ii-vi-ii	n.a.	n.a.	vi-iii-vi	n.a.	n.a.	ii°-VI-ii°

The chart shows the best auxiliary chord in the top row. Alternative auxiliary chords are shaded. Stick to the chords on this chart. Others have so much harmonic contrast they clash (I-V/ii-I), or so little contrast that they’re insipid (I-iii-I).



## MIMIC THE DOUBLE NEIGHBOR

An auxiliary figure has one neighbor note. A Double Neighbor figure has two.

in notes                      in chords

C: I                      V                      I                      V

C: I                      V                      I                      ii                      V                      I                      V

**Think of each main harmony as a temporary key.** No chart this time, because there's only one formula "I-IV-V-I," with two slight variables: 1) between IV and ii, and 2) between V and vii°.

**I-vi-ii-V** prolonged with Double Neighbor chords

C: I                      vi                      ii                      V

C: I                      ii                      V                      I                      vi  
a: i                      iv                      V                      i                      d: i                      ii                      vii°                      i                      G: I                      ii                      V                      I

now you try    do 12.3-4

## HARMONIC CURLICUES

The Curlicue is an enigma. Only the figurehead is guaranteed to be consonant. The other three notes—the bulk of the chord—have little or nothing to do with the current figure, only the upcoming one.

I                      vi                      I                      vi

I                      vi                      I                      vi  
a: V                      i                      V                      i

Again, think of each main harmony as a temporary tonic. Choose from these three formulas.

- a) | (x) - I - IV - V - | I                      b) | (x) - V - I - V - | I                      c) | (x) - vi - ii - V - | I

Harmonic curlicues can produce some odd-looking harmonic "progressions." Instance: The C - E Major in this example would never work as main harmonies; the E chord only makes sense because of where it goes. C doesn't go to E so much as the E initiates a new goal.

### I-vi-ii-V prolonged with harmonic Curlicue chords

C: I                      vi                      ii                      V

C: I                      a: i                      iv                      V                      vi                      i                      d: vii° i                      vii° i                      ii                      G: V                      I                      V                      I

Technically, secondary dominants are never foundational because they don't belong to the key. When you spot a secondary dominant on a downbeat, think of the next chord (its tonic) as the main harmony.

### APPOGGIATURA CHORDS

A more aggressive approach puts the secondary dominant on the downbeat.

### I-vi-ii-V prolonged with appoggiatura chords (secondary dominants)

C: I                      vi                      ii                      V

C: I                      V                      V                      vi                      vii°                      ii                      vii°                      V

now you try do 12.5-6

Running one harmony through several inversions is a form of prolongation because it adds freshness without actually changing harmony. Whenever a harmony last longer than a few beats, figures and figureheads must be set up in specific ways to hold our attention.

### PROLONGATION WITHOUT ADDING CHORDS

Invention #8 shows two very different effects you can get without changing chords at all. Bars 1-3 are thematic, forward-reaching music. Bars 4-6 are diddle-diddle music, harmonic blather.

BACH: Invention #8, bars 1-8

F: I                      I                      I                      I

F: I                      vi                      C: V                      I                      IV

**1) Forward-reaching music.** Arpeggiate figureheads over a fairly large registral span.

BACH: *Brandenburg Concerto #6 I, bars 1–3*

BACH: *Prelude, bars 1–6, from 'Cello Suite #3*

**2) Diddle-diddle music.** Repeat figureheads from beat to beat while confining the register.

BACH: *Prelude, bars 9–12, from Violin Partita #3*

The figures don't focus on getting to the next figurehead; they hover. Back-kick auxiliaries are common, as are Stationary Pitch constructions.

now you try do 12.9-10

## How To PROLONG A PROGRESSION TO WRITE A NEW TUNE

**1) Find music with a relatively simple progression.** Here, we use a Bach chorale, but quite honestly, not all of them use “simple” harmony.

BACH: *Jesus Christus, unser Heiland (Chorale #30)*

**2) Extract its chords, and set them up as main harmonies.** In this case, it works well to use the chords of the first five beats as the main harmonies for the first five bars.

e: i          v          VI          ii°          V

**3) Add harmonic prolongation.** While there's no obligation to use every trick in the book, we used most of the techniques presented in this chapter in this short excerpt.

e: i          V          v          VI          ii°          V

(b: i    ii°   V   i) (e: V   VI)

**4) Extract some figureheads.**

e: i          V          v          VI          e: ii°          V

(b: i    ii°   V   i) (e: V   VI)

This melody utilizes two main techniques:

- 1) the Dominant Restatement (bars 1–2), and
- 2) the Stationary Pitch (bars 3–5).

**5) Compose the melody,** using techniques you've already mastered.

e: i          V          v          VI          e: ii°          V

now you try do 12.5-6

### points for review

- If you can do it in notes, you can do it in chords.
- Each bar has one main harmony—usually the downbeat chord.
- The main chords of each phrase form its harmonic foundation.
- Adding more chords to the main chords is called prolongation.
- Some prolongations embellish the harmony of the current bar. Others look to the next harmony and work backwards.



# 13

## field goal

**A** classic Three Stooges episode takes place on a football field. The Stooges don't know which way they're supposed to run, or even how they ended up in the game in the first place, so they fall back on the one thing they can do without screwing up: running around in circles saying "nyuk nyuk nyuk" while poking each other in the eyes. This makes some people (mostly males) laugh so hard they fall down on the floor. The rest (mostly females) have no appreciation for the incisive ability to turn a potentially embarrassing situation into an opportunity for horseplay.

Most of us feel like stooges every time we try to write a harmonic progression. We have no game plan, don't recognize the boundary lines, and don't know which goal to run toward. Writing progressions in the previous chapter was easy to do because the harmonic goals were close together—from barline to barline. To write longer progressions, all we need is one thing: bigger goals.

Those bigger goals go by the name *cadences*. The first objective in this chapter is to figure out exactly what kind of goal a cadence is. Once you know where you're headed, you have a much better chance of getting there. Nyuk nyuk nyuk.

In this book, every single component is not called a phrase. So far, your mental picture of musical physiology should look like this:

- 1) Notes combine into figures.
- 2) Figures combine to form segments, or short musical ideas.
- 3) Short musical ideas combine to form phrases.
- 4) The shin bone's connected to the knee bone.

There's a difference between a cadential formula—a motto chord progression like V-I or ii-V-I—and an actual cadence, which requires that certain melodic, rhythmic, and formal factors also be met.

## CONCEPTUAL ROADBLOCKS

Before you can see the cadence as a dynamic force in your music, you need to remove two major impediments. The first arises in trying to answer the question: What's a phrase? If this were an English class, there'd be no problem; a phrase is a group of words that's missing a subject or verb. Unfortunately, no such simple rule exists for music—at least not one that everyone can agree on.

Melodies inherently contain several little divisions or end points. What one theorist calls a phrase, another labels a motive or a group. Studying phrases and cadences is frustrating because these two relatively abstract concepts have no real definition without at least some reliance upon the other. So while “A musical idea is not a phrase unless it ends with a cadence,” it's also true that “A cadence comes at the end of a phrase.”

Of the two terms, *cadence* can be given a more concrete definition. Use the material in the beginning of this chapter to get a feeling for what a cadence is, then listen closely to what you think to be a phrase and see if it has a cadence.

The second impediment concerns some faulty but prevalent definitions of cadences—three myths which muddle the truth and render them useless.

**MYTH #1: A cadence is a chord progression.** The chords V-I come at the end of so many phrases that those two chords are thought to form the actual cadence itself. Bad conclusion. If V-I automatically means “cadence,” the example below would contain three cadences in the second bar. That's silly.

BACH: *Allemande*, bars 1–2, from ‘*Cello Suite #3*

C: V I V I V I

**MYTH #2: A cadence is a resting point.** Rest implies cessation of motion or ambition. But in a half cadence, ending on V leaves the music with a strong urge to get going again. And although many cadences are indeed long notes (as in the following example), some cadence points coincide with fast notes (see the examples in “Myth #3”).

Oh Susanna!

Oh I come from Al - a - ba - ma with a ban - jo on my knee

Half Cadence

**MYTH #3: A cadence is the last note of a phrase.** Rhythmically, most cadences are figureheads. Notes after a cadential figurehead can do two things: 1) “round out” the ending, or 2) form a pick-up (ligature) to the next phrase. Look for the place the music lands, not necessarily where it finally stops.

BACH: *Sarabande*, bars 29–32, from ‘Cello Suite #4



*These notes round out the previous cadence.*

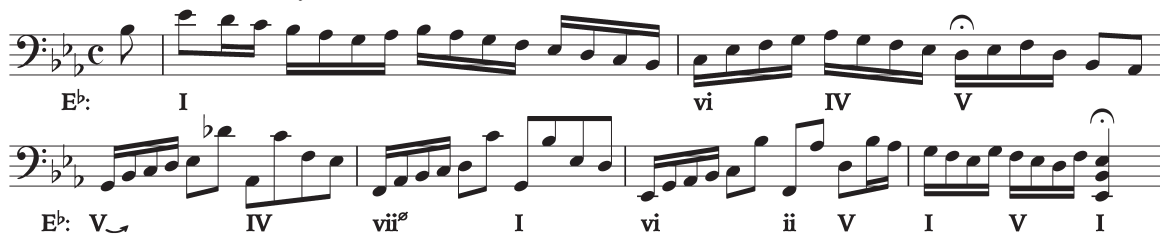
BACH: *Bourée II*, bars 1–4, from ‘Cello Suite #3



*These notes form a pick-up to the next phrase.*

**FACT: A cadence is a landing point or “goal”** –simultaneously a melodic and harmonic goal. Listen carefully, and you’ll find that every melodic phrase feels like it lands on one particular note. Harmonically, the chord supporting that melodic goal feels either open or closed: dominant or tonic. At the end of the chapter you’ll find a section that explains supposed exceptions away.

BACH: *Allemande*, bars 1–6, from ‘Cello Suite #4



*now you try do 13.1-2*

An airplane lands on a very long runway, but you can always find one spot—a short skid mark—where the plane touches down. That’s what you’re looking for in a phrase.

It’s a good idea to always make the cadence at the exact spot the harmony changes, even if the melody keeps going. Hence, D is a clearer cadence choice than B $\flat$  in the first phrase below.

## USE CADENCES TO CONSTRUCT SENSIBLE HARMONIC PROGRESSIONS

In the previous chapter, we worked with short-ranged harmonic goals; we started with a bar-to-bar harmonic foundation, then filled in prolongational chords on each beat. Next step: BIGGER HARMONIC GOALS! Since the harmony of a cadence must be I or V, sketch the cadence first, then fill in prolongation chords for the main harmony of each bar.

Think of the cadence as a foundational figurehead that the whole phrase works toward.

The formulae for prolongation you learned in the last chapter will help you construct entire phrases, as well. At the same time (depending on who you ask), there may be conceptual problems with thinking of all the harmonies in a progression as “prolongational.”

1) When the next bar is the harmonic goal, add prolongational chords from beat to beat.

D: I V D: I IV I V

2) Similarly, when the cadence is the harmonic goal, add “prolongational” chords from bar to bar.

D: I V D: I IV I V

### (NEARLY) EVERY CADENCE HAS A DOMINANT IN IT

In many regards, our sense of key depends more on dominant harmony—that “harmonic lift” that points to home—than on hearing the tonic itself. Cadences play a main role in this regard. As mentioned earlier, landing points of a phrase will be either “up” or “down;” “open” or “closed.” Without the dominant sup-plies, it’s not a cadence. So (in 99.98% of the time) every phrase eventually sets up a big dominant, either as the final harmony of a half cadence, or as the chord that leads to tonic.

Further, there’s something odd that happens in cases where we have a cadence that appears to be missing a dominant: our ears supply one. Such is the case with the thirty-second note B<sup>b</sup> below.

HAYDN: *Sonata*, bars 1–3

**A prototype: the simple two-phrase structure.** Most music—even complicated music—sits on a simple two-phrase harmonic foundation. The first phrase ends “open,” with a half cadence, and the second phrase ends “closed,” with a tonic cadence. Putting the cadences in this order links the two phrases, such that the second “answers” the first.

BACH: *Courante*, bars 1–8, from *Cello Suite #1*

G: I I IV V  
G: ii V I IV V I V I

**Sample completions of the simple two-phrase structure.** Here are but six ways to fill in chords that lead to V—first as a half cadence, then as a tonic cadence.

a)  C: I I I V I I V I

b)  C: I I V V I V V I

c)  C: I I IV V I IV V I

d)  C: I V vi V I V I V I

e)  C: I vi ii V iii vi ii V I

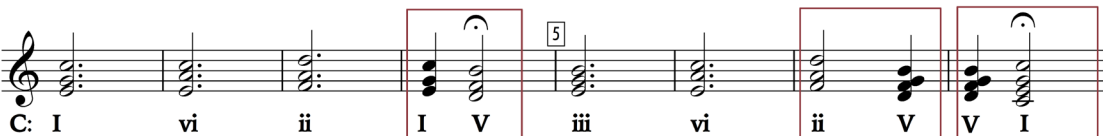
f)  C: I vi V V V V ii V I

Listen to how chords fall automatically—“predictably”—into place around a foundation of I and V. This is good news, because it’s very easy to get to V. (Only iii–V and vii°–V prove to be awkward.) After sketching the cadential dominant, work forward to or backward from it.

### IMPORTANT: CADENTIAL HARMONIES ARE METRICALLY MOBILE

Typically, calling something a “goal,” and treating it as part of a “foundation” strongly suggests that such a thing is fixed, solid, stable, unyielding, and stationary. Yet this is not true of musical goals. You’ve seen this already with figureheads, which can be moved in register, substituted with other chord tones, and even displaced by appoggiaturas. In the same way, when I and V function as harmonic goals, they can come on any beat—or even an upbeat, for that matter.

A rewrite of letter e) from above

e)  C: I vi ii I V iii vi ii V V I

## How To WRITE A SIMPLE TWO-PHRASE PASSAGE

**1) Sketch out barlines for eight measures, then mark two fermatas:** one in bar 4 and one in bar 8. Put a “V” under the fermata in bar 4, and a “I” (or “i”) under the fermata in bar 8. Put a V either at the beginning, middle, or end of bar 7.

E<sup>b</sup>: I V V I

In bar 7, I've moved the cadential V along the means I've suggested in the previous section. By treating V in a flexible way, you'll automatically start varying the strength of your cadences—one of the chief ways of keeping your music dynamic ...

**2) Jot in the downbeat chords.** Start on tonic in bar 1, and use any chords from bars 2 and 3 that lead to V in bar 4. Bar 5 can start on any chord in the key. For bar 6, pick a chord that leads to the V in bar 7.

E<sup>b</sup>: I I IV V V vi ii V I

**3) Prolong each bar.** Rely on what you learned in Chapter 12.

E<sup>b</sup>: I V I V IV V V vi ii V I

**4) Choose figureheads.**

E<sup>b</sup>: I V I V IV V V vi ii V I

... and by the time I get to adding actual figures, I find that the cadence sounds even better if I fiddle with the placement of V even more: creating a cadential dominant on beat 2.

**5) Fill in figures.** Revise any figureheads or chords that don't yield exciting results.

E<sup>b</sup>: I V I V IV ii V  
E<sup>b</sup>: V V vi V ii V V I

now you try do 13.3-4

## ADDENDUM: CADENCE FORMULAE NOT INVOLVING V AND I

Of all the formal elements in music, cadences invariably receive the most conventional treatment. That is to say that if a composer is going to get fancy, she's likely to mess with the typical 4-bar phrase length, or rearrange the typical sequence of thematic events, or add a codetta, but she's NOT likely to alter the melodic and harmonic *foundation* of each phrase's landing point. Might she ornament it? Most definitely. Delay it? Certainly. But as cadences themselves help form the harmonic foundation of a composition, they are not likely to be tonally ambiguous. Verily, the cadences presented in this chapter, and indeed, at least 98% of all cadences in music receive "normal" treatment in that they involve I and V, used in quite conventional ways. In this light, let's look at a few other possible situations where the harmony at cadence points is not likely to be the run-of-the-mill I and V.

By and large, music isn't made from brand new constructions at every turn. It's made of two opposing forces, tonic and dominant, as basic as inhaling and exhaling. In a very real sense, tonic and dominant actually make music breathe.

**1) Deceptive cadences.** A deceptive cadence is not a new phenomenon at all; it's merely an alteration of a tonic cadence. Rather than landing on tonic, vi or some other chord appears—purely for shock value.

BACH: *Sarabande*, bars 21-27, from *'Cello Suite #4*

Chord progression for BACH: *Sarabande*, bars 21-27, from *'Cello Suite #4* (E $\flat$  major):

Chords: V, V, I, V, V, I, V, I, IV, I, V $\frac{3}{2}$ , vi

**2) Cadences on ii, iii, IV, or VII.** If the harmony at the cadence is not I, (vi) or V (vii $^{\circ}$ ) in the original key, the music has modulated, and the mystery chord is I, vi or V in the new key. If the music returns to the original key after the cadence, we usually consider it a "tonicization" (or "temporary modulation").

BACH: *Sarabande*, bars 1-8, from *'Cello Suite #2*

Chord progression for BACH: *Sarabande*, bars 1-8, from *'Cello Suite #2* (D major):

Chords: d: i, V, I, iv, i, iv, V, d: i, V, i, iv, VII, i, F: V

In the following example, "less hefty" cadences appear midway between the more substantial ones in bars 5, 9, 13, and 17. The two "less hefty" cadences after the double bar are on iv. The one in bar 11 is a deceptive resolution that ends up thwarting the cadence—delaying the resolution to i until the beginning of the next phrase. The cadence in bar 15 hardly even constitutes a tonicization because it happens so quickly.

Are you surprised that such a measly little wisp of a dominant (bar 3) can actually be a harmonic goal?

BACH: *Gavotte en Rondeau*, bars 1–16, from *Violin Partita #3*

E: I ii V I V I V I ii  
 E: V I ii V I I ii c#: V<sub>4</sub> iv i  
 E: iv ii i V i V iv vii° i V I

Bach's church gig included harmonizing some tunes written about a hundred or so years earlier—well before functional tonality was invented. Many of those tunes were modal, or contained a few modal phrases. Therefore, smooth, fully functional tonal chord progressions didn't always fit. Hence, plagal cadences and surprise modulations. In compositions he wrote from scratch, Bach used tonic and dominant cadences exclusively.

**3) Plagal cadences.** Most plagal cadences aren't even cadences! Listen closely. What we call a plagal cadence is really a codetta—coming on the heels of a tonic cadence.

BACH: "Gott Sei uns gnädig und barmherzig" Chorale #320

f#: i VII III V I V VI A:V I vi ii° V I  
 A: I V V V ii f#: i<sub>4</sub> V<sup>4-3</sup> I iv i<sub>4</sub>-<sub>5</sub>

tonic cadence  
 tonic cadence "plagal cadence"

### points for review

- Every phrase ends with a cadence—a melodic/harmonic goal supported by either tonic or dominant.
- That melodic goal is usually a figurehead—the note where the melody lands or completes an idea.
- The harmony at a cadence just about always involves V: Either the phrase ends on V, or goes all the way to I (preceded by V).
- To write a harmonic foundation for an entire phrase, set up a cadence as a goal, then fill in chords on the downbeats to “prolong” the motion from the first chord to the cadential dominant.



## 14

## innuendos

**H**ave you ever noticed that you can tell when somebody's ready to get off the phone, even without listening to the actual words? The speaker's speech patterns tell you when the conversation is about over. The words suddenly get loud and staccato: "OK, tomorrow? OK. Two o'clock's better. No, OK. OK, good. Uh-huh. OK, bye."

In the same way, there's a little tip-off that the end of the phrase draweth nigh. The figure just before a cadence is likely to be a little disheveled while an extra harmony jockeys itself in to make a final dash for the finish line.

BACH: *Allemande*, bars 3-4, from *'Cello Suite #3*

The image shows a musical staff in bass clef with a common time signature (C). The notation consists of two measures. The first measure contains a sequence of eighth notes: G2, A2, B2, C3, D3, E3, F3, G3. The second measure contains a sequence of eighth notes: G3, F3, E3, D3, C3, B2, A2, G2. Below the staff, the fingering for the left hand is indicated: C: vi ii V I ii I V I. The final note of the second measure is a half note G2 with a fermata.

Actually, “Twilight Zone” might be a better name: we abandon normality, so weird things can happen.

Our problem is that we often miss musical signals entirely, even though they are as real as the tuition bill in the mailbox.

The better you understand cadence signals, the better musician you’ll be.

Bar 4 breaks the pattern established in bar 2 by putting an extra note on beat 1 (an appoggiatura).

In the second phrase, the barrage of eighth notes comes to a bumpy halt in bar 7.

There are always a few more figures between the place the sequence breaks and the cadence.

## SET-UP FOR A BREAK-UP: THE HOT ZONE

Harmonic rhythm is established early on in a phrase, but so are rhythmic patterns, segments, and registral boundaries. Once established, any disruption in these norms becomes a signal, meaning, “Hark! A cadence draweth nigh!” These disruptions invariably happen at the same place: in “the hot zone” – the music just before or right at the cadence.

Here’s a list of the most common disruptions to listen for.

**1) Listen for a change in harmonic rhythm.** The previous example shows harmonic rhythm that accelerates before a cadence. That’s the most common scenario. However, it might also decelerate.

BACH: *Presto*, bars 47-54, from *Violin Sonata #1*

**2) Listen for a disruption in beat pattern.**

BACH: *Bourée I*, bars 1-8, from *Cello Suite #3*

**3) Listen for a break in a Sequence.** After a Sequence breaks, a cadence is usually not far off.

BACH: *Allemande*, bars 3-6, from *Cello Suite #4*

**4) Listen for a sudden change in register.** Music that starts out all splattery might pour the last few notes through a funnel (as in the previous example). Music that starts in cramped quarters might break free (as in this next example, which does so in both directions).

BACH: *Bourèe*, bars 9–16, from *Violin Partita #3*

Typically, the highest note(s) in a passage mark some sort of melodic culmination, but in this phrase, Bach uses a sudden flashy flourish to point to what follows.

**5) Listen for a change in segment length.** This is one of the most common giveaways that a cadence is about to happen. Study the three excerpts on the previous page for clear examples. The excerpt below is a bit more nuanced. The beginning of bar 20 begins with a (more registrally compact) repetition of bar 19, but then suddenly, on the third beat, the idea is broken–attenuated–to bring in a 1-beat figure that sounds strongly dominant.

BACH: *Courante*, bars 20-24, from *Violin Partita #2*

**6) Listen for the completion of a scale in the melodic outline.** When the figureheads or other prominent notes begin building a scale or arpeggio, we yearn for its completion. And in many cases, like the one below, that completion is heightened by delaying it in the hot zone.

BACH: *Bourèe-double*, bars 1–4, from *Violin Partita #1*

Even though we hope for a B on the fourth downbeat, the E teases the completion of the descending scale, making the cadence stronger.

**7) Listen for extra weight on the cadential dominant.** The most common way to highlight V is to use a cadential (appoggiatura) chord.

BACH: *Gigue*, bars 9-12, from *'Cello Suite #1*

Is the dominant camouflaged (treated the same as the other chords) or painted fluorescent orange (given special rhythmic or registral treatment)?

now you try do 14.1-2

You don't stop a car the same way every time. Sometimes you coast, decelerating gradually, other times you make skid marks. It depends on the circumstances: a sudden yellow light, a yippy dog, cute hitchhikers. You don't stop a cadence the same way every time, either.

## THE MORE FACTORS THAT CHANGE, THE STRONGER THE CADENCE

How much a particular cadence sticks out hinges on three factors: 1) whether the patterns established early in the phrase are strict or flexible, 2) the number of factors which change in the hot zone, 3) how drastically they change. Notice how much stronger the second cadence sounds in this excerpt.

BACH: *Courante*, bars 1–8, from *'Cello Suite #1*

The image shows two staves of musical notation for a piece by Bach. Below the staves is figured bass notation. The first staff has figures: G, I, I, IV, V. The second staff has figures: G: ii, V, I, IV, V, I, V, I. The notation includes a treble clef, a key signature of one sharp (F#), and a 3/4 time signature. The music consists of eighth and sixteenth notes, with some slurs and accents.

Other examples of Chaconne include: the "Crucifixus" from Bach's b minor Mass, the "Larghetto" from Beethoven's Violin Concerto, The "Finale" from Brahms Fourth Symphony, and "Hit the Road Jack," by Ray Charles.

## CASE STUDY: BACH'S "CHACONNE" FOR SOLO VIOLIN

No two cadences work exactly the same way. We can prove this by analyzing a piece that builds every one of its 64 phrases over the same 4-bar progression. It takes about fifteen minutes to play. Fifteen minutes! The same 4-bar progression! How in the world does Bach hold anyone's attention for so long?

**He varies the melody.** Bach uses every figuration technique described in this book (plus a few others) to keep the tune captivating at each turn.

**He varies the harmonic prolongations.** A Chaconne is a series of short variations over a repeating bass or harmonic pattern. This piece happens to use the most common one: a descending series starting on tonic and getting to dominant by the fourth bar. A vast variety of prolongations fits between these two harmonic goals. It's a great study of re-harmonization.

**He varies the phrasing.** Unless some cadences are stronger than others, we'll feel the same cadential thump every four bars. (Imagine driving fifteen minutes over speed bumps.) The first two or three bars of each phrase set up norms; then in bar 3 or 4, the patterns either break sharply to make a strong cadence, or break just a little to make a subtle cadence.

**ESTABLISHING THE THEME, BARS 1-8.** The second phrase repeats the first phrase verbatim, until the cadence preparation in bar 8, where a sudden change of register ( $B^b$ ), the stronger dominant (moved to beat 2), and the change in beat rhythm (a Pickup auxiliary to G on beat 3) make for a bigger cadence the second time around. Keeping the first cadence smaller than the second lets the first two phrases stand together as the Theme.

A few patterns don't break at all so that they make a seamless juncture with the next phrase.

BACH: Chaconne, from *Violin Partita #2*

d: i                      ii    V                      i    VI                      iv    III    V                      i

signals in bars 1-4	norms established	the hot zone	strength
harmonic rhythm	chords change on beats 1 and 2	extra chord on beat 3	4
figuration	block chords: quadruple stops	converging passing chords	2
patterns	dotted note on beat two	no dot	4
register	low-middle	thins out	-4
strength of V: moving to beat 3 lessens its weight			1
TOTAL			7

d: i                      ii    V                      i    VI                      iv    V                      i

signals in bars 5-8	norms established	the hot zone	strength
harmonic rhythm	chords change on beats 1 and 2	extra chord on beat 3	3
figuration	block chords: quadruple stops	open voicing; passing chords	5
patterns	dotted note on beat 2	extra, faster dots; 32nds accent beat 3	4
register	low-middle	octave higher	5
strength of V: lands hard on beat 2; 7th is accented			5
TOTAL			22

d: i                      ii    V                      i    VI    ii    V                      i    V    i

signals in bars 9-12	norms established	the hot zone	strength
harmonic rhythm	two chords per bar	extra chord on beat 3 (bar 3)	4
figuration	block chords mixed with single notes	more block chords	4
patterns	dotted eighth-sixteenth	no change	0
register	low-middle	no change	0
strength of V: starts strong, but resolves prematurely			1
TOTAL			9

Quadruple stops are a violin's way of shouting. In keeping with the strident mood, Bach changes chords on beat 2, going against the grain of triple meter (beat 3 is a much smoother upbeat). Sliding the dominant over to beat 3 at the cadence gives it less weight than it would get on beat 2.

While the first two cadences were set up to go all the way to tonic, the next four phrases end with half cadences.

d: i                      ii      V                      i      VI      vii°      i      V                      i

signals in bars 13-16	norms established	the hot zone	strength
harmonic rhythm	two chords per bar	extra chord on beat 3 (bar 3)	4
figuration	block chords mixed with single notes	more double stops	4
patterns	dotted eighth-sixteenth	no change	0
register	low-middle	no change	0
<b>strength of V:</b> huge $\frac{3}{4}$ ; then prolonged with app. 4-3			5
TOTAL			13

d: i                      VI      V      V                      IV      ii°                      i      V                      i

signals in bars 17-20	norms established	the hot zone	strength
harmonic rhythm	two chords per bar	no change	0
figuration	double stops mixed with single notes	no change	0
patterns	descending bass: D-C#-C-B-Bb	reaches A-goes back up	3
register	high-middle; one octave	no change	0
<b>strength of V:</b> mid register $\frac{3}{4}$ ; bass disperses			2
TOTAL			5

d: i                      VI      V      V                      IV      ii°                      V      i      V                      i

signals in bars 21-24	norms established	the hot zone	strength
harmonic rhythm	two chords per bar	an extra secondary dominant tossed in	2
figuration	double stops mixed with single notes	no change	0
patterns	descending bass: D-C#-C-B-Bb	reaches A and stops	5
register	high-middle; one octave	no change	0
<b>strength of V:</b> huge $\frac{3}{4}$ ; then prolonged with app. 4-3			5
TOTAL			12

**Bars 24-27 warrant special mention.** A number of factors change in the third and fourth bar, but they're so drastic that they give attention to the melodic gesture over iv, making the cadence of this phrase feel like a codetta. It's very interesting!

And the subtle split of register! At the end of bar 24, D is left dangling as a new Sequence begins in bar 25—nestling itself into the middle of the phrase. When the Sequence breaks in bar 26, the melody stretches out to seize the high D once again. Overtly returning to a prominent note from the beginning of a phrase makes that note sound cadential. So which is the real cadence in bar 27—the D on the downbeat, or the dominant on beat 2?

now you try do 14.3-4

## OTHER CADENCE SIGNALS

The secret ambition of great composers is to write long, soaring phrases, but most of us end up cadencing when we don't mean to. This section describes two "invisible" cadential determinants. Learn to control them, and your writing will be more fluid.

**1) Landing on the keynote.** Some cadences sound strong (too final) even though all the totals on the scorecard register 0 or 1. How come? The cadence lands on the tonic scale degree ( $\hat{8}$ ). To lighten up such a cadence, just pick another note to land on.

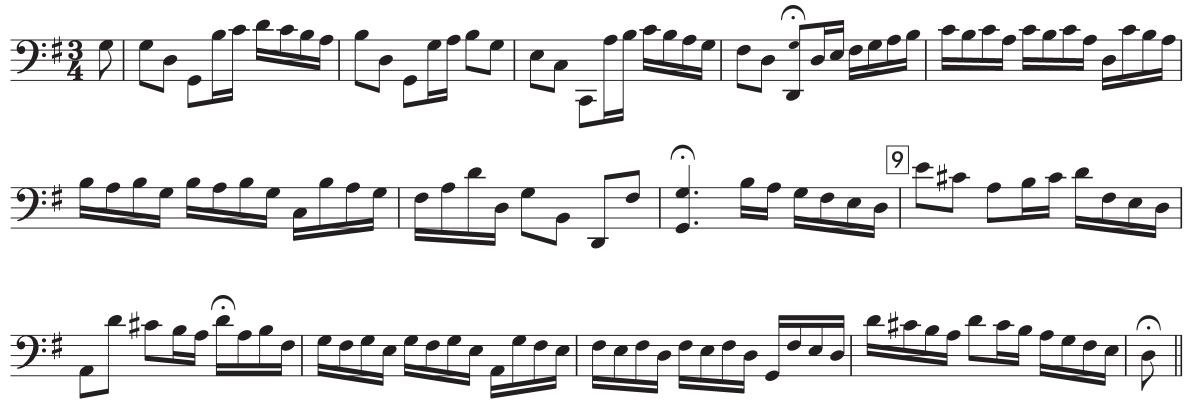
BACH: *Allemande*, bars 1–2, from *Cello Suite #3*

The low C (in bar 1) is actually an early cadence, but it comes so soon, and after so little has happened, that there's no temptation to hear it as final.

