

Fugue No. 17

A-Flat Major

Well-Tempered Clavier Book I

Johann Sebastian Bach

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To read this essay in its hypermedia format, go to the Shockwave movie at <http://bach.nau.edu/clavier/nature/fugues/Fugue17.html>.



Subject: Fugue No. 17, *Well-Tempered Clavier*, Book I

The Austrian theorist and composer Heinrich Schenker developed one of the great metaphors for tonal structure. In this analysis we shall use his ideas to demonstrate how:

- the fugue is unique but also alike
- a likeness of tonal centeredness
- and syntax
- revealed by Schenkerian analysis
- and a fundamental structure

The Fugue is Unique but Also Alike

Fugue may be distinguished from other forms by the manner and degree to which it employs imitation. Its manner is to state a subject in all voices and develop it by contrapuntal means. The degree and ingenuity of its imitation are measures of the fugue's uniqueness and success as a work of art. By any measure, fugue is the most complex of imitative forms.

In our study of the *Well-Tempered Clavier* we have highlighted many traits that unite the 48 as a genre and other traits that set each fugue apart. If the fugue is unlike other forms, we have also seen that any given fugue is both like, and unlike, every other. Each fugue in the WTC is in some way unique.

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In this analysis we shall answer a different question: how is the fugue most *like* other forms? The likeness is this; the music is centered on a single pitch and its architecture is governed by tonal syntax.

A Likeness of Tonal Centeredness

Like other works in the tonal idiom--symphony, concerto, string quartet, etc.--each fugue in the *Well-Tempered Clavier* ends in the same key that it began. This characteristic is so important that we identify each fugue not by subject but by key. This one is the *A-flat Major fugue of Book I*. By identifying it this way we acknowledge the importance of A-flat in the fugue's structure.

In the *Well-Tempered Clavier*, keyality is so important that it comprises the conceptual basis for the cycle itself. Each fugue is "in" a different key and every key is represented twice. Not only so, but the keys are arranged in a predictable order of mode (alternating major/minor) and center (rising by semitones).

By identifying the key we imply that A-flat is at the center of this fugue's universe and that there is an array of relationships between subsidiary pitches that establishes A-flat as being at its center. The primacy of A-flat is established in two ways: first, each pitch is related to the others in a hierarchical fashion and second, there is a syntactical logic governing the relationship of pitches to each other.

And Syntax

The logic of tonality is analogous to the syntax of a sentence. For the sake of discussion let us dissect the following. Our purpose is to show how, apart from outright definitions, syntax alone provides clues as to the meaning of unfamiliar terms. Here's the sentence:

Schenkerian analysis reveals the fundamental structure.

This sentence is intelligible even to persons who do not understand *Schenkerian analysis* or the meaning of *fundamental structure*. They can understand it because the word order reveals *analysis* to be a subject that has been modified by the adjective *Schenkerian*. Even they who have never heard of Schenkerian analysis may be certain that it is not Bayesian analysis, or statistical analysis, or psychoanalysis that reveals the structure. They may also surmise that the analysis is transitive; it reveals something, a structure (direct object) that exists at the most fundamental level.

The fact that syntax alone provides clues as to meaning can be demonstrated by inverting the order in three places:

Analysis Schenkerian the structure fundamental reveals.

The inversion renders a quite un-English but still intelligible sentence. Although it can be understood, the grammar seems to emanate from another language. The adjectival inversions would be well formed in Spanish while the verbal inversion would be well formed in German. Further scrambling reduces

the sentence to gibberish: "Structure Schenkerian fundamental the reveals analysis."

Revealed by Schenkerian Analysis

As in the above sentence, one dimension of meaning in tonal music is delivered by its syntax. Well-formed structures establish the tonal sense of a composition, while ill-formed structures weaken it. These structures were first revealed, in the mid-twentieth century, by Heinrich Schenker, whose method has become the main tool for revealing the tonal logic of a composition. In 1935 Schenker wrote of Bach's fugues:

Despite the fact that each one exhibits a different design, [they] are genuine fugues in the strictest sense; they are always determined by the subject, by its dimensions and harmonic content, and are controlled by a fundamental structure.

trans. Ernst Oster

(New York: Longman), p. 143

Recalling the purpose of this analysis--to demonstrate how the fugue is like other tonal forms--Schenker is unequivocal: a fundamental structure exists in all tonal music. If a sonata or concerto or symphony can be "Schenkerized," so can a fugue. And this is how each fugue in the *Well-Tempered Clavier* is like other music in the tonal repertory.

The first principle in Schenkerian analysis is that the whole of a composition consists of a single *prolongation* of its tonal space (somewhat analogous to its key). The prolongation is accomplished by means of *diminution*: the *composing out* of pitches and intervals of longer duration by means of notes of shorter duration. Structures of longer duration are conceived to be in the background with the elements of shorter duration in the foreground.

The brilliance of Schenker's theory is that every pitch is conceived to have a relationship with every other. Not every pitch is of the same significance; some are more foundational than others. But regardless of its position in the structure, every pitch has importance because it is functionally related to the others. In this way the theory accounts not only for the *when*, but also the *how* and *why*, of every pitch.

In Schenkerian technique the functions of important pitches in the foreground are represented in a graphic analysis. Creating a Schenkerian graph is much like diagramming a sentence.² The essential elements of a sentence are its subject and verb. Everything else--adjectives, adverbs, prepositions, and articles--emanates from them and is shown by lines connecting subsidiary elements to them.

