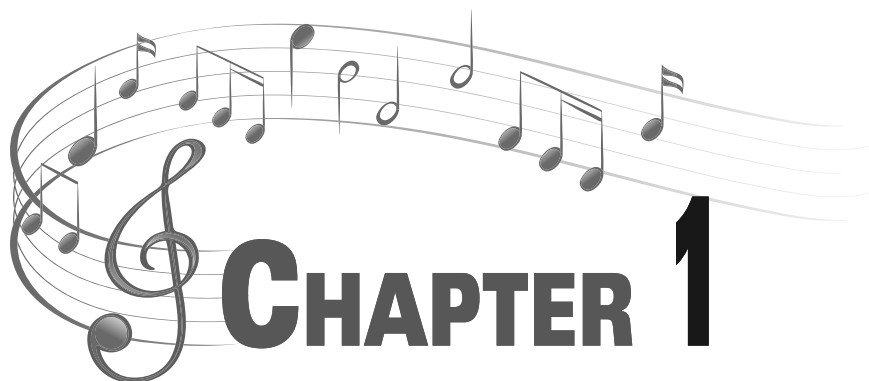




The Elements of Rhythm: Sound, Symbol, and Time

SECTION 1: DURATIONAL VALUES: SYMBOLS REPRESENTING TIME

Section Objectives:

- ~Describing durational values orthographically: how they are drawn.
- ~Defining durational values in proportional relationship to one another.
- ~Defining durational values in musical time and space.

Introduction

The first musical stimulus anyone reacts to is rhythm. Initially, we perceive how music is organized in time, and how musical elements are organized, rhythmically, in relation to each other. Early Western Music, centering upon the chant traditions for liturgical use, was *arhythmic* to a great extent: the flow of the Latin text was the principal determinant as to how the melody progressed through time.

As Western Music moved from *monophony* to *polyphony* (“single melody line” to “multiple melody lines”), sets of symbols developed gradually that allowed musical time to be established against a recurring background pulse. This also allowed multiple elements in music to be established in tandem with one another. These symbols evolved into the *durational values* (“note values”) that form the foundation for music notation.

Durational Values

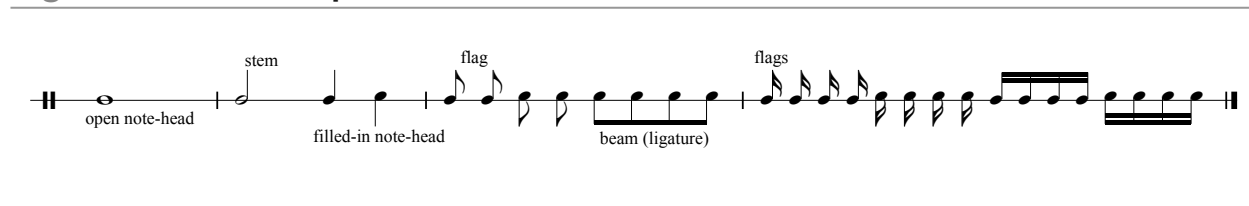
These symbols represent time and action in musical space: they delineate and mark off varying values of sound (and silence) in a composition. Additionally, they are proportional to one another as to how they may be divided from larger into smaller values.

There have been many differing notational systems throughout the history of music. In time, in the context of other study, you may encounter these various and sundry systems from early Western notational traditions. Our current system of notation evolved from these early systems, incorporating aspects of many.

How Notes are Drawn:

Let us first examine how durational values are drawn:

Figure 1.1 Components of Note Values

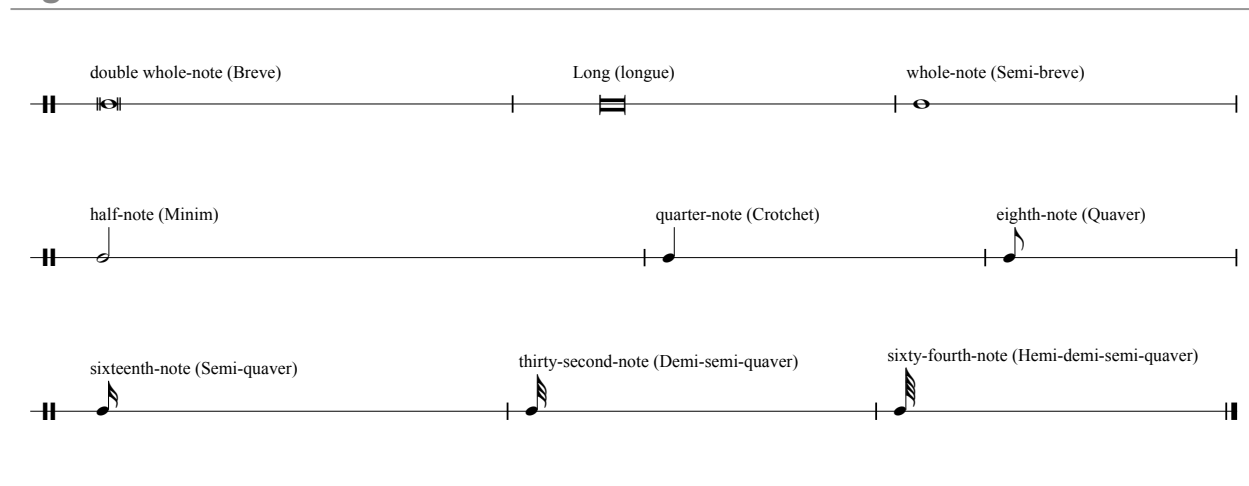


Note values may be “*open notes*” (not filled in or blackened), or “*filled-in notes*.” In the context of how musical time is organized (discussed below), these will have greater or lesser lengths or time spans.¹ In the following example they are not yet assigned any particular value: only proportional values in relation to each other.

Durations and Nomenclature

Below are examples of basic durational values and their common names. Proper names for these values are in parentheses. These proper names are commonly used in the UK and Commonwealth countries, as well as by some academics.

Figure 1.2 Durations and Nomenclature

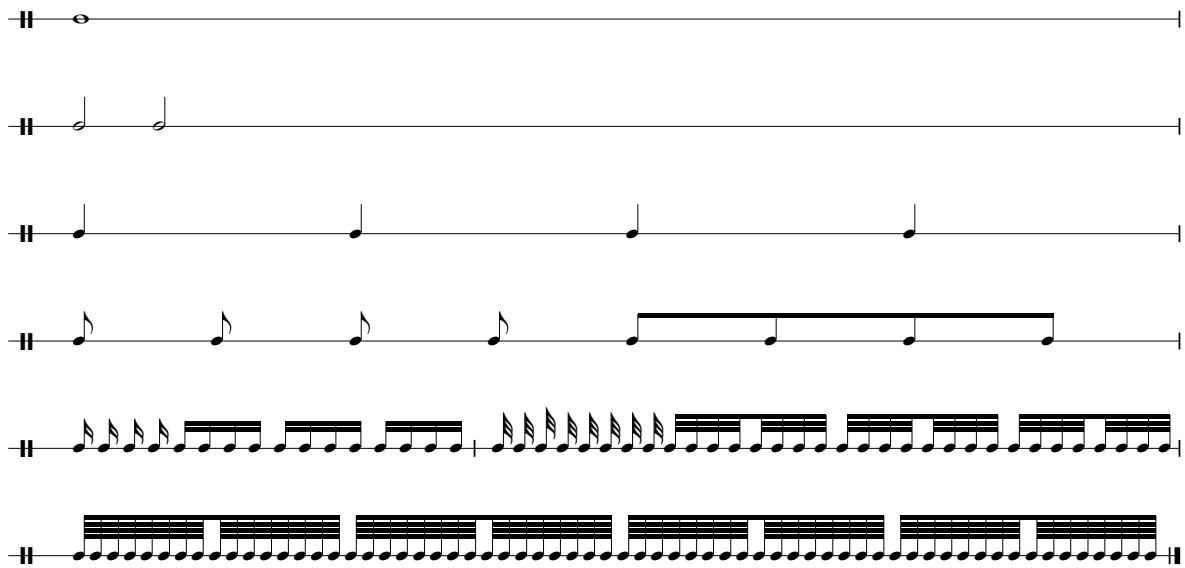


There are rare examples of “one-hundred and twenty-eighth-notes.” A notable example is found in the First Movement Introduction to Beethoven’s “Pathétique” Sonata No. 8, Opus 13.

Durational Values in Proportion to One Another

Durational values are held in proportion to one another. Observe that each value is proportionally related to adjacent values. If we assign the arbitrary value “1*n*” to a whole-note, then the half-note equals 1/2*n*. Therefore two half-notes are required to equal a whole note, two quarter-notes equal a half-note and so on.