**Or, to make an intentionally short phrase,** set up to earlier than expected, as in bars 9–10.

In this case, Bach wants to jostle the regular 4-bar phrasing established in bars 1–8 and start the next section with two abrupt one-bar phrases.

BACH: *Courante*, bars 1–13, from 'Cello Suite #1

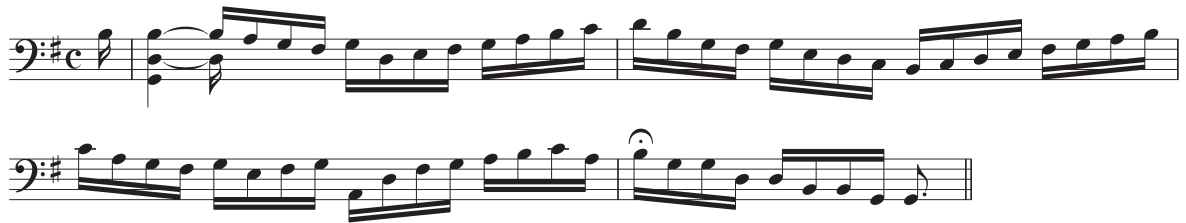


Instinct compels phrases to die where they were born. Go dig through your drawers and examine your unfinished compositions. You'll find lots of "dead phrases" made by your innate homing pigeon response.

**2) It's a match!** Returning to the first strong note of the phrase always feels like a cadence. Remember that our tendency is to cadence sooner than we planned to, so you need to avoid coming back to the first strong note of the phrase until you really want to cadence. This is especially true when you start on the Rt of the tonic chord!

Watch. Because this excerpt begins on B rather than the keynote (G), Bach avoids landing on B until he's ready to cadence.

BACH: *Allemande*, bars 1–4, from 'Cello Suite #1



now you try do 14.5-6



# 15

## modulation

**S**ay you wear a blue shirt during the day, then plan to wear a red shirt at night. Is it necessary to put on a purple shirt for a few seconds late in the afternoon to keep your chest from going into shock?

Every musician learns to use a pivot chord—a chord common to the current key and the destination key—to modulate. Why? Because we think of modulation as a gradual process. But it's not gradual at all. Changing keys is like changing shirts. When it's time to do it, you just do it.

This chapter shows three ways to make decisive, absolutely convincing modulations by tailoring figureheads and finding substitute figures—skills you already possess. The problem is that most musicians can't give up their superstitious dedication to pivot chords.

Make you a deal. Try the new way. If it doesn't work better than the pivot chord method, go back to pivot chords, but you'd better buy a big ol' suitcase for all those extra shirts.

# Concept

## AT A GLANCE:

To modulate, put a new key name in front of any dominant chord.

There's hardly any difference between the two progressions at the right; the second one modulates, that's all. The function (what each chord does) never changes: each "unstable" dominant chord resolves to a "steady" tonic.

To make the chords modulate, just use a different unstable chord—the dominant that leads where you want to end up.

To make the melody modulate, chart out new figureheads to accommodate the new chords (those after the key change), then use what you know about tailoring and figure substitutes to rewrite the melody. If the melody sounds good played in one key, it will still sound good if you tailor it to accommodate the modulation.

- 1 d: | i V | i V | i  
 2 d: | i V | i a: V | i

BACH: *Allemande*, bars 6–8, from *Violin Partita #2*

(non-modulating)

d: i V i V i

with figureheads to fit the modulation

d: i V i a: V i

(actual) with tailored figures to fit the modulation

d: i V i a: V i

*The harmonic foundation of a modulating phrase is identical to that of a non-modulating phrase.*

normal treatment

special treatment

*Modulate through a dominant chord early or in the middle of a phrase.*

*Modulate through other chords at the beginning of a phrase or during a sequence. (Examples and instructions come at the end of this chapter.)*

If the Roman numerals make sense played in one key, they will still make sense if you put a new key name in front of one of the dominant chords.

## CLOSELY-RELATED KEYS

Before going further with the main discussion, we need to clarify something. While it's possible to modulate from any Major or minor key to any other Major or minor key, most modulations go to “nearby” or “closely related” keys. To find the keys closely related to the home key:

1 Write out the keys.      2 Draw triads above each note.

G Maj a min b min C Maj D Maj e min

3 Name those triads.

The names of the triads are the names of the closely related keys, with the exception of the diminished triad, because you can't have a diminished chord as tonic. The next example shows how easy it is to modulate to any closely-related key just by putting a new key name in front of the dominant.

1 original

G: I vi ii V I IV I<sub>4</sub> V<sub>3</sub> I

2 to C Maj

G: I vi ii C: V I IV I<sub>4</sub> V<sub>3</sub> I

3 to a min

G: I vi ii a: V i iv i<sub>4</sub> V<sub>3</sub> i

4 to D Maj

G: I vi ii D: V I IV I<sub>4</sub> V<sub>3</sub> I

5 to b min

G: I vi ii b: V i iv i<sub>4</sub> V<sub>3</sub> i

6 to e min

G: I vi ii e: V I IV I<sub>4</sub> V<sub>3</sub> I

Toward the end of the Classical Period and beyond, composers also included modulations to distantly-related keys. All the techniques in this chapter can accommodate chromatic modulation as well.

According to the pivot chord theory, this modulation to b minor is impossible because there's no a minor chord in the key of b.

now you try do 15.1-2

The worst thing about the pivot chord method is that it doesn't explain what to do with the melody. You write melody and harmony up to the pivot chord, stop, plug in a harmonic formula, but then you're stuck for what to write next. You feel like you've been abandoned in the worst part of town with no money, no phone, no map, and all the stores are closed.

When modulations occur late in the phrase, as in these examples, the key change doesn't sound as resolute as when the modulation occurs earlier in the phrase.

If you have trouble getting a particular dominant chord to modulate, it's probably because your melody demands some voice leading that goes against what the tendency tones need to do. See page 85.

## WE FRET OVER THE CHORDS, BUT THE MELODY IS THE HARD PART

When we start thinking about keys we start thinking about chords, so it's natural to focus entirely on harmony. However, a bad modulation sounds bad because the melody doesn't sound like one continuous idea. In essence, this chapter is about tailoring melodies.

By starting with a complete phrase—melody, harmony, and cadence—you already know how the story ends; in modulation, the characters may appear to alter the plot, but in reality, nothing changes except the color of their costumes. As shown on the previous page, changing keys at one of the dominant chords doesn't alter the phrase's harmonic structure. Nor will it alter the phrase's melodic structure—provided you can tailor figures. Just find new figureheads to fit the new key, then rework the figures over them.

Here's one of Bach's phrases, reworked to modulate to all five closely-related keys. Although the melody changes at the end of each line, notice that the Roman numerals are exactly the same.

BACH: Minuet I, bars 1-4, from *Cello Suite #1*

original	
	G: I V I vi ii V I V
to a min	
	G: I V I vi ii a: V I V
to b min	
	G: I V I vi ii b: V I V
to C Maj	
	G: I V I vi ii C: V I V
to D Maj	
	G: I V I vi ii D: V I V
to e min	
	G: I V I vi ii e: V i V



However, in modulation, you try to preserve as much of the original melody as you can, which means there are restrictions on how much you can re-voice a progression to fix cross-relation.

Both ii and IV rely heavily upon  $\hat{4}$ , which gets altered to make the new leading tone.

**1) Compensating for ii-V or IV-V during modulation.** The innocuous progressions ii-V-I and IV-V-I can cause cross-relation problems when modulating from dominant to tonic.

C: ii V I      ii G: V I      IV V I      IV G: V I

When it becomes difficult to voice-lead ii or IV smoothly in a modulation, composers often modulate one chord earlier—replacing ii or IV with the new dominant.

BACH: **Sarabande**, bars 5-6, from 'Cello Suite #3,

C: I vi ii V I      I vi ii G: V I      I vi G: V I

**2) Turn signals.** A passing tone or neighbor note of the figure just before the modulation might clash with the new leading tone. The remedy: use an accidental to make the non-chord tone agree with the upcoming modulation.

BACH: **Prelude**, bars 5-6, from 'Cello Suite #1

G: vi      D: V      G: vi      D: V

now you try do 15.5-6

## THE ELASTICITY OF SEQUENCES WELCOMES MODULATION ...

Dominant chord modulation is not a formula, it's an opportunity. Dominant chords are unstable. They move, leaning forward unto completion. So in a sense, modulating through a dominant is like hopping on a moving train.

In a sequence, all chords are in motion. In fact, they don't stop moving until you make them stop by breaking the pattern. Therefore, you have the opportunity to modulate during any chord of a sequence.

To modulate, write a non-modulating sequence, then impose accidentals from the new key onto it. In the next example, the diatonic sequence in the top line is copied to the bottom line, then all the Fs are changed to F#s to fit the new key. The tailoring doesn't start until the sequence breaks.

BACH: *Bourée I*, bars 5–8, from 'Cello Suite #3

(non-modulating)

C:

(actual)

C: G: C: G:

During a sequence, the transposition of segments works the same whether the sequence modulates or not.

## ... ESPECIALLY AT THE BREAK OF A FIFTHFALL SEQUENCE

1) In the Major mode, a fifthfall sequence starting on vi dumps you out on IV at the beginning of the third segment. Raise the Rt of that IV chord a half step, and you'll get vii° in your new key.

A fifthfall sequence modulating from tonic to the dominant

E: vi V I IV vi V V I B: vii°

BACH: *Invention #6*, bars 9–13

E: vi V I B: vii°

In the minor mode, when modulating from the tonic minor to the relative Major, all the chords in the destination key are already present in the home minor key.

Reinterpreting VI in the minor as IV in the Major mode is no quantum leap, because both VI and IV tend to either lead right to tonic, or start another sequence.

**2) In the minor mode,** modulation to the relative Major occurs by omitting something we added in before—the accidental necessary to make a true leading tone in the minor mode. But it’s not always clear where “VII” (V in the relative Major) ousts the reigning dominant (as it is when a new leading tone suddenly pops up in other modulations). Mark the modulation right at the break.

A fifthfall sequence modulating from tonic minor to the relative Major

a: i vi VII III i iv VII III iv V i i iv VII III C: vi ii V I ii V I

BACH: Invention #13, bars 3-6

a: i iv VII III C: vi ii V I ii V I

now you try do 15.7-8

The word “modulation” sounds like a gradual procedure—like easing into cool water inch by inch. Actually, composers often jump into a new key all at once—sometimes smoothly like an Olympic champion, other times with a big intentional cannonball kerplunk.

Here, Bach’s ligature doesn’t even end up where it’s going: a hard connection and Octave Displacement italicize the suddenness of this key change.

## DIRECT MODULATION

Direct modulation has nothing to do with harmony. It sees a new beginning as an opportunity for a new beginning. New city, new job; new phrase, new key.

BACH: Courante, bars 1-10, from ‘Cello Suite #1

G: I I IV V

ii V I IV V I V

I D: V I V I

now you try do 15.9-10



part five:

*two parts together*



# 16

## resonance

**C**lowns that work with long, skinny balloons claim they can make just about any animal in the zoo, but actually, every creature they make is just a modified dog. Long dogs pass for alligators and giraffes, fat dogs pass for pigs and elephants; plain dogs pass for horses, sheep, armadillos, and Madonna. It's surprising how testy a clown can get if somebody points this out.

Composers pull the same shenanigans with figureheads that clowns pull with balloons—they always start with the same basic “torso” and add appendages later to make all sorts of counterpoint. In two-part counterpoint, that torso—that foundation—is a very specific pair of figureheads.

# Concept

## AT A GLANCE:

The "Resonant Pair": just about every figurehead pair contains the 3rd of the harmony.

Given: One single melodic line is built from a sketch of single figureheads. Logically, two-part counterpoint will be built from a sketch of figurehead pairs.

The formula for figurehead pairs is incredibly simple.

Compose one line first, then analyze its figureheads. If the first melody's figurehead is the 3rd, sketch a Rt or 5th for the second one. If the 3rd isn't in the first melody, you have no choice but to use it as the other figurehead.

Once the second line of figureheads is complete, do the same thing you do with any figurehead sketch: connect the dots!

BACH: *Invention #5*, bars 3-4, just the melody

... making figurehead pairs

... with figures added to the sketch

normal treatment

special treatment

Over 90% of all figurehead pairs contain the 3rd of the harmony.

Omit the 3rd at the beginning and end of a phrase to make a tonic chord sound stronger.

Seventh chords might also omit the 3rd.

A Resonant Pair  
(a vertical stack of two figureheads)  
consists of "x plus the 3rd."

## WHEN TO LEAVE OUT THE 3RD: THE “SOLID PAIR”

We call any pair with no 3rd a “Solid Pair.” The most common use of a Solid Pair is to fortify important structural points—namely, tonic harmony at the beginning or ending of a phrase or section.

- The Rt–Rt (or “octave”) pair sounds super strong.
- The Rt–5th (or “fifth”) pair sounds strong.
- Avoid putting the 5th in the bass with the Rt on top!

BACH: *Air*, bars 1–7, from *French Suite #4*

E<sup>b</sup>: I I V I vi

B<sup>b</sup>: V iii vi IV ii V I I V I

now you try do 16.1-2

## A PEEK AT FILLING IN FIGURES

In the previous Intermezzo, you saw that note-clashes (intervallic dissonances) are inevitable whenever two lines are played together. But as long as the passing and neighbor tones in each individual line “go where they’re supposed to”—as long as each line is *self-sufficient*—the two lines should sound good together.

BACH: *Invention #8*, bars 1–4

M. 7th P. 4th m. 9th m. 9th m. 7th

Since figurehead pairs without 3rds sound strong, it’s best to avoid them in the middle of a phrase, lest they stick out too much.

**Bonus:** using the 3rd in a figurehead pair automatically makes the vertical interval of a third or sixth. Therefore, you greatly reduce the chances of writing parallel fifths or octaves.

**Exception:** Any pair containing a 7th will automatically sound mellow even if there is no 3rd.

The bottom part of *Invention #8* makes its grand entrance against a non-chord tone. The resulting Major 7th is no problem because E (a passing tone) continues step-wise to the next beat (it is part of a ligature).

Although we've graduated to two-part counterpoint, only one thing has really changed. Instead of sketching a single line of figureheads, now we sketch figurehead pairs. When it comes time to fill in figures, the key to counterpoint is making each line sound good all by itself.

## HERE'S EXACTLY WHERE YOU WILL SCREW UP

By now you should be an expert at writing fully self-sufficient lines, because we've spent a lot of time learning to write a single line of melody. It's impossible to explain, but when it comes time to put two lines together, EVERYBODY SUDDENLY FORGETS EVERYTHING THEY LEARNED ABOUT SINGLE-LINED MELODY AND STARTS WRITING LIKE DUNDERHEADS! (Sorry for shouting.)

If two-part counterpoint feels overwhelming at first, go back to the basics. Just like a single-lined melody, two-part counterpoint depends on the simple skills covered in Chapters 1–3.

- Both figures must make the same harmony. (Chapter 1)
- Both lines must use recognizable figures. (Chapter 2)
- All figures must make good overlaps to the next figurehead. (Chapter 3)

Here, we take out Bach's figure on beat 3 and show four other ways—all of them quite good—to get from D to B in the Left Hand.

BACH: *Courante*, bars 17-18, from *French Suite #5*

The image shows a musical score for Bach's *Courante*, bars 17-18, from *French Suite #5*. The score is in 3/4 time and G major. It consists of three systems of two staves each (treble and bass clef). The first system shows the original notation with a red box highlighting the left-hand figure on beat 3, labeled 'I'. The second system shows two alternative ways to connect notes, labeled '1' and '2'. The third system shows two more alternatives, labeled '3' and '4'. Each alternative is labeled with a technique: 'Run', 'Double Neighbor', 'Roll', and 'arpeggio'. The bass clef part of each system includes figured bass notation: G: V, I, V, IV, V, I, V, I.

You don't have to be a counterpoint expert (or even play piano) to tell whether a passage will sound good. Just play each line separately. Any flaws in the figuration—any line that fails to meet even just one of the three criteria above—falls flat on its contrapuntal face, as demonstrated below in versions 5–8.

G: V Similar Leap V Double Neighbor? anybody's guess arpeggio

now you try do 16.3-4

## DOMINANT PAIRS

So far, we have ignored the 7th as an option when making figurehead pairs for dominant harmony. No matter how you stack the chord tones, the 7th of a seventh chord sounds dissonant because of two hot spots: 1) the 7th against the Rt (making the interval of a 7th or a 2nd), and 2) the 7th against the 3rd makes a tritone. This is not to be avoided. Often, a figurehead pair for a seventh chord uses the 7th—highlighting the dissonance rather than trying to avoid conflict.

BACH: *Sinfonia #2*, bars 1–2

c: i V i iv V i

Because seventh chords are so common, we forget that they're actually dissonant. There's no rule about which chord tones to use in a figurehead pair—just be sure to resolve any tendency tones when the chord changes.





## A CATALOGUE: THE ONLY SIX POSSIBILITIES FOR FIGUREHEAD PAIRS

**1** A Resonant Pair. Found just about everywhere except the very beginning and ending of a phrase. The formula is “x plus the 3rd.”

D: I IV V I

**2** A Solid Pair. Used at the very beginning and ending of a phrase as heavy bookends. There is no 3rd, just Rt-Rt or Rt-5th.

D: I V I

**3** A Dominant Pair. Rather than trying to hide the dissonance of the 7th, the figurehead pair often highlights the clash. No formula; start with any combo.

D: I vi V V I

**4** An appoggiatura. A way to accent a figurehead. Made by hitting the wrong note, then resolving by step.

D: I V vi IV

**5** A rest in one line. Points up the rhythmic individuality of each line while adding breathing room.

D: I IV I ii V I V

**6** A tie in one line. Also used for rhythmic contrast, but a tied note signals that the line will keep going, while a rest means an idea has stopped for a moment.

D: I ii V I V

now you try do 16.7-8

## WHAT ABOUT INVERSIONS IN COUNTERPOINT?

Experience with block chords teaches us that the same harmony can sound different depending on what note is on the bottom. For example, second inversion triads don't work well unless they are used in special circumstances and with special care. However, as a general rule, the more melodically active the bottom

The first time people take a field guide into the woods, they can have a little trouble matching up the line drawings. Now and then, novices delude themselves, believing they've unearthed some brand new bug species. Turns out they've got the little critter upside down. When you go analyzing figurehead pairs in the deep woods, don't yell "Eureka!" all over the place. Most everything you find will be a version of something on this page.

line gets, the less important it is to think about inversions. Exceptions are explained below. But first it will help to understand why a contrapuntal bass line works differently than a bassy bass line.

An unadorned figurehead acts like a “base” or platform for the harmony, strongly affecting the stability of the chord. But by adding figures to a bottom line, we create afterbeats, which have their own agenda: to make a melodic/rhythmic connection to the next beat. Figureheads in a more active bottom line act less like foundation notes and more like touchpoints along the way.

#### A comparison of unmelodic and melodic bottom lines

a) *This bass line sounds very awkward: B shouldn't go directly to E . . .*

b) *. . . B should go to C.*

c) *As figureheads, B and E work perfectly well because there are melodic notes between them.*

Here are some situations where it is important to use one particular note as the bottom figurehead.

**1) Duty calls.** In two-part counterpoint, the bottom line is free to get as melodic as it wants with only two exceptions: 1) at the very beginning of a piece, the bottom line should start on the Rt of the tonic chord (usually on the first downbeat), and 2) at important cadences, the bottom line must abandon its melodic aspirations and do what a bass line normally does at a cadence.

BACH: **Gigue**, from *Overture in the French Style* (BWV 831)

melodic bass

bassy bass

**2) A vi chord sounds most stable with its Rt in the bass.** Voicing vi with the 3rd in the bass makes it sound like a tonic chord with a serious identity crisis. Listen to the two problem chords flagged below in ex. a. They sound much better when the parts are switched—putting the Rt in the bass.

a)

F: I vi ii V vi ii

b)

F: I vi ii V vi ii

Because of this restriction, the progression V to vi, which is easy to make smooth in three or more voices, can prove difficult in two voices. One thing that helps is to squeeze in the leading tone of vi before the V resolves (making V of vi). Doing so can strengthen the progression so much that it's even possible to put the 3rd in the bass (ex. d).

c)

F: V  $V/vi$  vi

d)

F: V  $V/vi$  vi

**3) V–I.** Coming from V, a 5th in the bass of a tonic chord will probably sound like a mistake—like an unresolved dominant (ex. a). To fix it, put another tonic chord tone in the bass (ex. b).

**An exception to this rule can be found on page 136.**

a)

G: I ii V I

b)

G: I ii V I

**4) Putting the 5th in the bass might weaken a harmony.** It all depends on how self-sufficient the bass melody is, and how it relates to the top part. Analyze your figureheads and check especially carefully when you find a 5th in the bottom. Trial and error. However, there is one safe place to put the 5th in the bass: on the second or third beat of a sustained chord (after starting with a Rt or 3rd).

BACH: **Invention #8**, bars 2-3

### points for review

- Two-part counterpoint is based on figurehead pairs.
- Choose the figureheads for the second line based on the harmony of the given line.
- If the 3rd ain't there, put it there. If it's already there, you've got a choice of Rt or 5th.
- Omit the 3rd at the beginning and end of a phrase to add structural strength.
- When the figureheads are consonant, the upbeats can be dissonant, so long as both figures are easily identifiable, both figures make the proper harmony for that beat, and both connections to the next figurehead pair are tight.
- Non-chord tones on the off-beats always behave the same way—whether there's one line, two lines, or seventeen lines at a time.
- An appoggiatura is a melodic embellishment to a normal figurehead pair.

# 17

## cheek to cheek

**P**refixes usually give reliable clues, but not always. Post- means “after,” as in postcards, which your friends don’t receive until after you return from your vacation. In- means “not” as in indestructible. But inflammable means flammable. Go figure.

Counter- in the word counterpoint suggests opposition—that contrary motion is preferable to parallel and similar motion. This couldn’t be wronger. Rather than working against each other, two lines in note-to-note counterpoint should flow like a simple dance routine—each responding to and following the moves of the other. Nine times out of ten, when two lines move at exactly the same speed, they move in parallel motion.

Once you master strict parallel motion (which should take about three minutes), you’ll learn ways to modify it for other options. In addition, this chapter also shows the best formulas for note-to-note contrary motion.

Pooh-poohing parallel motion because it's "too simple" is like sneering at fresh-baked bread and warm butter.

## IDENTICAL TWINS

Strict parallel motion is the easiest type of counterpoint to write. Just transpose the figures of one line to make the other line.

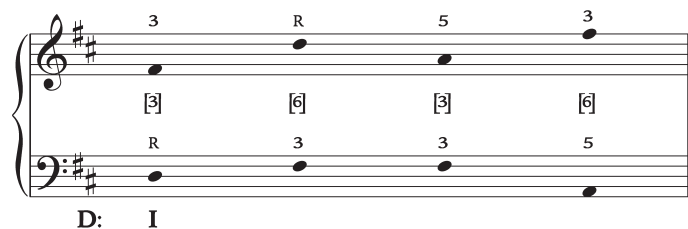
BACH: **Fugue #9**, bars 1–3, from *Well-Tempered Clavier*, book 1



Using Resonant Pairs not only makes it easy to write parallel 3rds and 6ths, it insures against writing parallel 5ths, 4ths, and 8ves.

## HOW AND WHY PARALLEL MOTION WORKS

Have you noticed that there are only two possible intervals between the top and bottom figureheads of a Resonant Pair? No matter who's on top, the combo always makes a 3rd or 6th. It's a good thing! Parallel motion in 3rds or 6ths is the only kind that works.



Serious harmonic problems result when two lines move in parallel 2nds, 4ths, 5ths, or 7ths. The common explanation is that most people find certain types of parallel motion grating, even brutal. But there's a more technical explanation.

Since chords are built from 3rds (which invert to 6ths), parallel motion in 3rds and 6ths reinforces the harmonic structure. Parallel motion in other intervals obliterates the tertian harmonic structure.



now you try do 17.1-2

## PARALLEL MOTION WITH OCTAVE DISPLACEMENT

By starting with strict parallel motion and applying a little octave displacement, we can achieve more independence between two lines. The result doesn't sound like parallel motion, but harmonically speaking, it most certainly is.

BACH: *Invention #4*, bars 15-17

without octave displacement                      with octave displacement

These two excerpts displace just the figure-heads, but any type of octave displacement will effectively modify parallel motion.

BACH: *Prelude #2*, bars 5-9, from *Well-Tempered Clavier*, book II

E<sup>b</sup>:

**Variation: the singular nonconformist.** Another way to add a little zing to plain parallel motion is to change just one note of just one of the figures. Take out a passing tone and use a neighbor note or chordal leap instead. Even a small change marks a sharp distinction between figures. Just watch.

This should sound familiar. Remember Single-neighbor substitution from Chapter 4?

BACH: *Invention #2*, bar 10

BACH: *Invention #5*, bar 3

Roll                      Return

Run                      Contrary Leap

now you try    do 17.3-4

## SHIFTING GEARS

When the Resonant Pairs are all 3rds or 6ths, it's easy to write parallel motion between them. But isn't this a serious limitation? What happens when you want to write parallel motion, but the figurehead pairs don't match?

The image shows two musical examples in E-flat major. The first example, labeled "equidistant figurehead pairs", shows a sequence of four chords: [3], [3], [3], and [3]. The second example, labeled "unequal figurehead pairs", shows a sequence of two chords: [3] and [6]. A red box highlights the transition between these two chords, with the label "lame connection" underneath.

Switching from parallel 3rds to parallel 6ths inside a figure—"shifting gears"—is a type of tailoring. It's a hundred times smoother than jumping abruptly during the overlap. Rhythmically, there are two good places to shift gears.

The best gearshifts create recognizable predictable figures rather than some odd-looking knot.

### 1) Shift gears immediately after the figurehead.

This musical example shows a sequence of chords in E-flat major: IV, V, IV, V, V, I, V, I. The figureheads are [6] for IV and [3] for V. The transition from IV to V is marked with a "shift" label. The transition from V to IV is marked with a "shift" label.

### 2) Shift gears just before the upcoming figurehead.

This musical example shows a sequence of chords in E-flat major: IV, V, IV, V, V, I, V, I. The figureheads are [6] for IV and [3] for V. The transition from IV to V is marked with a "shift" label. The transition from V to IV is marked with a "shift" label.



BACH: *Allemande*, bars 1–2, from *Suite for Clavier in E<sup>b</sup>*

(neighbor substitute)

These excerpts combine gearshifts at the end and the beginning of figures. You'd probably never imagined that parallel motion could produce such a gnarly texture before reading this chapter.

BACH: *Invention #1*, bars 13–14

**Exception:** The Double Neighbor allows a smooth gearshift right in the middle of a figure.

BACH: *Invention #2*, bars 22

now you try do 17.5-6

The best combination for shifting in the middle is the D.N. + Run. Use it when the opportunity arises. It sounds truly impressive.

## CONTRARY MOTION

Note-to-note counterpoint moves in parallel motion nine times out of ten. That includes strict parallel motion, octave displacement, and gearshifts. The other option, “contrary motion,” means that most of the notes in one line go one way, while most of the notes in the other line go the other way. Don't feel obligated to force every note in the bottom line to go against every note in the top. Only two methods consistently produce anything worth listening to.

Another way to describe a **Voice Exchange** is to say that the bottom line mirrors the top. But what does the verb “mirror” really mean? Say you see someone with a gob of food stuck to his cheek. Do you signal him to remove it by pointing to the mirror cheek (as if you become his reflection in the mirror) or the literal cheek (if it’s on his right cheek, you point to your own right cheek)? Alas, the only foolproof method is to reach across the table and flick off the offending debris yourself.

**1) The Voice Exchange** combines two 3-note scales—one from above and one from below.

**1** Write a Resonant Pair. We'll use Rt–3rd.



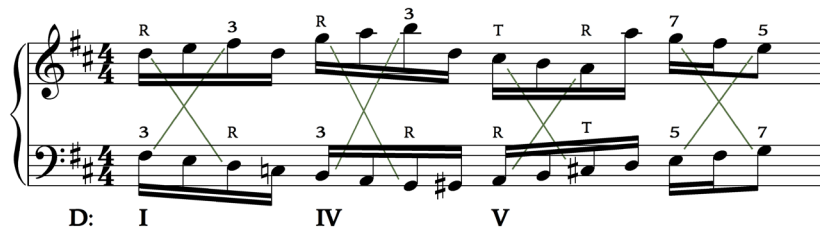
**2** Start with either voice and spell that Resonant Pair “horizontally” as a 3-note scale. (You'll need to add a passing tone.)



**3** Repeat step 2 starting with the remaining voice. Presto!

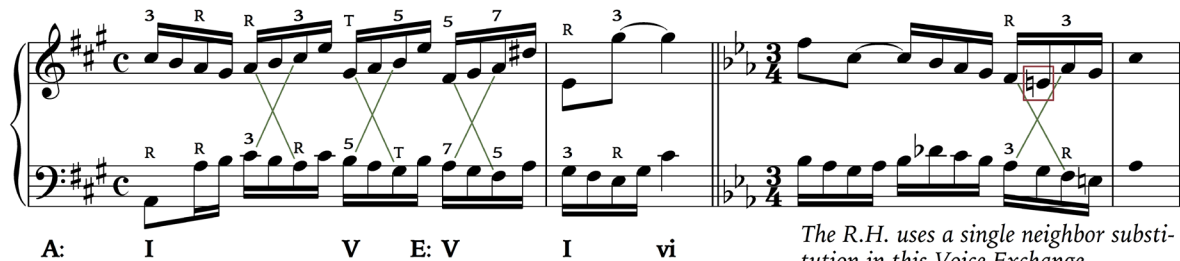


Result: the first and third notes have switched voices. The middle note—a passing tone—always makes an octave. As far as the fourth note of the figure goes, do anything at all that makes pretty music.



BACH: **Prelude #14**, bars 7–8, from *Well-Tempered Clavier*, book I

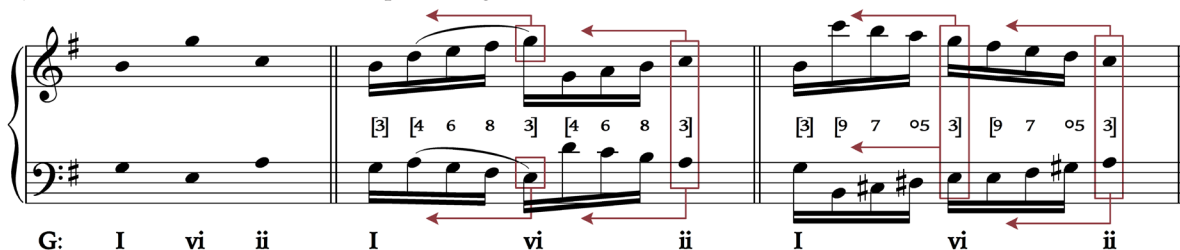
BACH: **Invention #9**, bar 8



The R.H. uses a single neighbor substitution in this Voice Exchange.

now you try do 17.7-8

**2) The Wedge** combines two step-wise ligatures—one from above and one from below.



BACH: *Invention #5*, bars 4, 8

**Concerning dissonance.** Wedges inevitably produce discordant skirmishes on the upbeat. But just like any ligature, dissonance on the upbeats doesn't wreck the harmony as long as you focus on making a tight connection to the next figurehead. Once in a while, though, the two lines combine to make a particularly revolting Wedge. No problem. Switch one or both Ligaments. Set theory yields eight combinations.

