# Fugue

Systematized Polyphony

## Definitions

Ralph Vaughan Williams: "A fugue is a musical movement in which a definite number of parts or voices combine in stating and developing a single theme, the interest being cumulative."

### Definitions

Joseph Kerman: "A fugue is a polyphonic composition for a fixed number of instrumental lines or voices -- usually three or four -- built on a single principal theme. This theme, called the fugue *subject*, appears again and again in each of the instrumental or vocal lines."

# Fugue as Form

Two pieces of music called fugues may have little or no common form.

# Fugue as Form

While some fugues may have certain elements in common, to think of fugue as a *form* in the same sense as ritornello, rondo, etc., is bound to result in difficulties.

# Fugue as Procedure

A worthwhile classification is fugue as a *procedure* -- i.e., a way of treating musical material, but not implying any particular order of events.

- The *subject* is the melody (or melodic pattern) which is developed polyphonically throughout the fugue.
- Typically it is the very first thing heard in a fugue.

- Fugue subjects may stay in an original tonic, or they may modulate.
- This one distinction can have a significant impact on the working out of the fugue.

- Non-modulating
  - WTC I: Fugue No. 8 in D# Minor



WTCI: Fugue No. 11 in F Major



- Modulating
  - WTC I: Fugue No. 7 in E-flat Major



#### Answer

The *answer* is the first entry of the second voice, at a pitch (or key) other than the original, usually the dominant.

#### Answer

- The answer may be:
  - \* Real: this is an answer that is an exact transposition of the original subject.
  - Tonal: this is an answer which is different from the original subject by at least one note.

#### Answer

- The creation of the answer is the first step in the construction of a fugue, and therefore is extremely important in the working out of a fugue.
- This also means that understanding the construction of the answer is critical to any intelligent analysis of a fugue.

- WTC I: 1. The answer begins a perfect fifth higher than the subject.
  - The subject ended on ^3, so the answer will end on ^7, allowing for an easy return to the tonic.



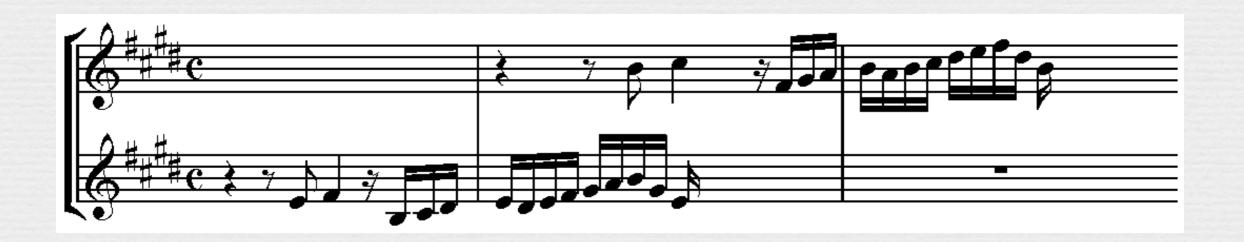
- WTC I: 5. This answer is also a perfect fifth higher than the subject.
  - Notice that this subject also ends on ^3, just like WTC I: 1.



- WTC I: 6. The answer may come in *below* the subject. Here it is a perfect fourth below the subject (the equivalent of being a perfect fifth above.)
  - This subject ends on ^5, not ^3.



WTC I: 9. The answer may overlap the subject by a few notes; it is not required that the subject completely finish before the answer begins.



## Codetta

Extension of the fugue subject by a short linking passage. Whether this passage is a codetta, or just the end of the subject, requires studying the *entire* fugue before coming to any conclusions.

### Codetta

WTC II: 10. The codetta frequently appears along with the subject and therefore could be mistaken as being an actual part of the subject. However, it *does not always appear as part of the subject*, which makes it a codetta, and not a part of the subject. Note also that the subject is harmonically complete without the codetta—it is clearly an extension tacked on after the subject has come to a satisfactory close.



### Codetta

WTC II: 23. This codetta is similar to the previous example: it is not required harmonically, and it does not always appear with the subject.



- The primary reason for a tonal answer is to avoid modulation "death spirals" in which the fugue is trapped into nonstop sequential modulation.
- Tonal answers may be used when a transposition of the subject is otherwise awkward or musically unsatisfactory.