Figure 1.3 Durational value chain



At times notes may have a diagonal slash (or slashes) through the stem, or below a note value with no stem. These slashes are interpreted one of two ways:

1. They represent a *tremolo*, the performer rapidly repeating the note, or;
2. At times, as a notational convenience, slashes represent flags denoting embedded smaller durational values:

Figure 1.4 Smaller Value “Slashes” (Tremolo)



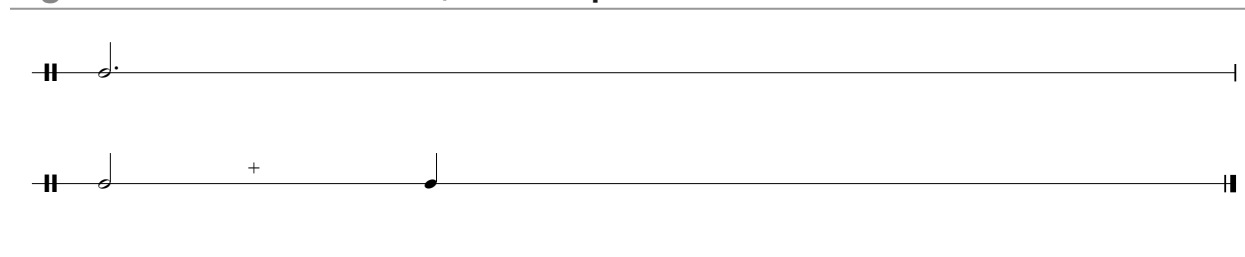
These can be interpreted as “eighth-notes in the space of a half-note” (4), or sixteenth-notes in the space of a quarter,” (4) and so on. This is merely a notational convenience employed as needed to save time and work.

Dotted Values

Durational values may have small periods (“dots”) appended to them. This evolved as a notational “convenience.” Dotted values have three different interpretations:

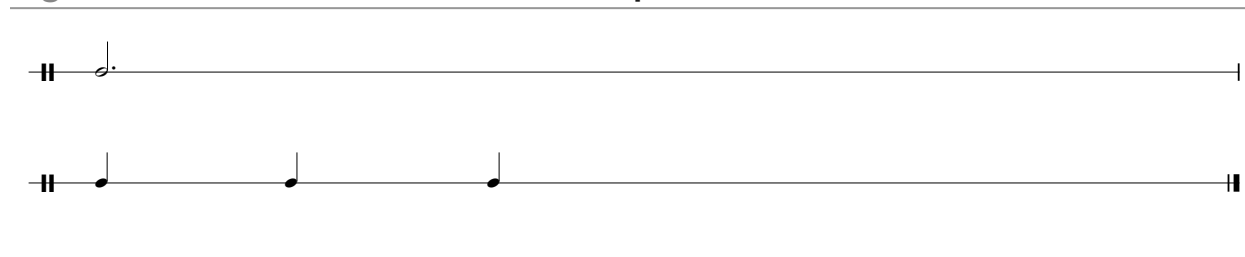
1. A dotted value may represent the addition of half of the original duration, or “half again as much as the original value” (“ $1+1/2n$ ”):

Figure 1.5 Dotted Value, First Interpretation



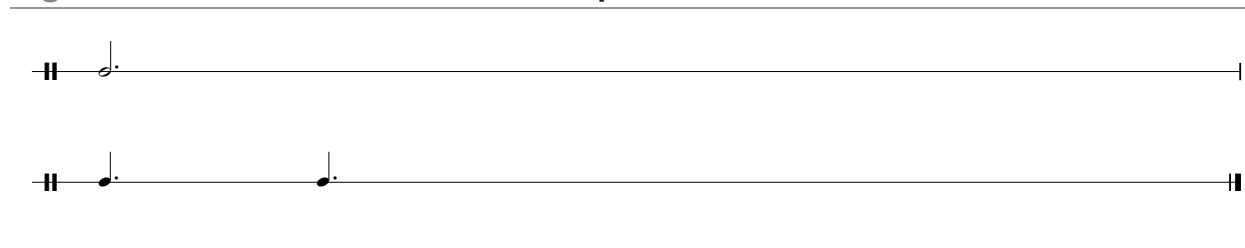
2. A dotted value may be divisible into three non-dotted values:

Figure 1.6 Dotted Value, Second Interpretation

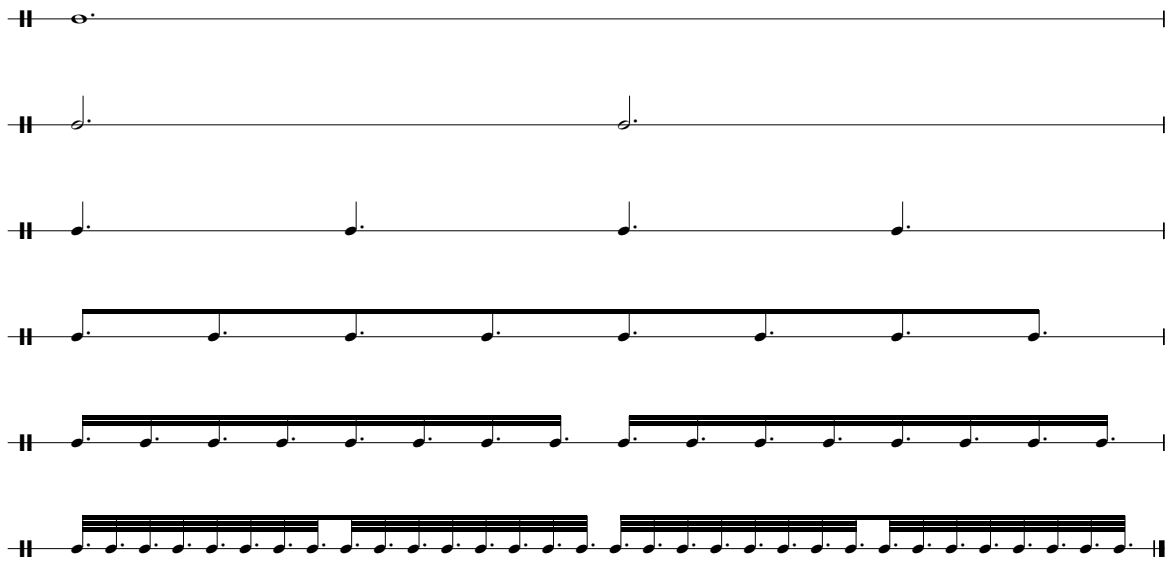


3. A dotted value may be divisible into two smaller dotted values:

Figure 1.7 Dotted Value, Third Interpretation

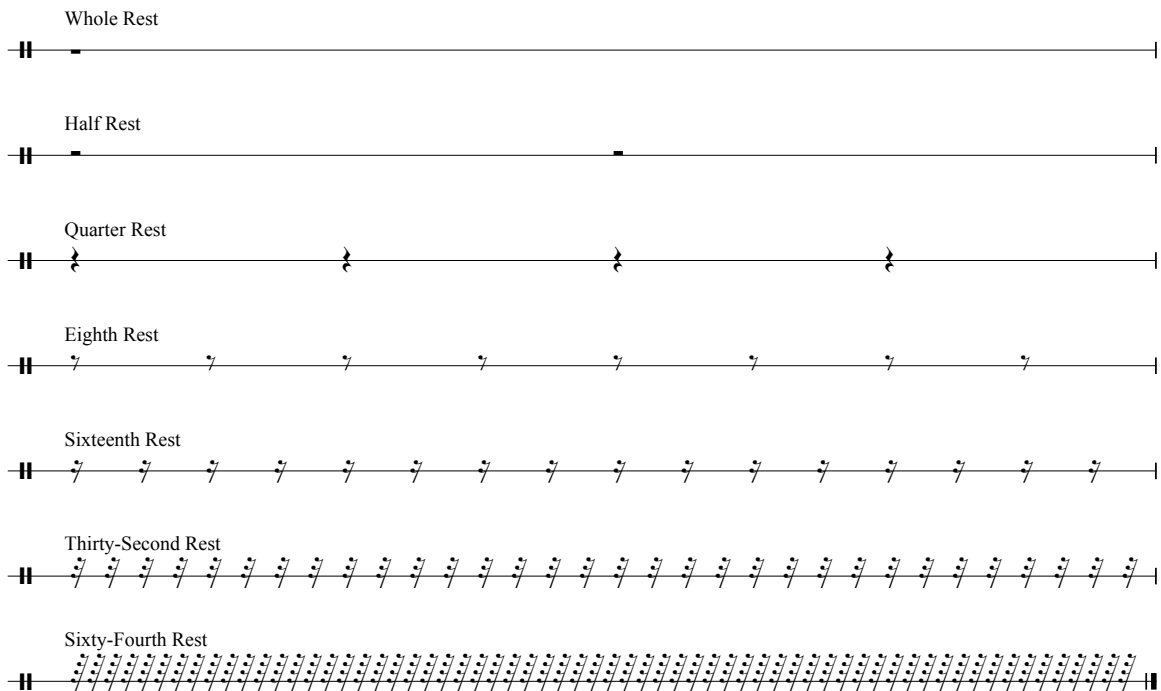


These varying uses of dotted values shall come into focus in subsequent discussions concerning meter and notational practice in Sections 2 and 3 below. As with non-dotted values, dotted values are in proportion to one another as well. Example 5 shows the proportional chain of dotted values.

Figure 1.8 Dotted Values

Rests

Just as durational values represent the length of sound in music, symbols of equivalent value represent the length of silence. These are called rests. Example 6 shows rests.

Figure 1.9 Rests

Review Points from this section:

The student should understand:

- 1. Musical time is represented by symbols called durational values. They may be dotted or non-dotted.*
- 2. Durational values: specific components and specific ways how they are drawn.*
- 3. Durational values are proportional to one another.*
- 4. Durational values have equivalent rest values.*

Sample Exercises

1. Practice drawing durational values and rests following the model below. Make sure to draw noteheads correctly (no “stick figures” please!).

Figure 1.10 Durations and Rests

Figure 1.10 displays ten musical staves illustrating various rhythmic notations and durations. Each staff begins with a double bar line on the left and ends with a double bar line on the right. The staves are numbered 65 through 74 on the left side.

