Compositional schemata

CS 275B/Mus 254

Eleanor Selfridge-Field
1. Schema theory

Monte

Fonte
Gjerdingen’s applications

How do these micro-models combine with better-known elements of melodic construction?
Ordered approaches to composition schemes

1. **Solfeggio** (voice pedagogy)
2. **Basso continuo harmonization** (performance)
3. **Expandable formulae** (phrase-level expansion)
4. **Partimenti** (expansion of continuo realization)
2. Solfeggio

Hexachordal era

Diatonic era

Emphasis on degree of scale (earlier hexachord)
3. Basso continuo harmonization (18\textsuperscript{th} cent.)

- Francesco Gasparini (1708)
- Johann David Heinichen
- Lots of others

Emphasis on completing harmony
3. *Bassi ostinati* (repeated basses)

- Harmonization prescribed by tradition
- Popular on plucked, strummed instruments (16th-18th centuries)
- Frequently used for traditional dances
- Also used on stage for mad scenes
- Later used in organ music, art music

Folia
Chaconne
Passacaglia
Sarabande
...many more

**Folia with bounded melody**

Passacaglia BWV 582
Ostinato types and origins

From music for 5-string Spanish guitar (16th century onward)

First appearance: Portugal, 1577

Common “obstinate bass” patterns

• Folia
• Passacaglia
• Romanesca
• Bergamasca
The Folía ostinato [et al.]

Corelli, Op. 5, No. 12 (1700)

Vivaldi, Op. 1, No. 12 (1705)
Other ostinato users

• Corelli, Scarlatti, Vivaldi, J.S. Bach, C.P.E. Bach
• Geminiani, Salieri, Cherubini,
• Beethoven, Liszt, Rachmaninoff
• Tangerine Dream, Britney Spears
4. Riepel: Melodic studies
Melodic formulae by Josef Riepel (1752, 1775)

• Melodic structure
  • Metric and tonal order synchronized
  • Given minuet melody (A), these are elaborations

• 1st elaboration

• 2nd elaboration

• 3rd 4th elaborations

Emphasis on top voice
Josef Riepel (1752, 1775)

- Melodic structure
  - Metric and tonal order at synchronized
  - Given minuet melody (A), these are elaborations

- 1\textsuperscript{st} elaboration

- 2\textsuperscript{nd} elaboration

- 3\textsuperscript{rd} 4\textsuperscript{th} elaborations
Josef Riepel (1752, 1775)

- **Melodic structure**
  - Metric and tonal order synchronized
  - Given minuet melody (A), these are elaborations
    - 1\textsuperscript{st} elaboration
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5. Heinrich Christoph Koch (1749-1816)—phrase structure

• Important theorist of 18th century
  • 3-vol. composition manual *Versuch einer Anleitung zu Composition...* 1793
    • Strong emphasis on rhythm and accent
      • Accent: (a) oratorical or (b) pathetic [mood]
  • *Musikalisches Lexikon*, 1803

• Very influential in recent years
  • Christopher Hasty: *Meter as Rhythm* (1997)
  • Riepel studies
  • Many Mozart and Beethoven studies
Koch: Sentence structure

Phrase rhythm
J. P. Ito: Hypermeter


• Looks at three-way reciprocity

Example 1. Beethoven Piano Sonata op. 31/3, i, mm. 1–8
Koch’s sonata-allegro form (concerto)
Koch’s sonata-allegro form

Sapp’s key-scape
6. *Partimenti*

Recommendations to improvise new compositions

- Neapolitan in origin
- Used to enable adolescents to compose
- Most masters obscure today but methods pervasive
- *Fenaroli’s rules predominate*
Codification of *partimento* theory

- Giorgio Sanguinetti (OUP book 2012)
- Robert Gjerdingen (various books and papers)
- *Partimento* website
- Many other theorists
Three classes of rules, all elastic

1. Basic axioms

_Cadences:_ all follow I-V-I pattern but V is extensible

<table>
<thead>
<tr>
<th>I-V-I</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-6/4-5/3-I</td>
</tr>
<tr>
<td>I-II-V-I</td>
</tr>
</tbody>
</table>
Three classes of rules...

2. Rule of the octave

• Each scale degree is associated with one harmony
• Ascending, descending schemes of harmonization
• 6/5 chords are used on scale degrees 4 and 7.
Three class of rules....

3. Dissonances (suspensions)

- *Suspensions* are dissonances
- Passing-tone dissonances considered result of diminution.
Rule of the octave: *ascending scale*, 3 positions (inversions)
Rule of the octave, \textit{descending scale}
How to elaborate the Rule of the Octave

1. Introduce smaller note denominations

(a) 

(b)
Methods of elaboration...

2. Vary the rhythm in the added figurations

Note similarity to species counterpoint
Methods of elaboration, cont....

3. Introduce chordal harmonization

(d)

(e)
Methods of elaboration, cont...

4. Introduce chromaticism
Elaboration...

5. interleave one descending (ascending) line in
Methods of elaboration cont....

6. Vary direction of bass (and treble) line

(b)

\[\text{Music notation image}\]
7. Species counterpoint: J. J. Fux

Johann Joseph Fux (c1660-1741)
• Authority on 16\textsuperscript{th}-century Renaissance polyphony
• As codified in the 18\textsuperscript{th} century
• Studies in Rome
• Head of music at the imperial court, Vienna (1715..)

Gradus ad Parnassum (1725)
Gradus ad Parnassum (1725)
Steps to Mt. Parnassus

Part One: Musica Speculativa
i.e. tuning, acoustics, and their implications

- Mathematically exact intervals result in **half steps** that may be
  - Larger or
  - Smaller
- Equal temperament (ET) a response to awkwardness of split keys in short octaves
- ET a practical solution to a physical problem
Part Two: *Musica Prattica*

Purpose: “to invent a simple method by which a novice can progress, step by step”

- Counterpoint
- Fugue
- Double fugue

“Theory without practice is useless”
Steps (*species*) of the path (*Gradus*)

- *First*: (whole) note against note
- *Second*: (whole) note against half-note(s)
- *Third*: (whole) note against quarter-note(s)
- *Fourth*: Introduces suspensions, of turning figures (*cambiate*)
- *Fifth* (florid): **Use of mixed rhythmic values**

The *Gradus* is only book from Bach’s theory library to survive.
Species: Second, Third, Fifth

Second

Cantus firmus

Third

Cantus firmus

Fifth

Cantus firmus
Herremans and Soerensen: *Fux*, an Android app the generates fifth-species counterpoint

- Relies on Variable Neighborhood Search (VNS)
- VNS=local search strategy
- Here: three neighborhoods
Herremans, Soerensen: Musical details

*Edit-distance* inspired accommodations in *cantus firmus*

- Original;
- Swap;
- Change;
- Change 2
Herremans, Soerensen: Musical details

Edit-distance inspired accommodations in cantus firmus

• Original; Swap; Change; Change 2

[several violations of cp rules: tritones, hidden fifths....]