1. Subject begins on the dominant; answer usually begins on the tonic and the rest of the answer is normally a real one.



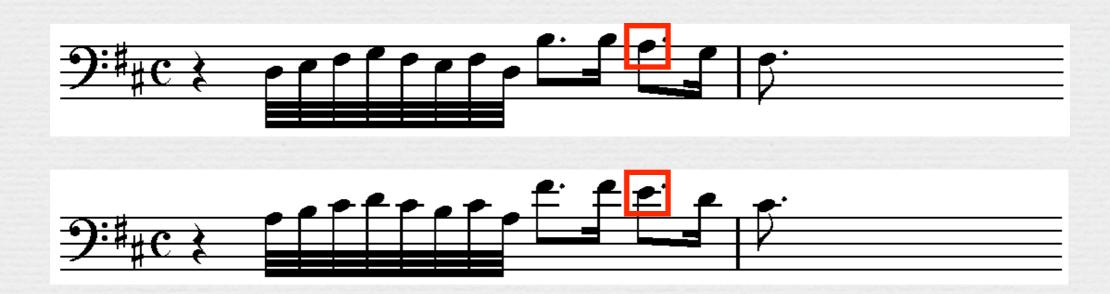
2. Dominant occurs among the first few notes of the subject; this one note is generally answered by the tonic.



- Exceptions to the previous (a real answer is used instead)
  - a. The dominant occurs among the first few notes, but without emphasis (I:9):



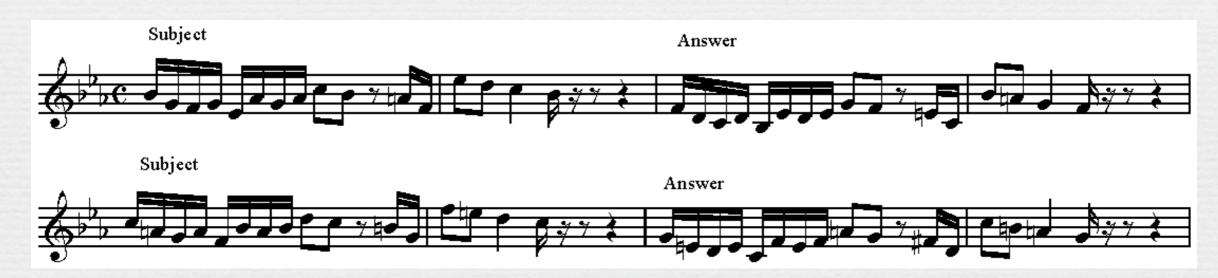
- Exceptions to the previous (a real answer is used instead)
  - b. The dominant occurs some distance from the beginning -- this is a matter of personal judgement (I:5):



- Exceptions to the previous (a real answer is used instead)
  - c. A tonal answer would destroy the shape of the subject. This is typical of subjects containing a sequential pattern.

#### Answering a Modulating Subject

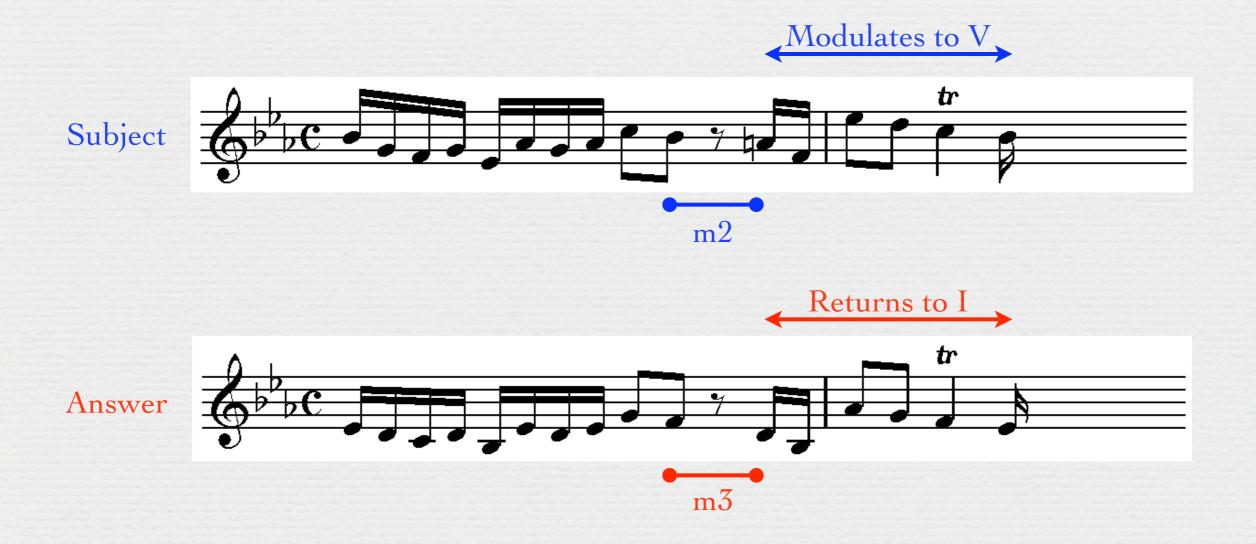
It's important to avoid the tailspin into an endless cycle of fifths sequence.



Needless to say, this isn't likely to come up for you when you're analyzing a fugue -- at least we hope not!