- Staff 65: A whole note (semibreve) followed by ten vertical tick marks representing eighth notes.
- Staff 66: A whole rest (semibreve) followed by ten vertical tick marks representing eighth notes.
- Staff 67: A half note (minim), a half note (minim), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.
- Staff 68: A whole rest (semibreve) followed by ten vertical tick marks representing eighth notes.
- Staff 69: A quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.
- Staff 70: Four eighth notes (quavers) followed by ten vertical tick marks representing eighth notes.
- Staff 71: A quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.
- Staff 72: A quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.
- Staff 73: A quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.
- Staff 74: A quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), a quarter note (crotchet), followed by ten vertical tick marks representing eighth notes.

2. For each value below, draw three smaller divisions: for example, given a whole-note, draw two half-notes, four quarter-notes, eight eighth-notes. Use flags **and** beams (ligatures). Make sure to align and space properly. See sample solution.

Figure 1.11 Smaller Divisions

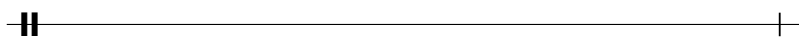
Sample Solution

1.

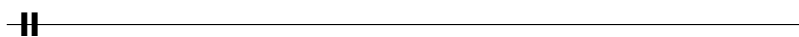
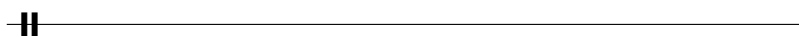
2. (Use non-dotted values)

3.

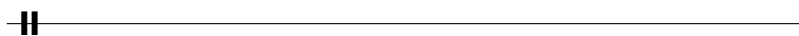
2



4. (Use only dotted values)

