

## 21M.065—Introduction to Musical Composition

The following options can help you to achieve greater rhythmic contrast between sections of a piece (e.g., opening and closing sections in a symmetric meter, contrasting middle section based on additive rhythms).

(Items in **boldface** represent terms to know for the next quiz and/or final exam.)

### **mixed meters**

use of two or more metric patterns (e.g., 6/8 alternating with 3/4)

Audio example: Bartók, “Syncopation” (from *Mikrokosmos*, Book V). Note the frequent changes between 5/4 and 4/4 meters. Note furthermore that many of these bars, although *beamed* as five or four quarters respectively, contain accents (the syncopations of the title) that effectively project *additive* schemes of pulse organization (see below).

### **asymmetric meter**

regularly recurring pattern based on beats of *unequal* length (e.g., 7/8 as 3+2+2)

For the sake of accuracy in performance, it’s more useful to think of these in terms of *addition* (unequal groupings a regular fast pulse), rather than division (unequal beats).

## ALTERNATIVES to METER

Unmeasured sustained/rolled tones (drones) effectively suspend any sense of meter. In a similar vein, a flurry of extremely rapid notes without clear recurring accents (of the sort that you heard in Ligeti’s *Continuum* for harpsichord) likewise can obliterate any sense of regular pulse.

Audio examples: Ingram Marshall, *Fog tropes*; Conlon Nancarrow, *Study no. 21 (Canon X)*.

### **additive rhythms**

irregular rhythms that result from free groupings of a constant underlying pulse

Audio examples: Olivier Messiaen, “Danse de la fureur, pour les sept trompettes” [“Dance of fury, for the seven trumpets”], from *Quatuor pour la fin du temps* [*Quartet for the end of time*]. This is an example of freely additive rhythmic organization; listen for recurring motives of rhythm and pitch.

Philip Glass, “Spaceship,” from *Einstein on the beach*, Act IV, Scene 3. This is an example of additive rhythms that the composer generally transforms according to incremental processes, though there are more dramatic changes from time to time.

## ASSIGNMENT for Tue, 18 Oct

Compose a piece for solo percussion, which you will perform for the class, based on additive rhythms and/or mixed meters generated from a set of spoken phrases. Please bring **TWO** copies (one for yourself, and one for me). Try to notate the rhythms as completely as you can, using conventional notation with liberal use of accents. Be sure to write the notes with beams that clarify the organization of pulses into (unequal) beats.

# Using speech rhythms to generate additive rhythms and mixed meters

1. Start by choosing some words or phrases that vary in rhythm:

“thermophotovoltaic cell”  
 “light-emitting and absorbing material”  
 “silicon crystal”

2. Notate them as rhythmic motives  
 (NB the meter derives from the smaller groups, and not vice versa)

ther - mo - pho - to - vol - ta - ic cell

light - e - mit - ting and ab - sorb - ing ma - te - ri - als

si - li - con crys - tal

3. Here's the beginning of a solo piece based on free combination, elision, extension, multiplicative mapping, etc. of the above motives

Moderately fast

$\frac{7}{8}$  ther - mo - pho - to - vol - ta - ic, ther - mo - pho - to - vol - ta - ic,  $\frac{5}{8}$  si - li - con crys - tal,  $\frac{5}{4}$  si - li - con crys - tal,

$\frac{7}{8}$  ther - mo - pho - to - vol - ta - ic, ther - mo - pho - to - vol - ta - ic, ther - mo - pho - to - vol - ta - ic,  $\frac{5}{16}$  light e - mit - ting,

$\frac{4}{4}$  ther - mo, ther - mo, ther - mo, ther - mo,  $\frac{5}{16}$  light e - mit - ting, light e - mit - ting,  $\frac{7}{16}$  light e - mit - ting and ab - sorb - ing ma - te - ri - als,