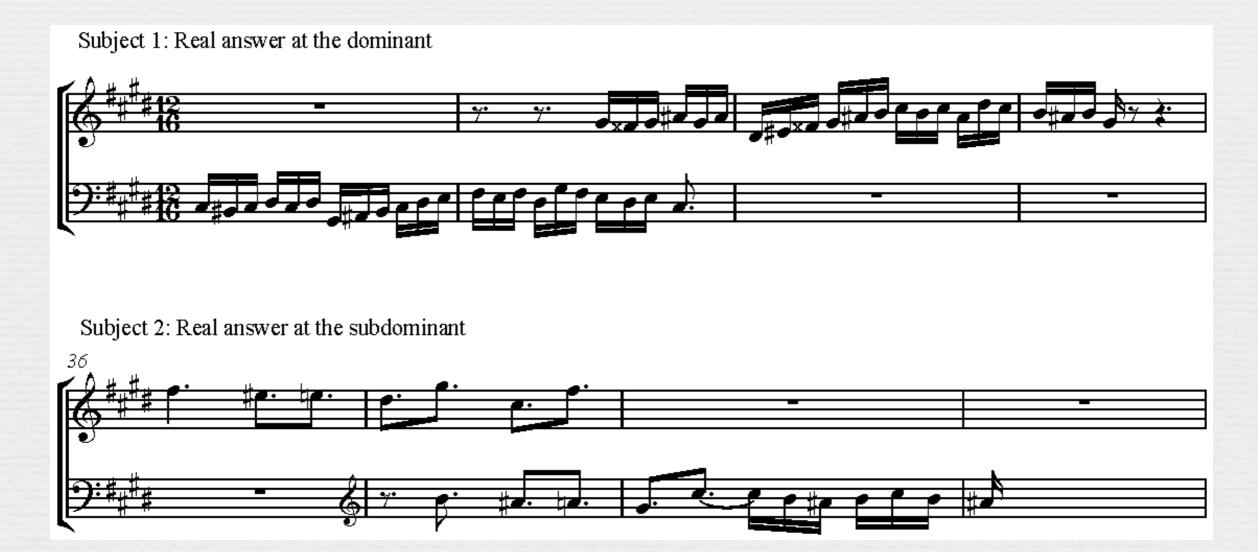
#### Answering a Modulating Subject

The usual technique is to ensure that the answer returns to the tonic key.



- It's possible for the answer to be in the subdominant instead of the dominant.
- Usually this occurs when a fugue introduces another subject into the middle section of a fugue; that subject will have a subdominant answer.

II.4: Second subject enters at measure 36 and is answered in the subdominant.



Subdominant answers of the *first* subject aren't found in the Well-Tempered Clavier (except *possibly* II.3, depending upon the definition of the length of the subject.)

- The Bach organ fugues contain a number of examples of subdominant answers.
- BWV 531 in C Major: the fugue subject descends downwards from the dominant, and thus an answer on the subdominant helps to avoid endless-fifths problems.
  - In this recording, the organ is tuned slightly more than a half step high to modern pitch (common for the era).

#### Trivia: Pitch

- Why were the organs typically tuned high?
  - Organ pitch is determined by the length of the pipes -- and pipes are made of metal, which is expensive.
  - If you tune the instrument high, all of the pipes can be a bit shorter than they would have been otherwise.
  - Thus the price is kept down -- and/or you can afford to add more ranks of pipes.
- The organs were tuned high (*chorton*) and many keyboard and wind instruments were tuned low (*kammerton*), so musicians like Bach were obliged to develop phenomenal at-sight transposing skill.

# Countersubject

Definition: the opening voice, having finished the subject, goes on to accompany the answer in the second voice with some form of counterpoint.

When this counterpoint recurs with other entries, it is regarded as a countersubject.

# Countersubject

Countersubject introduced in the exposition, and recurring after it.



# Countersubject

Countersubject occurring in the exposition only.

- Introduced after the exposition
  - a. In addition to the original countersubject
  - b. With no countersubject in the exposition
  - c. Replacing the original countersubject

- Two countersubjects in the exposition
  - The "second countersubject" is only such if it recurs with later entries.



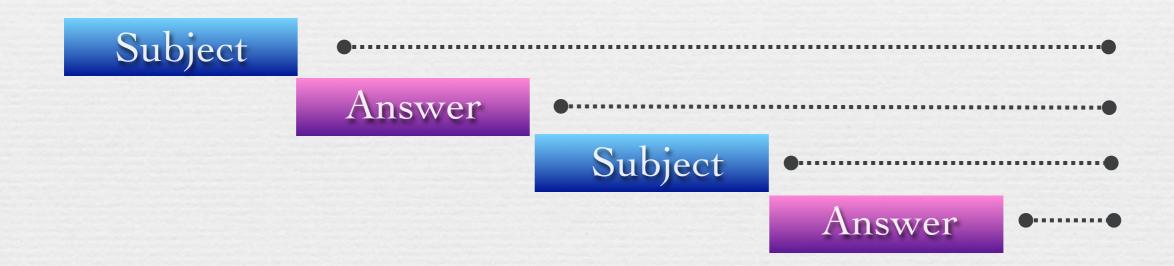
- Fugues without a countersubject
  - Stretto: when a subject is designed specifically for stretto, so that this is the most important element in the fugue, then a countersubject could be a distracting element: I.1
  - The main subject is later combined with one or two subsidiary subjects: a countersubject in the exposition might prove to be a distracting element: I.4
  - Sometimes there are no countersubjects in the exposition, but they may begin to appear after the exposition.

