Counterpoint

This document summarizes the basic topics addressed in the Counterpoint class. The course addresses contrapuntal styles ranging from the 16th to the 21st centuries. The word counterpoint is derived from the Latin phrase “Punctum Contra Punctum,” which means “note against note.”

Objectives and Activities

Students will develop an understanding of the principles of polyphony as employed by composers over the past five centuries. Through analysis and writing, students will gain a deep appreciation of the art of counterpoint, and the ability to demonstrate their understanding in performance and in composition.

We will spend time in class analyzing and emulating contrapuntal techniques, discussing unique features of each style, beginning with modal counterpoint in all species (Fux). Some pieces will be assigned for analysis outside of class, but most compositions will be analyzed in class. Students will compose brief examples of contrapuntal music from various periods, and perform these in class.

Counterpoint is the art of combining two or more melodic lines. We start with guidelines for the creation of melodies. We will then practice how to combine melodies with each other, paying special attention to the consonant and dissonant harmonic intervals between notes. We will refer to Mann’s translation of the Fux Gradus ad Parnassum for the rules of Species counterpoint and for historical perspective. Composers such as Haydn, Mozart, Beethoven, and Brahms studied this treatise. The guidelines put forward in this syllabus are a combination of several pedagogical approaches. The list of rules for strict counterpoint will be as succinct as possible.

We will practice writing with two voices in the five species of strict counterpoint in the vocal style of Palestrina and di Lassus. A midterm written exam on strict counterpoint will be given. More use of dissonance will be introduced as the course progresses. Figured bass and the subject of harmony are discussed as they relate to counterpoint in the 18th century. Canonic techniques will be explored, and selected works analyzed. Students will compose a short canon to perform in class, along with a short invention and a fugue exposition in the style of Bach.

There are many good reasons for studying this subject. It is one of the most efficient and elegant systems of compositional pedagogy in existence. Basic melodies, consisting of pitches from modes and the major and minor scales are combined within a well-defined syntax of consonance and dissonance, using simple rhythms.

The goal is not mastery of any particular musical style, but rather the development of musical awareness. The mastery of the basic materials of music in the context of compositional craftsmanship assists in the development of this awareness. For example, motion in parallel octaves is prohibited in this class, so awareness of this musical error is heightened. The
knowledge of the rules and prohibitions is important, but only as it increases musical awareness and appreciation for music of any style.

The rules and guidelines stated here will clarify and supplement the Fux treatise. The rules students are expected to follow (on the homework exercises, the midterm test and projects) are those stated in this syllabus.

**Recommended Texts and References:**

* Online materials, including documents, scores, and audio files will be the primary sources of reference for this class. The printed text is not required.


**Terms and Concepts**

*Polyphony* refers to music with more than one melody, independent in pitch and rhythm, but sharing a harmonic and metric context. Counterpoint is polyphonic music, which may or may not be imitative. In imitation, melodic ideas are passed between the parts and shared.

Most early (16th Century) counterpoint was written to complement an existing *Cantus Firmus* (CF) which was typically drawn from a Gregorian Chant or early sacred melody. This discussion of species counterpoint begins with a rather strict set of rules for writing melodies, either in the counterpoint (CP) or in the cantus firmus (CF).
Melodic Guidelines for the Cantus Firmus

1. The CF is written in whole notes, about 8-12 measures long, within the range of a 10th.
2. It should begin and end on the finalis (scale-degree one), preferably in the same register.
3. It should end with scale-degree two moving to scale-degree one, or seven to eight.
4. There should be a high or low point, usually slightly after the midpoint of the exercise.
5. After a leap larger than a third in either direction, there should follow stepwise motion in the opposite direction; for lines other than the CF the motion in the opposite direction need not be stepwise, but stepwise motion is preferable.
6. No melodic leaps larger than a minor 6th are allowed, except the leap of a perfect 8ve.
7. No augmented or diminished intervals are allowed in the melody. After First Species, in voices other than the CF, diminished intervals are permitted as melodic leaps, but motion in the opposite direction immediately afterwards is required and should be stepwise.
8. Melodic motion should be mostly stepwise, but there may be some leaps and changes of direction. The goal is balance between types of motion. The melodies should be easily sung.
9. Three consecutive notes in the same direction may not outline an augmented 4th, if that sequence of notes is isolated by changes of direction both before and after it.
10. Easily sung triadic arpeggiations are acceptable, but no more than three consecutive leaps in the same direction are permitted in this context.
11. No consecutively repeated notes are permitted in the CF. When writing in the instrumental style, application of this rule and others will depend on context.