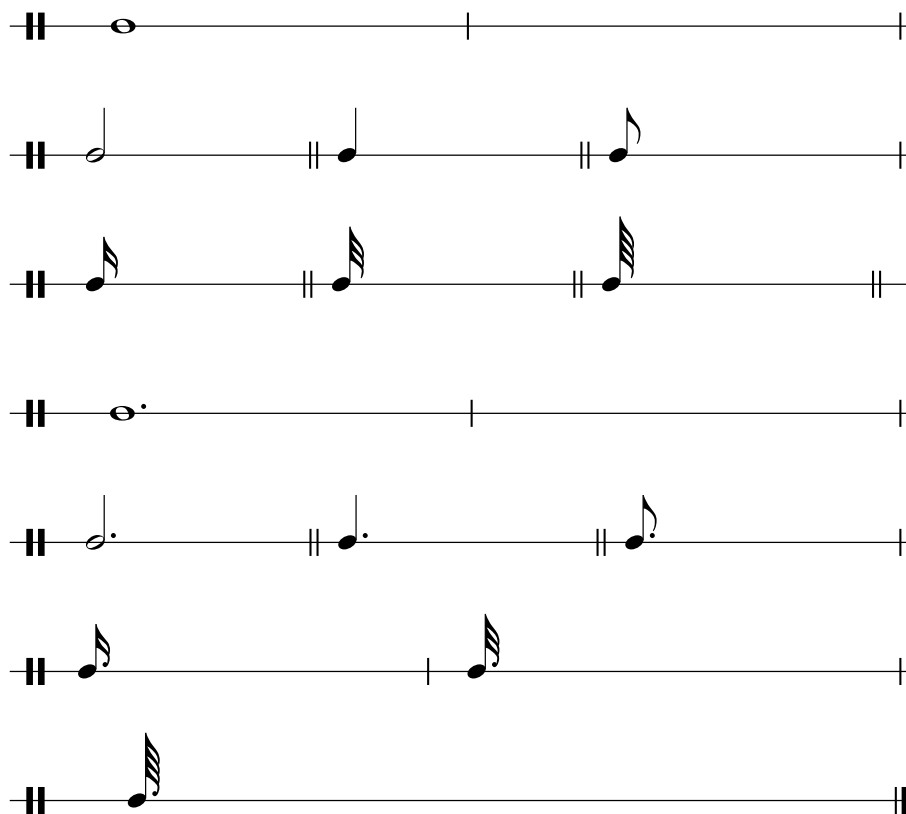


5.



3. For each value given below, draw the appropriate equivalent rest value.

Figure 1.12 **Equivalent Rests**



4. For each dotted value:
- Draw the appropriate dotted smaller divisions, for example, a dotted half-note dividing into two dotted quarter-notes.
 - Draw the appropriate non-dotted smaller divisions, for example, a dotted half-note dividing into three quarter-notes.
 - Draw the appropriate durational values that represent the addition of half the basic value. For example, a dotted half-note is a half-note plus a quarter-note (“half again as much”).

Figure 1.13 Dotted Values

Sample Solution

The figure shows five musical staves. The first staff, labeled 'Sample Solution', contains four measures: 1) a dotted half note, 2) two dotted quarter notes, 3) three quarter notes, and 4) a half note followed by a quarter note with a plus sign between them. The remaining four staves are numbered 1 through 4 and each contains a single measure with a dotted half note, intended for student practice.

1.

2.

3.

4.

5. For each incomplete example below, add the appropriate durational value that will complete the background value.

Figure 1. 14 Incomplete Values

Sample Solution



SECTION 2: PULSE, TEMPO, METER

Section Objectives:

- ~Definitions of the elements of rhythmic organization.
- ~Perception of Tempo and common terms used.
- ~Mapping out Meter (time signatures); perception of simple and compound time.
- ~How these elements interact in music.

Fundamental Elements

We perceive the organization of time in music in terms of three fundamental elements, *Pulse*, *Tempo*, and *Meter*.

Use prompts to assist you in understanding these elements:

- ~*Pulse*-“beat”: the background “heartbeat” we perceive in music.
- ~*Tempo*-“rate”: the relatively fast or slow speed at which we perceive that “heartbeat,” or pulse in a piece of music.
- ~*Meter*-“ratio”: how durational values that are assigned to represent the pulse are organized in discrete portions in a piece of music.

Pulse

Pulse, or beat, is the regularly recurring underlying pulsation that we perceive that compels music to progress through time. Pulse makes us react *kinesthetically* to music: in other words, it compels motion. We tap our feet, we dance, we march, or we may just “feel” the pulse internally.

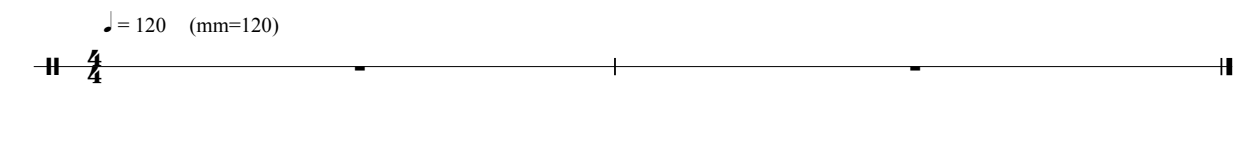
In composing music, some durational value is assigned to be the pulse. All other durations are proportionally related to that fundamental background pulse.