- A countersubject is written to fit the answer on its first appearance. If answer and subject are identical in shape, then there is no obvious need to alter the countersubject when it is used along with a subject entry.
- Even if the above condition is met, sometimes
  Bach will modify the countersubject anyway, to a
  greater or lesser degree, out of musical concerns.

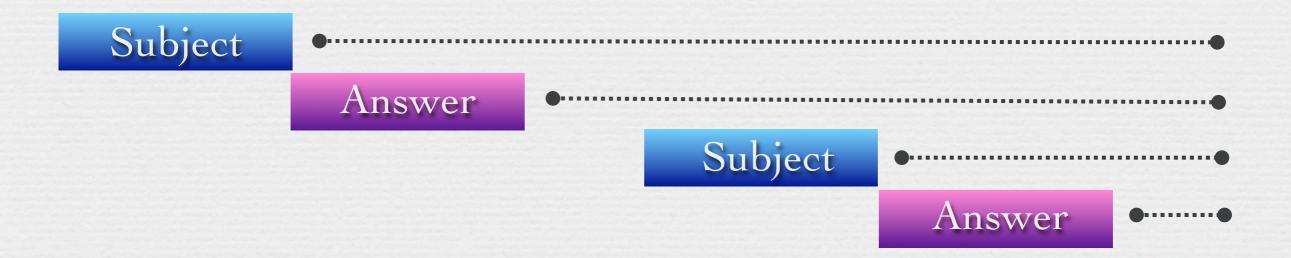
- Tonal Answers: one should study countersubjects carefully when a fugue contains a tonal answer. The countersubject may well require modifications to work with the subject.
- Modulating Subjects: each one tends to be a law unto itself.

- Begins the fugue
- All the voices present the subject in an orderly, standardized way.

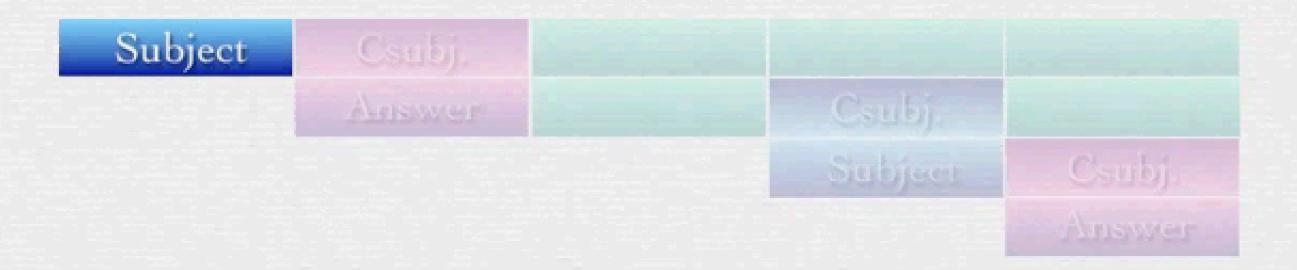
A diagram of an "ideal" exposition



Bach: Contrapunctus 4 from *The Art of Fugue*, subject entries only.



Bach: Contrapunctus 4 from The Art of Fugue, all material.



### Episode

- An *episode* is a section in a fugue in which there are no voice entries.
  - Usually this develops figures to some degree.
  - Outside of the exposition, episodes typically modulate.

"Fugal devices" are techniques of varying the fugue subject.

Subject from The Art of the Fugue

- Augmentation
  - The note values are lengthened (so the subject slows down.)

- Diminution
  - The note values are shortened (so the subject speeds up.)

- Inversion
  - Intervals reverse their direction: ascending becomes descending, and vice-versa.

- Retrograde
  - The subject is played right-to-left, rather than left-to-right.

- Retrograde Inversion
  - Combination of retrograde and inversion.
  - Sometimes called cancrizans.

#### Stretto

A statement of the subject in one voice begins before a previous statement has finished in another voice.

For fun, a treatment of the subject by subjecting it to stretto, retrograde, and inversion, all at the same time, in three voices.

- Some of the devices originate in Renaissance counterpoint. In particular, *augmentation* and *diminution* were commonly used in the writing of canons.
- Canons in which one of the voices moves at different speeds from another is often called a *mensuration* canon.
  - The term comes from *mensural notation*, which was a predecessor of modern rhythmic notation.

- The point in using fugal devices is to make the various statements work together contrapuntally -- i.e., to sound well together.
- If no care is taken to make sure that the various permutations of the subject fit together musically, then the use of the devices is pointless.