Classification of Consonant and Dissonant Harmonic Intervals

When writing counterpoint in two parts, the distinction between melodic and harmonic intervals is emphasized, and consonance and dissonance are defined in historical and acoustical perspective. The following classification is used in Species counterpoint:

**CONSONANT**
P8ve
P5th
M,m 3rd
M, m 6th
P4th between two consonances (3-part)

**DISSONANT**
P4th above the lowest voice
M,m 2nd
M,m 7th
All augmented and diminished intervals
The P8\textsuperscript{ve} and P5\textsuperscript{th} are the \textit{perfect} consonances, while 3\textsuperscript{rd}s and 6\textsuperscript{th}s are \textit{imperfect}. The P4\textsuperscript{th} is a special case, always dissonant in two-parts, but consonant in three or more parts between upper voices. The harmonic series and Pythagorian just intonation explains the various uses of a P4\textsuperscript{th}. It only appears early in the series between two upper partials, not above the fundamental. It was considered a consonance in the Ars Antiqua.

Definitions of consonance and dissonance have varied throughout history, and the one outlined here is widely used. It has been observed in western music for about five hundred years and is relevant to much of today’s music.

**Types of Motion Between Voices**

Contrary: the voices move in opposite directions

Parallel: the voices move in the same direction the same distance measured in \textit{scale} steps (not necessarily in semitones, although that might be the method of measurement especially in chromatic music)

Similar: the voices move in the same direction different distances

Oblique: one voice moves while the other doesn’t (either by sustaining or repeating the same pitch)

Contrary motion provides the most independence, but a variety of these kinds of motion is recommended for a musical result. Fux uses the term “direct” motion to refer to a combination of similar and parallel motions.

How the counterpoint begins and ends is of particular concern.

**Begin** with a perfect consonance and with the tonic in the lowest voice. If the CF is not the lowest voice, only an P8\textsuperscript{ve} may be used at the beginning.

**End** the counterpoint line (CP) with scale-degree 7 to scale-degree 8 as the CF ends 2 to 1, or vice versa. In minor modes, scale degree 7 must be raised one semitone by the use of an accidental, so that the distance from 7 to 8 is the leading tone at the cadence. (In 18\textsuperscript{th} century styles, the melodic minor form of the scale should be used to avoid the augmented 2\textsuperscript{nd} between scale-degrees 6 and 7).

Consecutively repeated notes are allowed in the CP in Species I and IV, but avoided in II and III. This would constitute switching species (two consecutive half notes on the same pitch is either a whole note or a suspension, contrapuntally speaking, and two quarter notes on the same pitch are similarly equivalent to a half note).
General Rules for Writing Species Counterpoint

1. No parallel P8ves or parallel P5ths are allowed.

2. No similar motion into a perfect consonance is allowed.

3. No more than three consecutive 3rd’s or 6th’s in parallel motion are allowed.

4. At any given point in the exercise, in two voices the space between the two voices should not exceed two 8ves; in three or more voices this still applies between the lowest voice and the next voice above it, but otherwise no more than one 8ve between any pair of adjacent voices.

5. Voice crossing is not allowed.

6. Overlapping of voices is not allowed; this is defined as a voice moving higher than where the voice above it was on the previous note, or lower than where the voice below it was.

7. In two voices, a unison is only allowed at the beginning and end of the exercise. In three voices, a unison is allowed if at least one, and preferably both, of the voices involved approach the unison in stepwise motion.

Rules for Each Species

First Species (whole notes against whole notes, 1:1)

Consonant harmonic intervals only are allowed (no dissonant harmonic intervals). All the general rules stated above apply.