**A Wedge is not to be confused with a Wedgie, although both involve sneaking up from behind.**

**The contrary motion always comes between the last three notes of both figures. The overlap might move by parallel or contrary motion.**

**Variations.** Once you understand how to write a Wedge to a figurehead, you can write a Wedge to any goal note. Either within a 6-note figure . . .

BACH: *Prelude #10*, bars 68–72, from *Well-Tempered Clavier, book II*

... or to figureheads a few figures away (huge multi-figure Wedges).

BACH: **Prelude #6**, bars 1–9, from *Well-Tempered Clavier, book II*

This next example takes the idea of a Wedge about as far as it can possibly go. The fact that one ligature gets embellished with a Stationary Pitch heightens the sense that each line works independently. A close look shows that there are more dissonant vertical intervals than consonant ones, but that the intervals midway through each Wedge are all Resonant Pairs (in the previous example, they were all dissonant).

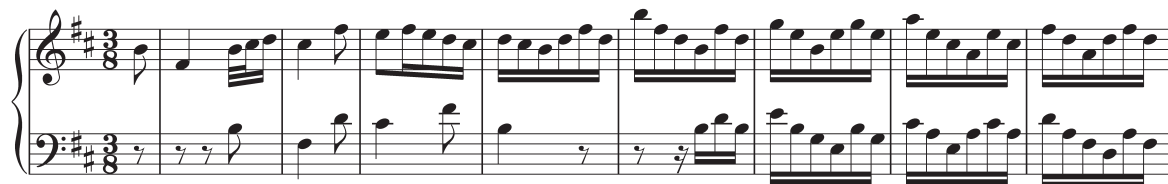
BACH: **Fugue #15**, bars 34–37, from *Well-Tempered Clavier, book I*

now you try do 17.9-10

## ARPEGGIOS

Literal parallel and contrary motion are not possible with arpeggios because leaps always vary in size. Still, aiming for parallel or contrary motion will help give shape to your lines.

BACH: *Gigue*, bars 1–8, from *French Suite #3*

Musical score for Bach's Gigue, bars 1-8. The score is in G major and 3/8 time. It consists of two staves: a treble clef staff and a bass clef staff. The music features a mix of parallel and contrary motion in the arpeggiated figures.

Here, a few figures move in parallel motion, a few move in contrary motion, but many of them (starting in bar 3) have something similar to gearshifts but sound more like somersaults—switching between parallel 3rds and 6ths midway through a figure.

BACH: *Invention #10*, bars 1–8

Musical score for Bach's Invention #10, bars 1-8. The score is in G major and 9/8 time. It consists of two staves: a treble clef staff and a bass clef staff. The music features a mix of parallel and contrary motion in the arpeggiated figures.

### points for review

- Most note-to-note counterpoint moves in parallel motion.
- Parallel motion doesn't always look like parallel motion, especially when shifting between 3rds and 6ths to allow smooth connections between unequally-spaced figureheads.
- Note-to-note contrary motion often takes the form of a Wedge—the combination of two ligatures.
- A Voice Exchange pits one 3-note scale against a backwards version of itself.

# 18

## two against one

**A**t first glance, two-against-one counterpoint looks like a normal-sized figure against a jumbo figure—until you start counting the number of figureheads per figure. A normal-sized figure has but one figurehead. But a figure moving at half the speed (a jumbo figure) has two: the third note also happens to be a figurehead.

When the figure is twice as big, the goal is twice as far away. As for the middle figurehead, most of the time you can treat a figurehead on a weak beat the same as any other note: no fussy overlap rules, no fussy harmonic stipulations. Just concentrate on making a tight connection to the next strong beat (beats 1 or 3 in duple time).

BACH: *Air*, bar 2–3, from *French Suite #2*

The musical score shows two staves (treble and bass clef) in 3/4 time. The treble staff contains a melodic line with a dotted quarter note followed by eighth notes. The bass staff contains a rhythmic accompaniment of quarter notes. Red brackets and boxes highlight specific rhythmic patterns. Annotations above the staff include 'Run' (over a dotted quarter), 'Roll' (over eighth notes), and 'arpeggio' (over a chord). Fingering annotations below the staff include 'c: iv' (with 'Roll' below it), 'V' (with 'Roll' below it), 'i' (with 'Crazy Driver' below it), and 'iv' (with 'Roll' below it).

## How To WRITE A JUMBO FIGURE

Everything else in this chapter is a variation of these four basic steps.

**1) Analyze the given line.** Start with the most obvious, rather than some obscure harmonization.

G: I                    ii                    V                    I                    V                    I

**2) Chart out the first three figurehead pairs.** Use mostly Resonant Pairs, except at the beginning or end of a phrase.

G: I                    ii                    V                    I                    V                    I

Set up the figurehead pairs the same no matter how many notes you plan to write between them.

**3) Find a predictable figure that uses the first two figureheads and glides into the third one.**

Pretend you're on "Wheel of Fortune." Three out of five tiles are exposed. Vanna cooly raises an eyebrow, which you take as a signal to buy a vowel.

G: I                    ii                    V                    I                    V                    I

Steps 1-3 have been completed for the rest of the jumbo figures.

**4) Listen and revise.** Either replace rotten figures or just tinker with the passing tones. Try chromatic passing tones (implying secondary dominants) or neighbor note substitution.

G: I                    ii                    V                    I                    V                    I

now you try do 18.1-2

We call this “brainy revision” because you base the second figurehead entirely on logical harmonic choices.

Also try octave displacement: move either the first, second, or third figurehead up or down an octave.

## BRAINY REVISION

Sometimes, all the figures that fit into your first figurehead sketch sound dumb. To find something fresh, think up as many possible substitute chords for the middle figurehead pair as you can. (Refer to Chapter 12 for ideas.)

Once you find a few good harmonic substitutes, reconfigure the middle figurehead pair. Hopefully, you can make a better jumbo figure with that new figurehead.

Ab: I                      ii                      vi                      I                      vii°                      vi

## A SHORTCUT: OVERRIDE THE MIDDLE FIGUREHEAD

Relying on the principle of the overlap, ignore the figurehead on the weak beat altogether and go directly from beat 1 to beat 3. In other words, override beat 2. The first figure that pops into your head might not make the harmony you planned for (maybe not even a chord that makes a sensible harmonic progression) but it usually sounds good in context. Such is the case in the last bar below, which uses a stretch to get from D to A.

Don't mark the literal analysis of any weak beat you override. In this example, iii makes no sense as a harmonic progression. Look at the first two beats as tonic.

BACH: *Sinfonia #3*, bars 1–3

D: I                      IV                      I                      IV                      V                      I                      (iii)                      V

## How To MAKE AN OVERRIDE

**1) Find the most obvious harmonization** by looking at the faster figures. Don't analyze the beat you want to override.

Ab: I                      IV                      ii                      I                      I                      ii                      V                      I



2) Chart out figurehead pairs on the strong beats (1 & 3). Skip the middle (weak) beats.

A $\flat$ : I IV ii I ii V I

3) Find a jumbo figure that connects the first and third figureheads. Check to make sure it sounds good. If not, try another figure. (See the section about fast notes on page 159 for more details.)

A $\flat$ : I IV ii I ii V I

A $\flat$ : I IV

now you try do 18.3-4

## ENTANGLEMENTS

It's amazing how so many things take care of themselves automatically when you just connect the dots of each line in a sensible way! But no system is foolproof. When you play both parts together, you may find a few places where the wires cross—something won't sound quite right.

1) **Parallel 5ths and 8ves.** The figuration system doesn't leave many opportunities to screw up. First, only special figurehead pairs (Solid Pairs) can create the interval of a 5th or 8ve (sketching mostly Resonant Pairs creates 3rds or 6ths). Second, note-to-note counterpoint moves in just two ways: either parallel 3rds or 6ths (not 5ths or 8ves), or contrary motion. So far, so good.

The order of topics in this chapter is symbolic. Voice-leading errors appear at the end to reinforce a point: write first, check for weak spots later. It's easier to fix a problem than get past writer's block.

Some people might think that revisions like this one are awfully picky. After all, the notes fly by so quickly that only those with supersonic ears will notice the parallel 8ves. But here's a trade secret: It's definitely worth the trouble to fix a problem like this – even if it doesn't seem “all that bad” to you. Many ingenious melodies have been discovered only after abandoning solutions that are merely passable.

But when the notes start moving two-against-one, anything might happen, including parallel 5ths and 8ves. Take the following example. Imagine that Bach wrote straight Runs (the most direct connection between figureheads) for his first version. One problem. The passing tone of the jumbo Run makes parallel octaves with the R.H. Hence the revision – substituting an arpeggiated note for the passing tone.

BACH: *Invention #4*, bars 7–12 *Bach uses the grace notes (D & C) to avoid parallel 8ves*

**2) Direct 5ths and 8ves.** The potential danger in approaching a 5th or 8ve from the same direction (but not actual parallel motion) is too much accent. While direct motion to a 5th and 8ve occurs too often in the literature to make a rule against it, the following guidelines should help keep your music smooth.

- On the beat, contrary motion to 5ths and 8ves is preferred most of the time.
- Direct motion on upbeats is best when the parts move at different speeds.
- Direct motion to 5ths and 8ves is good at cadences, because cadences should be strong.

BACH: *Air*, bars 3-4, from *French Suite #2*

If you don't like the way something sounds, write something else. There's always another way to get between two figureheads.

**3) Parallel yuck.** On a radio show called “Car Talk,” two mechanics named Click and Clack fix automotive problems over the phone. By asking probing questions like, “Is it a red or silver Honda?” or coercing the caller to recreate the ping, grumble, or chugga-chugga sounds behind the problem, somehow they unearth simple solutions other mechanics had overlooked.

If there were a radio show for contrapuntal woes, the hosts, Clap and Clash, would need just four questions to fix any problem:

- Do the bottom and top figures make the same harmony?
- Do both lines use recognizable figures?
- Does every figure make a good connection to the next figurehead?
- Have you looked for parallel intervals other than 3rds or 6ths?

a) parallel 4ths      b) parallel 7ths      c) parallel 9ths

(revised)

Although parallel 4ths, 7ths, and 9ths most often sound jarring, we find many instances in Bach’s music where they sound “fine” (to all but the squeamish). I’ve tried long and hard to find “rules” for when these normally-irritating parallels sound good and when they don’t, but to no avail. In the end, we need to let our ears be the final judge. That said, Bach nearly always used the same guideline I recommended earlier for stepwise motion in 2:1 rhythm: apply contrary motion wherever possible.

BACH: *Air*, bars 2–3, from *French Suite #2*, *Sinfonia #14*, bars 1–2

parallel 9ths      parallel 7ths

c: iv      V      i      B $\flat$ : I      V      V $\frac{7}{4}$       V $\frac{2}{2}$       I $\frac{6}{6}$

now you try do 18.5-6

## CAN'T GET THERE FROM HERE: BRIDGE GAPS WITH FAST NOTES

Sometimes including the middle figurehead sounds boring while overriding it sounds too dissonant. Try including the middle figurehead once more, writing a jumbo figure that gets you close to where you want to land, then zip zip, scuffle to the next figurehead with a few quick notes.

**Tip:** To avoid difficulties with parallel motion, try to use contrary motion when voices move 2:1 in step-wise motion.

Remember, though that parallel motion is one of the best options when the voices move 1:1.

The motion across the barline in *Sinfonia #14* shows one of Bach’s favorite voicings: having the melody play the common root-to-root “bass line” tune over V-I harmony. The other voice (or voices) are then free to supply other predictable 2-note portions of the V-I formula.

Don’t get the impression that every figure is either normal-sized or jumbo. Combinations can yield interesting rhythms.

## THREE NOTES AGAINST SIX

6-note and 3-note figures both use just one figurehead, which means there's no middle figurehead to override (and no oddball harmonies on weak beats). Still, depending on the tempo, combining a 6-note figure with a 3-note figure brings out more off-the-beat chord changes than if either figure would be played alone.

BACH: **Minuet**, bars 1–8, from *French Suite #2*

c: i                      iv    VII    V            i    iv    ii            V    vi    V            i            VI

E<sup>b</sup>: V                      I    IV    V            I

*The harmonic change here is not merely prolongational, it sets up the cadence.*

now you try    do 18.7-8

### points for review

- Jumbo figures are twice the size of normal figures and have two figureheads.
- Override the middle figurehead in the jumbo figure when it gets in your way.
- Most voice-leading snarls in two-to-one counterpoint result from nasty parallel motion. First check the basics (harmony, predictable figures, connections), then try changing the figure.

# 19

## make 'em wait

One of the biggest advantages in modern culture has been that the introduction of time-saving inventions means that we don't have to waste large amounts of time on cooking, laundry, travel, communication, research, banking, writing letters by hand (yes, people used to do that in the olden days) and shopping for music in actual stores. About the only thing that still takes an agonizing amount of time is sitting through those annoying FBI warnings at the beginning of a DVD.

At the same time, experts from any number of fields are beginning to wonder how speed is changing us as humans. It seems that we are losing our ability to follow (as well as our tolerance for) long arguments. Web-page structure is changing our thinking patterns to become less linear. And the ability to have music any time we want it is making us less comfortable with silence as it may also be turning us into more passive listeners.

In this light, *appoggiaturas* represent an immutable holdout that testifies that delay can still gratify. There's something true-to-life about hearing a "wrong note" temporarily supplant the note we "know" should be there. And the opposite is true as well: most people—even modern people—find music that is always consonant a little too saccharine, even trite.

To make a melody sound more insightful, add an appoggiatura here and there.

An appoggiatura delays getting to the “real” figurehead by hitting a non-chord tone note first. All the harmonic “meaning” is still there: tonic still sounds like tonic, dominant still sounds like dominant.

You see this in the middle example, where figurehead pairs from the top example are rewritten as appoggiaturas. The delayed figurehead isn’t eliminated, it’s just moved off the beat.

Next, treat the appoggiaturas as you would any figurehead: just re-connect the dots. (Both smooth and hard connections work fine.) One glitch: you must include both notes—the appoggiatura and the delayed figurehead—in your new figure.

A commonplace tune

... with some figureheads rewritten as appoggiaturas

... with figuration added between appoggiaturas

normal treatment

special treatment

An appoggiatura is an accented non-chord tone that stands in place of the “real” figurehead.

The simplest version consists of two notes: an appoggiatura and a delayed figurehead. Rhythmically, the resolution comes on the upbeat.

Add an ornament—make a figure out of the appoggiatura and the delayed figurehead, which might alter the rhythmic placement of the resolution.

## SOME APPOGGIATURAS SOUND BETTER (MORE DRAMATIC) THAN OTHERS

What's more exciting, a bank robbery, or a bank deposit? For some odd (warped?) reason, most of us find news of a deposit rather dull. The more clever the crooks, and the more money they take, the more likely their story will be made into a movie. With this in mind, some appoggiaturas are far more exciting than others. The two that have the most consistent punch are heard when either the 3rd or Rt get "robbed." Typically, embellishing a 5th with an appoggiatura is about as exciting as robbing \$5.00 from an ATM. Appoggiaturas to other chord tones range from good to horrible. Each case has special circumstances.

### Downward resolutions

C: I I I V I

The two best appoggiaturas;  
These sound good in every situation.

Ho-hum.

6-5 works best as a cadence preparation with the Rt in the bottom voice.

Not an appoggiatura; the Rt is consonant, and the 7th sounds like a passing tone.

### Upward resolutions

C: I I I vi I I

Good in most situations

Good only when "7" sounds like a real leading tone

horrible

(fixed)

icky

(better)

now you try do 19.1-2

## WHEN TO RESOLVE

When turning appoggiaturas into figures, you must find a figure that hits the delayed figurehead at just the right moment. There are three good places to put the resolution:

### Immediate resolution

G: V I V V I V

Not all sentences are improved by adding an exclamation point! Not all chord tones are improved by adding an appoggiatura. And not all refrigerators are improved by adding magnets.

Certain aspects of faith offer another good understanding of why appoggiaturas grab us as they do. The instant we hear an appoggiatura, we know that things are "not right." Isn't it amazing that humans have such a strong sense for how things are supposed to be?

Perhaps the most famous instance of the #4-5 appoggiatura is in the song "Maria" from West Side Story.

If you don't add any ornamentation—if you don't make the appoggiatura into some sort of figure—appoggiaturas normally resolve on the upbeat, as in the previous two examples.

c)  $\frac{2}{3}$  T R R  $2 \rightarrow R$   $\frac{2}{3}$  R T R R R  
 d)  $\frac{2}{3}$  T R R  $2 \rightarrow R$   $\frac{4}{3}$  R 7 R 5 4  $\rightarrow$  3  
 G: V I V V I V ii

In triple meter using 6-note figures, the resolution still comes on the third note.

### Upbeat resolution

a)  $\frac{2}{3}$  T R R  $2 \rightarrow R$  3 5 3  
 b)  $\frac{2}{3}$  T R R  $2 \rightarrow R$  3 5 3  
 G: V I vi V I vi V I

d)  $\frac{2}{3}$  T R R  $2 \rightarrow R$  3 5 3  
 e)  $\frac{2}{3}$  T R R  $2 \rightarrow R$  5 3  $\frac{4}{3}$   
 G: V I vi V I vi

### Next beat resolution

a) R-7-  $\frac{4}{3}$   $\rightarrow$  3  
 b) R-7-  $\frac{4}{3}$   $\rightarrow$  3  
 c) R-7-  $\frac{4}{3}$   $\rightarrow$  3  
 d) R-7-  $\frac{4}{3}$   $\rightarrow$  3  
 e: V i V i V i

**Connections.** Since every appoggiatura makes an accent on a figurehead, there's not much use trying to make a smooth connection into one—appoggiaturas stick out no matter what you do. You just need to determine how much you want it to stick out (stepwise connections are still smoother than hard ones, no big surprise).

NEWS FLASH: Three normally shoddy connections sound pretty good when going to an appoggiatura. Just look at the first beat of each of the examples on this page.

now you try do 19.3-4



# Concept

## AT A GLANCE:

Descending stepwise motion from chord to chord is made more sublime by a suspension.

Harmonically, suspensions work just like appoggiaturas: in both cases a non-chord tone butts the real figurehead off the beat. Also, they resolve the same way appoggiaturas do. All in all, they're not that different.

But for some reason, everybody freaks out when it comes time to put on a tie. Remembering the following three components can help you wrap the right notes around the right beats without choking yourself.

**"P"**reparation: a chord tone a step higher than the final destination note, which gets tied to the. . .

**"S"**uspension: the non-chord tone that supplants the real figurehead.

**"R"**esolution: a delayed arrival on the real figurehead.

### A commonplace tune

... with one figurehead re-written as an appoggiatura

... with that appoggiatura made into a suspension

normal treatment

special treatment

*Suspensions resolve down by step.*

*A tied leading tone will resolve upward. Also, a 2nd can resolve up to a 3rd (rarely).*

If attacked, a suspension would be called an appoggiatura. (But who would be so cruel as to attack a poor little old suspension?)

There are only two places within the beat that you can begin a tie or suspension: right on the figurehead (a Front-stop) or on an upbeat (a Back-stop). Starting anywhere else results in syncopation. It's probably a good idea to review the first few pages of Chapter 6 sometime soon.

## NOT ALL TIES ARE SUSPENSIONS

Putting ties in music is a good way to circumvent the tyranny of the meter. No rhythmic combination points up contrapuntal independence quite so well as tying a note in one line while the other line keeps on moving.

Often, the end of a tie is already the actual figurehead, and since it's not dissonant, there's no obligation to resolve it. That means that the melody can continue on any which-way it wants to go. To keep your thinking straight, call a tie to a figurehead a tie, and a tie to a non-chord tone a suspension. The next example contains no suspension, only ties.

BACH: *Invention #9*, bars 1–3

The biggest difference between a suspension and an appoggiatura is the Preparation.

A skillful Preparation requires the same mindset as a good ligature, in that the whole idea spans two beats.

## TWO WAYS TO FIND THE PREPARATION NOTE FOR A SUSPENSION

1) Sketch out the two chords on scrap paper and find descending stepwise motion, which you can turn into a suspension. No descending stepwise motion from chord to chord, no suspension. When you can't find a good Preparation, just change one of the chords! Try to use a closely related chord (I & vi, vi & IV, IV & ii, etc.) because closely related chords don't seriously alter the overall progression.

Watch. Ex. c has no descending stepwise motion. But in ex. d, we substitute I for vi. The fresh note, G, makes a good Preparation to F in the second chord.

a)	b)	c & d)	
C: I	ii	V	I
suspensions: G →	F	F →	E
E →	D	D →	C
		vi	IV
		(none)	I
			G →
			F

**2) Turn an appoggiatura into a suspension.** Sketch an appoggiatura (ex. a), and you can usually tie it back to a chord tone in the previous chord (attempted in ex. b). If not, it's back to the drawing board.

First, sketch appoggiaturas to other chord tones, and see if they can be tied backwards to chord tones (ex. c & d). Again no luck. The last hope is to find a substitute chord that will yield a good suspension (like we did on the previous page). In examples a–d we've been trying to find descending stepwise motion from i to VI. It ain't there. Let's try swapping iv for VI (ex. e), which allows descending step-wise motion from G to F (ex. f). Now the suspension will work (ex. g).

Normally, this method yields an excellent suspension right away with no fuss, but this example was designed to show everything that could possibly go wrong.

Substitution is intrinsic to the figuration system. At any point you wish, you can swap one figurehead, figure, note, and yes, chord for another one. Forget about substitution and the whole system collapses.

a) sketch an appoggiatura      b) first attempt fails: what should be the Preparation is not a chord tone      c & d) take further inventory

c: i VI i VI i VI i VI

e) try a substitute chord      f) aha!      g) success!

c: i iv i iv i iv VII III

now you try do 19.8

## EXAMPLES FOR STUDY

BACH: *Invention #11, bars 8–10*

d: i V i V i iv V i ii V i

Normally, suspensions resolve before the chord changes, as the first three here do. But a tied 7th is treated like any other 7th: resolve to the 3rd when the chord changes.

When a chord lasts longer than one beat, you have the option of resolving on the second figurehead, as you do with an appoggiatura.

If you know what to look for in a suspension—descending stepwise motion from chord to chord—even complicated embellishments like these won't throw you off.

BACH: *Sarabande*, bars 1–8, from *French Suite #2*

Chord symbols for the first system:  $c: i$   $v$   $iv$   $V^7$   $i$   $ii^\circ$   $V$   $V$

Chord symbols for the second system:  $c: i$   $V$   $iv$   $N$   $V$   $VI$   $E^b: V$   $(I \quad ii)$   $V$   $I$

So far, we've avoided using Solid Pairs (8ves or 5ths) in the middle of a phrase because the resulting harmonic hollowness sounds out of place. However, if you know you'll add an appoggiatura, which will take away the hollowness, you can use Solid Pairs more freely.

## How To SET UP SUSPENSIONS

1) Chart out a harmonic progression. Change every beat. Sketch in figureheads.

Chord symbols:  $B^b: I$   $vi$   $IV$   $V$   $vi$   $ii$   $V$   $I$

2) For every suspension, replace one figurehead with a non-chord tone a step higher. Move the original figurehead half a beat to the right.

Chord symbols:  $B^b: I$   $vi$   $IV$   $V$   $vi$   $ii$   $V$   $I$

**3) Sketch in the beginning of the tie** because it's the note you'll aim for when you write in figures. Here's where you check the Preparation (See page 168).

Musical score for exercise 3, showing a piano sketch with chords and figures. The score is in B-flat major and 3/4 time. It consists of two systems. The first system has two staves (treble and bass clef). The treble staff contains a melodic line with figures: R, 3, 3, R, 2 → R, 3, 6, 5, 3, R, 3. The bass staff contains a bass line with figures: R, R, R, R, R, 3, R, T, R. Below the bass staff are the chords: B<sup>b</sup>: I, vi, IV, V, vi, ii, V, I. The second system has one staff (treble clef) with figures: 3, 5, 2 → R. The bass staff has figures: R, 3. Below it are the chords: B<sup>b</sup>: vi, ii.

**4) Fill in figures.**

Musical score for exercise 4, showing a piano sketch with chords and figures. The score is in B-flat major and 3/4 time. It consists of two staves (treble and bass clef). The treble staff contains a melodic line with figures: 3, 3, R, 2 → R, 3, 2 → R, 3, R, R, 5, 3, 3, 5, 7, 3. The bass staff contains a bass line with figures: R, R, R, R, T, R, 3, R, T, R, R, R. Below the bass staff are the chords: B<sup>b</sup>: I, vi, IV, V, vi, ii, V, I, vi.

**Revision** The version above starts out well, but sounds too sugary in the latter half. It needs more pain. Oh, the bitter-sweet appoggiatura! Let's write three!

Musical score for exercise 4, showing a revised piano sketch with chords and figures. The score is in B-flat major and 3/4 time. It consists of two staves (treble and bass clef). The treble staff contains a melodic line with figures: 3, 3, R, 2 → R, 3, 2 → R, 2 → R, 2 → R, 4 → 3, 5, 7, 3. The bass staff contains a bass line with figures: R, R, R, R, T, R, 3, R, T, R, R, R. Below the bass staff are the chords: B<sup>b</sup>: I, vi, IV, V, vi, ii, V, I, vi.

now you try do 19.7-8

## CHAIN OF SUSPENSIONS

By letting the Resolution of one become the Preparation for the next, you can make a “chain” (or sequence) with suspensions.

BACH: **Fugue #2**, bars 1–3, from *Well-Tempered Clavier, Book II*

c: i V i v V, v iv i ii V

### How To SET UP A CHAIN OF SUSPENSIONS

**Remember:** Resonant Pairs automatically create 3rds or 6ths.

**1) Sketch descending figurehead pairs in 3rds or 6ths**, making sure you can harmonize them in the key. (Change harmony on each beat.)

F: V I V vi V, vi

**2) Starting with the second figurehead pair**, write suspensions into the top or bottom part.

F: V I V vi V, vi V I V vi V, vi

**3) Find something strong to kick off the series.** Octave leaps and appoggiaturas work well. Write simple figures into the other part if you wish.

F: V I V vi V, vi V I V vi V, vi

now you try do 19.9-10

## points for review

- Delaying a figurehead with an appoggiatura adds an ironic twist to the harmony.
- Since an appoggiatura is a type of accent, there's not much use trying to make a smooth connection into it. In fact, many appoggiaturas are leapt to exaggerate the accent.
- Tying a note across the beat not only has a dramatic effect on the rhythm, it's the most effective way to highlight contrapuntal independence.
- If the unattached figurehead is dissonant, it's a suspension. There's an obligation to resolve that dissonant figurehead before the harmony changes.
- There's no obligation to do anything with a tie; the rest of the figure can proceed as usual.
- Appoggiaturas and suspensions can resolve—hit the real figurehead—in three places: immediately (the second note of a figure), on the upbeat, or on the next beat (only possible when the chord lasts more than one beat).
- Most appoggiaturas and suspensions resolve down by step. Only the leading tone resolves upward.
- A chain of suspensions is a type of sequence where the resolution of one suspension becomes the preparation for the next suspension.

IRONY: A contradiction of expectation between what is said and what is meant or an incongruity between what might be expected and what actually occurs. “It is a fitting irony that under Richard Nixon, launder became a dirty word.” (William Zinsser)

# 20

## all's well that ends well

**T**urn on your TV or open any magazine and you're likely to be inundated by "simple formulas" for all sorts of things: economic security, teeth whitening, telling a joke, strong passwords, a fulfilling career, dealing with stress, attracting a mate, answered prayer, and housebreaking a puppy. However, if you've tried any of the products or advice offered by such claims, you've likely found two problems with simple formulas. Most aren't exactly "simple," and the ones that are don't work for beans.

So you're wise to be at least a little skeptical when I say that this chapter offers a simple formula whereby an inexperienced composer can sound instantly accomplished. Make a good, solid cadence at the end of every phrase and you'll automatically sound like you know what you're doing—even if the rest of your counterpoint ain't so hot. And there just so happens to be an easy-to-memorize formula for making a solid cadence. Really, there is. On the other hand, waffle at cadences and you'll sound like a bumbler—even if the rest of your counterpoint is pretty good.

The choice is yours.



# Concept

## AT A GLANCE:

The strongest tonic cadences in two-part counterpoint use the same 3-beat formula.

Listen to the cadence in the excerpt on the right. I picked a not-too-popular invention on purpose: the tune isn't familiar, but couldn't you just swear you've heard the cadence someplace before? You have! A million times! Here are the specs for an "Octave Drop" cadence.

**harmonic formula:** [x]-V-I. The [x] can be any chord that leads well to V.

**bass line:** starting from the dominant, the bass drops an octave from the Rt, then leaps up to the Rt of the tonic.

**rhythmic formula:** The tonic chord must land on a strong beat; consequently, V must come on a weak beat.

**top figureheads:** Use the 5th of the dominant ( $\hat{2}$ ) and the Rt of the tonic ( $\hat{1}$ ).

BACH: *Invention #7*, bars 11-13

The Octave Drop Formula

*It helps to remember all the scale degrees involved in the formula (starting with V): the bass uses  $\hat{5}-\hat{1}$  and the melody uses  $\hat{2}-\hat{1}$ .*

normal treatment

special treatment

The Octave Drop cadence is surely one of the strongest manifestations of predictability in music. To use it in your own pieces, write the cadence first, then work up to it.

*Add figuration to embellish the melody of the basic formula described above; make the bass line jump up an octave or repeat  $\hat{5}$ .*

*Use different scale degrees for the melody over the same bass line.*

Use the examples in this chapter to get ideas for where to place the [x] chord in various meters.

## EMBELLISHING “re”

The melodic figurehead for the cadential dominant is *re* (2̂). *Re* rarely appears unadorned in the Octave Drop formula. Just about always, *mi* gets worked in somehow, so that the whole melody goes *mi-re-do* (3̂-2̂-1̂).

**1) Trill *mi* in and add an anticipation.** Unless otherwise notated, trills always start a (diatonic) step above the written note. Above *re*, that means *mi*.

BACH: *Invention #4*, bars 16–17

**2) Make *mi* into an appoggiatura.** Counting up from the bass, the appoggiatura gets labeled “6-5.”

BACH: *Invention #1*, bars 5–6

**3) Speed up the appoggiatura—make it into a Run.** The way things line up, the second bass note of the Octave Drop gets an appoggiatura 4-3 as well (actually an accented passing tone).

BACH: *Gavotte*, bars 4–8, from *French Suite #4*

**4) Double 3rds or 6ths.** Write an appoggiatura 6th over the first bass note, going to the 5th over the second, as usual. Add notes to the melody to make a Double Third figure, or invert those 3rds to 6ths.

BACH: *Allemande, last three bars, from French Suite #6*

now you try do 20.1-2

**Question: Is the appoggiatura 6-5 in two-part counterpoint an actual  $\frac{1}{2}$  chord, or just an appoggiatura note? Depends. If the melody just touches on the 6th, label it as an appoggiatura note. If the construction shows through prominently (as it does here), label it a "cadential  $\frac{1}{2}$ ."**

## How To SET UP AN OCTAVE DROP CADENCE

**1) Sketch in the whole Octave Drop formula.** Either write your own using the specs on page 176, or even better, steal one you like from Bach. There's no copyright on cadential formulae. If there were, we'd all be in jail. Here's the cadence from the previous example, copied in and waiting to do its cadence thing.