Schoenberg's *Pierrot lunaire* contains an extremely cerebral "in-joke" about the use of canonic and fugal devices.

- The insane Pierrot is standing in the moonlight, wearing his immaculate black tuxedo.
- He notices that the moonlight is creating little flecks of light on said tuxedo.
- In a frenzy, he spends the entire night trying to brush the flecks off his tuxedo.

- The ensemble plays canonic and fugal music -- all of it written in a mad conglomeration of devices: stretti, augmentations, diminutions, retrogrades.
- However, there is absolutely no attention paid to how any of these might fit together vertically.
- Thus the futility of the ensemble's wild counterpoint is analogous the futility of Pierrot's attempt to clean his tuxedo.

#### Schoenberg, Pierrot lunaire: "The Moonfleck"

Einen weissen Fleck des hellen Mondes Auf dem Rücken seines schwarzen Rockes, So spaziert Pierrot im lauen Abend, Aufzusuchen Glück und Abenteuer.

Plötzlich stört ihn was an seinem Anzug, Er beschaut sich rings und findet richtig--Einen weissen Fleck des hellen Mondes Auf dem Rücken seines schwarzen Rockes.

Warte! denkt er: das ist so ein Gipsfleck!
Wischt und wischt, doch-bring ihn nicht herunter!
Und so geht er, giftgeschwollen, weiter,
Reibt und reibt bis an den frühen Morgen-Einen weissen Fleck des hellen Mondes.

With a fleck of white--bright patch of moonlight--On the back of his black jacket, Pierrot strolls about in the mild evening air On his night-time hunt for fun and pickings.

Suddenly something strikes him as wrong, He checks his clothes over and sure enough finds A fleck of white--bright patch of moonlight--On the back of his white jacket.

Damn! he thinks, There's a spot of plaster! Rubs and rubs, but can't get rid of it.

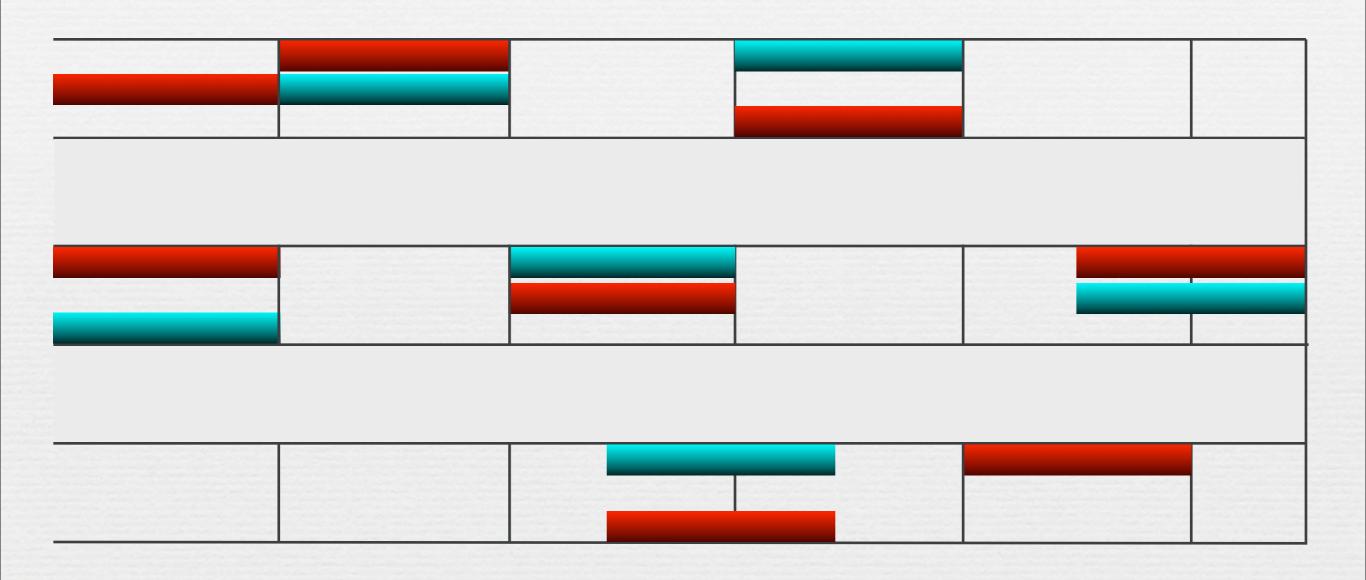
So goes on his way, his pleasure poisoned, Rubbing and rubbing till dawn comes up--At a fleck of white, a bright patch of moonlight!