Second Species (half notes against whole notes, 2:1)

1. The first note should be P8ve, P5th, or unison with the CF. It may begin with a rest on the first beat of the CF.

2. Write two notes of CP to each note of the CF. The first note on the strong beat must be a consonance.

3. The second note may be a consonance or a dissonance. It is possible to leap to or from a consonance by a 3rd, 4th, 5th, 6th, or 8ve.

4. Movement to or from a dissonance must be by step. Only passing tones and a rare consonant neighbor tone are permitted.

5. Approach each new note of the CF with contrary motion primarily, with some similar motion.
6. Unisons or P8ves on successive strong beats are not permitted. P5ths on successive strong beats may occur, if there is a 3rd or 6th between them.

7. Treat the final cadence as if it were First Species, with a clausula vera.

In general, second species is characterized by occasional passing tones on the weak beat. Fux refers to Strong and Weak beats as “Thesis” and “Arsis.”

**Third Species (quarter notes against whole notes, 4:1)**

In third species there is increased usage of dissonance, primarily with neighboring tones (NT). These are also referred to as auxiliary notes. It is defined as a note moving a step away in either direction to a dissonance from a consonance, and returning to the original note.

These are the metric possibilities for harmonic intervals in common time:

A)  
1  Consonance  
2  Consonance  
3  Consonance  
4  Consonance  
P.T. or N.N.  
P.T. or N.N.  
P.T. or N.N.  
P.T. or N.N.  

B)  
1  Consonance  
2  Consonance  
3  Consonance  
4  Consonance  
P.T. or N.N.  
P.T. or N.N.  
P.T. or N.N.  
P.T. or N.N.  

The rule against parallel perfect intervals is the same as for Second Species, except that we treat beats 3 and 4 of the first measure in question and beats 1 and 2 of the second measure as we would the “strong” and “weak” beats of consecutive measures in Second Species. Moving from octave to octave or fifth to fifth on consecutive first beats in Third Species is permitted in our exercises.

The “Cambiata” is described by Fux (p. 51, fig.50) and defined in this course as a five note melodic shape: down a step, down a third, up a step, up a step, beginning on the first beat of one measure and ending on the first beat of the next, and in which any harmonic dissonances are allowed if the first and last notes of the five-note pattern are consonant, (even if the dissonances are approached and/or left by leap).

In addition to the Cambiata, this course introduces a second allowable melodic shape (not addressed by Fux) that can also justify otherwise illegal dissonances: a “Double Neighbor” (Double Auxiliary) of a specific type: another five note melodic shape beginning and ending on a consonance on consecutive first beats, describing the shape up a step, down a third, up a step, up a step.
The Cambiata ends a step below where it began, and the Double Neighbor ends a step above where it began. These idiomatic patterns may in fact be regarded as ornamentations of the slower-moving motion down or up a step. They may be used freely, but judgment must be exercised in not over-using either device.

The standard cadences for Third Species are demonstrated by Fux on pp. 52 and 53 (figs. 53 and 54). The first beat may be a rest as in Second Species (but in this case a quarter note rest). As before, these are the only ways to begin and end the exercise.

The four-note pattern down a third, up a step, up a step (within one measure) and its inversion, retrograde, and retrograde inversion are all useful prolongations of a single pitch and may be used freely. This leap of a third must be into a consonance.

These patterns, along with the two idiomatic patterns mentioned above, are all ornamentations of basic First Species counterpoint. The Cambiata is derived from three layers of ornamentation: First Species moving down a step is ornamented first by Second Species down a third and up a step, and then the weak Second Species note is ornamented by its own double neighbor.

A diminished seventh melodic interval is a permissible leap, followed by stepwise motion in the opposite direction.

**Fourth Species (Suspensions or Syncopations, 1:1)**

In Fourth Species, the beats are defined as strong and weak as in Second Species. Fux calls a tie a ligature. Tying from the weak beat of one measure to the strong beat of the next may result in simply a consonance, or the dissonance referred to as a suspension. This is the first instance of a dissonance occurring on the first beat of a measure in Species counterpoint. The Suspension has three parts:

- Preparation (P) *(a consonance, tied to a)*
- Suspension (S) *(dissonance, resolving down stepwise to)*
- Resolution (R) *(a consonance)*

The basic rhythm of Fourth Species is one-against-one, syncopated by the delay of one of the voices by half a measure. There must always be a common tone between the weak beat of one measure and the strong beat of the next in the CP line, and for now they must be tied. When ties are not possible (to be explained below) Second Species should be temporarily used.