You arbitrarily pick an [x] chord, just like you arbitrarily pick a figurehead. If you have trouble working to that particular figurehead, you revise – just opt for another chord tone. Do the same if you ever have trouble working to a particular [x] chord; just choose another chord.

**2) Work up to that cadence.** Watch. In context, stolen Octave Drop cadences don't sound ripped off.

now you try do 20.3-4

A hunting expedition will yield numerous cadences that closely resemble the original Octave Drop formula (like the several examples do) as well as other types which seem more distantly-related. To use any cadence in your own music, copy it in first, then work up to it (use the steps from the previous "how to.")

## VARIATIONS ON THE OCTAVE DROP FORMULA

The Octave Drop formula outlined at the beginning of this chapter packs quite a wallop. After learning it, you should try taking away or altering one or more components at a time—either for variation, or to make a weaker cadence when one is called for.

**1) Alternate melodic pattern "ti-do."** Most Octave Drop melodies embellish  $\hat{2}-\hat{1}$  (re-do). Only one out of twelve use the leading tone over V ( $\hat{7}-\hat{8}$ ).

C: ii V I      ii V I      ii V I

In the Octave Drop formula, "dominant" always refers to a literal V chord, not its regular stand-in, vii°.

**2) Alternate bass pattern: "4-5-1."** Rather than dropping an octave over a full beat of V, substitute 4 for the first bass note (normally 5). This pattern is usually used in triple meter (as in the top example), but appears in duple meter as well.

BACH: Minuet, last four bars, from *French Suite #3*

(as an Octave Drop)

b: i V i

b: i IV V i  
as a "4-5-1" (actual)

**3) The deceptive cadence.** Deceptive cadences only deceive when the expectation level is high. What better one to use than the Octave Drop formula?

BACH: **Prelude #15**, bars 12–16, from *Well-Tempered Clavier, Book II*

deceptive cadence

tonic cadence

**4) Lessening the blow.** By tweaking one or two elements of the basic Octave Drop construction, you can reduce the strength of a tonic cadence when less punch is called for.

plain Octave Drop

1 ending on a Resonant Pair

2 avoiding the Octave Drop pattern in the bassline

3 avoiding the Octave Drop pattern in the bassline while adding prolongation

d: iv      i V      i      iv      i V      i

d: iv      i V      i      iv      i IV V      i

**4** avoiding the Octave Drop pattern in the bassline to land on the 3rd of tonic

**5** delaying the cadence with a suspension

**6** delaying the cadence

**7** plowing through the bass line

d: iv      i V      i      iv      i V      i      iv

d: iv      i      V      i      iv      i      V      i

now you try do 20.5-6

As with any cadence, sketch in the cadence first, then work up to it. (Like an Octave Drop, include a beat or two before the actual cadence in your sketch.)

## HALF CADENCES

An Octave Drop cadence has a formulaic rhythm, a formulaic bass line, formulaic figureheads, and typical ways to prolong those figureheads. Half cadences aren't nearly so predictable. Remember that the cadential dominant can arrive on any beat—even an upbeat, for that matter. The only safe generalization concerns the leading tone, which usually appears in the soprano, either unadorned or with an appoggiatura or suspension.

And then there's the matter of attitude: a half cadence will exhibit one of two temperaments.

### 1) Some half cadences have an unresolved, in-your-face quality.

BACH: *Courante*, bars 1–4, from *French Suite #5*

## 2) Some half cadences merely slip in a little harmonic lift—an inconspicuous breath mark.

BACH: Minuet, bars 1–5, from *French Suite #2*

Chord symbols:  $i$   $iv$   $V$   $i$   $iv$   $V$   $i$   $VI$

**Tip: An appoggiatura can fix air-headed cadences.** When figures lead predictably to a cadence, it can sound too optimistic. One solution: rework the cadence to include an appoggiatura. You have three choices for where to put it: right on the cadence, on the figurehead just before the cadence, or both.

BACH: Minuet, bars 10–13, from *French Suite #2*

Chord symbols:  $E^b: I$   $V$   $I$   $V$   $I$   $V$

now you try do 20.7-8

### points for review

- Write strong cadences and you'll automatically sound accomplished.
- Most tonic cadences are entirely predictable—built from a strict formula.
- To make a lighter cadence, alter aspects of the Octave Drop formula.
- While half cadences aren't nearly as predictable as Octave Drop cadences, it's still a good idea to work out the cadence first, then write music up to it.

## 21

## two-part textures

**M**ost two-part counterpoint works like a polite conversation, the faster-moving line acting like the speaker. As a general rule, when one line speeds up, the other one slows down. But just like conversation, expect “interruptions,” places where both parts vie for attention—moving at the same speed for a beat or two.

BACH: *Air*, bars 1–6, from *French Suite #2*

The image displays a musical score for the first six bars of the 'Air' from the French Suite No. 2 by J.S. Bach. The score is written in G minor (two flats) and 3/4 time. It consists of three systems of two staves each (treble and bass clef). The first system shows the beginning of the piece with a steady eighth-note accompaniment in the bass and a more active melody in the treble. The second system continues this texture, with the treble part moving in eighth notes and the bass part providing a consistent rhythmic foundation. The third system shows the treble part moving in sixteenth notes, while the bass part remains in eighth notes, illustrating the 'interruptions' where both parts move at similar speeds.



## A GOOD FIRST IMPRESSION

The top line usually gets the melody first, either all by itself or supported by a non-melodic blast of tonic harmony. Two popular bass openings are 1) a full arpeggio and 2) just the roots.

BACH: *Allemande*, bars 1–2, from *Suite for Clavier in a minor*    BACH: *Air*, bars 1–2, from *French Suite #2*

a:    i        iv        V        i                    c: i                    VI        iv

The figure shapes and rhythm of the bottom part are usually simpler than those of the top line—yet not quite as unmelodic as the typical bass part (Rt 5th Rt 5th Rt 5th).

BACH: *Courante*, bars 1–7, from *French Suite #2*

## IMITATION: A NEW WAY TO REPEAT SEGMENTS

The most common use of full-blown melody in the bass occurs during imitation—passing one tune (or a close facsimile) back and forth between hands or players. The “Leader” plays a melodic segment first, then the “Follower” repeats it, either right away or a few beats later. There are three types of imitation, classified by how closely the Follower resembles the Leader.

**1) “Real” imitation** (also called “strict” or “exact” imitation). The Follower repeats the very same notes (up or down an octave) over the same harmony.

BACH: *Prelude*, bars 1–4, from *English Suite #2*

a: i        v (iv)                    V

The bass can start either simultaneously with the melody, or with a rest of any length. As a rule, the bass’s first figurehead is always the Rt, although a common exception occurs during “imitation” (covered in the next section).

When the top line takes a breather, the bass puts its two cents in with a quick melodic flourish.

Imitation is so prevalent that all counterpoint is deemed either “imitative” or “free counterpoint.”

The Leader and Follower also have more technical names “dux” and “comes.”

A leap between the Rt and 5th in the Leader will often get imitated by a leap between the 5th and Rt in the Follower.

Everything that holds true about repeating segments in one line holds true about imitating a melodic idea between two lines, so this is an excellent time to review Chapters 8 & 10.

In practice, imitation is a lot more flexible than it is in theory. Unless you overcome the tendency to be too rigid with the Follower, you'll overlook some better-sounding solutions.

The reason we don't feel cheated by partial imitation is simple. Usually, all we need is a few repeated notes or figures to give us the sense of imitation. After that, most people lose track of whether the music continues in exact imitation

**2) "Tonal" imitation.** The Follower repeats the Leader's melody, but over different harmony or different chord tones. The specific intervals can change sizes to fit the key signature (for example, a Major 2nd can become a minor 2nd). Sometimes one or two intervals need tailoring to accommodate certain chords.

BACH: *Gigue*, bars 1–6, from *French Suite #2*

**3) "Flexible" imitation.** We're so accustomed to hearing imitation that even switching off fast and slow rhythms between hands can give a convincing impression of imitation. Take the following example. Even though exact imitation is certainly possible, Bach uses a Follower that just barely resembles the Leader.

BACH: *Air*, bar 1, from *French Suite #2*

## HOW LONG SHOULD THE FOLLOWER BE?

In jazz, rock, folk and country music, imitation is improvised. Every time the singer takes a breath, one of the instrumentalists tosses back little echoes of the melody. In Baroque music, each type of piece has certain requirements for exactly how much of the Leader must be repeated by the Follower. We'll use them in future chapters. For now, use just a figure or two of imitation in key spots; don't try to weave one thread all the way through a piece.

- In *Inventions* and *Fugues*, the Follower must play the whole Theme (called a Subject) before breaking into free counterpoint.
- In *Canons*, there is no free counterpoint, the Follower keeps on following all the way through like a dog on a leash. (Sometimes at cadences, free counterpoint is allowed).
- In *Dance Suites* and *Preludes*, there's no hard and fast rule, but a Follower that enters after "x" beats should play "x" beats worth of imitation before breaking into free counterpoint.

## How To WRITE REAL IMITATION

1) **Write a full segment of melody.** For now, keep it short—no more than four full figures. Pick a progression that will return to the first harmony (probably tonic) immediately after the segment is done.

2) **Copy that same melodic segment to the Follower's line.** Transpose it up or down an octave.

3) **Write counterpoint.**

now you try do 21.1-2

## How To WRITE TONAL IMITATION

1) **Write a few bars of melody.** Be sure to analyze!



BACH: *Bourée*, bars 1–4, from *French Suite #6*

Two systems of musical notation for a Bourée in D major, 2/4 time. The first system shows the first four bars with simple quarter notes in both hands. The second system shows bars 5-8, featuring a more active bass line and a treble line with eighth notes and a triplet of eighth notes in the final bar, marked '4 → 3'.

**2) Follow a few stepwise figureheads in a melody.**

BACH: *Fugue #3*, bars 3–4, from *Well-Tempered Clavier, Book I*

Two systems of musical notation for a fugue in D major, common time. The first system shows bars 3-4 with a complex texture of sixteenth and thirty-second notes. Red boxes highlight specific melodic intervals in the treble line.

BACH: *Invention #1*, bars 3–4

Two systems of musical notation for an invention in C major, common time. The first system shows bars 3-4 with a complex texture of sixteenth and thirty-second notes. Red boxes highlight specific melodic intervals in the treble line.

**3) Alternate (contrast) low commotion with more complicated passages.**

BACH: *Prelude #7*, bars 32–38, from *Well-Tempered Clavier, Book II*

Two systems of musical notation for a prelude in B-flat major, 9/8 time. The first system shows bars 32-38 with a complex texture of sixteenth and thirty-second notes. Red boxes highlight specific melodic intervals in the treble line. The second system shows bars 39-42, featuring a more active bass line and a treble line with eighth notes and a triplet of eighth notes in the final bar.

The circled figureheads in the Right Hand form a Run; Low Commotion underneath them uses a gearshift to maintain parallel motion.

#### 4) Use low commotion as filler before a cadence.

BACH: *Allemande*, bars 20–22, from *French Suite #3*

**5) Other schemes.** You don't have to set up figureheads in parallel 3rds and 6ths to get a similar effect to that of low commotion. The next sequence uses both Wedges and parallel motion.

BACH: *Invention #15*, bars 8–10

Even with no harmonic changes from bar to bar, you'll generate other chords on the weak beats when you add the remaining figureheads and figuration.

## How To WRITE A WHOLE PHRASE OF LOW COMMOTION

**1) Chart out a simple bar-to-bar progression** –the simpler the better! Add target figureheads (in one voice) on each downbeat.

**2) Add other figureheads, making "scale figures" to connect the target figureheads.** Later, add figureheads for the second voice, making only parallel 3rds and 6ths with the first voice.

**3) Add simple figuration; adjust for tendency tones, if necessary.** The leading tone in bar 2 descends properly in the figurehead sketch (coming down from the Rt), but after adding embellishing figures, the leading tone doesn't sound right anymore. Expect trouble with all tendency tones during low commotion.

D: I    ii    I    V    I    V    vi    V

D: I    ii    I    V    I    V    I    ii    I    V

now you try do 21.5-6

If you use Stationary Pitch(es), stick with the Rt and/or 5th. You're actually building a pedal out of your first harmony.

In this key, we can only call the figurehead pair E & G "V" when the pair descends. (G is the 7th of the V7 chord.)

## How To WORK IN JUST A LITTLE LOW COMMOTION

1) Look for (or sketch) step-wise motion in the melody's figureheads.

2) Sketch additional figureheads to make parallel 3rds or 6ths, then go to town.

now you try do 21.7-8

## points for review

- Fast notes usually appear in one line at a time.
- There are two common ways a piece might begin—with a rest or a tonic blast.
- Imitation is a form of repetition. There's some science to it, but for the most part, imitation is a texture. Passing an idea back and forth produces a simple logic that audiences have an easy time following.
- In both tonal and flexible imitation, the Follower usually tailors the Leader's music rather than repeating it exactly.
- Sometimes, just imitating the rhythmic idea—treating the melodic idea loosely—is enough to give the impression of actual imitation.
- Stepwise parallel motion in figureheads can be embellished with a Stationary Pitch or other simple figuration to create a pleasant texture.



part six:

*invention*



# Why Study Inventions?

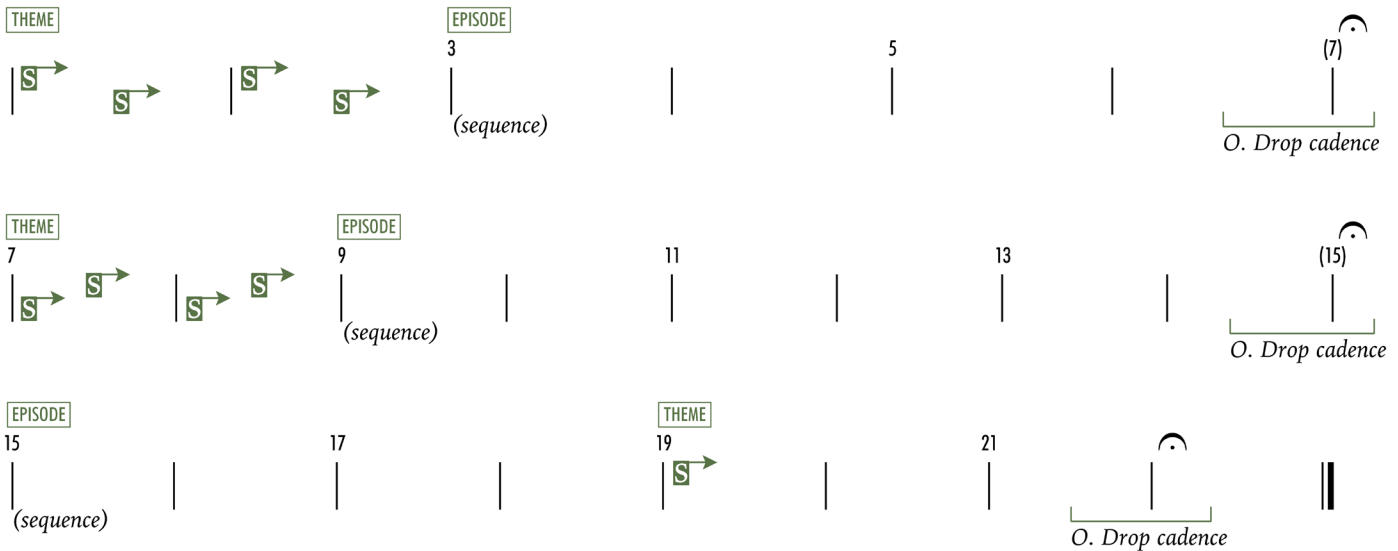
Bach's 15 Inventions are best known as teaching pieces for intermediate piano students. What most people don't know is that he also had composition students in mind when he invented the invention. He claimed that these pieces are so well constructed that a student can muse them over and learn "how to find good musical ideas and work them out and also gain a strong predilection for and foretaste of composition." What chutzpah!

Before explaining the scope of our study, it'll help to have a rough idea about what an invention is.

- Inventions are short pieces in 2-part counterpoint: the average overall length is 22 bars.
- Each invention uses just one Theme, called a "Subject."
- An invention has 2–4 sections. Each section is roughly the same length.
- Each section of an invention contains two types of music: thematic music and episodic music.
- The episodic music is based on simple harmonic sequences.
- Just about every section ends with an Octave Drop cadence.

The following diagram of Invention #1 should help you visualize how it all fits together, especially if you listen to the piece and try to locate where each section starts.

BACH: **Invention #1**, an outline of the form. Each line equals one main section.



*Just about every music school requires that students write an invention because it forces them to master basic skills and grapple with core concepts. Looks like your school is one of those schools. Below is an outline of what you can hope to learn, chapter by chapter.*

■ *Chapter 22 “Mood Music”*

*SKILL: How to write an invention Theme and rework that Theme to start an Episode.*

*CONCEPT: Musical contrast does not necessarily depend on writing a brand new melody.*

■ *Chapter 23 “Whodunit”*

*SKILL: How to recognize what Themes, Episodes, and modulations do within an invention.*

*CONCEPT: A musical form is a logical presentation of ideas, much like a story. Variations of a form are like twists in a plot.*

■ *Chapter 24 “Just a Stage”*

*SKILL: How to build a basic, three-staged Episode.*

*CONCEPT: There are specific ways to control and vary the pacing of musical ideas.*

■ *Chapter 25 “Alternate Routes”*

*SKILL: What to alter to make an Episode fancier.*

*CONCEPT: Composers often find less obvious solutions to common situations.*

*While the 15 Inventions are all similar, they actually fall into two different groupings, depending on the length of the Subject: seven have short Subjects (from two to four figures long), and eight have longer Subjects (from two to four bars long). If you think about it, you can see why the Subject’s length will affect the total number of times it can occur, as well as the proportions of each section. Our study will center around the seven inventions that use short Subjects: #1, #3, #4, #6, #7, #10, & #13. Later, you can easily adapt what you’ve learned to study the inventions with longer Subjects without getting dazed and confused.*

# 22

## mood music

**Y**ou're nine years old. You accidentally super-glued your brother's lips together, and mom called dad at work to let him know. He typically gets home at 5:30, and even though it's been a long time since you've gotten anything like a spanking, you sneak away to your bedroom to put on every pair of underwear you own—just in case.

The car pulls into the driveway, and you get a long, serious lecture from Dad the Disciplinarian who takes away all video privileges for three weeks. The punishment is tough, but the thing that kills you is how disappointed he looks. But later on, after dinner, you get tackled and tickled by Dad the Wacky Wrestler. Same dad, different attitude.

A similar rapid mood transformation occurs in *Inventions*. The same melody that sounds dead serious in the first few measures suddenly sounds frolicsome in the next. There's a basic trick that's pretty easy to master. Once you learn it, you can make one melody project entirely different "attitudes."

## Concept

### AT A GLANCE:

To change the “mood” of a melodic idea, rewrite it over a different chord progression.

Since most of us identify a musical Theme by its melody, we take it for granted that a new section needs a new melody. True, musical contrast often involves bringing in a new tune, but it doesn't have to.

Each Invention uses one melodic idea (called a “Subject”) all the way through. When run atop a thematic-type progression (based on I and V) the Subject sounds more serious than when it appears over a sequential-type progression (based on a series of equidistant chords) where it sounds more playful.

This chapter shows how to write a Subject, treating it first as a Theme, then how to transform it into an Episode.

#### BACH: *Invention #1*, bars 1–5

The musical score consists of two systems. The first system, labeled 'THEME', shows a melodic subject (S) in the treble clef and bass clef. The subject is a sequence of eighth notes: C4, D4, E4, F4, G4, A4, B4, C5. This subject is played over a harmonic progression of C: I, I, V, V. The second system, labeled 'EPISODE', shows the same melodic subject (S) played over a harmonic progression of C: I, vi, G: vii°, V. A 'break' is indicated in the second system.

*This Episode is based on a descending third sequence, but it's harder to see because of the modulation. Watch the roots: C–A–F#–D.*

normal treatment

special treatment

Harmonic formulas  
for Themes and Episodes  
are covered in Chapter 8.

*Alternate Themes and Episodes, keeping each distinct from the other.*

*Write very short or very long Thematic or Episodic passages, or blur the boundaries between them.*

## THE FIRST PRESENTATION OF THE SUBJECT

Because the average Invention is only twenty-something bars long, every section must remain short and to the point: no luxurious interludes, no drawn-out transitions, no lingering at cadences. As for the opening—the section we call the Theme:

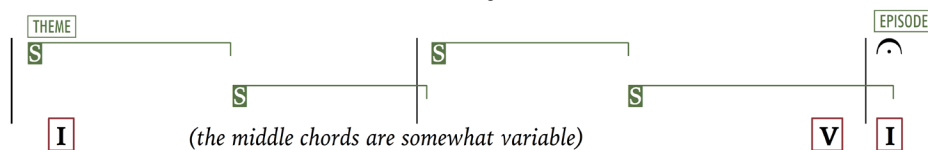
- The Subject always appears first in the Right Hand, then in the Left.
- The first note of the Subject is usually the Rt of the tonic.
- That first statement in the Right Hand is usually unaccompanied. Only when the Subject starts on the 5th should both hands start together. (Don't start a Subject on the 3rd.)
- The Theme usually lasts for two bars in common time, 4–6 bars in 3/8.
- No matter where the Subject starts rhythmically—on the beat, just after the beat, or with a pick-up—a Subject must always carry through to a figurehead (no upbeat endings).
- There's a juncture point at the end of the Theme: the final note of the final Subject coincides with the first note of the Episode.

Formwise, Inventions are absolutely intact. Just about everything that happens in a long piece happens in an Invention. There's even room for short diversions in the basic plot, as you'll see in the next chapter. This chapter deals with only the first few bars.

## SETTING UP A HARMONIC FOUNDATION FOR THE THEME

The objective: to set up tonic and dominant chords in such a way that you can repeat the Subject from hand to hand and end with dominant on the last upbeat before the final figurehead. This produces a light tonic cadence at the beginning of the Episode. Options for what chords to use between the initial tonic and essential dominant are explained in points 1–4 below.

**The three essential foundation chords for any Invention Theme**



The end of the Theme is the beginning of the Episode.

**1) Oscillation.** Alternate tonic & dominant from figure to figure.

BACH: Invention #13, bars 1–3

a: i    V    i    V    i    V    i    V    i

BACH: **Invention #4**, bars 1–6

d: i                  vii°                  i                  vii°                  i                  vii°                  i

**2) Dominant Restatement.** Here, the switch from tonic to dominant happens slower—from bar to bar. In other types of pieces, the dominant version often starts a step higher or lower than the tonic version, which requires some degree of tailoring (see page 69). But Inventions never tailor the Subject during the Theme; only transpositions by 4th or 5th are allowed.

BACH: **Invention #7**, bars 1–2

e: i                                  V                                  i

Be careful when adding prolongation to a dominant restatement! Normally, there are several ways to vary the basic harmonic scheme of a dominant restatement. Not so with an Invention. Here's the rule: any chords added to the tonic portion of the Theme must resolve before the next hand comes in—which usually means putting two chords within one beat.

**Bach resolves the little wisp of dominant on the second beat back to tonic before playing the Subject in the other hand.**

BACH: **Invention #1**, bars 1–2

C: I                  (v I)                  I                  (V I)                  V                  (ii V)                  V                  (ii V)                  I



The wrong way A tragic attempt at combining schemes

THEME S EPISODE

F: I V I V V ii V ii I?

**3) Prolongation, safe and simple.** It's hard to sound fresh with just two chords. Here are suggestions for adding chords between I and V of your outline.

Two sample two-figure Subjects with prolongation added between alternating I and V chords

e: i iv V i i iv V i

A sample four-figure Subject with prolongation

THEME S EPISODE

A♭: I vi ii V I vi ii V I

The V-I at the end of a Subject is usually the point where the next entry or the Episode begins. The official ending of Invention #6's Subject is still V-I, but then there's a little tag tune to delay the juncture point.

BACH: Invention #6, bars 1-5

E: I V IV V I

Normally, the L.H.'s Subject would start here.

Combining the scheme that alternates I-V from beat to beat with the Dominant Restatement scheme ends on the wrong chord (ii) and doesn't make a sensible juncture with the Episode.

For two-figure Subjects, add a subdominant chord, either at the end of the first figure, or to delay the arrival of the dominant.

You can try different middle chords from the ones used here (vi & ii), for example, IV & I, V & vi, or V/IV & IV.

Try playing this Subject without the Left Hand! Without this particular L.H., the harmony and the rhythm turn to mush. Don't try something this difficult until you've written one or two straightforward Inventions.

## How To WRITE AN INVENTION SUBJECT AS A THEME

**1) Pick a key and a meter.** Sketch in brackets for Right and Left Hand presentations of the Subject. Mark the juncture point (the beginning of the Episode) with a fermata.

d: i

Here, we alternate I & V from figure to figure, adding one prolongational chord (ii°) to rhythmically displace V.

**2) Adapt chords from the previous pages to fit your key and meter.** Mark in chord symbols.

d: i ii° V i ii° V i

Remember that you're going to hear this segment over and over again throughout the whole piece, so make it catchy.

**3) Write the first Subject in the Right Hand.** Keep revising it until it can't possibly be any better.

d: i ii° V i ii° V i

**4) Copy the Subject to the Left Hand.** Leave the Right Hand out for the time being.

d: i ii° V i ii° V i

**5) Chart out figureheads for counterpoint above the Left Hand.** The Episode should begin with a Resonant Pair.

THEME

EPISODE

d: i ii° V i ii° V i

**6) Fill in figures for the Right Hand.** ESSENTIAL: come up with music to enhance the rhythm of the Subject. Remember to try ties, dotted notes, and rests.

THEME

EPISODE

d: i ii° V i ii° V i

now you try do 22.1-2

## SETTING UP THE BEGINNING OF THE EPISODE

While you can choose from several good schemes for an Invention Theme, the first few bars of an Episode have an absolutely formulaic rhythm and harmony.

- 1) Sequence type.** Nearly all Inventions use fifthfall sequences. In the minor mode, start on *i*; in the Major mode, start on *vi*. Just plug in the proper series of chords—after you’ve determined ...
- 2) Segment length.** No matter how many figures long the Subject is, and no matter how many chords it uses, the Episode must start with a two-figure segment, changing chords from ‘a’ to ‘b.’

Episodic segment length in duple meter

a b a b a break

e: i iv VII III VI

The technical name for music played against the Subject is “Counter-subject.” In some fugues, the Counter-subject is nearly as important as the Subject—with the same rights and privileges of repetition and variation. But in Inventions, Counter-subjects are not all that significant. In fact, depending on the number of repetitions, the Left Hand doesn’t usually even get a chance to play the Counter-subject.

Review fifthfall sequences in Chapter 8 if you’ve forgotten the specs.

There’s a good reason for this: when the sequence breaks, the segment length gets cut in half. Starting with too short a segment leads to a dead end. (This will become much clearer in Chapter 25.)

### Episodic segment length in triple meter

Diagram illustrating episodic segment lengths in triple meter. The staff shows a sequence of chords: *e: i*, *iv*, *VII*, *III*, and *VI*. Above the staff, brackets indicate segment lengths: 'a' (over *e: i* and *iv*), 'b' (over *VII* and *III*), and 'a break' (over *VI*).

**3) Episodes in the Major mode have a tricky juncture point.** As mentioned earlier, the end of the Theme coincides with the beginning of the Episode, and sounds like a cadence. A tonic cadence. But a fifthfall sequence in the Major mode needs to start on *vi*, because problems with *vii°* arise if the sequence starts on *I*. However, starting the Episode right on *vi* makes the end of the Subject sound cheesy:

Diagram illustrating a Theme and Episode in A-flat major. The Theme consists of chords *A♭: I*, *vi*, *ii*, and *V*. The Episode starts with *I*, *vi*, *ii*, and *V*. The final chord of the Episode is *vi?*, which is marked with a red question mark, indicating a problematic juncture point. The staff also includes a 'break' section with a *vi* chord.

**Solution:** Let the Subject cadence on tonic as usual, then switch to *vi* on an upbeat or even in the next figure. To do this you need to use a specific pair of chord tones on the figurehead: the *Rt* and 3rd of tonic. After the beat, all you have to do is find a graceful way to bring in the *Rt* of *vi*.

Diagram illustrating the solution for the Theme and Episode in A-flat major. The Theme consists of chords *A♭: I*, *vi*, *ii*, and *V*. The Episode starts with *I*, *vi*, *ii*, and *V*. The final chord of the Episode is *I (vi)*, which is marked with a red box, indicating a graceful transition to *vi*. The staff also includes a 'break' section with a *vi* chord.

now you try do 22.3-4

## TRANSFORMING A SUBJECT FOR EPISODIC (SEQUENTIAL) USE

An overview. Since Subjects go I–V during a Theme and need to go I–IV during the Episode, the basic technique used to make a Subject into an Episode is tailoring—stretching or scrunching figures within a segment to accommodate new harmony. When ordinary substitution doesn't produce anything great, Bach uses the same figure types, but freely alters the gesture (or vice versa). (Invention #13 comes to mind.)

BACH: *Invention #4*, bars 1–2, 7–9

THEME  
S R

EPISODE  
S 3

a b a b

d: i vii° i i iv VII III

	subject during the theme	changes made for the episode
segment length	2 figures	none
harmony	i-vii°	i-iv
first note	R	3
figure type	Run/Run–C.Leap/Run	C.Leap/Run–C.Leap/Run
overlaps	'a' to 'b' hard; 'b' to 'a' smooth	none

BACH: *Invention #13*, bars 1, 3–4

THEME  
S R

EPISODE  
S 3

a b a b

a: i V i V i iv VII III

	subject during the theme	changes made for the episode
segment length	2 figures	4 figures
harmony	i–V	twice as long
first note	R	3
figure type	fairly straight arpeggio	zig-zaggy arpeggio
overlaps	smooth (leap up a 3rd, step down)	none

Since Episodes contrast the mood of the Theme by sounding playful, we not only hear a change of harmonic underpinning, but the first note of the Subject is likely to change as well: typically substituting a lighter 3rd for the more substantial Rt.

**Tip:** When switching 'a' and 'b' from hand to hand, give each figure a different rhythm.

Here, the *second* note of the subject is different from Theme to Episode. It's a bit more accented than the first sixteenth.

The only alteration required to make the Theme conform to Episodic harmony: alter the size of the leap to the 'b' figurehead.

BACH: Invention #7, bars 1, 3

THEME S  
E: i i V

EPISODE a b a  
3 5 iv VII

	subject during the theme	changes made for the episode
segment length	2 figures	4 figures
harmony	i-i	i-iv
first note	5	5
figure type	ligature-Quasi-dot	none
overlaps	upward leap	none

Try substituting one kind of figure for another – keeping the overall shape the same – as a way to come up with your Episode tune.