#### Afterword

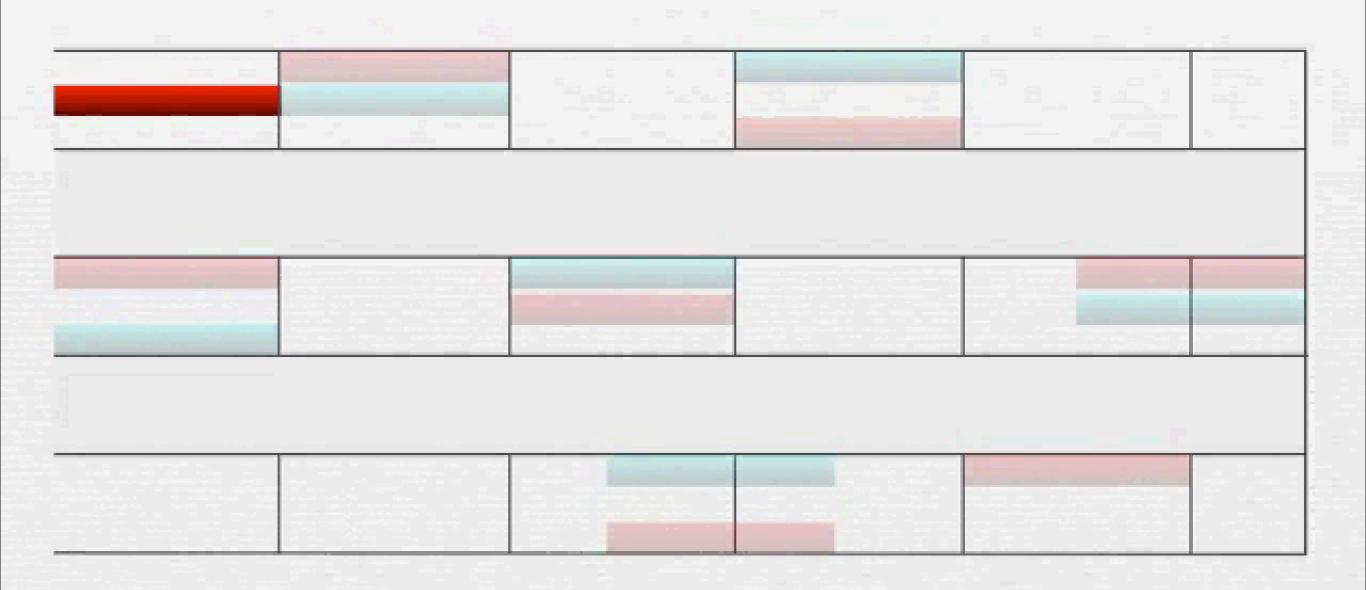
Nobody ever gets this "in-joke" unless it is pointed out to them.

- Sectional (Ritornello)
  - After the exposition, subject entries alternate with episodes.
  - Ritornello-type structure in which subject entries are in various keys.

Bach: Fugue in C Minor, I:2



#### Bach: Fugue in C Minor, I:2



- Almost all fugues demonstrate a ritornello-like structure.
- Some fugues may also demonstrate a larger, section structure which can be likened to the classical song forms.

- Two-Part Song Form
  - A distinctly marked cadence in the secondary key (dominant or the relative major) in or near the middle of the fugue.

- Two-Part Song form
  - Part II is often individualized to some extent, and may contain elements such as inversions of the subject.
  - A coda may be added.

- Two-Part Song Form
  - WTC I:14 (F# Minor)
    - Part I closes in measure 20 with a strong cadence in v.
    - Part II opens with an inversion of the subject.
    - At measure 28 there is another cadence in v, dividing Part II into two sections.

Fuga XIV.



- Three-Part Song Form
  - Part I is the same as in the 2PSF
  - Part II is characaterized in some manner
    - Almost always leads to some kind of emphatic dominant chord -- often over a pedal point.

- Three-Part Song Form
  - Part III must be some kind of "return to the beginning".
  - May contain only a few measures of Part I
  - Subsequent contents may well be entirely independant, and will probably be even more complex and interesting than Part I.

## Fugue Structures

- Three-Part Song Form
  - WTC, I:16 in G Minor
    - Part II begins at measure 12 with a clear cadence in the relative major.
    - Part III begins at measure 28
      - Moves immediately into a rich stretto passage.

Fuga 16. â 4.



