Notes on the Opening of the F# Minor Fugue from WTCI
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NOTES ON THE OPENING OF THE F♯ MINOR FUGUE FROM WTCI

David Lewin

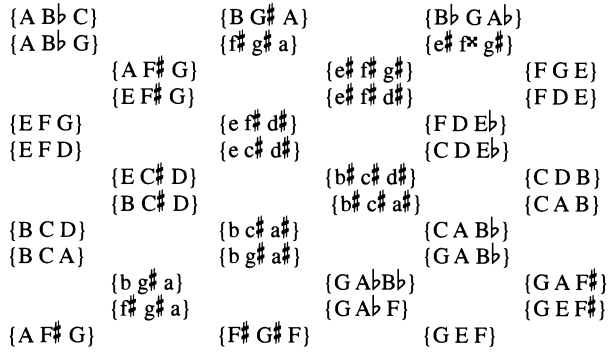
In a recent article I proposed analytic study of this fugue using a graph that lays out the various forms of the pcset (013) in a certain format.[1] A version of that graph, somewhat modified for present purposes, is displayed below.

Until further notice, the graph is to be considered as extending indefinitely in all directions. Forms of (013) that are displayed as adjacent vertically include the same minor-second dyad. Forms that are adjacent upper-left-and-lower-right include the same major-second dyad. Forms that are adjacent lower-left-and-upper-right include the same minor-third dyad. In the cited article, I point out that "the analogous graph for . . . harmonic triads would illustrate, in its three different directional bondings, Riemann's relations of our relative major/minor, of our parallel major/minor, and of his Leittonwechsel."[2] Related matters are studied exhaustively in important recent work by Richard Cohn.[3]

On the graph as given here certain (013)-forms appear using lower-case letter names. The reason for that will become clear later on. At present, one can observe that the lower-case forms fill a connected region of the graph.

My cited article invites its readers "to explore how the graph is surfed by consecutive forms of Forte-set 3-2 in J. S. Bach's chorale prelude on

GRAPH



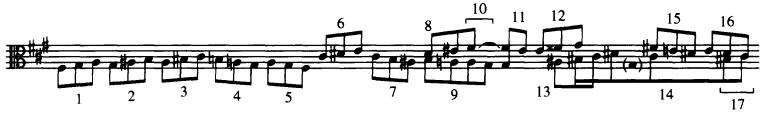
'Durch Adams Fall,' or in the f♯m fugue from Book I, WTC."[4] Here I shall carry out such an exploration for the opening of the fugue. Interested readers can then carry out an analogous exercise for the chorale prelude, if so inclined.

The music example lays out "consecutive forms of Forte-set 3-2" at the opening of the fugue, through the end of the Answer. The forms are numbered in order of appearance. Forms 1 through 9 and 12 through 16 are melodic; forms 10, 11, and 17 arise in the contrapuntal cross-talk between voices.

The figure reproduces the lower-case portion of the graph, with some numerical annotations. The numbers on the figure key in to the numbers on the music example: they label the various forms of (013) that occur at the opening of the fugue, in order of appearance.

The reader's attention is drawn to the form {f♯ g♯ a} = {a f♯ g♯}, which appears both at the lower left of the figure and at the upper left, labeled "1, 5, 10." This form is the only form that *occurs in two different places* on the figure. The phenomenon befits the form's status as the "tonic" (013)-form for the fugue. On the music example we see how {f♯ g♯ a} opens the fugue as form 1, and how it cadences the Subject as form 5. Later on we shall explore the special geometric meaning of form 10 when it "modularizes" the figure, suturing together the upper left with the lower left.

Using the numbers on the figure, and referring back to the music example as needed, we can see how the Subject of the fugue, which comprises forms numbered 1 through 5, "surfs" the metaphorical space of the figure: starting at the lower left of the figure (with the form labeled "1"), it moves up two ranks and over one column to the right (form labeled "2"); then it repeats that gesture, again moving up two ranks and over one column to the right (form labeled "3"); after that it sinks back down to its



MUSIC EXAMPLE

point of departure at the lower left (form labeled "5"), on the way filling in (form labeled "4") some of the path that it had hopped over on its way up. The Subject thus constitutes a somewhat "closed" spatial gesture on the figure, form 5 being at the same spatial location as form 1. And the motivic structure of the Subject is reflected in the spatial motif that takes us two-ranks-up-and-one-column-right on the figure.

The Answer comprises forms labeled 6, 8, 12, 15, and 16. Being a real answer, it traces out a path, on the figure, that is an exact gestural analog to the path traversed by the Subject.