BACH: Invention #6, bars 1-4, 9-10

THEME S  
E: I IV V I

EPISODE a b  
7 3 vi ii

	subject during the theme	changes made for the episode
segment length	4 figures	2 figures
harmony	I-IV-V-I	vi-ii (fifthfall sequence)
first note	R	5 of vi (= 3 of I)
figure type	syncopated Run	syncopated arpeggio ('b' comes from tag)
overlaps	made by ties	none

BACH: Invention #1, bars 1, 3

THEME S  
C: I

EPISODE a b a  
3 3 I

	subject during the theme	changes made for the episode
segment length	2 figures	2 figures
harmony	I (I-V-I)	I
first note	R	ligature that leads to 3
figure type	3-note scale-Double 3rd	inverted
overlaps	big leap	step

## APPLYING WHAT WE JUST LEARNED

Invention #3 has a very odd “sequence” – written over a harmonic pedal instead of a sequence.

BACH: **Invention #3**, bars 1–2, 5–6

THEME S EPISODE 5 a a<sup>1</sup>

D: I I I I V I I V V

V(pedal)

Here’s a question for us: Is it possible to make a fifthfall sequence from Invention #3’s Subject? Let’s test our previous observations to write the following excerpts – options Bach could have used if he wanted to.

**1) Invert all or part of the Subject** (as Bach did in Invention #1).

a b a b a break

D: (I) vi ii V ii vi

**2) Change as little as possible** (as Bach did in Inventions #4 & 7).

a b a b a break

D: (I) vi ii V I IV

**3) Keep the gesture, but change figure types** (as Bach did in Invention #6).

a b a b a break

D: (I) vi ii V I IV

**4) Pass the 'a' figure to the Left Hand for the second half of the segment** (as Bach did in Invention #13).

D: (I) vi ii V ii IV

**5) Find a pedal that will accommodate a fifthfall sequence** (as Bach did in Invention #3). Here are two versions—one with a stationary pitch in the R.H., the other with a pedal/stationary pitch in the L.H.

D: (I) vi ii V I vi

D: (I) vi ii V I vi

now you try do 22.5-6

### points for review

- The Theme and Episode present the same melodic material, but give it a different attitude by changing the underlying harmonic progression.
- Themes have goal-oriented harmonic progressions, setting up the dominant to act cadentially. Episodes are based on sequences.
- The Subject as presented in the Theme must undergo some type of tailoring to make it fit over the sequential progression in the Episode.



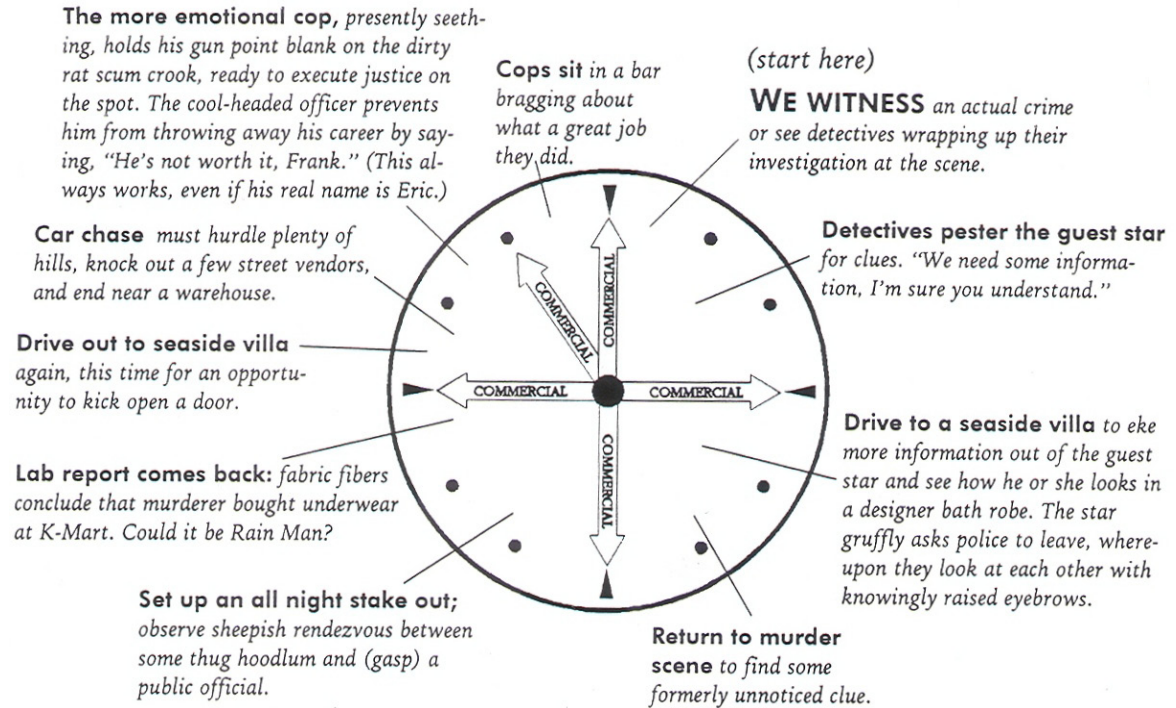
**A**ll TV cop shows follow the same basic plot: after somebody gets bumped off, detectives use wit and coercion to unearth leads, find a motive, and nab the culprit. There's always a car chase. There's always a lab report (nowadays, fabric fibers and DNA are chic). One of the detectives invariably has a domestic tiff, vowing to spend more time at home after the case is solved. The Captain always has a cramped office with venetian blinds. And there's always a theme song by Mike Post.

In fact, the formula is so predictable that after you've seen a few whodunits, you know exactly what will happen—not only from beginning to end, but from commercial to commercial.

In fact, many people find themselves checking their watches during a show to figure out what might happen next.

Think about it. When do you expect the car chase? Probably after the third commercial. How come? Two reasons. First, a car chase makes a great dramatic climax, and second, running away is an admission of guilt (except with O.J.). We don't want to know whodunit too soon, unless there's a good plot twist in store.

## Cop Show Plot Clock



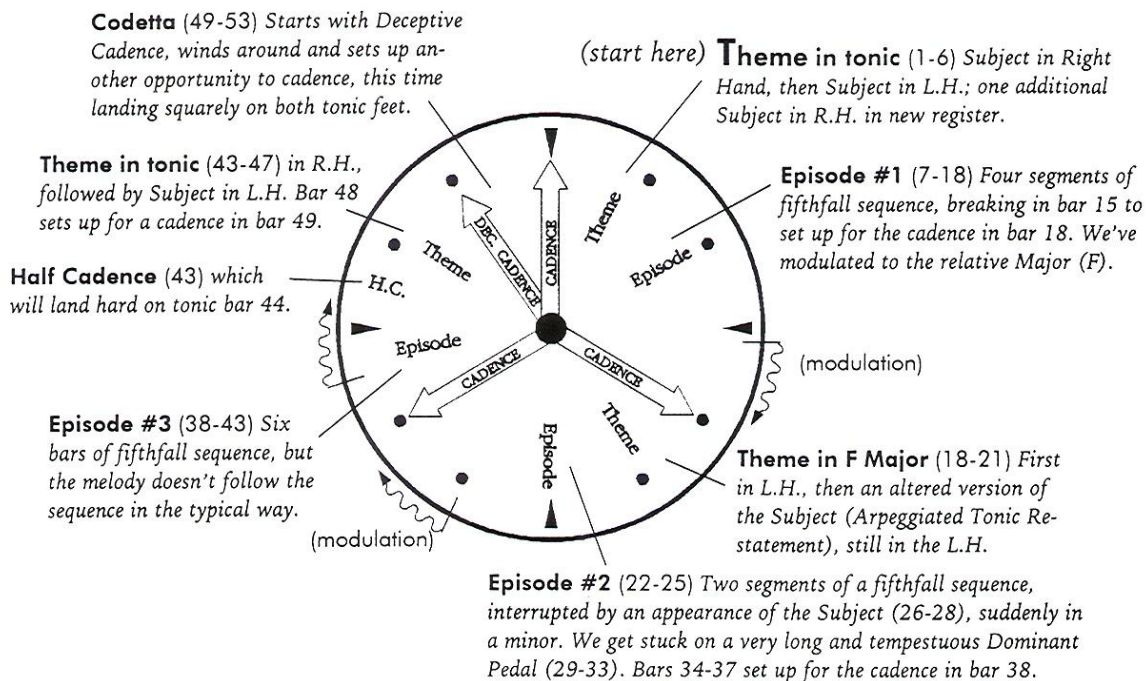
## INVENTIONS, LIKE COP SHOWS, FOLLOW A STANDARD PLOT

Bach more or less invented invention form. Nobody gets killed. There's no mystery to solve. But it does have a basic plot. Very basic. All it does is alternate Themes with Episodes while modulating several times. Fortunately, the music is not as dull as the explanation.

Keep in mind that there's probably not one cop show that follows the prototype exactly. Some whodunits need four car chases, others don't need any. Once in a while it makes more sense to put the stake-out very early in the show—maybe even to start with it. Departures from a basic plot don't throw us off; rather, we find ourselves making allowances for them—even relishing a good twist here and there.

Invention plots are flexible, too. Of the inventions we're studying, Invention #4 has the fewest deviations from "the norm," so mapping it out on a plot clock will give us a pretty good idea of what they all do.

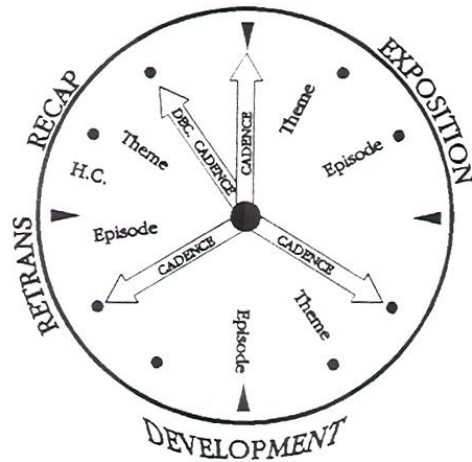
## Invention #4 Plot Clock



## THE PLOT OUTLINE

In a general way, the main sections of an Invention resemble as the main sections of sonata form, so we borrow from the familiar terminology.

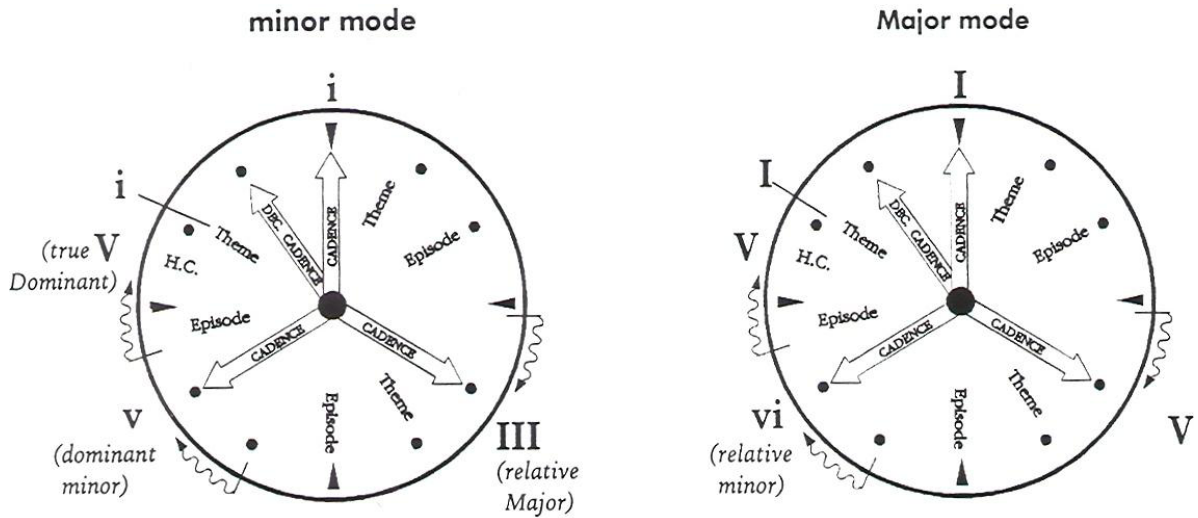
- **The Exposition** presents the Theme and Episode with little or no monkey business. A modulation begins partway through the Episode.
- **The Development** starts off with a clear-cut presentation of the Theme in the new key, but this time blurs the juncture point to the Episode, such that it's hard to tell where one stops and the other starts. Expect other ambiguities as well: ambiguous keys (temporary modulations), ambiguous harmonic progressions (sequences by fourth rather than by fifth), and ambiguous chords (chords over a pedal tone).
- **The Retransition.** The other sections start with a Subject. Here, we get an Episode instead. The whole point of the retransitional Episode can be summarized by its final chord, a half cadence, exaggerated so as to make the Subject sound extra special when it returns.
- **The Recapitulation.** A return to the Subject in the tonic.



Most Inventions have three sections. In four-section inventions (#3 and #13), the second and third sections are both developmental. In #10, a two-section invention the Development, Retransition and Recapitulation all happen in the second half.

## THE MOST COMMON KEY SCHEMES

Changing keys from section to section gives an Invention a sense of motion. No motion, no story.



## CADENCES IN EACH NEW KEY HELP CLARIFY THE STORY

In one regard, cadences are an awful lot like commercials. The dramatic tension we feel right before a commercial is darn similar to the skittish moment just before every Octave Drop cadence in an invention.

BACH: *Invention #1*, bars 3–6, just before the first cadence

"Have you been seriously injured in an accident?"

If this were a TV show, we'd get a commercial right here.

Detective novels, vintage Sherlock Holmes films, and posh murder mystery dinner theaters prove that whodunit plots don't need commercials. TV shows, on the other hand, must serve the god of advertising, which results in drastic adjustments in the plot pacing. Writers must set up an anxious moment every ten or twelve minutes to guarantee we'll won't leave the room and possibly miss some riveting news about feminine hygiene.

Cadences, though, are indispensable to music, no matter what the form or medium. Without cadences, music would melt together into one unrecognizable glob, like a candy bar in a glove compartment. Small-scale cadences act like punctuation or breath marks at the end of each phrase. Large-scale cadences act more like chapter breaks, alerting us that something new is about to begin. That's why extra care is taken to make sure that the cadence at the end of each Episode is incredibly strong. The next chapter gives some practical suggestions for how to accomplish this.

## NO PLACE LIKE HOME?

Recapitulation is a simple concept. There wouldn't be much to say about it except that two of the Inventions we're studying (#1 and #7) don't have literal Recapitulations. Here's what we get instead.

**1) In *Invention #1*, the right melody returns with funny harmony.** After going through a slow motion time warp (explained in detail on page 231), it's a relief to start moving normally again in bar 18. It just so happens that the melody starts on C—the right melody note for a Recapitulation—but the harmony makes F Major. Still, because of the tempo restoration and the familiarity of the melody, we buy it as a Recapitulation.

BACH: *Invention #1, bars 15–20*

15

a: i V iv C: V

18 Half cadence made by a sec. dominant RECAP S S S

C: I<sup>4</sup> → 3 V IV ii IV V I

2) In *Invention #7*, the right harmony returns with a paraphrased melody. Again, a sudden restoration of the original pacing signals the beginning of the Recapitulation: in bar 18, we feel a sense of relief the moment the lengthy pedal note lets go. We land in the right key (e minor), but instead of the actual Subject, we get a mere paraphrase of it—and in the Left Hand.

BACH: *Invention #7, bars 15–19, 1*

15 half cadence

e: V i V (long dominant Pedal)

18 RECAP (original version) S

e: i VII VI VI V

## THE LAST HOORAH

Both inventions and cop shows have an extra little sectional division within the last big slice. In the cop show, the detectives return for a minute or two, sit around a table sloshing beers and saying things like, “Boy, we sure are getting good at finding fabric fibers!” “Yeah, and did you see the way I kicked that door in?” followed by a chummy punch in the triceps.

Most inventions have a codetta, that does basically the same thing. Just when we think the piece is over, Bach turns an Octave Drop into a deceptive cadence, recalls a final triumphant moment from the Subject, then scurries around setting up another cadence—this one landing squarely on the tonic.

BACH: **Invention #4**, bars 42–52

H.C. RECAP  
 d: i V i vii° i vii°  
 CODETTA Dec.C. T.C.  
 i V VI iv i V i

now you try do 23.1-2

### points for review

- Once you understand how a prototype works, slight deviations from case to case won't throw you off.
- Inventions modulate from section to section to create a feeling of motion.
- Cadences are essential sectional dividers in an invention.
- The Recapitulation might not be an exact repetition of the Subject.
- When an Invention has a Codetta, the Codetta usually begins with a deceptive cadence.

# 24

## just a stage

**R**omantic bliss typically goes through stages of peaks and ebbs. Beer fermentation and hostage negotiations also go through stages. There are stages to rockets, digestion, puberty, and Invention Episodes. Saying that something goes through stages just means it undergoes changes—not random ones, but predictable, inevitable ones.

Just how predictable the changes will be from stage to stage varies depending on what you're talking about. Take germination. Once a seed sprouts, you can look at a chart to figure out what a chrysanthemum, a yew tree, or a Venus fly trap will look like on day eleven. But with other things, like the grief at the loss of a loved one, the best you can do is make generalizations about a process, using stages to describe what's likely to occur, leaving plenty of room for inconsistencies.

Let's pretend there are no discrepancies—that the stages of an Episode are absolutely uniform. This isn't too far from the truth.



# Concept

## AT A GLANCE:

Each stage of an Episode drives the music a little further down a well-worn path.

This chapter maps out the path of a typical Invention Episode, complete with landmarks and mileposts. The objective is to get so familiar with the route you could run through the stages blindfolded.

The three stages:

**Stage 1** is a Sequence with medium-length segments.

**Stage 2** breaks the first Sequence with shorter segments, making the music seem to move faster.

**Stage 3** is an Octave Drop cadence.

BACH: **Invention #13**, bars 3-6, Episode 1

STAGE 1

a: i iv VII III

STAGE 2

STAGE 3

vi ii V I ii V I

*Bach changes the whole 'a' figure in the Left Hand when in the second segment. Other times, he changes just one note, such as a Rt for a 3rd.*

normal treatment

special treatment

Once familiar with the game plan of an Invention Episode, you'll better understand the basic strategy for any transition.

*Stages 1 & 3 almost never deviate from the prototype.*

*Alternatives for Stage 2 appear in the next chapter.*

The second Episode from Invention #13 is remarkably similar to the first one (on the previous page). The biggest difference is the length of Stage 2. Episode 1 sprints through Stage 2 in just one bar—world-record time—while Stage 2 of Episode 2 is twice as long.

BACH: **Invention #13**, bars 9–13, Episode 2

STAGE 1

a b a b

C: vi V V I

STAGE 2

a b' a' b' a' b' a' STAGE 3

e: V VI iv v III iv ii° V i

Before you start an Invention, make a plot clock like the ones on page 207, with the keys clearly labeled in big letters so you know what key to go to when it's time.

## WE'VE ALREADY COVERED MOST COMPONENT PARTS OF AN EPISODE

**Stage 1 is usually a fifthfall sequence.** Basic sequence construction is covered on page 69. And in an invention Episode, the segments must be a certain length or Stage 2 won't work out right (see page 199).

**You might need to adjust the triple 'a' figurehead pattern.** The Theme might dump you out on a figurehead that makes it difficult to line up all the 'a' figureheads in your sequence in one register. If you're not clear on this point, review page 85.

**The best time to modulate.** In an Episode, modulation just about always happens at the very beginning of Stage 2—the same point at which the first sequence breaks. (Modulation during fifthfall sequences was already covered on page 131.)

**Stage 3 is an Octave Drop cadence.** Review Chapter 20 if you're rusty.

## THE ONLY THING NEW IS WHAT TO DO FOR STAGE 2

The objective: when played after Stage 1, the music in Stage 2 should sound pushy—like everything suddenly moves faster. The secret lies in manipulating the segment length: take something from Stage 1's melody and cut it up.

1) Combine the beginning of the 'a' with the beginning of the 'b,' (one beat from each).

The image shows two stages of a musical sequence in G minor, 3/8 time. Stage 1 consists of two measures. The first measure starts with a figurehead 'a' (quarter note G, eighth notes A-B, quarter note C) followed by a figurehead 'b' (quarter note D, eighth notes E-F, quarter note G). The second measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G). Stage 2 consists of two measures. The first measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G). The second measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G).

In most cases, the "shorter sequence" in Stage 2 is not a strict sequence like Stage 1, where the harmony is obligated to follow the melody in a particular way; it's a flexible sequence. As you'll see better in the "How to" section, you should improvise the melody first, then work out the harmony later.

2) Try other combinations. The Stage 1 sequence in the second Episode of Invention #13 breaks later than usual—not until the 'b' figurehead of bar 11. Then comes a nice twist: a combination of 'a' + 'b' (fast crooked arpeggio + slower straight arpeggio), but the 'b' comes first.

BACH: *Invention #13*, bars 10–12, starting with the end of Stage 1

The image shows two stages of a musical sequence in G minor, 3/8 time. Stage 1 consists of two measures. The first measure starts with a figurehead 'a' (quarter note G, eighth notes A-B, quarter note C) followed by a figurehead 'b' (quarter note D, eighth notes E-F, quarter note G). The second measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G). Stage 2 consists of two measures. The first measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G). The second measure starts with 'a' (quarter note G, eighth notes A-B, quarter note C) followed by 'b' (quarter note D, eighth notes E-F, quarter note G). Harmonic analysis is provided below the notation: C: V I e: V VI iv v III

3) In 3/8 time, the shorter sequence in Stage 2 must use single-figure segments. Choose either the 'a' or 'b,' whichever works better. The next Episode is a good example of how to use a flexible sequence for Stage 2.

BACH: **Invention #6**, bars 9–17, Episode 1

**STAGE 1**

*a* *b* *a* *b*

E: vi ii V I

**STAGE 2**

*a* *a'* *a'*

B: vii° V I ii V

**STAGE 3**

*a* *b* *b* *b*

I ii V I

4) Single-figure segments also work in common time.

**STAGE 1**

*a* *b*

I ii V I

**STAGE 2**

*a* *b* *b* *b*

I ii V I

now you try do 24.1-2

See Chapters 14 and 20 if you need a refresher course on setting up cadences.

## GETTING TO STAGE 3: THE HOT ZONE

When the shorter sequence breaks, just a few beats remain until the cadential preparation. If you get lucky, and see a direct way to coast into the cadence, DON'T TAKE IT! This is the Hot Zone—the place to do something unexpected so the cadence will stand out.

BACH: **Invention #1**, bar 6, the end of Stage 2 in the first Episode

Direct route from D to B

STAGE 3

Bach's route from D to B

STAGE 3

G: IV V I IV I I<sub>♯</sub> V I IV V I IV I I<sub>♯</sub> V I

BACH: **Invention #3**, bars 9–11, the end of Stage 2 in the first Episode

Direct route from C# to A

STAGE 3

Bach's route from C# to A

STAGE 3

A: I ii V I V I I IV V I V I

BACH: **Invention #13**, bars 12–13, the end of Stage 2 in the first Episode

Direct route from D# to E

STAGE 3

Bach's route from D# to E

STAGE 3

e: iv ii° V i iv ii° V i

BACH: **Invention #6**, bars 16–17, the end of Stage 2 in the first Episode

Direct route from A# to C#

STAGE 3

Bach's route from A# to C#

STAGE 3

B: V I ii V I V I ii V I

now you try do 24.3-4

## How To WRITE AN EPISODE

**Step 1** Draw in bar lines for 4 measures plus a downbeat. Mark in “Stage” labels above the score where they will appear. Next, put in brackets and label ‘a’ & ‘b’ for Stages 1 & 2. Finally, mark in the modulation—just the new key name—at the beginning of Stage 2.

The notation shows two stages of a piece. Stage 1 is in G major (g:) and consists of two measures, each with a bracket labeled 'a' and 'b'. Stage 2 is in Bb major (Bb:) and consists of three measures, each with a bracket labeled 'a' and 'b'. Stage 3 is an empty space for modulation preparation.

**Subdominant is most common chord for the beginning of the Octave Drop formula. You can change things around later if necessary.**

**Step 2** Write Roman numerals for the cadential preparation (Stage 3). Take a guess whether to start the cadential preparation on tonic or subdominant. Write in the Octave Drop in the bass line. Sketch the 5th as a figurehead in the melody above the Octave Drop.

The notation shows the completion of Stage 3. Stage 1 is in G major (g:) and consists of two measures, each with a bracket labeled 'a' and 'b'. Stage 2 is in Bb major (Bb:) and consists of three measures, each with a bracket labeled 'a' and 'b'. Stage 3 shows the modulation preparation in Bb major, with Roman numerals ii, V, and I. The bass line features an Octave Drop, and the melody has a figurehead (trill) above the Octave Drop.

**Step 3** Write Roman numerals for the Stage 1 sequence and sketch in figureheads through the beginning of Stage 2. Next, work out both hands of the sequence for the first segment of Stage 1. Keep revising until you find something catchy. Then transpose both hands down a step for the second segment.

**Remember that the beginning of the Episode is also the end of the Theme! You may need to adjust the second segment – not transpose the first note or two directly – to get the rest of the sequence to flow naturally. See page 85.**

STAGE 1

g: i iv VII III

STAGE 2

B<sup>b</sup>:

STAGE 3

ii V I

**Step 4** Mark in any necessary accidentals to accommodate the modulation at the beginning of Stage 2. (When modulating from tonic minor to the relative Major, just re-label the first chord of Stage 2.)

STAGE 1

g: i iv VII III

STAGE 2

g: VI  
B<sup>b</sup>: IV

STAGE 3

ii V I

Experiment with attenuated versions of 'a' and 'b' figures from Stage 1 to make a good segment for Stage 2. The L.H. of Stage 2 doesn't have to move sequentially (although it might).

**Step 5** For Stage 2, play the melody from Stage 1 and keep going—improvise the first two and a half segments of the shorter sequence. IMPORTANT: The overall motion of this shorter sequence will ascend to intensify the pushy feeling. Figure out the harmony after you get a melody you like. The harmonic rhythm of Stage 2 is almost always faster than it is in Stage 1.

**STAGE 1**

*a* *b* *a* *b*

**g: i iv VII III**

**STAGE 2** **STAGE 3**

*a* *b* *a* *b* *a* *trill*

**B<sup>b</sup>: IV V I V<sub>2</sub> V<sub>1</sub> ii V I**

Decide now whether you want a trill on the 5th or an appoggiatura  $\frac{6}{4}$ .

**Step 6** Work out a whack-o route to get from the last 'a' figurehead you sketched in Stage 2 to the 5th figurehead you sketched over the Octave Drop.

**STAGE 1**

*a* *b* *a* *b*

**g: i iv VII III**

**STAGE 2** **STAGE 3**

*a* *b* *a* *b* *a* *4→3*

**B<sup>b</sup>: IV V I V<sub>2</sub> V<sub>1</sub> ii I<sub>4</sub> V I**

now you try do 24.5-6



## points for review

- Episodes consist of three clear-cut stages.
- The harmony, segment length, and figurehead outlines of the first and third stages are absolutely predictable.
- The middle stage is usually some sort of sequence with segments shorter than those in the first stage. The most common way to get the melody for Stage 2 is to extract bits from the 'a' + 'b' figures of the segments in Stage 1.
- Modulation happens right at the beginning of Stage 2. If not there, then a beat or two sooner or later.
- The melody should never move directly into the Octave Drop formula: always do something unexpected to make the cadence really stand out.

# 25

## alternate routes

**M**ost people give two separate sets of directions to their house. Directions for outsiders stick with highways and unmistakable landmarks like “the 50-foot Piggly Wiggly sign just past the railroad tracks that’ll shake up your innards like a paint mixer.” Directions for locals say to “take a sharp left where widow Jenkins used to walk her Pekinese, then go three driveways past the Mayor’s summer cottage.”

Let’s pretend that the word “sequence” is synonymous with “highway.” In this chapter, we venture off the main roads to explore back alleys and alternate routes through the stages of an Episode.

Here are the three stages defined once again, this time without using the word “sequence.”

**Stage 1** sets up regular, easily flowing music that seems like it will go on and on forever if someone doesn’t stop it.

**Stage 2** interrupts that easily flowing music with something that makes the music seem like it’s suddenly moving faster or slower. The effect is one of being off balance—pushing, stumbling, or lurching forward.

**Stage 3** restores equilibrium by landing squarely on both feet.

## IN LIEU OF A SEQUENCE

Episode 1 of Invention #3 begins over a long pedal. Harmonically, pedals go nowhere. They're not all that different from sequences, which just go around in circles. Bach sets up the melodic segment in Stage 1 to go 'a' + 'b,' just as if he was writing a fifthfall sequence. But unlike a fifthfall sequence, the music in bars 7–8 repeats the segment verbatim, rather than transposing it as a sequence would.

BACH: *Invention #3*, bars 5–11, Episode 1

A: I IV I V I iv I V I IV V I V I

**Another option** Use a flexible sequence (sequential melody over a non-sequential progression).

BACH: *Invention #12*, bars 5–7, half of Episode 1

A: I vi ii vii° V I IV f# iv V i

A flexible sequence sounds for all practical purposes just like a real sequence, and can be used any time a real sequence is called for.

Here, most chords still change simultaneously with the figures (from 'a' to 'b' to 'a' to 'b') just like a real fifthfall sequence. Also, the figureheads get transposed down a step from 'a' to 'a' (and 'b' to 'b').

## BUYING EXTRA TIME FOR STAGE 1

Stage 1 is usually two or three segments long. Sometimes, especially in faster triple meters, this seems too short, but merely adding extra segments to the first sequence sounds like a Baroque record.

BACH: **Invention #4**, bars 7–16, *Episode 1*, not quite how Bach wrote it

d: i          iv          VII          III          VI          ii°

d: V          i          iv          VII

To avoid sounding redundant, start another sequence while still in Stage 1—but not a shorter sequence, lest the change of pace trigger the start of Stage 2.

Keep the segment length of the extension sequence the same length as the original segments.

BACH: **Invention #4**, bars 7–17, *Episode 1*

STAGE 1          EXTENSION

d: i          iv          VII          III          iv          ii°

STAGE 2          STAGE 3

d: III          i          F: V          I          IV V          I

Melodically, the extension seems like a separate sequence, but as far as the figureheads go, it just continues the first one.

Just the figurehead outline of Episode 1

STAGE 1          EXTENSION          STAGE 2

7 8          9 10          11 12          13 14          15          16          17

## NEW WAYS TO DISRUPT THE EVEN-KEELED MOTION OF STAGE 1

**1) Tickle, tickle.** Poke one specific note in the armpit and the entire Episode starts screaming, “No please! Stop it! Not there!” This is good. The secret vulnerable spot of any modulation: the 7th of the upcoming V7 chord. There are several things you can do to make this particular note stand out.

- Bring it in on a weak beat (an upbeat, if possible).
- Make it a long note.
- Pit it against the new leading tone.
- Repeat it in a new register.
- Use “transferred resolution” – resolve it in another register.

Invention #4 starts out in D minor and the upcoming key is F Major, so B<sup>b</sup> is the 7th of the new V7 chord (C7). Bach hits B<sup>b</sup> with an anticipatory tie, then pits it against E (the new leading tone) a nanosecond later.

BACH: *Invention #4, bars 13–17, Episode 1*

Invention #1 starts in C Major and the upcoming key is G Major: the 7th of the new V7 chord (D7) is C. Weird cul-de-sac! Bach stomps on C (bar 4, beat 4) before throwing it into a new register (bar 5, beat 2).

BACH: *Invention #1, bars 3–6, Episode 1*

This seems to be one of Bach's favorite tricks. Timing is essential. Bring in the 7th of the upcoming V7 chord right at the beginning of Stage 2, or it won't feel disruptive enough.

