



The debate centers around how one hears the subject's tail. While the subject's head is firmly rooted in E-flat, its tail can be heard as ti-sol-fa-mi-re-do or as fi-re-do-ti-la-sol. Either way the A-natural is a significant harmonic inflection that weakens the home key of E-flat.

It is surprising therefore that the subject's answer (A in the timeline) returns to E-flat. With the subject having so strongly prepared a continuation in B-flat, its answer represents somewhat of an anomaly in tonal architecture.

The fugue's answer is *tonal*. Had you noticed how the first intervals of the subject and answer are different. A *real* answer would have retained every interval of the subject in a different key. But this answer takes small liberties with some intervals so as to sound the subject in the home key of E-flat.

### **Development of a Bridge Passage**

Where does the subject end? I think that it ends with the pitch B-flat just after the trill in m. 2. In this view the second half of m. 2 is a bridge passage. This passage is represented in green (m. 2) rather than the gold of the subject and its answers. Some people might argue that all of m. 2 is subject and that there is no bridge passage. There are two reasons for my hypothesis.

First, half of the entries omit the triad arpeggiations of what I have termed the *bridge passage*. The entries in question would be those of: m. 17, m. 20, m. 26, and m. 29. While three of these entries are followed with development of the bridge, it sounds in another voice--not that which has just stated the subject. In one instance (m. 20) the bridge motive is omitted altogether.

A second reason to consider the bridge material apart from the subject is that its function is essentially *connective* and *modulatory*. Because the subject has modulated to B-flat, and Bach has designed the answer to return to the home key of E-flat, he has composed a modulating transition. By returning the A-flat (negating the leading tone in B-flat), the bridge passage serves that purpose.

At first glance the developmental episodes of this fugue appear to focus upon the bridge and not the subject. The timeline represents these episodes in green. I recommend that you click on the green portions to hear how they are generated from the bridge motive. Of the six developmental episodes, all but one begins with a sequence derived from material in the bridge passage. The exception is the fourth episode (m. 22) that contains unambiguous fragmentations of the subject (marked S).

One way to reconcile the apparent lack of subject development is to hear the bridge passage itself as having been derived from the subject's first five notes. This figure outlines a descending triad: Bb-G-Eb. The bridge material too is made of descending arpeggiations.

If the downward arpeggiation expresses itself in the subject's first five notes and bridge passage, it is developed simultaneously in two rhythmic levels: eighth- and sixteenth-notes. Study the end of each measure in the segment from mm. 7-9. Here the alto voice arpeggiates in eighths while the low voice arpeggiates the same triad in sixteenths. The second and sixth developments reiterate this technique.

## Boomeranging Episodes

A fugue's subject is like a boomerang; it keeps coming back. In music we call this a *ritornello*. After the fugue has stated the subject in all voices it embarks upon a series of digressions each of which returns to a statement of the subject in a related key. These digressions and returns are called *developmental episodes*.

A developmental episode is like the circuit that a boomerang traverses before it returns. This fugue has six developmental episodes; each commences with a sequence and concludes with a statement of the subject.

- 1st Dev. (m. 7)
- 2nd Dev. (m. 12)
- 3rd Dev. (m. 19)
- 4th Dev. (m. 22)
- 5th Dev. (m. 27)
- 6th Dev. (m. 30)

Two things make a boomerang return: its design and how it is thrown. An improperly thrown boomerang, even with a good design, will never return. Likewise, no matter how well it is thrown, a boomerang with a poor design will not fly its intended circle. To return, a boomerang needs both a good design and a good throwing arm.

The object of tonal music is to explore its tonal space. Here I have used *tonal* somewhat differently than before. In the prior context *tonal* referred to non-equivalent intervals between the subject and answer. Bach changed some intervals in the answer so as to stay in the same key as the subject. But here I have used *tonal* more broadly, meaning centeredness in a key. By *tonal space* I refer to the key center: in this case E-flat. In the western tradition this means that the piece begins and ends in the *same* key. The beginning and end are like the boomerang that returns to its point of origin.

Between being thrown and caught, the boomerang traverses a wide arc. In music the arc involves modulation to new tonal centers and changes of mode (major to minor). Here is where design comes in: you can't just go from any key to any other. Each key is ordinarily *related* to the tonal space (home key) by plus or minus one sharp or flat.

The logic of Bach's boomeranging episodes can be seen in their tonal architecture. The Exposition establishes E-flat with forays into the dominant key of B-flat (minus one flat from the home key). The 1st Dev. rearticulates E-flat. The 2nd Dev. moves to the submediant key of cm. This is the relative minor of E-flat (sharing the same key signature but changing the mode from major to minor). The 3rd Dev. retains the minor mode but shifts the tonal center to the mediant key of gm (minus one flat), the dominant of cm prior to it. The 4th Dev. returns to the home key of E-flat. The 5th Dev. again tonicizes the dominant key of B-flat. In the 6th Dev. the boomerang returns for good, although the deceptive cadence in the final subject nearly fumbles the catch.

In summary, the tonal architecture of this work is typical of the *Well-Tempered Clavier*. It is indeed characteristic of Bach's music in general. He has begun and ended the fugue in the same key and explored related keys and modes in between.