Now let us examine the Countersubject, the melody that accompanies the Answer. It begins by presenting forms 7 and 9. On the figure, we see how form 7 fills in the one "missing" form in the region traversed by the subject (forms 1, 2, 3, 4, 5). Form 9, which restates form 4, is not necessary to do any work of filling-in. Form 9 rather has a particular motivic gestural relation to form 7, which directly precedes it within the Countersubject. Specifically, the move from form 7 to form 9 is down two ranks and over one column to the left. That is the inverse gesture to the move "up-two-ranks-and-over-one-column-to-the-right," the motivic rising move within the Subject. To be sure, the inversional relation between the opening of the Subject and the opening of the Countersubject is manifestly audible in the pitch intervals and contours of the music itself; we do not need the fancy spatial map of the figure to hear the relation as such. What the map *does* bring out is the way in which the particular inversional relation of the forms employed *fills in a connected spatial re-*

FIGURE

1, 5, 10 {a f♯ g♯}
{e♯ f♯ g♯} 11
{e♯ f♯ d♯} 8
15 {e f♯ d♯}
6, 16 {e c♯d♯}
{b♯ c♯ d♯} 14, 17
{b♯ c♯ a♯} 3, 13
7 {b c♯ a♯}
2 {b g♯ a♯}
{b g♯ a } 4, 9
{f♯ g♯ a } 1, 5, 10
{e♯ f𝄪 g♯} 12

gion on the figure. That region comprises the forms labeled 1, 2, 3, 4, 5, 7, and 9. Even though this tally neglects the temporally intervening forms 6 and 8 of the music as a whole, the observation is still cogent, for forms 1, 2, 3, 4, 5, 7, and 9 are indeed temporally consecutive within the individual voice that opens the fugue with the Subject and then continues on to the Countersubject.

Form 10, which involves the first (013)-vertical cross-talk between Answer and Countersubject, solidifies the narrative so far by restating the same trichord as that of forms 1 and 5, the incipit-and-cadence trichord of the Subject. The reader can see on the upper left of the figure how form 10, as discussed earlier, sutures together that place on the figure with the lower left, modularizing the geometry. The reader is reminded, in this connection, that form 10 is the "tonic" (013) of the fugue, and that its pcset is the only pcset of the figure which appears in two locations thereon.

Continuing to examine the upper half of the figure we can follow the Answer, which proceeds through forms 6, 8, 12, 15, and 16. The one gap on the figure left unfilled by the Answer is the gap at form 11. The spatial function of form 11 (which sounds temporally in the middle of the Answer) is now clear. Form 11 does for the Answer what form 7 did for the Subject: it fills in a gap to connect the spatial region traversed by the Answer.

Form 11 *also* connects to the "Answer-region" the form labeled "1, 5, 10", that is the form which characterizes the beginning of the Subject, the end of the Subject, and the first cross-talk between Answer and Countersubject. In sum, we see how the two cross-talk forms 10 and 11 have special spatial functions on the figure, in suturing together and connecting the spatial realms of Subject and Answer.[5]

Form 14, the final form of the Countersubject, has a like function: it connects the "high point" of the Subject on the map, form 3, recalled as form 13, to the (local tonic) "low point" of the Answer, form 6. The cross-talk of Countersubject and Answer, at form 17, cements the connection.[6] And so, when we reach the end of the passage at issue, at the end of the Answer-cum-Countersubject, the entire map of the figure is fully filled in, is completely connected, and is cyclically closed—the {a f♯ g♯} at the top left linking cyclically with the {f♯ g♯ a} at the bottom left.

As suggested earlier, the reader may wish to use the same graph to see how the chorale prelude "Durch Adams Fall" surfs its region of the graph. The emphasis on the (013) trichord there seems to take its origin from the cadential F-E-D of the chorale melody, at the text "ganz verderbt."

NOTES

1. The article is "Cohn Functions," *Journal of Music Theory* 40.2 (Fall 1996): 181–216. The graph, with my proposal, appears on page 189.
2. "Cohn Functions," note 4, page 215.
3. Richard Cohn, "Neo-Riemannian Operations, Parsimonious Trichords, and Their *Tonnetz* Representations," *Journal of Music Theory* 41.1 (Spring 1997): 1–66.
4. "Cohn Functions," page 189.
5. The "spatial" functions of forms 10 and 11 on the figure are nicely projected, allegorically, by the maximum vertical distance between the voices during the time those forms sound in the music. As one notes on the example, that maximum vertical distance is the seventh G♯3-F♯4, involving precisely the common-tones F♯ and G♯ that suture forms 10 and 11. One remarks that the two pitch classes F♯ and G♯ open the fugue (form 1) and cadence the subject (form 5).
6. And here the spatial gesture on the figure, where the top of the bottom part meets the bottom of the top part, is nicely allegorized by the clausula gesture of form 17 in the music (on the example), where the two voices—answer above, countersubject below—converge into a unison. Is it a coincidence that the unison here, C♯3, lies exactly midway inside the vertical seventh G♯3-F♯4, discussed in note 5?