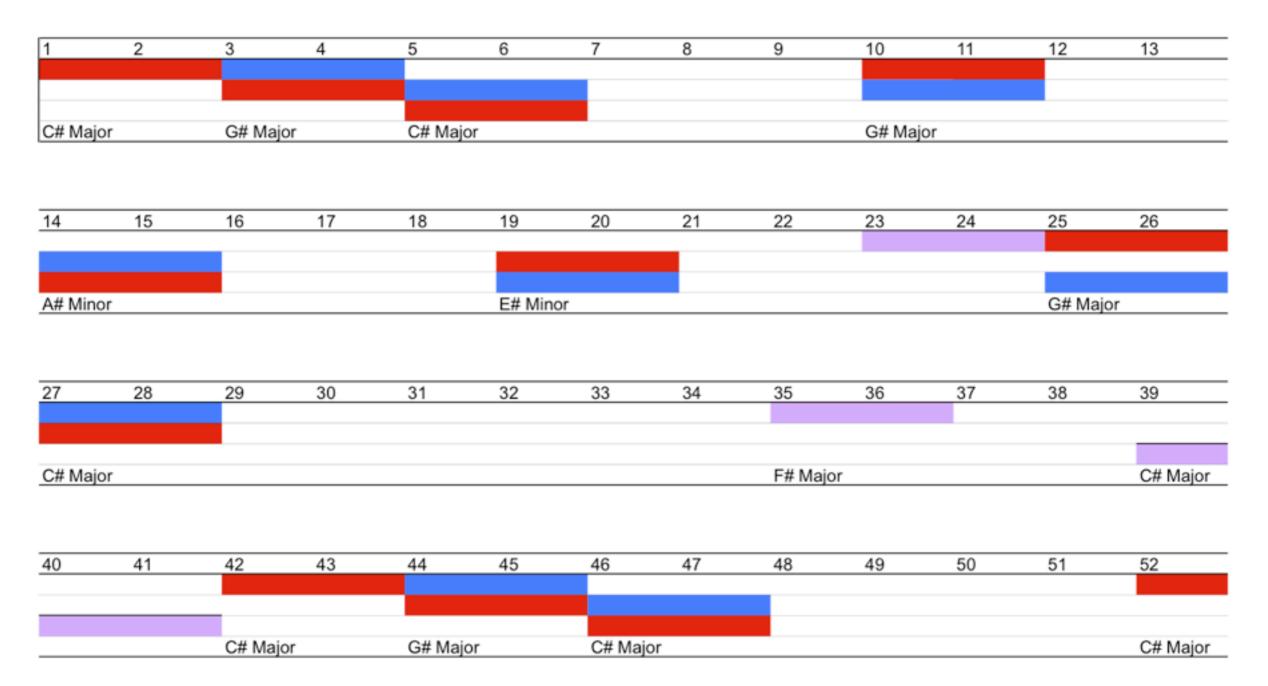


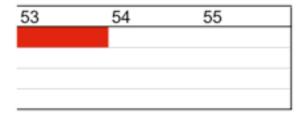


## Graphing a Fugue

- A fugal graph serves the same purpose to a fugue as a LaRue chart does for a sonata-form movement.
- It is a "quick-glance" chart which shows where the fundamental events take place -- subjects, countersubject, and the like.
- The graph is used as an adjunct to a full analysis.