Tempo

Tempo (Latin: *tempus*-“time”) is the rate (or relative speed) at which the pulse flows through time. This is determined in by numerous methods:

- a. A metronome marking: for example, MM=120 means the pulse progresses at 120 beats per minute (two beats per second). Often, in practice, the background durational value will be drawn and assigned a metronomic value. (You will sometimes encounter the marking “*bpm*” (“beats per minute.”))

Figure 1.15 Metronome Marking and Pulse Marking



- b. Around the beginning of the 17th-Century (roughly!), Italian terms came to be used to indicate tempo (and expression). These terms were descriptive and therefore rather loosely interpreted as to exact tempo. These terms indicate a narrow “range” of metronomic speeds. For example, the term *Andante* means “going” or “a walking tempo.” This usually equates to roughly 76 beats per minute, but may be interpreted at a slightly faster or slightly slower pace.
- c. In an attempt to refine these terms, to make them more precise, diminutives were added: *Andantino* indicated a slightly faster pace than *Andante*.

Other modifiers came into common usage as well. For example, *Andante con moto* (“going, with motion”) is self-explanatory.

Beginning in the 19th-Century, composers often used equivalent tempo and performance descriptions in their own languages, or mixed Italianate terms and vernacular terms within the same piece.

- d. It is important to understand that the use of these terms exceeded mere indications of relative speed. Often, they also carry the connotation of style or performance practice. For example, *Allegro con brio* (“lively, with fire or brilliance”) implies a stylistic *manner* of performance, not merely a rate at which the pulse progresses through time.

Appendix 1 lists common terms and their commonly accepted meanings along with some equivalents in other languages.

Meter

Meter, expressed in music as a *time signature*, determines:

- a. Which durational value is assigned to represent the fundamental background pulse;
- b. How these pulses are grouped together in discrete sets;
- c. How these pulses naturally subdivide into lesser durational values, and;
- d. The relative strength of pulses (or perceived accents) within sets or groupings of pulses.ⁱⁱ

Time Signatures

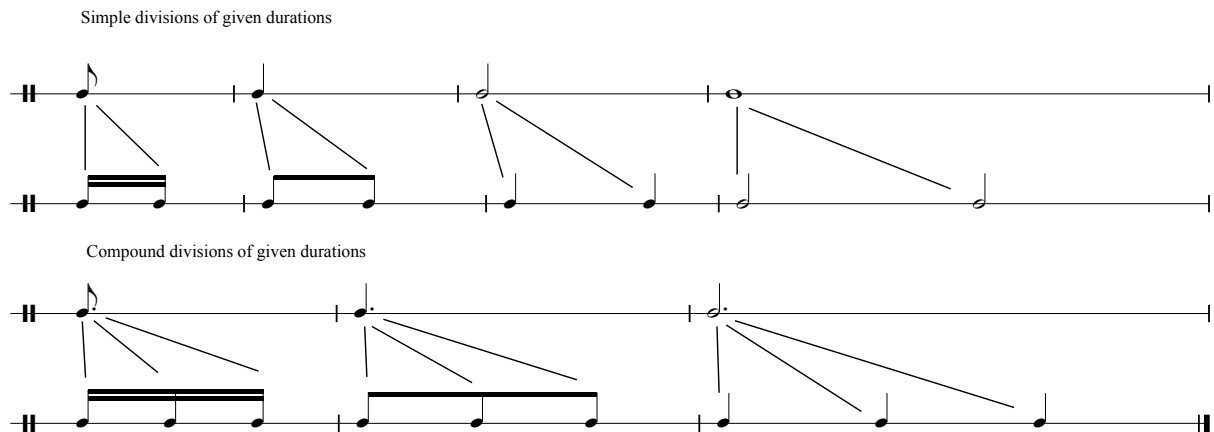
Time signatures consist of two numbers, one over another, placed at the beginning of a composition. They may occur anywhere in a composition where a meter change is required. They are NEVER written as fractions!