The Schenkerian graph uses open noteheads to represent pitches at the highest structural level. These are connected to each other with beams. I would like to draw your attention now to the radio buttons at the top-right of the timeline.

² I would like to thank my good friend Jack Boss (University of Oregon), who was generous with his advice on the background graph.

In the course of this analysis you may wish to toggle back and forth between the foreground (the actual musical score) and background.

And a Fundamental Structure

Without explaining it, we have already used the term *fundamental structure*. Now is perhaps not too late to define it. *Fundamental structure* is the English equivalent for Schenker's German word, *Ursatz*. The *Ursatz* has two melodic lines in counterpoint with each other. The lower melody is a *bass arpeggiation* (what he called *Bassbrechung*) from tonic (I) to dominant (V) and back. The bass arpeggiation of this fugue moves from the open notehead A-flat of m. 1 through a prolongation of the structural dominant (E-flat) in mm. 23-27 to a return of the A-flat in m. 35.

The upper melody of the *Ursatz* is its *fundamental line* (what Schenker called the *Urlinie*). The fundamental line always descends by step, normally through scale-steps 3-2-1. Less often it moves from 5-4-3-2-1 or 8-7-6-5-4-3-2-1. Bach more so than other composers employs this last type, sometimes called an *octave line*. This fugue represents one such example. Its octave line begins with the high A-flat in m. 6 and descends by successive scale steps to the low A-flat in the last measure.

Study the graph now and pay special attention to the elements in the fundamental structure. You can reposition the score by dragging the mouse over it (or the timeline.) Remember that open noteheads and connecting beams represent the fundamental structure. Although it has two melodies, the fundamental structure is a single integrated whole. Psychologically and perceptually its purpose is to prolong A-flat, the tonal center.

If you wish, you could think of the fundamental structure like the steel beams of a skyscraper to which the external facade is attached. Better yet, it is like our own bones upon which everything else (thankfully) hangs. Although one can't see the steel and bones, they are necessary for the structural integrity of everything else. But here is where the analogy breaks down; the fundamental structure is actually something that can be heard. In *Structural Hearing*, one of Schenker's more famous disciples, Felix Salzer, makes this very point.

Schenker observed that the fundamental structure was often, but not always, interrupted after its structural dominant. Instead of I-V-I, the arpeggiation would move from I-V then be interrupted. Following the interruption the structure would repeat, looking like this: I-V (interruption) I-V-I. Schenker conceived of the interrupted pattern to be an underlying ternary--a conception of ternary involving tonal momentum rather than motive.

In this fugue Bach has done exactly that; he has interrupted the *Ursatz* after the dominant prolongation of mm. 23-27. Parallel diagonal lines represent the interruption in m. 27 of the graph. Following the interruption the fugue returns to A-flat and rearticulates the octave line supported by a complete bass arpeggiation.

If Schenker's first insight had to do with prolongation and diminution, his second insight had to do with *composing out*, another term that we've not as yet defined. *Composing out* is the product of diminution whereby longer structures

that exist in the background come to be heard in pitches of the foreground. Schenker theorized that this involved various *structural levels* (*Schichten*). In this conception pitches not included in the *Ursatz* are related to it in ever-increasing levels of detail until the foreground has been *composed out*.

If you wish you can think of the increasing detail in various structural levels as being like the layers of an onion, with *composing out* being the process of growing the onion. The outermost layer (the actual score) he called the foreground. At the core of the onion was the fundamental structure, which he theorized to exist in the background. Between the foreground and background Schenker conceived there to be many layers of middlegrounds.

Schenker's genius was that he recognized that pitches widely separated in time could have a connection with each other. He represented these connections by using slurs and beams. I have represented the first middleground of this fugue in closed noteheads. Notice that these pitches are connected to each other, and to the fundamental structure, by slurs. These indicate that there is a structural relationship between these pitches--usually one of lesser significance to one of higher significance.

Another aspect of Schenker's genius was that he understood how the fundamental structure of the entire fugue was replicated in its parts. If the *Ursatz* represents a prolongation of A-flat, the fugue's nested arpeggiations prolong subsidiary tonal areas such as F minor (mm. 13-16) and B-flat minor (mm. 17-21). Each nested arpeggiation is a micro-*Ursatz*. So, the entire fugue represents a composing out of the chord progression: I-vi-ii-V (interruption) I-V-I. Study the graph carefully and you will see that each of these key areas contains a smaller scale arpeggiation of its own.

The graph reveals one more technique that Schenker recognized to prolong a single pitch or interval. It is represented by repetitions of the number 10 or 6. These numbers indicate parallel consonant intervals, what Schenker called *linear melodic patterns*. In mm. 11-13 for example the pattern involves the interval of the 10th (between outer voices) moving down a fourth. This gesture has the effect of connecting to, and establishing, the key of F minor for the tonal cell to follow.

Conclusion

This analysis has been much more technical than the others. If you have read to this point it is likely that you would have an aptitude for the theoretical study of music. Should you wish to explore Schenkerian analysis further, I would recommend that you begin with *Introduction to Schenkerian Analysis* by Allen Forte and Steven Gilbert (Norton, 1982).

While the approach has been technical, it is important to recognize that Schenkerian analysis is itself a metaphor and therefore artistic. Schenkerian analysis is not a science but an art. For an excellent discussion of the metaphorical aspects of Schenkerian analysis I recommend that you read Timothy Koozin's "On Metaphor, Technology, and Schenkerian Analysis" at <http://mto.societymusictheory.org/issues/mto.99.5.3/mto.99.5.3.koozin.html>.

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

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