#### Bach: Fugue in C# Major, WTC I

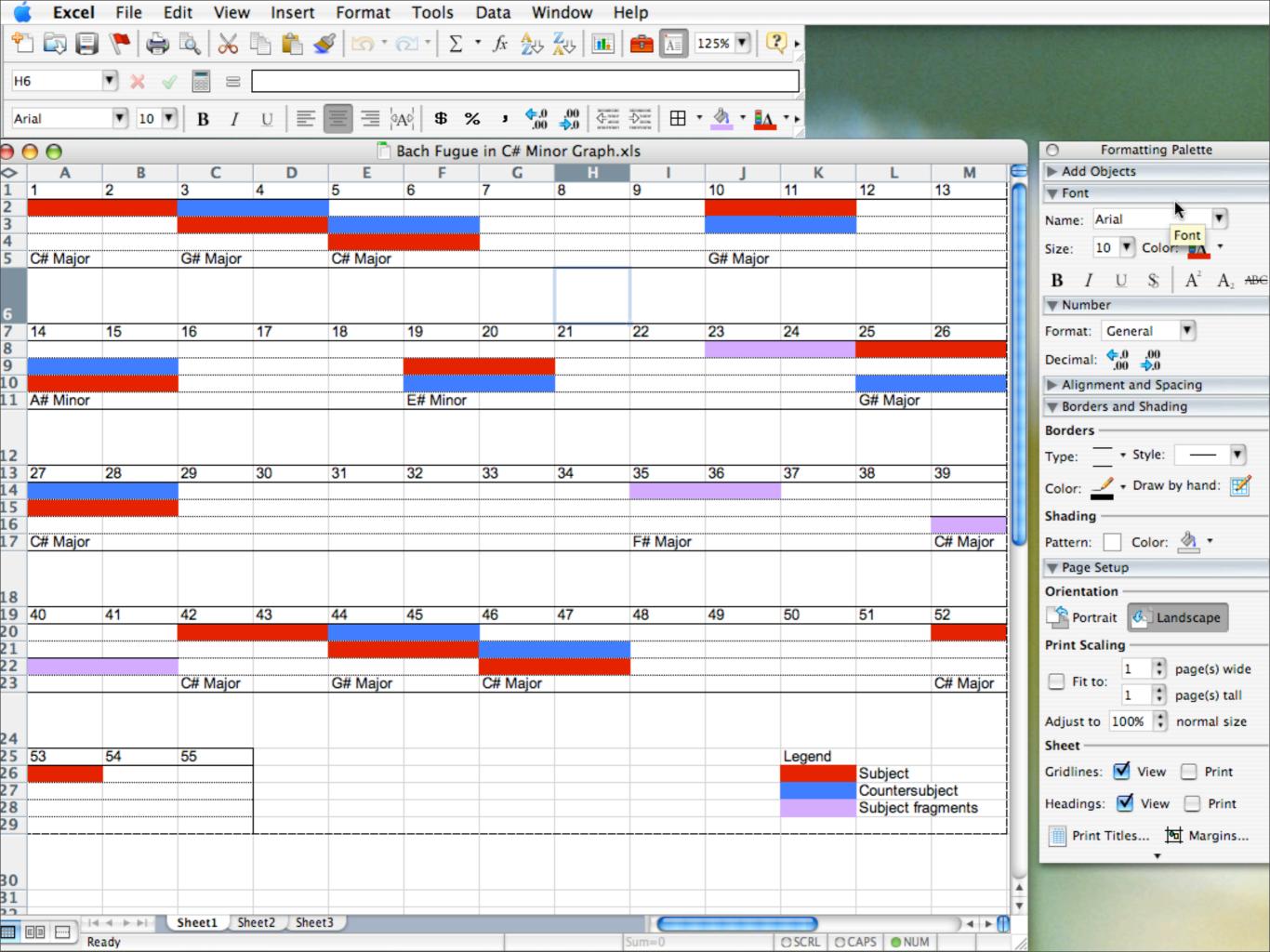






#### Technique

A spreadsheet (such as Microsoft Excel) is a great tool for creating a fugue graph.



- The following slides give some questions you might ask when carrying out an extensive fugal analysis.
- They don't have to be answered systematically --- they are offered to help guide your thinking.

- I. Subject
  - A. How long is the subject?
  - B. What is the subject's range of pitch?
  - C. To what extent does the subject move conjunctly?
  - D. Is the subject divisible into parts? If it is divisible into individual motives, how are they related or contrasting or both?
  - E. What scale degrees lie at the basis of the subject melody? (That is, how would you reduce the subject to its essential pitches, and what fundamental structure do these articulate?)
  - F. What are the most obvious harmonic implications of the subject?
  - G. What distinctive melodic or rhythmic features does the subject have?
  - H. How would you describe the expressive character of the subject?

- II. Fugue Texture
  - A. The fugal texture comprises how many voices?
  - B. Are all voices brought into play consistently, or infrequently?
- III. Answer
  - A. Is the first answer real or tonal? If tonal, where are the adjustments made?
  - B. If the answer is real, how and where is the tonic restored in preparation for the third entry?

- IV. Countersubjects and Counterpoints
  - A. Is the answer accompanied by free counterpoint or by a countersubject?
  - B. Is the countersubject motivically related to the subject?
  - C. Is there an additional countersubject?
  - D. How does the countersubject contrast with or complement the subject and its answer?
  - E. In counterpoints to subject entries, trace the origins of their motives to the subject or countersubject whenever possible.

- V. Exposition
  - A. Where does the exposition end? Is there an additional entry in the starting voice?
  - B. What is the order of voice entries in the exposition?
  - C. Is there a transitional episode during the exposition?

#### VI. Subject Entries

- A. Mark all post-exposition entries "real" or "tonal" as applicable.
- B. Are there subject groups or internal expositions in related keys?
- C. Locate the final entry or entries of the subject in the tonic.

#### VII. Episodes

- A. Mark all episodes and determine any directions of modulation.
- B. In the episodes, find examples of sequence, identifying their basic pattern and the direction and number of transpositions of the pattern.
- C. Are there instances of melodic sequence independent of parallel harmonic movement?
- D. Determine the sources of motives developed in the episodes.

#### VIII. Miscellaneous

- A. What is the fugue's tonal range?
- B. Is there any use of pedal points? Tonic or dominant? Where?
- C. Is there stretto? What is the order of voice entries in the stretto, and at what time interval? Is stretto particularly prevalent? Does the stretto engage all voices of the fugal texture?
- D. In subject recurrences, look for examples of augmentation, diminution, mirror inversion, rhythmic alterations, retrograde, and other variants.
- E. Find examples of double or other multiple counterpoint. At what interval is the inversion?
- F. Do you find canonic procedure other than in subject imitation? At what harmonic and time intervals?
- G. Is the fugue distinctly sectional? Locate cadences and evaluate their properties of punctuation and continuity of motion.
- H. To what extent is the fugue taken up with the subject material? With full subject entries? Is much of the fugue, on the other hand, episodic?
- I. Is the fugue anomalous in any way? What if any particularly striking or unusual characteristics do you observe in the fugue as a whole?

- IX. Coda
  - A. Is there a coda?
  - B. If there is a coda, what does it contain? Subject? Pedal? Reduction or thickening of texture? Use of the dominant or the subdominant?