A suspension is defined as follows: a dissonance on the strong beat prepared (directly preceded) by common tone (tied) and followed by stepwise motion downwards to a consonance. Although upward-resolving suspensions (retardations) do occur in music literature, we will not use them in our exercises.

Rhythmic placement of harmonic intervals on strong and weak beats are as follows:
There are two prohibited suspensions. To avoid them, use Second Species moving to a suitable consonance on the subsequent weak beat to prepare the next suspension. The most common error in Fourth Species is tying out of a dissonance, which is prohibited in the strict style.

The CP must end with scale-degree 7 to 8 as before; if possible, the leading tone at the cadence should be the resolution of a suspension.

Eighth notes may be used in the context of ornamentation. The following are common “ornamental resolutions” in Fourth Species:

- suspension (quarter note) down a third (quarter note) up a step to resolution (half note)
- suspension (quarter note) up a step (quarter note) down a third to resolution (half note)
- suspension (quarter note) down a step (eighth note) down a step (eighth note) up a step to resolution (half note)
- suspension (quarter note) up a step (eighth note) down a step (eighth note) down a step to resolution (half note)
- suspension (quarter note) leaping up or down to a consonance (quarter note) and back up or down to resolution (half note)

Later in “Free Counterpoint,” this type of ornamentation may be more elaborate and imaginative.

**Fifth Species (Florid Counterpoint, including all of the previous species)**

This is a combination of the other Species. No more than two consecutive measures of the same rhythm are allowed. Common time will be used in the exercises.

No note values shorter than a quarter note are allowed except in ornamental resolutions of suspensions. The preparation for a suspension must be a half note, but the suspension itself may be either a half note or a quarter note (i.e. it may resolve on the second quarter note).

The rhythm quarter-quarter-half is prohibited unless there is a tie out of the half note into the next measure. Quarter-half-quarter is prohibited (too syncopated). Half-quarter-quarter is allowed, provided all dissonances follow the rules of the “species-of-the-moment.”
The Fifth Species rules for parallel perfect intervals are those of the species-of-the-moment. First Species is only used in the final measure.

The Species of the penultimate measure determines the standard cadence.

**Strict Counterpoint in Three Voices**

Two of the voices are written in whole notes, and the third may move in whole notes or faster according to the rules of one of the five species. The rules for each Species are the same as they were in two voices, but “consonances” are now defined by these intervals above the lowest note:

\[
\begin{array}{ccccccccccc}
5 & 6 & 8 & 8 & 8 & 8 & 8 & 13 & 10 \\
3 & 3 & 3 & 6 & 5 & 8 & 1 & 6 & 3 \\
\end{array}
\]

The conventions of “figured bass” are used here, with the exception of the special cases of “10” and “13” above. Compound intervals are represented as simple ones in figured bass. For example, a 5 in figured bass may appear as a 12\(^{th}\) in the music.

Complete root position triads with diminished or augmented fifths are dissonant. The diminished triad in “1\(^{st}\) inversion,” however, is defined as an imperfect consonance, and in fact *must* occur as the penultimate chord if the CF (which will be expressing scale-degree two) is in the bass; no other cadence is possible in this situation.

Tritones should usually resolve augmented 4\(^{th}\) to 6\(^{th}\) and diminished 5\(^{th}\) to 3\(^{rd}\), but sometimes the augmented 4\(^{th}\) is followed by a perfect 4\(^{th}\).

6/3 and 8/6 sonorities may not occur as the first and/or last chord; 8/5, 8/8 and 8/1 may only occur as the first and/or last chord. 13/6 and 10/3 are not as satisfactory harmonically, and should be used sparingly.