It's hard to take the "early" B<sup>b</sup> as a normal part of the previous sequence: we know immediately that something new is about to happen.

**2) Slow it down.** Stage 2 usually lunges for the cadence by speeding up whatever happened in Stage 1. Stage 2 of Invention #7 takes the opposite approach: hedging.

BACH: **Invention #7, bars 3–6, Episode 1**

**STAGE 1** **STAGE 2**

*C in the 7th of the new V<sup>7</sup>*

**STAGE 3**

*If you try this yourself, repeat only the juiciest figureheads or your "hedging" will seem more like "dying." (In this example, C is the 7th of the new V<sup>7</sup> chord - D<sup>7</sup>.)*

e: i iv VII III G: IV vii<sup>o</sup>

G: I IV V I

## THE SECOND EPISODE OFTEN STARTS WITH A VAMP

Expect a few bars of “introductory interlude”—a vamp—before the “official” Stage 1 sequence kicks in. Episode 2 of Invention #6 starts with a light-hearted 4-bar vamp over alternating tonic–dominant chords. **ESSENTIAL:** A vamp isn’t a vamp unless it uses a simple, repetitive melodic pattern.

BACH: **Invention #6, bars 29–37, Episode 2**

**VAMP** **STAGE 1** **STAGE 2**

g#: i V i V

g#: vii<sup>o</sup> iv vii<sup>o</sup> III vii<sup>o</sup>

Overall, second Episodes are flashier than first Episodes. Expect things like extra modulations, pedal tones, invertible counterpoint, and surprise entries of the Subject.

Episode 2 of Invention #4 works its Subject over another common vamp progression: I–vi–ii–V. The melody drops down a step from segment to segment like it would in a fifthfall sequence.

BACH: *Invention #4, bars 18–37, Episode 2*

THEME

EPISODE VAMP

18

F: I V I V I V ii

MID. ENTRY

STAGE 1

25

F: V I a: V i V i/v

STAGE 2

STAGE 3

31

a: IV/v V VI/v V VI iv iv V i

The tonic-dominant underpinning of the familiar segment in bar 25 makes it a Subject. Isolated appearances of the Subject are called “Middle Entries,” and happen frequently in Fugues (see page 277), but rarely in inventions.

This isn’t the only Episode with long frilly pedals. Trills also appear in Inventions #3, #7, and #10. Long trills make a plain old sequence sound a lot fancier. The trick is knowing how and when to stop. Always make a trill end on a secure figurehead.

Rather than an easy-going vamp, Invention #1 starts off with a belabored crab-walk: a sequence by 4th, or backwards fifthfall sequence. It’s a weird progression, but it facilitates a quick modulation to d minor by bar 11 (exactly where we want to be since our ultimate goal is a minor by bar 13).

BACH: *Invention #1, bars 9–14, Episode 2*

(sort of a) VAMP

9

G: V of IV v minor? ii? vi? d: V

Expect to find some sort of key ambiguity at the equivalent spot in other musical forms. A little bewilderment at the beginning of the Development opens the way for more weirdness to follow.

The musical score is divided into three stages. Stage 1 (measures 1-4) shows a progression from d: i to i, then to iv and a: V. Stage 2 (measures 5-8) shows a progression from c to d, with a red box highlighting the 7th of the new V7 chord in measure 8. Stage 3 (measures 9-12) shows a progression from a: V to iv, V, i, IV, V, i, then V, 6/4, 5/4, and i.

Notice the F natural right at the beginning of bar 9, which erases the modulation to G Major. Backwards sequences, erased modulations—what’s going on here?

Microcosm, macrocosm. The first section (the Exposition) of any piece moves regularly—like an “enormous Stage 1.” The whole middle section (the Development and Retransition) becomes an “enormous Stage 2,” which disrupts the even-keeled phrase structure of the Exposition. And the final section (the Recapitulation) restores balance once again, just like Stage 3.

The Retransition sounds like a modulation, but starts out in such close proximity to the home key that a modulation isn’t really necessary. The final Episode is actually a quasi-modulation (“quasi-modo” for short). It waddles around for a little while until it sees a chord that rings a bell. That chord is V7 in the home key. Hitting it hard sets up the Recapitulation.

## RETRANSITIONAL EPISODES NEED TO SET UP A HALF CADENCE

The strategy of a normal Episode engineers Stage 2 to sound off-balance, thereby emphasizing the Octave Drop cadence that brings the section to a close. The strategy of a Retransition is different: we don’t want to bring a section to a close, we want to create an optimum situation for the imminent return of the Subject. All this means is getting to a dominant chord (a half cadence). But it also means omitting Stage 2—the “break” that instigates wobbliness—because if we teeter too soon, we won’t get any totter where we really need it.

## NO FULLY-SEQUENTIAL SEQUENCES ALLOWED

A long sequence with no breaks usually sounds like someone forgot to turn off the faucet. (Look back to page 223 and following.) This is because sequences are so mechanically predictable. But by making a sequence less mechanistic, you can let it run as long as you like. Of the five following options for undermining sequence predictability, you’ll have the best success adapting the first two.

**1) Write non-sequential melody over sequential harmony.** The Retransition of Invention #4 is based on a fifthfall progression, sure enough, but the melody proceeds in a peculiar way. First of all, ‘a’



and ‘b’ normally switch hands within each segment (not from one segment to the next): here, the whole segment gets tossed back and forth. Second, each ‘a’ figurehead normally drops a step from segment to segment; here, there’s no pattern.

BACH: *Invention #4*, bars 38–43, *Episode 3*

Chord progression: d: (v)    vii°    iv    VII    III (i)    V    i

ANALYSIS TIP: Analyze the entire Retransitional Episode in the home key rather than looking for a modulation point. Think the same way when you write.

- In the Major mode, the second Episode ends in the relative minor (vi). Just start with vi, and lay out a progression that leads to a cadential V7.
- In the minor mode, the second Episode ends in the dominant minor (v). Circular progressions (like a fifthfall sequence) work well here. Just change v to V7 when you get all the way around.

**2) Write sequential melody over non-sequential harmony.** Here, the L.H. melody pretends it’s a sequence, dropping a step each repetition. The R.H. and the chords, however, are freely composed.

BACH: *Invention #3*, bars 38–44, *Episode 3*

Chord progression: D: V    I    IV    I    V    I

**3) Put the melody in the Left Hand and vary the accompaniment.** In *Invention #7*, the melodic line works just like any other fifthfall sequence—repeated directly and dropping a step from segment to segment. The R.H., however, plays something a bit different in each segment. Notice that both the segment length and the harmonic rhythm are twice as fast as usual for an Episode sequence. This way, it’s relatively easy to make each 4-note accompaniment figure in the R.H. a little different.

The long dominant pedal is a common idea in Reentrants. Stopping the pedal is a signal that something new is about to start.

BACH: Invention #7, bars 13–17, Episode 3

*The Right Hand segments are all a little different from each other*

*The Left Hand segments are all the same*

e: v V iv VII III vi° V i

e: V p e d a l i

Use several diminished sevenths in a row and you usually end up with a slathering flux of harmonic molasses. In this case, Bach makes the sequence sound like a fifthfall progression by starting each bar with a strong “root” made by an octave leap in the bass.

4) Use weird chords in sequence. Another way to make a fifthfall sequence that isn't really a fifthfall sequence is to use diminished seventh chords instead of Major and minor triads.

BACH: Invention #13, bars 13–18, Episode 3

**EPISODE**

a: ii° V i V i

**5) Use extra-long segment length.** When the segments move very slowly, there's hardly any need for the usual break in sequence. Besides, in and of themselves, jumbo segments buy lots of time.

BACH: *Invention #1*, bars 15–19, Episode 3

C: vi      iii      V      ii      V

C: I      V      IV

RECAPITULATION

## points for review

- Once you understand what each Stage of an Episode is supposed to accomplish, you can write different, non-sequential music that accomplishes the same purpose in the form.
- To extend a fifthfall sequence, extend the figurehead outline (continue the same transposition pattern), then start a new melodic segment halfway through.
- An alternative to shortening the segment length at the end of Stage 2 is to highlight the 7th of the upcoming V7.
- Many second Episodes begin with a vamp.
- Harmonically, Retransitions aim for a big harmonic upbeat at the end—the V7 in the home key.
- Melodically, Retransitions use segments and appear to act like sequences, but you can't use a strict sequential pattern because you can't break the sequence until the half cadence.



part seven:

*interpolations*



**S**ince audiences go gaga whenever anything blows up, you'd think that more composers besides Tchaikovsky would incorporate explosive devices into their music. His "Concerto for Lots of Cannons and Orchestra," also known as the *1812 Overture*, has the orchestra members re-enact the war between Russia and France right on stage. Toward the end, the percussionists start firing cannons at the entire French horn section, ensuring victory for the Russians.

Pachabel's *Canon in D* is a wimpy slap on the wrist in comparison. In fact, any canon with one "n" turns out to be a real disappointment for your average concert-goer. Probably because the word canon is Latin for "rule." By and large, people would be more interested in rules if they exploded when somebody broke them.

Some canons have such complicated rules that it's impossible to keep track of what's going on with just your ears—even after an expert explains it. For example, one type of canon has the Follower play the Leader's music twice as slow as we originally heard it, and upside down, to boot! After a few bars, you get lost.

Why learn a technique that only an expert can appreciate? Chops. Even if your canon flops, the skills you develop during the attempt will stick with you the rest of your life.





## PERENNIAL PROBLEMS

Bach cheats. When he gets to bar 8 in Invention #8, he breaks strict imitation (canon at the 8ve) so that he can modulate more quickly; following the canon would mean holding out the new dominant (G7) for two full bars, which would ruin the pushy feeling you're supposed to get during Stage 2.

BACH: *Invention #8, bars 4–11, Episode 2*

The musical score consists of three systems of two staves each. The first system (bars 4-6) shows a canon at the 8th interval. The second system (bars 7-9) shows a modulation to G major. The third system (bars 10-11) shows the continuation of the piece, with a green label 'STAGE 3' above bar 10.

With canon, it's hard to change harmony, period, let alone gain enough flexibility to make a phrase or section move in a graceful or exciting way. So only after you figure out how to control harmony in a canon—how to get the progressions you want—can you start working on sounding spontaneous.

## CIRCLE CANONS

By holding one chord all the way through a canon, you can avoid potential derailment at treacherous harmonic curves. Also called a “round” or “catch canon,” the short melody repeats again and again until everyone tires of singing it. Hence tunes like “Row, Row, Row, Your Boat,” “Frère Jâques” and “Three Blind Mice.” There's quite a bit of melodic freedom, provided you start every single figure on figureheads of the tonic chord. It's almost impossible to write a catchy tune without changing harmony.

Some canons keep going and going, like the EverReady Bunny. Others “cheat” at a modulation point or cadence so that the piece can move on to something else.

Invention #8 illustrated the most common use of canon—starting off in strict canonic imitation, then abandoning the rules when it becomes difficult to go where you want to go. (Bach is allowed to do this because he didn't call this piece a “canon.”)

Quite honestly, after recognizing imitation in the first few bars, most listeners really don't care whether the canon continues according to the rules or not.

If you ever need to write a quick canon for group singing, work with a scheme like this, which has harmonic variety built in to each phrase.

A slightly more elaborate plan is also based around tonic, but uses a longer Leader, to allow time for prolongational chords. For example, the following circle canon has a 4-bar Leader. Subsequent phrases are written over the same chord progression, so that they automatically harmonize with the first phrase.

### Folk melody

1)  
2)  
3)

I IV V I

I IV V I

I IV V I

I IV V I

All examples in this section show how to change harmony in a canon at the octave. However, these basic techniques can be modified for canons at other intervals. Reinterpretation is also useful in more elaborate types of imitation, including fugue and chromatic sequences.

## REINTERPRETATION

It's possible to change harmony in a canon at the octave before the first full phrase is over, by reharmonizing the Leader's notes when the Follower plays them. Chiefly, you're looking for common tones; if the Leader wants to change harmony, it has to make sure it won't clash with its own echo.

**Getting from tonic to dominant.** The two main chords of any key, I and V, share a common tone:  $\hat{5}$ . So with proper foresight, hitting  $\hat{5}$  in the Leader provides an opportunity to switch from I to V and V to I.

HAYDN: *Quartet*, Op. 76, No. 2, III. bars 1–11

1 2 3 4 5

1 2 3 4

d: i V

6 7 8 9 10 11

5 6 7 8 9 10

d: V

## THE FEWER CHORD TONES IN A FIGURE, THE EASIER IT IS TO REINTERPRET

If you plan to reinterpret a figure, keep its harmonic content scant; too many chord tones make reinterpretation difficult or impossible. For example, an arpeggio figure contains all the chord tones of a specific harmony, so it's foolhardy to pretend it can sound like some other harmony the second time around.

The G and E<sup>b</sup> on beat 3 aren't part of dominant harmony, and clash with the Leader's chord tones.

By limiting the figure to just one chord tone—B<sup>b</sup>—the Follower won't clash with the Leader when the harmony changes.

**Exception.** You can reinterpret an arpeggio, provided its hindparts act like a ligature.

Figures that contain just one chord tone (like auxiliaries, Crazy Drivers and Double Neighbors) and figures that contain two (like Rolls and Returns) can show harmony just as well as full arpeggios. You don't have to include Rt, 3rd, and 5th to suggest clear tonic harmony because our ears automatically default to the simplest solution.

Another perennial problem in canon is avoiding perfect 5ths and 8ves. Cure it in the same way—by rewriting figures.

In this example the A<sup>b</sup> triad in the Leader completes a ii7 chord. Then in the Follower, the last two notes form a ligature.

now you try do 26.1-2

Any figure built from chord tones a 3rd apart can be easily reinterpreted. For example, look at the sequence of Invention #8 on page 236, which uses Back-kick auxiliaries.

Hint: minor 3rds are much easier to reinterpret than Major 3rds. Why? Because dominant seventh chords contain two minor 3rds and only one Major 3rd.

The next step in making canons from these sketches is adding figuration.

Instead of straight tonic, bars 1–2 use prolongation this time.

## REINTERPRETING HARMONIC 3RDS

By basing a figure around a 3-note scale, you can reinterpret the outer note (a harmonic 3rd) as a 3rd in some other chord. For example, the Rt and 3rd of tonic can be reinterpreted as the 3rd and 5th of vi.

But just switching between triads (I-vi, vi-IV, IV-ii) doesn't sound like much of a chord change, so it won't do much to alleviate the one-chord drone. To get more drastic chord change, reinterpret a harmonic 3rd from I, ii, IV, or V as a seventh chord—and in most cases a secondary dominant.

The image shows two rows of musical notation. The top row consists of four measures labeled a) through d). Measure a) shows a sequence of chords: I, V<sub>ii</sub>, ii, V. Measure b) shows V, V<sub>vi</sub>. Measure c) shows IV, V<sub>V</sub>. Measure d) shows V<sub>V</sub>. The bottom row shows the same sequence of chords melodized. Red boxes highlight specific intervals: in measure a), the interval between the tonic (T) and the 5th; in measure b), the interval between the 5th and the 7th; in measure c), the interval between the 5th and the 3rd; and in measure d), the interval between the 7th and the 5th. Chord symbols below the bottom row are: C: V, V, vi, IV, V<sub>V</sub>.

You can put harmonic 3rds into a figurehead sketch just as easily as you can put them into a figure. The following example reworks the same scheme at different time lapses.

The image shows three rows of musical notation, each representing a different time lapse. The first row is in 6/8 time, the second in 3/4 time, and the third in 4/4 time. Each row shows a sequence of chords: I, I, V, ii. Red boxes highlight the intervals between the 3rd and 5th, and between the 5th and 7th. Chord symbols below each row are: C: I, I, V, ii. The first row also includes a 'R' (ritardando) marking above the V chord. The second row includes a 'R' marking above the ii chord. The third row includes 'R' markings above the I and V chords.

**Resolving the dominant chord** to tonic is a lot like turning a semi trailer around a tight corner. The Leader is often ready to resolve dominant to tonic right away, but it can't, because it has to wait for the Follower to play the dominant. SOLUTION: To avoid making too wide a turn (stretching the dominant out for bars and bars), play the Rt of the dominant in the Leader in the second segment, so you can reinterpret it as the 5th of the tonic when the Follower plays it.

You need a minimum of two segments to resolve a dominant chord in a canon. Look back to the third, fourth, and fifth bars of the previous example, watching how the note A gets reinterpreted from Rt to 5th in all three versions.

## REINTERPRETING APOGGIATURAS

Given: without a second voice, a figure written on an appoggiatura looks like any other figure.

A Run starting with a chord tone      The same Run starting with an appoggiatura

G: V      vi      V/vi      V      I      V      vi      V/vi

Therefore, why not reinterpret a plain figure as an appoggiatura or vice-versa?

BACH: *Contrapunctus XII*, bars 9–11 & 13–15, from *Art of the Fugue*

d: i      VII      VI      ii<sup>o</sup>      V      i

d: vii<sup>o</sup>      V      vii<sup>o</sup>      v      iv      V      i      V      i

Tricks like this can make a canon sound less mechanical. What often appears as genius or inspiration is actually a contrivance.

now you try    do 26.3-4

## A CATALOGUE: SOME OTHER TYPES OF CANONS

**Canon at other intervals.** Canon at the octave or unison is the most literal—the easiest to recognize right away as canon. But there's another advantage to starting the Follower at some other interval: it's easier to change chords. In fact, it's hard to stay on tonic for very long because the Follower must use different figureheads than the Leader.

Canon at the octave, unison, or fifth uses exact imitation—keeping every interval exactly the same size. Canon at any other interval uses tonal imitation: a minor 2nd in the Leader might become a Major 2nd when played in the Follower (as in this example).

DUSSEK: *L'Invocation*

f i VI ii V i V i

**Canon by inversion.**

BACH: **Variation #15**, bars 1–4, from *Goldberg Variations*

**Canon in diminution or augmentation.** When the parts start simultaneously, it's hard to say who's imitating who.

BRAHMS: **Finale**, bars 253–256, from *Sonata, Op. 5*

F: I V I V V/ii V V vi

**Mirror canon.** Canon by inversion with no time lapse.

BRAHMS: **Variation #10**, bars 1–4, from *Variations on a Theme by Schumann, Op. 9*

Musical score for Variation #10, bars 1–4. The score is in 2/4 time with a key signature of two sharps (F# and C#). The melody in the right hand is a canon by inversion with no time lapse. The left hand provides a harmonic accompaniment. The first three bars of the right hand are marked with a '3' above them, indicating a triplet. The first three bars of the left hand are marked with a '3' below them, indicating a triplet.

**Crab canon.** The same melody, when played backwards, harmonizes with the forward version.

BACH: **Canon #1**, first three & last three bars, from *A Musical Offering*

Musical score for Canon #1, first three and last three bars. The score is in 3/4 time with a key signature of three flats (Bb, Eb, and Ab). The melody in the right hand is a canon by inversion with no time lapse. The left hand provides a harmonic accompaniment. The first three bars of the right hand are marked with '1', '2', and '3' above them, and the last three bars are marked with '16', '17', and '18' above them. The first three bars of the left hand are marked with '18', '17', and '16' below them, and the last three bars are marked with '3', '2', and '1' below them. Arrows indicate the direction of the canon.

**Canon in augmentation and in inversion.**

BACH: **Contrapunctus XV**, bars 1–14, from *Art of the Fugue*

Musical score for Contrapunctus XV, bars 1–14. The score is in 4/4 time with a key signature of one flat (Bb). The melody in the right hand is a canon in augmentation and in inversion. The left hand provides a harmonic accompaniment. The first six bars of the right hand are marked with '1', '2', '3', '4', '5', and '6' above them. The first six bars of the left hand are marked with '1', '2', '3', '4', '5', and '6' below them. The score is divided into three systems of two staves each.

## points for review

- Harmonically, the easiest type of canon to write is a circle canon—one based entirely on tonic (with or without harmonic prolongation).
- Any time harmony changes in a canon at the octave or unison, the two voices run a risk of clashing with each other.
- Figures based on just one or two chord tones are easier to reinterpret than figures that contain Rt, 3rd, and 5th. A single chord tone or a harmonic third can be treated as chord tones in some other harmony.
- Appoggiaturas can be reinterpreted as chord tones
- A minimum of two chord tones is required for resolving a dominant chord in a canon at the octave or unison.



# 27

## many voices

If all the players on a volleyball team tried to hit every ball, they'd end up knocking each other down and elbowing each other in the face. To maintain order, the "inactive" players crouch, ready to spring into action when the ball comes their way.

Similar pandemonium would result if every voice in three-part counterpoint tried to hit every figurehead. Voices can't crouch, but they often rest and tie. The following example is quite typical. Out of 17 beats, only 3 figureheads are simultaneously attacked by all three parts at once.

BACH: *Sinfonia #1*, bars 1–4

The image displays a musical score for three voices in a three-part counterpoint setting, likely for voices or instruments. The score is written in common time (C) and consists of four measures. The top voice (Soprano) begins with a rest in the first measure, followed by a melodic line. The middle voice (Alto) starts with a quarter note, followed by a melodic line. The bottom voice (Bass) starts with a quarter note, followed by a melodic line. The score includes various musical notations such as rests, ties, and accidentals. Below the staves, there are vertical lines with dots, which are likely figured bass notation or a similar notation system.

**These rules will make a lot more sense after you understand the game plan for putting voices together, but protocol demands a quick run-through of the rules before jumping into the pool.**

*The bottom voice usually plays stereotypical bassy figures—especially at the beginning of a section and at cadences. How often the bass gets the melody depends on the form: frequently in fugues and sinfonias, occasionally in preludes and dance suites.*

*The top voice is expected to carry the tune, and usually does. In fact, unless special care is taken to get the top voice out of the way, melodic statements in the bottom voices can get lost, similar to the contributions of less boisterous dinner guests.*

*The middle voice is most often thought of as “the third voice.” Unless it is clearly involved in imitation, it plays a supportive role.*

## BASE FIGUREHEADS IN 3-PART COUNTERPOINT ON RESONANT PAIRS

If you understand the way figurehead pairs work in two-part counterpoint, it’s hard to make a mistake when you write three-part counterpoint. No new formulas—just add another voice to a Resonant Pair or Solid Pair.

- Most attacks between two voices will be Resonant Pairs. However, Rt-5th and Rt-Rt pairs are much more common in three-part counterpoint than they are in two-part counterpoint—even if the third voice is resting.
- The third voice often completes a triad, although there’s no obligation to do so.
- As for doubling, the Rt is the most common note to double; the 5th is also good; doubling the 3rd is not common but not forbidden (unless it happens to be the leading tone).
- In two-part counterpoint, a Solid Pair has no 3rd. In three-part counterpoint, the presence of a 3rd won’t weaken an opening idea or cadential point, especially if the outer voices are Rt-rt or Rt-5th. The strongest possible 3-part combination is 3 Rts (but a full house still beats it).
- Seventh chords don’t usually double chord tones, although if you need to double anything, double the Rt.
- Appoggiaturas and suspensions work exactly the same in two-part and three-part counterpoint. The bonus here is double appoggiaturas and double suspensions.
- Dissonance off the beat still works itself out by making a tight overlap to the next figurehead.

## YOU’RE LOST WITHOUT A GAME PLAN

Once you get a feel for the fast-slow give-and-take between top and bottom parts of two-part counterpoint, you just write and write and write. The problem with adding a third voice is, where’s the fast-slow? Where’s the give-and-take? In other words, how does the third line relate to the other two?

About the only way to make each line self-sufficient is to assign each line a role before you start writing. Which part will have the main melody? Will the bass line act bassy, or will it break forth into song now and then? Will the third line be independent? Will it reinforce the melody? Will it reinforce the accompaniment? Are any of the voices expendable?

You also need to decide how often voice will trade roles. Every few bars? Every bar? Every beat? Not at all? The rest of this chapter shows several strategies for combining three voices.

## SPLIT A COMPOUND MELODY INTO TWO ACTUAL VOICES

Compose two-part counterpoint, making one of the voices a compound melody. Then use ties to separate that compound melody into two actual voices.

### 1) A typical compound melody as counterpoint to the main tune.

BACH: *Sinfonia #1*, bars 7–9

This technique works especially well in sequences, and is therefore quite common.

BACH: *Fugue #13*, bars 8–10, from *Well-Tempered Clavier, Book I*

### 2) Extract a compound melody from a normal line.

BACH: *Fugue #12*, bars 12–16, from *Well-Tempered Clavier, Book II*

If it's a good compound melody, any of the ties that become suspensions will resolve automatically.

By cleverly applying ties, you can extract two parts from one line, even when there are no registral breaks in the original part, as in the first two bars here.

**3) Sustain important notes from the melody.** If the main tune is a compound melody, like Sinfonia #3 is, don't look any further.

BACH: *Sinfonia #3*, bars 1–5

The simplest way to get the soprano out of the way is to give it long sustained notes.

now you try do 27.1-2

## ADD AN UNOBTRUSIVE LINE BEHIND TWO-PART COUNTERPOINT

Compose two-part counterpoint, then make a simple figurehead sketch out of leftover chord tones.

It's a good idea to keep the figurehead sketch smooth: use common tones, stepwise motion, and simple predictable figures whenever possible. This gives the sense of a large, slow-motion idea operating in the background.

**1) When there are common tones between chords, they're usually tied.**

BACH: *Sinfonia #1*, bar 2

C: IV V I vi V V

**2) Leave the figurehead sketch unadorned** if it makes an interesting line by itself.

BACH: *Sinfonia #1*, bars 13–14

d: i    iv    i    V/ii    ii F:V    I    V    I

**3) Add simple figuration or suspensions** if the line needs some help.

BACH: *Fugue #9*, bars 4–5, from *Well-Tempered Clavier, Book I*

E: I    V    I    B: V    I

now you try do 27.3-4

A third person listening to a discussion between two people will often take sides with one person or the other. Same holds true for voices in three-part counterpoint.

## TAKE SIDES

Compose two-part counterpoint, then add a third voice moving in note-to-note counterpoint with one of the first two. Options include: parallel motion, a Voice Exchange, or a Wedge.

### 1) Note-to-note counterpoint with the main melody.

BACH: *Sinfonia #7*, bars 1–6

The third voice follows the Countersubject with parallel motion and a Wedge. Rests added to fragment the third voice enhance the intentionally cumbersome texture.

### 2) Note-to-note counterpoint with the secondary melody.

BACH: *Fugue #2*, bars 7–8, from *Well-Tempered Clavier, Book I*

### 3) Reinforce one line during imitation.

BACH: *Sinfonia #4*, bars 5–6

now you try do 27.5-6

## USE PARALLEL 3RDS OR 6THS TO ACCOMPANY ONE MAIN MELODY

This very simple texture needs a harmonic progression that will allow the parallel 3rds or 6ths to make chords with the melody. The first phrase of the following example attacks both voices together in simple parallel motion. In the second phrase, the voices are staggered rhythmically to make suspension—still technically parallel motion.

BACH: **Sarabande**, bars 1–8, from *French Suite #3*

(reduction)

**A short chain of suspensions** between two accompanimental voices is more common than running the series over an entire phrase.

BACH: **Sinfonia #1**, bar 3–4

BACH: **Sinfonia #12**, bar 5

now you try do 27.7-8

## 2-PART IMITATION WITH AN ACCOMPANIMENTAL BASS

When the top two voices become engaged in an intense conversation, the bass stays out of the way and acts very much like a bass line. This texture tends to continue uninterrupted longer than any other type of texture—often throughout an entire piece.

BACH: **Variation #2**, bars 1–6, from *Goldberg Variations*

now you try do 27.9-10

Because imitation is such a prevalent feature of counterpoint, the melody usually gets volleyed between all three voices. Only when the bass doesn't participate can it do its bassy thing all the way through.

Think of a sequence as a little song-and-dance routine.

## ROLE REVERSAL

Certain events in music demand that the voices drop what they've been doing and do something else.

- **Imitation.** As soon as one voice stops playing the melody, it needs to recede into the background
- **Each new entry of the main tune (Subject).** Composers rarely treat every occurrence of a main tune the same way. Variation has always been the name of the game. When the form prohibits elaborating the main tune—as most Baroque forms do—composers will change the orchestration (who gets to play it) or the accompaniment (what's going on in the background).
- **Cadences.** Just before a cadence, expect all the voices to pitch in toward making the melodic/harmonic arrival point sound important. Of course, the strongest cadences will have more changes during the hot zone than the more subtle cadences.
- **Tags or pickups after cadences.** By their very nature, filler material and wind-ups should have a different treatment than the main tune.
- **Sequences.** More than any other type of music, the voices act in concert during a sequence to flaunt whatever spiffy pattern happens to be going on.
- **Ties in the melody.** Even when the third voice is relatively inactive, it may suddenly come to life to make a contribution during a lull in melodic activity.



BACH: **Sinfonia #12**, bars 1–12

melody + simple accompaniment

pick-up to  
next idea

active 2-part counterpoint against  
simple bass line (figureheads only)

pick-up to  
next idea

chain of suspensions against the  
main melody

cadence  
preparation  
(the hot zone)

sequence . . .

. . . sequence: top two voices seem  
extracted from one compound melody

active 2-part counterpoint with middle voice filling  
in gaps (missing figureheads) with simple figuration

pick-up to  
next idea

sequence imitation in top two voices with accompani-  
mental bass (simple figures with Stationary Pitch)

now you try do 27.11-12

## points for review

- There are very few simultaneous attacks between all three parts.
- Figureheads in three-part counterpoint are based on figurehead pairs from two-part counterpoint: just add another voice.
- To avoid aimless mush, assign each voice a role.

part eight:

*fugue*



# 28

## fugal imitation

**T**he word “fugue” has the same ancestry as the word “fugitive.” One musical Theme (the fugue’s Subject) is played over and over again throughout the entire composition so that it sounds like it’s “on the run.” Listening to a fugue automatically puts people on the lookout for the next appearance of the Subject, such that only their good manners prevent them from blurting out, “There it is—in the alto line! Ooo! Now it’s in the bass!”

This description might sound similar to an invention, and it is, save three main differences: 1) Inventions are smaller in scope. 2) Fugues have more thematic and less episodic material than inventions do. 3) Fugues use a very specific type of imitation.

Normal imitation treats the melody rather freely—tailoring it to accommodate the existing harmonic progression. But fugal imitation treats the melody strictly, allowing little or no tailoring while each consecutive presentation of the Subject is intentionally reharmonized—often by changing keys.

If you think about it, you can see why passing the melody from voice to voice while rapidly changing the key center can make the Subject sound like a shifty character.

# Concept

## AT A GLANCE:

The second presentation of a fugue Subject modulates to V early on.

Every fugue begins with the entire Subject, unaccompanied, beginning and ending with tonic harmony. At its completion, a second voice joins in, playing the same Subject (now called an “Answer”), transposed to the Dominant (or dominant in a minor key) in a very particular way.

Starting with the third figurehead, the Answer gets transposed exactly, note-for-note and chord-for-chord. But the first two figures of the Subject often get tailored when the Answer plays them, in order to meet two objectives:

- 1) start with notes that blend with the Subject’s tonic cadence, and
- 2) facilitate a smooth modulation by the third figurehead.

Notice that the Answer’s chords match those in the Subject, once we take the modulation into account.

BACH: **Fugue #2**, bars 1-2, 3-4, from *Well-Tempered Clavier, Book I*

To write an Answer to a fugue Subject, it’s crucial to locate the Subject’s third figurehead. Here’s a tip: if the Subject starts with an upbeat, count it as one whole figure.

normal treatment

special treatment

Modulate by the second or third beat, tailoring the beginning of the Answer where necessary.

Modulate earlier—someplace before the Answer enters. Some Answers require no tailoring.

Analyze most of the Answer in the key of the dominant, even though the key will soon change back to tonic.

## CHARACTERISTICS OF FUGUE SUBJECTS

Each of Bach's fugue Subjects has its own personality, such that you'd need words like perky, lugubrious, winsome, esoteric and petunia-like to describe the differences between them. However, while it's accurate to say that each Subject is unique when comparing rhythm and figuration, they are all very much the same as far as overall structure goes. Component parts of typical fugal anatomy are labeled in the two Subjects below. Most of the information in this chapter deals with the first three beats of the Subject.

BACH: **Fugue #4**, bars 1–2, from *Well-Tempered Clavier, Book II*

**c#: i** [1]    **ii°** [2]    **v** [3]    **i**    **ii**    **V**    **i**

**tonic cadence**  
(often coincides with the beginning of the Answer)

BACH: **Fugue #14**, bars 1–4, from *Well-Tempered Clavier, Book II*

**f#: i** [1] [2]    **ii** [3]    **i**    **iv**    **i**    **V**    **i**    **c#: i**

**Joiner**    **T. Cad.**

**The Countersubject.** Top priority: engage in a “playful” rhythmic give-and-take with the Subject. Also, write something catchy that is capable of generating episodes.

BACH: **Fugue #14**, bars 4–6, from *Well-Tempered Clavier, Book II* (Bars 1-4 appear in the previous example)

**f#: i**    **c#: i**    **ii**    **i**    **IV**    **i**    **V**    **i**

**CS**    **tr**

**The Harmony.** Every fugue Subject starts on tonic (even when the tonic only lasts for an upbeat). The first harmonic change most often goes to the subdominant.

**The Cadence.** The official end of a Subject is the figurehead where the tonic in the V-I cadence arrives. Only two Subjects in WTC I don't end with a tonic cadence: #6 ends with a half cadence, and #17 has no cadence.

**The Joiner.** We see from Fugue #4 that not all Subjects need a Joiner. But when it sounds awkward to being in the Answer simultaneously with the cadence, first add a beat or two (or more) of elaboration.

**Plan ahead.** A good fugue Subject is capable of harmonic reinterpretation. See page 264.

When the second voice can transpose the Subject directly without tailoring it, it's called an "exact" Answer. An example is Fugue #1 in C Major of WTC I.

"Tonal" Answer refers to any Subject that needs tailoring. You'll see from the information on this page that any Subject that uses  $\hat{5}$  in the first two figures will require a tailored Answer.

By the way, every subject in WTC I & II starts with either  $\hat{1}$  or  $\hat{5}$  (#13 & #21 in WTC II begin with lower neighbor notes to  $\hat{1}$ ). To avoid problems, don't even try starting your own Subjects on another scale degree.

## SCALE DEGREES $\hat{1}$ AND $\hat{5}$ REVERSE PLACES FROM SUBJECT TO ANSWER

Since the Subject and Answer are each centered around different key areas, it would make sense to start the (tonic) Subject on  $\hat{1}$  and the (dominant) Answer on  $\hat{5}$ , then just transpose everything that follows.

BACH: Fugue #1, bars 1–2, 2–3, from *Well-Tempered Clavier, Book I*

C:  $\hat{1}$  I IV I vi ii V I

[1] [2] [3]

C: I G: IV I vi ii V I

However, many Subjects start on scale degree  $\hat{5}$ . Transposing the beginning of the Answer directly up a 5th (starting on  $\hat{2}$ ) clashes with the tonic cadence. The solution: start the Answer on  $\hat{1}$ , and tailor the next few notes.

Furthermore, when scale degree  $\hat{5}$  occurs in the first two figures of the Subject, it gets switched to  $\hat{1}$  in the corresponding place in the Answer. And vice versa. Only two exceptions.  $\hat{5}$  will not reverse to  $\hat{1}$  in the Answer if the Subject uses  $\hat{5}$ : 1) as a Stationary Pitch to tonic harmony or 2) as a chord tone in dominant harmony. See Fugues #4, #15 and #18 in WTC II.

BACH: Fugue #1, bars 1–5, 5–9 from *Well-Tempered Clavier, Book II*

C:  $\hat{5}$   $\hat{1}$  IV I ii V I

[1] [2] [3]

C: I G: IV ii V I

now you try do 28.1-2



## THE LENGTH OF THE TONIC DETERMINES THE MODULATION POINT

1) When the first chord change comes on the Subject's second figurehead, expect the Answer to modulate on the second figurehead.

BACH: **Fugue #4**, bars 1–4, from *Well-Tempered Clavier, Book II*

exception to the  $\hat{1}-\hat{5}$  rule:  $\hat{5}$  was the Rt of V harmony in the Subject.

c#: i [1] ii° [2] v [3] i ii° V i [1] g#: ii° [2] v [3] i ii° V i

The Roman numeral analysis of the Answer should match the analysis of the Subject. If they don't, check to see whether some of the guesses you ventured while analyzing the Subject (a solo line) can be looked at in another way.

2) When the first chord change comes later—on the Subject's third figurehead, expect the Answer to modulate on the third figurehead.

BACH: **Fugue #21**, bars 1–8, from *Well-Tempered Clavier, Book II*

Bb: I [1] I [2] IV [3] V I [1] F: I [2] IV [3]

This subject begins with an extended pickup. The first figurehead is the D on bar 2.

3) When the first chord change comes very late—after the Subject's third figurehead, the Answer will modulate on the third figurehead anyway.

BACH: **Fugue #8**, bars 1–5, from *Well-Tempered Clavier, Book I*

d#: i [1] i [2] i [3] iv V i [1] a#: i [2] i [3] iv

BACH: **Contrapunctus I**, bars 1–8, from *The Art of the Fugue*

d: i [1] i [2] i [3] V i i [1] a: i [2] i [3] V i

Another exception: if the pickup is  $\hat{1}$  and the second figurehead is  $\hat{5}$ , the modulation will take place on the third figurehead, because the Answer's  $\hat{5}-\hat{1}$  will automatically sound like tonic in the original key. See step #2 in the upcoming "How To."

**4) As for any Subject that begins on an upbeat**, the Answer will modulate when that upbeat lands—regardless of how long the tonic lasts...

BACH: **Fugue #16**, bars 1–2, 2–3, from *Well-Tempered Clavier, Book I*

g: i                      iv [2]                      V [3]                      i                      ii°                      V                      i

g: i                      d: iv                      V                      i                      ii°                      V                      i

... unless the first upbeat is part of an auxiliary. In such cases, the Answer usually modulates on the third figurehead. See Fugue #2, WTC II on page 258.

now you try do 28.3-4

## How To ANSWER A FUGUE SUBJECT

**1) Analyze.** Find the third figurehead, analyze the Subject's harmony, then locate and mark  $\hat{1}$  and  $\hat{5}$  in the first two figures (where they appear as chord tones). Also find and analyze the cadence.

D: I [1] [2] V [3]                      I                      ii                      V                      I

**2) Transpose.** Starting with the third figurehead, transpose the Subject to the dominant. Next, mark in the exact modulation point, using the guidelines starting on page 261.

D: I [1] [2] V [3]                      I                      ii                      V                      I

D: I                      A: V                      I                      ii                      V                      I

**3) Work out the first three beats.** First, wherever the Subject has  $\hat{1}$ , write  $\hat{5}$  for the Answer; wherever the Subject has  $\hat{5}$ , write  $\hat{1}$  for the Answer. Then tailor any missing notes to accommodate the modulation and land squarely on the Answer's third figurehead.

The exercise shows two staves in D major. The top staff is the Subject (S) and the bottom staff is the Answer (A). Both are in 7/8 time. The Subject starts with a quarter rest followed by a dotted quarter note G4 (marked  $\hat{1}$ ), then eighth notes A4, B4, C5, D5, E5, F5, G5. The Answer starts with a quarter rest followed by a dotted quarter note B4 (marked  $\hat{5}$ ), then eighth notes C5, D5, E5, F5, G5, A5, B5. Below the Subject staff, figured bass notation is: D: I [1] [2] V I ii V I. Below the Answer staff, figured bass notation is: D: I A: V I ii V I.

**4) Write the Countersubject.**

The exercise shows three staves in D major. The top staff is the Subject (S), the middle staff is the Answer (A), and the bottom staff is the Countersubject (CS). All are in 7/8 time. The Subject starts with a quarter rest followed by a dotted quarter note G4 (marked  $\hat{1}$ ), then eighth notes A4, B4, C5, D5, E5, F5, G5. The Answer starts with a quarter rest followed by a dotted quarter note B4 (marked  $\hat{5}$ ), then eighth notes C5, D5, E5, F5, G5, A5, B5. The Countersubject starts with a quarter rest followed by a dotted quarter note F4 (marked  $\hat{4}$ ), then eighth notes G4, A4, B4, C5, D5, E5, F5. Below the Subject staff, figured bass notation is: D: I A: V I ii V I D: V I. Below the Answer staff, figured bass notation is: D: I A: V I ii V I. Below the Countersubject staff, figured bass notation is: D: I A: V I ii V I.

now you try do 28.8

## MODULATING EARLY

Once in a great while, the modulation to the dominant takes place earlier than just describe. There's an easy way to tell: look at the first note of the Answer. If it can't be harmonized as tonic of the original key, the modulation has already taken place.

**1) Modulating during the Joiner.** Fugues that add a short elaboration after the Subject's cadence provide an opportunity to modulate before the Answer enters. This isn't a good place for heroic, ear-bending modulations. Just find a figurehead that sounds good with the first note of the Answer and make an excellent ligature to it, as in the next example.

When writing your own fugues, you should stick with the common way to modulate at first.

BACH: **Fugue #15**, bars 1–7, from *Well-Tempered Clavier, Book I*

**2) Modulating before the Subject’s tonic cadence.** When a Subject modulates to the dominant before the first cadence, the logical thing to do is to modulate back to tonic within the Answer. To do this requires an unusual transposition of the Answer: by 4th rather than by 5th.

**Fugue #18, WTC I** follows the same scheme as this example.

**Fugue #7, WTC I** modulates before the first cadence, then uses the Joiner to modulate back to tonic before the Answer begins.

BACH: **Fugue #24**, bars 1–3, 4–6, from *Well-Tempered Clavier, Book I*

You should test your Subject for versatility before you start composing with it.

## “VARIATION”: PRESENTING THE SUBJECT LATER IN THE FUGUE

In most types of pieces, there’s plenty of latitude when it comes to tailoring the main Theme as the piece unfolds. Not with fugues. For the most part, the Subject is played “straight” –without serious finagling– all the way through. However, there are a few clever ways to “alter” the way you present a Subject without changing the actual melody. The rest of this chapter not only shows what those tricks are, it shows why they will and won’t work in certain Subjects. It is essential to consider these options before you write a fugue Subject. Often, changing one or two note or figures makes all the difference in the world.

**1) Reharmonization.** If you hope to reharmonize your Subject a bit differently each time, you’ll have to meet two apparently opposing objectives simultaneously: on one hand, the first presentation of a Subject should outline a clear harmonic progression when played alone, but if it’s too clear—if you spell out an entire triad or seventh chord with every figure—you won’t be able to reharmonized those figures later on.

BACH: **Fugue #1**, bars 1–2, 2–3, 4–5, 7–8, 12–13 from *Well-Tempered Clavier, Book I* NOTE: for ease in comparison, all entries have been transposed to C.

C: I IV I vi ii V I  
 C: vi ii V I vi ii V I  
 C:  $\frac{V}{IV}$  ii I IV I vi ii  $\frac{V}{IV}$   
 C: I IV V vi V V  $\frac{vii^\circ}{IV}$  V ii vi  
 c: v iv ii° vii° iv vii°/iv ii°7  $\frac{V^9}{iv}$

**3) Stretto.** During a fugue, think of each appearance of the Subject as a little solo. Normally, every voice lets the current solo voice finish the whole Subject before taking the spotlight. A more exciting option brings in a second voice before the first voice finishes. In other words, run the Subject in canon with itself.

Two characteristics of a fugue Subject make it difficult to reharmonized extensively:

- 1) When the Subject uses the leading tone, the harmonization will always be dominant.
- 2) When the Subject and Countersubject always appear together, you'll have to try to reharmonized two note (vertical pairs) rather than just one. For an example, transpose all the entries of Fugue #2 (WTC I) to the same key, and you'll find very little difference between them.

**Stretto is rarely a one-time event. Once a Subject appears with stretto, the same Subject feels like it's missing something if it appears alone later one.**

BACH: **Fugue #1**, bars 7–8, from *Well-Tempered Clavier, Book I*

Musical score for Fugue #1, bars 7–8, from *Well-Tempered Clavier, Book I*. The score is in C major, common time (C). The subject is marked with a green 'S' and an arrow pointing right. The subject is played in both the treble and bass staves.

Although not every fugue uses the tricks discussed in this section, you may as well attempt them while you're going through all the trouble to write a fugue. You'd never be allowed to join a yo-yo club unless you could do some tricks.

**4) Inversion.** Some Subjects sound good upside down.

BACH: **Fugue #6**, bars 13–15, from *Well-Tempered Clavier, Book I*

Musical score for Fugue #6, bars 13–15, from *Well-Tempered Clavier, Book I*. The score is in D minor, 3/4 time. The subject is marked with a green 'S' and an arrow pointing right. The subject is played in the treble staff, and its inversion is played in the bass staff.

**5) Augmentation.** Almost always twice as slow as the original Subject. Expect the other voices to present one or two regular-speed appearances of the Subject during an augmentation.

BACH: **Fugue #2**, bars 14–16, from *Well-Tempered Clavier, Book II*

Musical score for Fugue #2, bars 14–16, from *Well-Tempered Clavier, Book II*. The score is in B-flat major, common time (C). The subject is marked with a green 'S' and an arrow pointing right. The subject is played in the treble staff, and its augmentation is played in the bass staff.

now you try do 28.7-8

You should know that there is no guarantee that you will actually find a stretto: some Subjects are not strettoable.

## How To FIND A SUITABLE STRETTO

Since stretto is just one short canon, we can call the Subject the Leader and the stretto the Follower. Here's a warning: if your Subject contains any arpeggios figures, you'll probably have a hard time finding a good stretto because like canon, stretto relies heavily on harmonic reinterpretation (see page 238 and following).



While your preliminary stretto sketches are in two-part counterpoint, remember that you'll be adding other voices, which may fix problems like badly placed 3rdless figurehead pairs or parallel 4ths.

You can add accidentals anywhere you wish to change the intervals color, so long as the interval's overall size doesn't change.

**3) Test the figureheads.** Chances are, some of the figurehead pairs from step 2 will produce ghastly harmonies when you copy out the rest of the figureheads.

However, before you give up on a sketch, really make sure that you can't salvage it. One of the following tricks might help rectify a problematic figurehead pair: either 1) make a secondary dominant (hence the  $C\sharp$  in example b below), or 2) make one of the figureheads into an appoggiatura (see examples a & b in step 5).

a) D: V I vii° V I vi

b) D: ii I ii V  $V/IV$

c) D: vii° vi  $V/ii$  V vi  
impossible to rectify

**4) Test the figuration for bad parallel motion.** After copying figures into the good sketches, you'll still have to throw out any versions that produce parallel motion in 8ves or 5ths (ex. a). however, parallel 4ths can be fixed by running another voice underneath them in 3rds (ex. b). Warning: if you invert that particular stretto you'll get parallel 5ths. Unless you don't mind voicing the stretto the same way throughout the rest of the fugue, you must figure out a way to make the second 5th a  $^{\circ}5th$ .



a)

P. 8ves

and the rest isn't good, either

b)

To fix P. 4ths, add 3rds underneath them

To fix a lone 4th, try making a sec. dominant

c)

E: V I V I vii° I

5) Run through steps 2-4 to find other stretti; either start on a different beat or invert the stretto.

a)

4 → 3

b)

7 → 8

now you try do 28.9-10

If one or two figures of your Subject prevent an otherwise outstanding stretto, you may want to change them, which means changing the very beginning of your fugue as well. Tough choice. Refer back to Chapter 10 for advice about reharmonization.

## points for review

- If the Subject starts on  $\hat{1}$ , the Answer must start on  $\hat{5}$ , and vice versa.
- If the Subject uses both  $\hat{1}$  and  $\hat{5}$  in the first two figures, the Answer must switch  $\hat{5}$  for  $\hat{1}$  and  $\hat{1}$  for  $\hat{5}$ . It doesn't matter which scale degree comes first.
- Any Subject that uses  $\hat{5}$  in the first two figures will require a tailored Answer.
- Two features of the Subject determine the modulation point in the Answer: 1) the beat rhythm (especially when there's a pick-up) and 2) the harmonic rhythm: how long the tonic lasts.
- Before locking in to a final version of a Subject, you should test it to see whether or not you can do some tricks with it. If just one or two notes prevent running it in stretto, inverting it, reharmonizing it, or augmenting it, you may want to change the very first presentation of your Subject.

# 29

## fugal itinerary

**A**fter working under such strict regulations for the first two presentations of the fuge Subject, you probably dread going any further—envisioning a raspy boot camp drill sergeant barking contradictory, in-your-face orders every time you go to write a note. You may wonder if you have the moral stamina to go the distance.

Actually, aside from the precisely-calculated Exposition, fugues have very few formal requirements—far less, actually, than any other type of musical form. In fact, it’s often said that a fugue isn’t even a “form” but a “process.” There are no key schemes, no required number of sections, no mandates for any particular type of Episode.

That’s not to say there’s no plan, just that each fugue makes its own plan. A composer must decide how often to play the Subject, what keys to play it in, what type of Episodes (if any) to include, and how much hoopla to make over the Recapitulation.

Working with a strict form and working with no form can prove equally tortuous. In a strict form, there’s the risk of sounding wooden and formulaic. In a free composition, there’s the risk of sounding unfocused, with one tangent following another. So a composer needs to find freedom in a highly-structured environment (such as the Exposition), and to find structure in a terrifically free environment (the rest of the fugue).

## WHAT SHOULD HAPPEN DURING THE EXPOSITION?

An overview of the entire Exposition will help to keep things in perspective as we delve into the nitty-gritty specifications of what to do where. Before going any further, locate the following features in the six fugues found in the Anthology.

- An entry of the Subject in each voice. Fugues typically have three or four voices, although some have more, and a very few have just two. In case you're wondering, any voice can start and there's no specific order to who goes next.
- An optional "codetta," a fugue term for a short Episode that occurs during the Exposition. If there's a codetta, expect to hear it between the second and third entries of the Subject. (In some 4-voice fugues, the codetta comes after the third entry.)
- A modulation back to tonic, usually just after the second entry (i.e., the Answer).
- An optional cadence, often on tonic, but sometimes on dominant (as an actual modulation rather than a half cadence) that doesn't necessarily need to sound "final." Often, the Exposition has no clear-cut ending; it dovetails right into the next section.

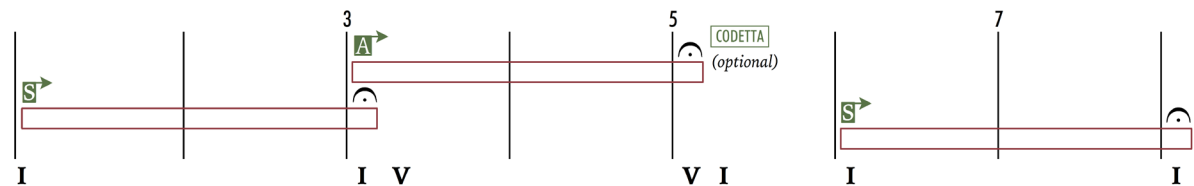
**Saying that everybody gets a chance to play the Subject in the Exposition really means that some voices play the Subject while others play the Answer. Whenever it's not necessary to be specific about which form of the Theme is used, the word Subject can be used to mean both. The Roman numerals here refer to key areas, not actual chords.**

## USHERING EVERYBODY IN

Rather than venturing into new harmonic territory, additional voices start the Subject in either the tonic or dominant key areas during the Exposition. Note that "start in the tonic key area" is more accurate than "start on the tonic chord," because not all Subjects start with a downbeat tonic chord.

**In a 3-voice fugue,** the third entry is always another Subject, starting in the tonic area. Most 3-voice fugues use the tonic cadence at the end of the third entry as the official end of the Exposition—unless that cadence is deliberately undermined to cadence later.

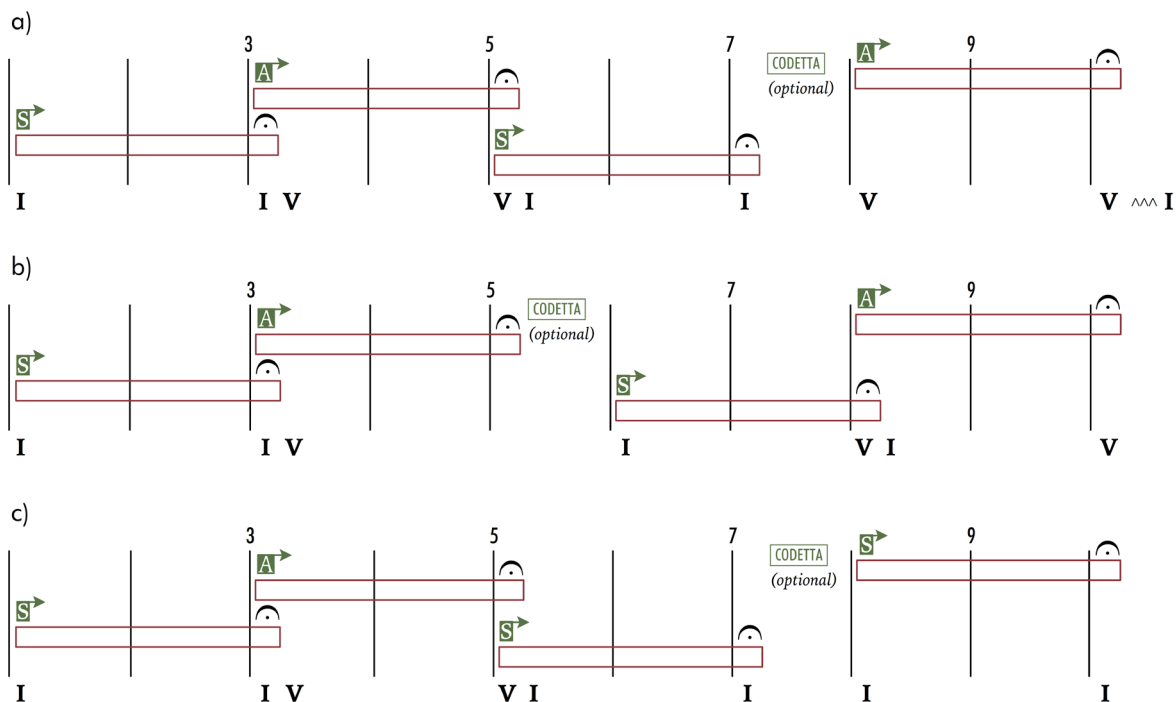
### A typical plan for a 3-voice fugue



**Not included in this list are the exceptional Subjects that modulate to dominant before the first cadence.**

**In a 4-voice fugue,** there are several options for the order of Subjects and Answers, as well as different key schemes. A few are shown in the charts below. Some end in tonic and others end in dominant.

Typical plans for a 4-voice fugue, Roman numerals are all in reference to the tonic key



## CONTROLLING REGISTER

In many fugues, each voice enters in a new register, using notes that haven't yet been handled by anyone else. The result is that every Subject sounds fresh, and makes for an excellent Exposition if you can pull it off. Nevertheless, since there are plenty of exceptions—fugue Expositions where the voices reuse notes or even cross each other—it's hard to pretend that a rule exists. If it isn't possible to keep every Subject in its own register during the Exposition, at least do whatever becomes necessary to keep the Subject from sounding muddled.

How many voices should play at any one given time? Usually, by the final entry in the Exposition, all the voices are chattering away, but again there's no requirement. Let good taste prevail.

## MODULATING BETWEEN DOMINANT AND TONIC

Cadencing in a particular key doesn't mean that you have an obligation to stay there. After the Answer's cadence (in the dominant key), immediately remove the accidental you added to make the new leading tone. In other words, flatten #4 to ♭4.

**Finding unused notes for each additional Subject is a lot easier in a 3-voice fugue than in a 4-voice fugue. Likewise, a Subject that spans a 5th or 6th is easier to work with than one that splatters out all over the place.**

While these examples show modulations at the beginning of the next entry, modulations within codettas work the same way. See the examples starting on page 275

BACH: **Fugue #1**, bars 5–11, from *Well-Tempered Clavier, Book II*

G: IV I ii V I C: I IV V IV

Once in a great while the modulation occurs before the Answer's cadence.

BACH: **Fugue #23**, bars 3–5, from *Well-Tempered Clavier, Book I*

B: I F#: vii° I IV V<sup>sus4</sup> B: IV I

The tricky thing about the minor mode is that scale degrees  $\hat{6}$  and  $\hat{7}$  are flexible and so might not immediately identify the new key.

More scale degrees are involved going between dominant and tonic minor, but the process is the same: cadence, then add or remove accidental to fit the new key.

BACH: **Fugue #16**, bars 5–11, from *Well-Tempered Clavier, Book II*

d: V i d: i iv VII III VI iv ii°

d: V i g: V iv VII III

now you try do 29.1-2

## WHAT DOES A CODETTA DO?

Two things. First, a codetta gives a bit of relief so we don't tire of hearing the Subject over and over again. At the same time, a codetta sets up optimum rhythmic and harmonic conditions for the next entry. Keeping this second point in mind, you should decide what beat and harmony you want the next entry to start on, then plan backwards so your codetta lands there. As for what to use for the musical material of a codetta, the following examples should give you some ideas.

### 1) Use the end of the Subject to spin out a sequence.

BACH: **Fugue #19**, bars 2–5, from *Well-Tempered Clavier, Book II*

A: V I IV vii° (iii) I

**2) Spin a sequence from some other component part.** Statistically, most codettas that use sequences base them on the last little bit of the Subject, but just about any portion of the Subject, Countersubject, or Joiner is fair game, so long as it's catchy.

BACH: **Fugue #2**, bars 5–7, from *Well-Tempered Clavier, Book I*, the codetta is built from the head of the Subject

**Fooldja!** Toward the end of many codettas, Bach brings in the head of the Subject (usually in the lower voice of two-part counterpoint) to make us think it's the third entry. This fake out makes the actual third entry even more cocky when it finally arrives.

**3) Make a chain of suspensions.** A series of suspensions is just another type of sequence, but there's not necessarily a thematic link to the Subject.

BACH: **Fugue #14**, bars 4–11, from *Well-Tempered Clavier, Book II*

First, listen for the Answer in bars 5–8. Next, notice that the Stationary Pitch melody in bars 8–11 is totally unrelated. However, it becomes one of this fugue’s main ideas as the piece unfolds. See page 152 to see how this material develops.

**4) Use new thematic material:** no relation to the fugue Subject, the Countersubject, or the Joiner.

BACH: *Fugue #15, bars 5–11, from Well-Tempered Clavier, Book I*

**5) Recount and regroup.** Some brief codettas have no thematic link to the Subject, and merely run through a simple progression that sets up the next entry.

BACH: *Fugue #20, bars 4–8, from Well-Tempered Clavier, Book I*

now you try do 29.3-4



## IT'S NOT A SONATA

Just because “Exposition” is a fitting name for the orderly presentation of ideas at the beginning of a fugue, does this imply that there must also be Development, Retransition, and Recapitulation? It shouldn't. Compare what happens in a dramatic form (like a sonata) with what happens in a fugue, and you'll see why fugues look ridiculous when forced to wear a sonata costume.

dramatic form	fugal procedure
contrast (usually thematic contrast) between sections	one Subject recurs frequently throughout all portions of the fugue
a clear, large-scale, goal-oriented key scheme	numerous, frequent modulations, often back and forth between keys, obscures any large-scale plan
special sections (or places within sections) devoted to presenting Themes, variation, modulation, and bringing back Themes	just a little musical material gets continually recycled during a process of continual modulation or reharmonization
cadences usually mark formal divisions, such that something new or different usually starts just after a cadence (especially a big cadence)	big cadences are used merely as points of respite, after which more of the same commences

## SOME PROBABLE ACTIVITIES

On a road trip, travelers eat junk food, argue about direction, listen to music, play license plate games, stop for gas, and make emphatic gestures to get truckers to honk—not in any particular order, but switching back and forth any time they feel like it. As a type of musical road trip, a fugue might switch back and forth between the following activities whenever the urge strikes.

**1) Play the Subject again.** It's not too wrong to say that the goal of a fugue is to play the Subject as many times as possible without sounding redundant. Any time the Subject or (Answer) appears after all the voices of a fugue have entered, it is called a Middle Entry. M.E.s can occur: 1) one at a time (usually separated by Episodes), 2) in Subject-Answer pairs, or 3) with stretto, inversion, or augmentation.

**2) Play an Episode.** In an invention, Episodes are full-blown, self-sufficient sections. However, in a fugue, most Episodes resemble interludes (explained further starting on page 281).

**3) Make a cadence.** When planning rest stops, most travelers try to evenly distribute their leg stretches, breaking up a four-hour road trip in half or thirds, rather than getting on and off the highway every ten minutes. In the same way, most fugues have one or two big tonic cadences that divide the piece into roughly equal portions (explained further starting on page 284).

**4) Organize a Counter-Exposition.** A Counter-Exposition is not an appliance-free opening where a little patch of Formica is still visible, it's a passage of a fugue that mimics or replicates its opening, bringing in Subjects and Answers one at a time in close succession. Think of a Counter-Exposition as an

Inventions, which also have just one Theme, manage to follow a dramatic plot by:

- 1) Using different harmonic progressions to keep thematic music distinct from episodic music.
- 2) Using huge cadences to define clear sections after a big ending, we expect and get an important beginning.
- 3) Coordinating each section along a logical series of key changes.

There are other, more complicated types of fugues that aren't discussed here. For example, in a Double Fugue, there are two Subjects, each introduced independently, then brought together later in the piece. The techniques and overall approach are exactly the same for big fugue forms as for smaller ones.

effect rather than a literal requirement, however: all you need to do is make the audience feel like they are hearing another Exposition. In a four-voice fugue, for example a Counter-Exposition might involve in just three voices.

## FIVE WAYS TO ACHIEVE CONTRAST IN A FUGUE

In most pieces, the most noticeable contrast is thematic—occurring from section to section. Since fugues use one Theme, any contrast has to take place on a different level.

**1) Juxtapose Middle Entries with Episodes.** By and large, this is the most audible type of contrast fugue style, because it can involve contrasting rhythms, motives, and figuration. It's most common to alternate Middle Entries with Episodes in asymmetrical lengths—for example, five bars of Subject followed by two bars of Episode. However, while not common, a few fugues do establish rather strict patterns of contrast:

- A few fugues alternate equal amounts of Subject with Episodes (e.g., #2, WTC I).
- A few fugues have few or no Episodes (e.g., #1, WTC I).

**2) Juggle three or four different types of music.** In the following excerpt we hear 3 types of music: 1) a highly chromatic Subject in eighth notes, paired with a simpler Countersubject in mostly quarter notes with a sixteenth note flourish just before the cadence, 2) a short Episode based on the Countersubject's flourish, and 3) another Episode which is a sweet, 2-figure fifthfall sequence—a stark contrast to the Subject. The rest of the fugue consists of sections of various lengths based on one of the three—either directly transposed or reworked slightly.