Complete five-three chords are preferable, but sometimes this arrangement is superseded by voice-leading considerations. Good three-part writing may be seen as a balance between **strong lines** and **full harmony**. If one must be compromised for the other, the line usually takes precedence over the harmony, which results in incomplete and inverted triads as consonances.

The top two voices should not be spaced more than an octave apart at any given moment in the exercise, but the bottom two voices may be as far apart as two octaves.

No voice crossings or overlapping is allowed in our exercises.

Similar motion into a perfect consonance is allowed, under the following conditions:

1. The remaining voice must move in contrary or oblique motion
2. If the similar motion occurs in the top two voices, the top voice must move stepwise
Three part parallel motion may only occur as in “Faux-Bourdon” style, i.e. parallel six-three (first inversion) chords, of which there should be no more than three in a row, as before. Writing parallel fifths in this style still prohibited.

At the cadence, the CF should end 2-1. If the CF is not in the bass, the other upper voice must end 7-8 with 5-1 in the bass. If the CF is in the bass, the other two parts must end 4-3 (or occasionally 4-5) and 7-8, in either of the possible inversions. As mentioned earlier, this means that the penultimate chord will be a diminished triad in 1st inversion in this situation. When the penultimate CF note is scale-degree two, and a six-four chord above this note is dissonant.

The same rules as before concerning parallel perfect intervals now apply with respect to any pair of voices within the three-part texture.

**Free Counterpoint**

One element of freedom is seen in the rhythmic nature of the music. The CF is perceived as the slower-moving voice at any given moment, and may appear in different voices. At one moment the top voice may be the CF, in the next phrase it may be in a lower voice.

Another element of freedom is in the treatment of dissonance, and several new usages are introduced. These are sometimes referred to as “ancillary tones.” They are numerous enough to suggest classification into the categories “unaccented” and “accented.” Up until now, there had been only two allowable types of unaccented (PT and NN) and one accented (suspension) dissonance. These are listed first on the following chart and separated from the remaining usages by a dotted line.

**Commonly Used Dissonances**

<table>
<thead>
<tr>
<th>Unaccented</th>
<th>Accented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passing tone</td>
<td>Suspension (in Fux, “ligature” includes ties into consonances)</td>
</tr>
<tr>
<td>Neighbor note</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Appoggiatura</td>
</tr>
<tr>
<td></td>
<td>Accented passing tone</td>
</tr>
<tr>
<td></td>
<td>Accented neighbor note</td>
</tr>
</tbody>
</table>

Unprepared Neighbor (modern-day “approach note”)

Simple Cambiata (down a third to dissonance, up a step to consonance)

Escape Tone or Eschapee (up a step to dissonance, down a third to consonance)

Anticipation

The pedal point is included in this discussion, and an example is found in Fux, fig. 142 on p. 99.

Note that all the dissonances in the chart resolve *stepwise into consonances*, with the exception of the escape tone and the anticipation, which are connected stepwise with an immediately *preceding* consonance, and all serve to elaborate an underlying stepwise motion.
Generically, the term “Species” refers to the “ratio of speeds” between voices. Any of the voices may at any time play the role of CF or CP. The CF is defined as the slowest moving voice.

Repeated notes are allowed in the instrumental style, as are repeated notes used as suspensions. Similar motion into a perfect fifth is now allowed, but much more caution is needed with similar motion into a perfect octave, which is normally reserved for cadences.

More than three consecutive thirds or sixths in parallel motion are acceptable. Occasional voice crossing and overlapping is also acceptable, the harmonic interval being measured from the lowest pitch in the voice in which it appears.

### Compound Melodies

A single melodic line can carry the content of two or more lines. Large melodic leaps, prohibited in strict counterpoint, are admissible provided the underlying voice-leading connections are solid. The discontinuity of such a leap is simply the result of switching registers in an instrument, somewhat like juggling. Harmonies may be arpeggiated, at times obscuring which voice is the CF. Dissonances and tendency tones should still be resolved properly in this style.

### Dissonance in 1:1

One-to-one dissonance is allowed, provided the dissonance resolves stepwise into a consonance. This stepwise motion may happen in more than one of the voices involved in creating the dissonance, but must happen in at least one of the voices. In simultaneous scalewise motion in opposite directions, more than one dissonance in a row is even possible. One seventh chord may resolve into another provided that the “sevenths” of the chords all resolve properly; this very often happens when the “root motion” is down a fifth, wherein the seventh of one chord resolves down to the third of the following chord, and the third prepares the following seventh. The CF may move to another note consonant with the resolution.

### Sequences

Sequences are transposed repetitions of a motive or phrase, and for now they are to be mostly diatonic. They may include some tonicizations and may also be used to modulate to closely related keys. It could be pointed out that in many compositions by Bach, sequential repetition down a step is associated with root motion of descending fifths; down a fifth and up a fourth equals a step down. Two sequences are usually enough, and three may be excessive.

### Inversion and Invertibility

The word inversion in music can have three different meanings:

- Melodic Inversion
- Harmonic Inversion
- Mirror Inversion
**Melodic Inversion** is the transformation of the melodic shape into its mirror image by reversing the direction of each successive melodic interval. This will be discussed more fully below in the context of canonic devices.

By “Invertible Counterpoint” (Double or Triple counterpoint) we mean *Voice Exchange*. A passage previously appearing in the upper voice appears in the lower, or vice-versa. One of the voices is transposed relative to the other, far enough to be below when it had previously been above the other; the interval of transposition for our purposes will be one or more octaves. Harmonic intervals have the following inversion properties:

\[
\begin{align*}
2^{\text{nd}} &= 7^{\text{th}} \\
3^{\text{rd}} &= 6^{\text{th}} \\
4^{\text{th}} &= 5^{\text{th}}
\end{align*}
\]

Maj = min

Perf. = Perf.

Aug. = dim.

The two problems that may arise in this type of inversion are:

1. A P5\(^{\text{th}}\) must be treated as a dissonance, because it will invert to one, and a P4\(^{\text{th}}\) becomes a perfect consonance, with all the associated rules

2. The melodies shouldn’t travel too far in register to avoid voice crossing in the inverted versions.

**Mirror Inversion** is the harmonic application of the principle outlined under melodic inversion. The harmonic intervals of the entire musical texture are mirrored relative to a pivotal central point. The mirror inversion of a major triad is a minor triad.

These are mirror inversion properties of some common scales and modes:

- Major Scale = Phrygian Mode
- Dorian Mode = Itself
- Lydian Mode = Locrian Mode
- Mixolydian Mode = Aeolian Mode

**Canonic Devices**

Canon is the technique in which a melody functions as a counterpoint to itself by means of imitation. Specifically, this is delayed repetition in one or more other voices, usually at the octave. A round, such as *Frere Jacques* or *Row, Row, Row Your Boat* are examples of a Canon.

A composer cannot simply compose a melody and expect it to automatically work as a canon. The following “leap-frog” procedure is followed in writing a Canon:

**Dux:** Compose A Compose B Compose C Compose D

**Comes:** (rest) Copy A Copy B Copy C
Each segment of music must be composed specifically to work as a counterpoint to the previously composed segment. The length of the segment is chosen by the composer, and is the temporal distance between the initial statement of the melody and all subsequent statements. In more than two voices, this distance is constant.

The interval between the initial melody and its repetition are typically fixed, and a Canon at the octave is most common. The voice initially stating the melody is referred to as the Dux (leader) and the imitating voice is referred to as the Comes (follower). The music the Dux initially presents may be literally presented at the unison, one or more octaves, or any other interval in the Comes.

The reply in the Comes may appear altered in some of these ways:

- in Augmentation (slower by some factor, usually doubled note values)
- in Diminution (faster by some factor, usually halved note values)
- transformed by Melodic Inversion (upside down)
- transformed by Retrograde repetition (backwards, as in a “Crab” canon)
- transformed by a combination of retrograde repetition and inversion

A canon in which no transformations are used is called a literal canon. The others are referred to as Canon by Augmentation or Diminution, Canon by Inversion (now meaning melodic inversion as distinct from Invertible Canon which refers to harmonic inversion as described previously) and Retrograde Canon. The penultimate and final measures may deviate from strict canonic imitation for the sake of a strong cadence, which may be freely composed.