BACH: **Fugue #24**, bars 13–18, from *Well-Tempered Clavier, Book I*

The image displays a musical score for Fugue #24, bars 13–18, from the Well-Tempered Clavier, Book I. The score is written for a single melodic line in G major and 3/4 time. It is divided into two systems. The first system shows the Subject (S) and Countersubject (CS). The Subject is a highly chromatic eighth-note melody, while the Countersubject is a simpler melody in mostly quarter notes with a sixteenth-note flourish before the cadence. The second system shows two Episodes. The first Episode is based on the Countersubject's flourish, and the second Episode is based on a fifthfall sequence. The score is annotated with 'S', 'CS', and 'EPISODE (on flourish)' and 'EPISODE (on fifthfall seq.)' to identify the different musical elements.

Subject	flourish	fifthfall
		19-20
21-23	24-25	26-29
30-32	33	
34-50	50-53	
53-56	56-57	
57-63	63-65	65-69
70-72	73	
74-76		

**3) Switch parts.** It's impossible to keep a fugue interesting all the way through without thinking *orchestratively*, which just means mixing up the fugue voices, preferably in a strategic way. Move the Subject around. Switch parts in an Episode. Contrast is easy to achieve once you remember to apply it.

BACH: **Fugue #21**, bars 30–35, from *Well-Tempered Clavier, Book I*

The Right and Left Hands  
switch places here.

**4) Vary the number of voices.** Parts can drop in and out at any time, and usually do so in sync with the beginning or ending of a Middle Entry or Episode. A common ploy: to make a Middle Entry sound like the beginning of a new section, lessen the forces after a big cadence.

Notice the sudden absence of the bass as the upper voices also go higher.

BACH: **Fugue #23**, bars 16–19, from *Well-Tempered Clavier, Book I*

**5) Change keys and/or reharmonize the Subject.** As mentioned already, this is a continual process in fugue, but because it is useful in achieving contrast, it warrants mention again.

## WHY FUGUES HAVE CLOUDY KEY SCHEMES

Cadences in most pieces (including inventions) function as signposts along a direct route: important modulations are coordinated with main sections. The one or two big cadences in a fugue are less like signposts and more like symmetrically-placed reflecting pools in a garden maze: once you begin moving again you're just as bejangled as you were before the respite.

Aside from starting and ending in the tonic key, fugues have no required key scheme. In fact, some fugues have no substantial section in the dominant key—merely visiting the dominant whenever they play the Answer (for example, see Fugue #11, WTC I).

**1) Fugues don't stay fixed in any one key until they reach the end.** Even after the Exposition, Middle Entries can be either (tonic) Subjects or (dominant) Answer, which, played in succession, continue to give the sense of rapidly changing keys. EXCEPTION: At the end of many fugues comes a relatively long section (proportions vary) in the tonic.

**2) Fugues often modulate immediately after a cadence.** Keep in mind that this is how every fugue starts off: the very first Answer modulating within its first three beats. Subsequent presentations of the Subject can and do modulate in the same place. However, there's another, more drastic technique that is practically a signature of fugue style: flagrantly ignore the tonic presented at big cadence and start up in some different key.

BACH: **Fugue #1**, bars 13–15, from *Well-Tempered Clavier, Book I*

**3) Some fugues only start Middle Entries on notes of the tonic triad.** Even when the fugue has modulated or the Subject is reharmonized, starting all the Subjects on the same few notes gives an overall sense of sameness. The clearest example of this is Fugue #2 in c minor from WTC II, where all entries start on either C, E<sup>b</sup>, or G, whether the key happens to be c minor, E<sup>b</sup> Major, or g minor.

## MESSIN' WITH MY HEAD

Since the head is the most recognizable part of a fugue Subject, we expect only literal presentations, but rather than miss an opportunity to bring in another Middle Entry, the rhythm and even the notes of the head get altered so that they can complete the previous idea gracefully.

BACH: **Fugue #1**, bars 16–18, from *Well-Tempered Clavier, Book I*

Subjects that start with a pick-up are more likely to get altered than those that start on a beat. The pick-up itself can change.

Other examples of altered Subjects will be pointed out as they occur in the excerpts throughout this chapter.

## OPTIONS FOR EPISODES

Technically, any portion of a fugue where the complete Subject is not being played is an Episode. That's an awfully open-ended definition, but it's the only one that fits. Episodes can be long or short, sequential or non-sequential, end with a cadence or not end with a cadence. There can even be several short Episodes in a row without any Middle Entries. As for melodic material, some fugues spin out on Episode from the end of the Subject, such that there is little distinction between them. Other Episodes contrast the Subject, providing a little relief from the same old figures.

But the fact that some fugues have lots of Episodes while others have none tells us something essential: that planning the number, type, and length of Episodes for a particular fugue is more a matter of taste than formula. Still, it helps to spell out the possibilities. Below are just a few examples of common things Episodes do.

**1) By far, most fugue Episodes usher in a Middle Entry.** Say a fugue starts an Episode with a fifth-fall sequence, just like an invention Episode does. Rather than breaking the sequence with something that will set up a strong cadence, most fugue sequences are usually engineered so that the last chord V sets up a Middle Entry at the point where the sequence would otherwise break.

BACH: **Fugue #2**, bars 9–12, from *Well-Tempered Clavier, Book I*

Decide how long your Episode will be, set up the V-I, then work backwards. Here, the modulation to  $d\sharp$  in bar 13 can be understood as a move to “ii” in the upcoming key of  $c\sharp$ . It can be heard that way, too, which is why this episode feels so airy.

Also notice the way that the lowest voice seems to ignore the Subject’s cadence in bar 13, in that it “answers” the ascending Stationary Pitch scale in bars 12–13a with a descending one in bars 13b–14a.

**2) Most fugue Episodes aim for V that sets up a Middle Entry.** This holds true for sequential and non-sequential Episodes. Most of the time, V comes on an upbeat, and the downbeat resolution to I kicks off the Middle Entry. Another option, shown below, works well when it’s possible to harmonization the Subject’s pick-up with V.

BACH: **Fugue #13**, bars 11–16, from *Well-Tempered Clavier, Book I*

**3) A fifthfall sequence doesn't have to use sequential melody.**

BACH: *Fugue #23*, bars 26–30, from *Well-Tempered Clavier, Book I*

EPISODE

c#: V i V iv VII

c#: III B: V I

break

S

**4) Stretch, rather than break, a sequence.**

BACH: *Fugue #12*, bars 16–19, from *Well-Tempered Clavier, Book I*

f: i V VII V i c: V i

**5) Base a sequence on a chromatic scale.**

BACH: *Fugue #8*, bars 8–15, from *Well-Tempered Clavier, Book I*

e♭: i iv V i iv V v vi° ii°

S

In highly chromatic sequences, harmonic function takes a second seat to linear momentum.

e<sup>b</sup>: V S (altered head)

now you try do 29.7-8

## WAYS TO HANDLE ALL THOSE TONIC CADENCES

At the end of every fugue Subject comes a tonic cadence—not just the first time, but every time that Subject is heard throughout the fugue. As mentioned before, a tonic cadence can also come at the end of an Episode. There are two advantages to strong tonic cadences: 1) they help the phrasing by marking the end of an idea, and 2) such an ending provides a springboard to launch a new idea. (In a fugue, a cadence launches either a Middle Entry or an Episode.) But there’s also a potential problem: too many strong tonic cadences can make a piece feel overly fragmented. Here are some ways to vary fugue cadences.

**1) Voice a cadence so that it packs the least amount of punch.** Avoid using the Rt in both outside voices. In the great majority of tonic cadences, the bass has the Rt, so this means that an upper voice will need to use the 3rd or 5th. Better still, a suspension.

**2) Thwart the cadence.** In fugues, it’s common to lead up to a big cadence and then suddenly undermine it. It’s a win-win situation: you get the punctuation of a cadence, but the piece moves forward without showing a big seam. The following example shows a common thwartation device: tying the leading tone into the tonic chord and leaving it unresolved.

BACH: **Fugue #8**, bars 15–18, from *Well-Tempered Clavier, Book I*

G<sup>b</sup>: I V<sub>4</sub> V<sub>3</sub> I I

**3) Start a sequence before the Subject cadences.** Make it feel like we’re in the middle of something rather than at the end.

Several Expositions end with thwarted dominants; for example, see bars 6-7 of Fugue #1, .



BACH: **Fugue #4**, bars 5–8, from *Well-Tempered Clavier, Book II*

**4) Span a cadence with the Subject.** Start a Subject just before the other voices conspire to cadence.

BACH: **Fugue #18**, bars 9–17, from *Well-Tempered Clavier, Book II*

**5) When the Subject's melody contains an obvious cadential formula**, there are two options. Either poke fun at the cadence, running it in sequence ...

BACH: **Fugue #18**, bars 11–16, from *Well-Tempered Clavier, Book I*

... or reharmonize the Subject to deny the cadence.

BACH: **Fugue #17**, bars 1–3; 6–8, from *Well-Tempered Clavier, Book II*

a) At the first entry, we're likely to assume that there's a V-I cadence half way through the Subject . . .

A♭: I vi ii V I IV V I

b) . . . but at the third entry, Bach uses the weird minor v7 to avoid any sense of cadence.

A♭: I vi ii v7 vi iv7 V IV ii V I

## 6) Use light cadences to punctuate subsequent Episodes.

All three cadences in this excerpt use V-I harmony, but the voicing and rhythm undermine their strength (especially the last two). Also notice that the third part of the episode begins with a "false entry."

BACH: **Fugue #3**, bars 26–35, from *Well-Tempered Clavier, Book I*

EPISODE pt.1

EPISODE pt.2

EPISODE pt.3

S (head only - becomes sequence)

## WHY DO SO MANY FUGUE ENDINGS SEEM ABRUPT?

Because most are missing a true Recapitulation: a return of the main Theme that coincides precisely with a return to tonic harmony—usually after a long, edgy dominant. This is not an arbitrary choice. Two main factors make true Recapitulation difficult in a fugue.

First, it's likely that we'll hear the Recapitulation as just one more Middle Entry. Middle Entries are often brought in the moment a dominant chord resolves to tonic—either at the end of one Subject (its tonic cadence) or after the final dominant chord of an Episode. Without some sort of clear signal that a fugue is in its final throes, there's nothing to tell us to prepare for the inevitable farewell.

Second, although fugues modulate constantly, many of those modulations return to tonic. Coming back yet again to tonic is no big deal.

**Delayed gratification.** We're apt to buy the appearance of a Subject as a Recapitulation if it happens after an especially long Episode. Here, the Episode is made bigger by starting it immediately after a big cadence, because big cadences are normally followed immediately by a Middle Entry.

**Although pedal point is cited as a common fugue technique, very few fugues actually use it, and hardly any use it to instigate a Recapitulation.**

BACH: **Fugue #11**, bars 51–72, from *Well-Tempered Clavier, Book I*

The musical score for Bach's Fugue #11, bars 51–72, is presented in three systems. The first system shows the subject (S) starting in bar 51, followed by a series of chords and melodic lines. The second system continues the piece, showing a series of chords and melodic lines. The third system shows the final part of the piece, including a subject (S) starting in bar 61, followed by a series of chords and melodic lines. The score is annotated with harmonic analysis and performance instructions.

Annotations and Harmonic Analysis:

- System 1: *(varied slightly)*, *(undermined)*. Chords:  $g: vii^\circ$ ,  $i$ ,  $vii^\circ$ ,  $i\ddot{}$ ,  $V\ddot{}$ ,  $i$ .
- System 2: Chords:  $F: V$ ,  $I$ ,  $V$ ,  $IV$ ,  $V$ ,  $I$ ,  $V$ ,  $IV$ ,  $V$ .
- System 3: *(varied substantially)*, *(denied!)*.

**Deus ex Machina.** Sometimes, when a fugue isn't progressing toward an ending that feels inevitable, Bach abruptly interrupts the established continuum. There's nothing like a good shock to make listeners anxious for a coda.

BACH: **Fugue #7**, bars 30–37, from *Well-Tempered Clavier, Book I*

The image displays a musical score for Fugue #7, bars 30–37, from J.S. Bach's *Well-Tempered Clavier, Book I*. The score is written for a grand piano, featuring a treble clef and a bass clef. The key signature is three flats (B-flat, E-flat, A-flat), and the time signature is common time (C). The music is characterized by its intricate counterpoint, with multiple voices entering and interacting. The score shows a complex texture with various rhythmic patterns, including sixteenth and thirty-second notes, and rests. The piece concludes with a final cadence in the bass clef.

## THESE QUESTIONS WILL HELP YOU PLAN A FUGUE

- Who should start first? Is one array of Subject entries more effective than another?
- Does your Exposition need a codetta?
- Will you use a strong cadence at the end of your Exposition or dovetail into the next section?
- Will you have Episodes, or will the Subject always be present?
- What type and length of Episodes will you use?
- Will you have any Counter-Expositions?
- What keys will you visit?
- Will you Subject always appear with the same Countersubject?
- Will you perform any fancy tricks (stretto, inversion, fancy reharmonization, or augmentation)?
- How will texture effect the form—what types of contrast will occur and on what level?
- Will you have a full-blown Recapitulation or just a wistful recall of the Subject?

part nine:

*applications*



# 30

## beyond the baroque

**S**cientists who search for evidence of life on other planets don't abandon everything they know about life on earth in order to remain open-minded. They start with their knowledge about DNA and basic cell formation and work from there.

In this chapter we leave the familiar territory of Baroque figuration to venture into the stylistic regions where we can't always find familiar figures. To thrive in alien atmosphere, we need to determine which principles of our figuration system are basic to all styles—not only so we can understand how those styles operate, but so we can compose confidently and with insight in any musical universe we choose to visit.





BEETHOVEN: *Fifteen Variations on a Theme from the Eroica Symphony, Op. 35, Variation #5*

**3) Passages of solo melody.** Since there's really only one way to write melody that shows a clear harmonic foundation, figures from any period often look like those in Bach's solo works for violin or 'cello.

BRAHMS: *String Quartet No. 3, Poco Allegretto con Variazioni, bars 53–57*

**4) "Passage work" (an opportunity to show off one's virtuosity).** One basic rule about fast notes holds true across all styles: they tend to fall into regular groups aligned with a pulse, usually over a simple harmonic progression.

MOZART: *Symphony No. 41 in C Major, K. 551, IV. Allegro Molto, bars 19–24*

Even pieces for orchestra will probably contain a few passages of solo melody—whether for one player, a few players, or one big tutti.

The figuration system gives a composer the power to write lots of notes with incredible speed. Just use what you already know about Baroque melodic figuration—especially predictable figures—and go to town!

## HARMONIC RHYTHM AS A FACET OF PREDICTABILITY

Whenever chords line up with the pulse in a regular way—the most substantial harmonic changes coinciding with the strongest beats—we fall into their groove and relax. On the other hand, we listen more closely when chords change on weak beats, when there are lots of chords in one bar, when there are a gazillion appoggiatura chords, or (when all of a sudden) the music goes several bars without any chord changes at all. All these are deliberate attempts by a composer to make certain sections of music more complicated than (or at least different from) other sections.

HAYDN: **Piano Sonata, No. 31, I. Moderato**

*Bars 1–2 use variable (unpredictable) harmonic rhythm.*

E: I      vi V V I      V I ii I      I      vi V V I      V I IV I

*Bars 3–4 use steady (predictable) harmonic rhythm.*

E: I      ii      V      I

## FINDING THE HARMONIC FRAMEWORK IN VARIABLE RHYTHM

Throughout this book, we have understood the way figures in a complicated melodic passage behaved by second guessing—pretending we knew what would happen if they had behaved in a more basic way. Our goal was not to strip away the music's personality; rather, we hoped to find some concrete ways to make our own music more interesting.

So, we deemed hard connections, neighbor note substitution, and octave displacement as “abnormal” (unpredictable) when compared to the most basic ways figures can be used to fill in a framework of figureheads. Abnormal options also happen to be some of the most expressive figuration devices available; by using them, anyone can revise a boring melody so it sings.

We can use the same approach to learn concrete ways of controlling variable harmonic rhythm. We don’t have to pretend to know what happens when chords behave in a basic way. When we think of a progression, we automatically think in terms of equally-spaced chords (something like a chorale). Right? Hearing the following names of chords, “I-V-I-ii-I-V-I-V.” Don’t you envision the following?

G: I          V          I          ii          I          V          I          V

Therefore, it makes sense to “round off” the rhythm when we encounter variable harmonic rhythm, because it will make it easier to study the actual harmonic framework. Then, by scrutinizing the ways other people assemble and manipulate chords within a harmonic framework, and also how this affects the melodic figuration, we can borrow some of their ideas and use them in our own music. Examples on the next few pages should give you an idea of what you can learn this way.

**1) Align substantial harmonic changes with the main beats.** To study the way Beethoven rhythmicizes the chords from the previous progression, we’ll reduce the chords to a basic framework. By doing this, a simple melody emerges. Listen closely to differences between the actual music and the framework. Questions on the next page should help your observations.

BEETHOVEN: *Piano Concerto No. 4, Op. 58, I. Allegro moderato, bars 1–5*

G: I          V          I          ii          V          I          V

auxiliary          arpeggio          scale

**How do you know whether to move a chord up a beat or back a beat? In variable harmonic rhythm, most chords get delayed. Only a very few chords jump the gun and anticipate an upcoming harmonic change. So when you reduce, move any rhythmicized chords earlier.**

**As always, expect the harmonic rhythm to change somehow just before a cadence (it usually speeds up).**

- The first several chord changes are delayed (when compared to the framework), but not by equal amounts. Why is the arrival of ii delayed more than the previous chord changes?
- What is the effect of making ii longer in duration than the chords immediately before it? Does syncopation intensify or minimize the effect?
- Why does the high D in bar 4 feel like a surprise? (Hint: What direction does the line seem to be headed until that point?)
- What is the effect of not bringing in a new chord with the high D? (Hint: What chord would normally follow V when the leading tone is in the melody?)
- Should repeated notes be classified as a new type of figure, or does it make sense to view them the same way we view sustained notes?

Let's go further. The consequent phrase begins with the same melody, drastically reharmonized. The framework reveals that the sequence in bars 8-9 actually starts a bar earlier. The whole series of secondary dominants seems to trail off and lose momentum until—surprise—the octave displacement in the E in bar 10. We can peg it as an octave displacement by watching the Double Neighbor motion in the melody. Breaking the syncopation at the E intensifies the surprise.

If you prefer, write chords rather than single notes in your framework reductions. Actually, you'll probably make each reduction a little different to highlight the special features of each piece.

BEETHOVEN: *Piano Concerto No. 4, Op. 58, I. Allegro moderato, bars 6–11*

*This phrase's cadence comes in bar 14.*

The image displays two systems of musical notation for bars 6-11 of Beethoven's Piano Concerto No. 4. The top system is the original score, and the bottom system is a framework reduction. The framework reduction includes several annotations: 'auxiliary' (a bracket under the first two bars), 'sequence' (a bracket under bars 8-9), 'Double Neighbor-3' (a bracket under bars 10-11), and 'octave displacement' (an arrow pointing to the E note in bar 10). Chord symbols are written below the notes in both systems: G: V/vi, V, V, V, V, V, I, IV, I, V, I.

HAYDN: **Piano Sonata, No. 31, I. Moderato**

E: I                  vi V V    I        V I ii I

a)

E: I                  I                  I                  V                  ii

*V–ii makes no sense as a progression. Not only that, how are we to understand the final E? What's it doing and where does it go?*

b)

E: I                  I                  I                  I                  I                  I                  I                  I                  I

**3) Recognize prolongations.** Appoggiatura chords are not the only chords you'll encounter that aren't integral members of the core framework. When looking to get down to the most basic level, you'll also find it helpful to understand: 1) which chords extend one of the framework harmonies (look for Rts that move by third), and 2) which chords are en route (passing) between other chords.

MOZART: **Piano Sonata No. 4, K. 282, Adagio, bars 53–57**

E<sup>b</sup>: I                  V        vi V V                  V        ii        V        I        ii        V        I

E<sup>b</sup>: I                  vi                  V                  ii                  I                  ii                  V                  I

*In bars 1–2a, V is the ultimate goal; vi extends I; V is a passing chord between I and vi; V/V is a passing chord between vi and V.*

*"low commotion"  
Here, I is a passing chord.*

In the previous examples, Beethoven made figures by rhythmicizing the goal notes of the framework. The examples on this page fill in figures between goal notes – more what we're accustomed to.

Shouldn't there be a V in this phrase? Usually, yes, but Haydn wrote several opening Themes that hover around tonic without ever getting to a cadential V.

Review Chapter 12 if prolongation is still not clear to you.

About the cadence in bar 2. Normally, cadences coincide with the chord change. But here, melodic and rhythmic factors "force" a cadence on beat 2.

Since the secondary dominants in bars 2-3 embellish simple diatonic motion, they are omitted from the framework.

**4) Sometimes you shouldn't round off to a main beat.** Once in a great while a composer will intentionally cut across a barline to make asymmetrical phrases. When it's clear that this is happening, line up the main harmonic changes with the beginning of each phrase group rather than the downbeat. In the following excerpt, Brahms partitions small phrases by departing from and returning to the same note. The clincher in this phrase is the acceleration just before the cadence: G# starts the final segment a half-beat early, throwing the rhythm pleasantly off kilter.

Notice that the canonic imitation made by the figureheads in the L.H. overlaps the short segments in the R.H. and prevents the passage from sounding choppy.

BRAHMS: *Six Pieces, Op. 118 No. 2, Andante teneramente, bars 49–53*

## MELODY IN SLOW MOTION: MAKING FIGURES WITH FIGUREHEADS

What we've been doing so far probably reminds you of other types of melodic reduction. It's time to draw an important distinction.

Many people believe that every melody (and indeed every composition) is somehow based on a big scale or arpeggio, so that's what they look for when they make a reduction. Their detractors commonly raise two objections: 1) that they arbitrarily choose framework notes just because they make a neat little package (or a beautiful graphic analysis) – not because of any rhythmic, melodic, or harmonic significance, and 2) that reductions can make the details of the composition seem insignificant.

Our premise about melody is different. We know that melody is based on harmony, which has a direct relationship to rhythm. So when we reduce, we're looking for the way goal notes line up with the rhythm. The downside is that we don't end up with beautiful graphs, but at least we can use what we find to study how a composer takes the most basic elements of music and makes them into art.

**1) Don't ignore what's really there.** Some frameworks come within one or two notes of forming a complete scale or arpeggio, and you will be tempted to rearrange your analysis to accommodate what you want to see. By doing so, you will probably ignore something more interesting. Below are two possible framework reductions of the excerpt on page 297. As far as frameworks go, ex. a is smooth as a baby's bottom, but it ignores the asymmetrical phrasing, which is the most striking feature of the music it pretends to represent.

MOZART: **Piano Sonata No. 4**, K. 282, *Adagio*, two possible frameworks

a) idealized reduction

$E^b$ : I      vi      V      ii      I      ii      (V)      I

b) realistic reduction

$E^b$ : I      vi      V      ii      I      ii      V      I

**2) When to ignore what's really there.** When it seems that the framework you find in a piece has some dipsy doodles that are hard to make sense of, try treating the figurehead outline as a big figure, looking for octave displacement or neighbor note substitution. By looking at the following excerpt as a Run with a missing (substituted) note, the 4-note idea not only becomes more understandable, it also has an important motivic connection: this scale “*la-sol-fa-mi-re*” is an augmentation of the opening pick-up (see the first example in the next section).

MOZART: **Piano Sonata No. 13**, K. 333, I. *Allegro*, bars 42–45

$F$ : I      IV      V      vii<sup>o</sup>      vi      ii

*la - sol - fa - mi - re*

$F$ :

Still, when looking for a pattern to the figureheads, it's absolutely essential not to cut across the actual phrasing.

Why substitute E for C?

- 1) E makes a fuller harmony (avoiding a bleak octave)
- 2) it's melodically daring to leap to E.

## WAYS TO USE APPOGGIATURAS

We've already mentioned the appoggiatura in this chapter's section on harmony and elsewhere in this book. Since you'll often eliminate appoggiaturas when you reduce, it will help to see additional forms they can take.

**Appoggiaturas are notated somewhat inconsistently in the Classical period: some are written as grace notes but should be accented—held half the value of the upcoming note. Others are notated in exact rhythm.**

**1) Appoggiaturas all around.** Here, Mozart puts an appoggiatura on every goal note and writes connections to them as if they were figureheads. The pick-ups to bars 1 & 3 use appoggiaturas to put a new spin on familiar figures: they sound like simple Runs, but are actually 3-note scales with appoggiaturas.

MOZART: *Piano Sonata No. 13, K. 333, I. Allegro, bars 1–4*

la-sol-fa-mi-re

B $\flat$ : I ii V I

**2) That's all she wrote.** The appoggiatura note plus its resolution can almost be considered a figure—a complete idea that embellishes a figurehead. The next melody is made of little more than a few long goal notes with appoggiaturas.

SCHUBERT: *Moment Musical No. 6 in A flat Major, Op. 94, Allegretto, bars 1–8*

A $\flat$ : I ii V I V I V V V

**3) Which are the real harmonies?** Appoggiatura notes or chords are often longer than the notes or chords they embellish.

BRAHMS: *Violin Concerto in D Major, Op. 102, I. Allegro non troppo, bars 447–451*

d: VI V ii $^{\circ}$  i V i iv

a) framework from chords on the beat (iffy)      b) framework from chords off the beat (solid)      c) written as melodic appoggiaturas

d: VI ii $^{\circ}$  V iv V i i iv V i i iv



**4) Fake appoggiaturas.** The action of melodic tension and release can be so desirable that even chord tones are made to act like appoggiaturas. The four notes in the second half of bar 2 look like a Run, but under closer examination, reveal all sorts of mischief. Actually, the goal note on beat 3 is C (just look where A and B are headed), which makes D, the Rt of the V chord, sound like an appoggiatura. So what about B on beat 4—is it a passing tone or an appoggiatura? Neither. B and A# on beat 4 are part of a Pickup auxiliary to the next figurehead, B in bar 3. Quite an elaborate auxiliary we have here: when A# is repeated on the downbeat, it becomes an appoggiatura.

MENDELSSOHN: *Song Without Words, Op. 62 No. 1, Andante espressivo, bars 1–4*

Annotations in the score include:  
 - "goal notes" pointing to the notes G4, A4, B4, and C5 in the second half of bar 2.  
 - "3-note scale" pointing to the notes G4, A4, and B4 in the first half of bar 4.  
 - "Pick-up aux." pointing to the notes A#4 and B4 in the second half of bar 4.  
 - Chord symbols: G: V (bar 1), I (bar 2), ii (bar 2), V (bar 3), and I (bar 4).

Just when you think you've found a figure you recognize, some of the notes turn out to be appoggiaturas.

## STYLISTIC FEATURES CAN CHANGE THE FACE OF FIGURES

As composers treat harmony and rhythm in a flexible way, some figures end up looking a little strange.

**1) Syncopation.** Remember to move notes earlier to line up with the main beat.

MOZART: *Piano Sonata No. 13, K. 333, I. Allegro, bars 5–8*

Annotations in the score include:  
 - "Quasi-dot aux." pointing to the notes G4, A4, and B4 in bar 5, and G4, A4, and B4 in bar 7.  
 - Chord symbols: Bb: ii (bar 5), V (bar 5), I (bar 5), ii (bar 7), V (bar 7), and I (bar 7).

The tune in the first bar looks like two 3-note figures, but it's really based on a 4-note Quasi-dot auxiliary. Think of all the possibilities this creates! Start with a common predictable figure and rhythmicize it.

**2) Superfluous échappé notes.** Sometimes the figuration itself has figuration added to it. In the first pick-up, C# is a neighbor to D. That means B ornaments the ornament.

BRAHMS: *Six Pieces*, Op. 118 No. 2, *Andante teneramente*, bars 1–4

A: IV IV V I ii V

Normally, échappé notes are unaccented, and come right before a chord change. Not here. Brahms foists an extra note before each passing tone in bars 7 & 9.

BRAHMS: *Piano Concerto No. 2 in B flat Major*, Op. 83, *Allegro non troppo*, bars 7–11

Bb: IV iii ii I vi° V V b: vii° iv III ii° i VII V/III

Bb: IV V b: iv V/III

**3) Chromatic embellishments.** Normally, harmonic thirds filled in with a passing tone become a 3-note scale, but not all steps are created equal. By using chromatic passing tones, harmonic thirds can become 4-note (and occasionally 5-note) scales.

MOZART: *Piano Sonata No. 17*, K. 570, II. *Adagio*, bars 32–35

scale figures with extra passing tones

R 3 R # 3 2-> 3 2-> R 4-> T

Eb: V ii V I ii I<sub>4</sub> V<sub>3</sub> I

And the more complicated the harmony gets, the more chromatic alterations we find in a figure. We can understand the natural in front of A, the lower neighbor to the Rt of ii<sup>ø</sup>, but why the C<sup>b</sup>?

CHOPIN: *Nocturne, Op. 32 No. 2, bars 3–7*

A<sup>b</sup>: V      ii<sup>ø</sup>      V(+5)      I

On beat 4 of bar 5, the goal is E<sup>b</sup>, which makes G and F either a “double appoggiatura” or an “accented ligature.” OK. So there’s no good name for it.

**4) Extravagant embellishments.** By remembering that every musical idea is incomplete until it reaches a goal, you can figure out what the notes are doing in any idea you encounter. Find a bunch of 2-note groups (musical shrapnel?). One note is the chord tone, the other is a neighbor. Find a menacing thunderhead of an embellishment? Look where it lands and think of it as a big ligature.

CHOPIN: *Prelude No. 18, Op. 28, Molto Allegro, bars 6–9*

b<sup>b</sup>: V<sup>9</sup>      V<sup>9</sup>      b<sup>b</sup>: I      f: ii<sup>ø</sup>

It also helps to see if there’s some underlying harmony to a long embellishment, which will often be a dominant, to reinforce the feeling of working toward a goal. The goal of this 22-note ligature is C, as an appoggiatura to B<sup>b</sup>. Unlike the previous two bars, the G<sup>b</sup> no longer functions as the b<sup>9</sup> of the V7. Rather, it is an upper neighbor to F (the Rt).

## How To LEARN VALUABLE LESSONS FROM ANY COMPOSER

Whenever you come across an intriguing phrase or passage, don't just say to yourself, "Cool." Take the music apart and put it back together again. Over time, this practice will not only sharpen your sensitivity to the musical language, but also your skill at using it.

**1) Examine the framework.** Make a reduction, lining up main chords with main beats. How does the actual harmonic rhythm compare to the rhythm of the framework? What types of prolongations are used?

**2) Examine the figuration.** Which notes in the phrase stand out? Describe how particular figuration techniques (such as hard connections, neighbor note substitution, octave displacement, etc.) are used to achieve particular effects. What role does beat rhythm play? Can you identify segments?

**3) Examine the texture.** How many independent parts are there? If there is an accompaniment, how does it reinforce the melody? How does the bass line relate to the melody? Is there imitation?

**4) Examine the cadence.** Is the cadence strong or subtle? List factors that change right before the cadence.

**5) Keep a notebook.** The techniques you observe in other peoples music can 1) get you to try something you wouldn't have thought of on your own, and 2) help you out of a jam. The only problem is that it's hard to remember everything.