To understand meter fully, we must first determine the fundamental nature of the prevailing background pulse or beat. In given meters, we perceive beats as having the potential (or capacity) of being divided in two ways:

- 1. The prevailing background pulse may be subdivided into *two* proportionally equal portions. Meters having this attribute are labeled *Simple Meter* (or *simple time*).**
- 2. The prevailing background pulse may be subdivided into *three* proportionally equal portions. Meters having this attribute are labeled *Compound Meter* (or *compound time*).**

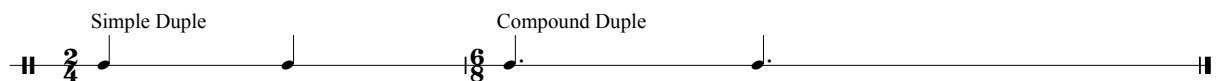
We name meters according to two criteria:

1. Is it *Simple* or *Compound* time?
2. How many prevailing background pulses are grouped together?

Figure 1.16 Simple and Compound Divisions of Given Pulses

So, a time signature wherein (a) the pulse subdivides into two equal portions, and (b) two pulses are grouped together is called *Simple Duple*. Three pulses grouped together, *Simple Triple* and so forth.

A time signature wherein the (a) the pulse subdivides into three equal portions, and (b) two pulses are grouped together is called *Compound Duple*, three pulses, *Compound Triple*, and so forth.

Figure 1.17 Time Signatures and Labels

Simple Meters

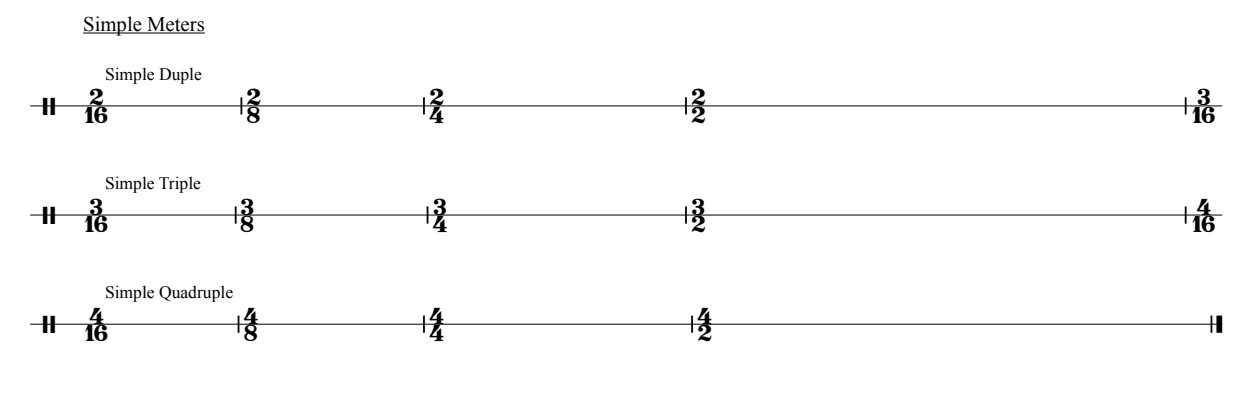
Let us address simple meter first. Analyze this by answering two questions concerning the stated time signature:

1. **For the top number: “How many...?”** In other words, how many prevailing background pulse values (or their equivalent values and/or rests) are grouped together?
2. **For the bottom number: “...of what kind?”** In other words, what durational value has been assigned to represent the prevailing background pulse?

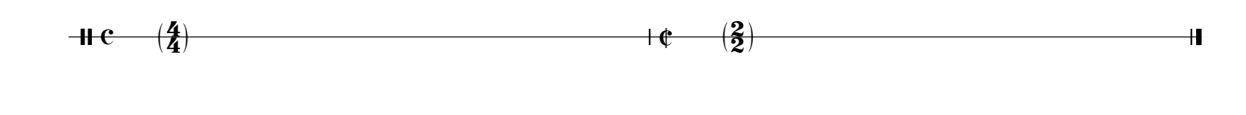
Thus, the time signature $\frac{2}{4}$ has two quarter-notes grouped together, therefore we

4

label this as *Simple Duple*.

Figure 1.18 Typical Simple Meters

In Renaissance music, specialized symbols were employed rather than time signatures. These symbols determined how relative durational values were held in proportion to one another. We continue to employ two holdovers from this system:

Figure 1.19 “Common Time” and “Cut Time”

“Common Time,” and “Cut Time,” are slang terms. Other names for “Cut Time” are “March Time” and the proper name, *Alla Breve*.

Time Signature Table

The characteristics of individual time signatures are perceived in multiple layers that can be reduced to three basic levels:

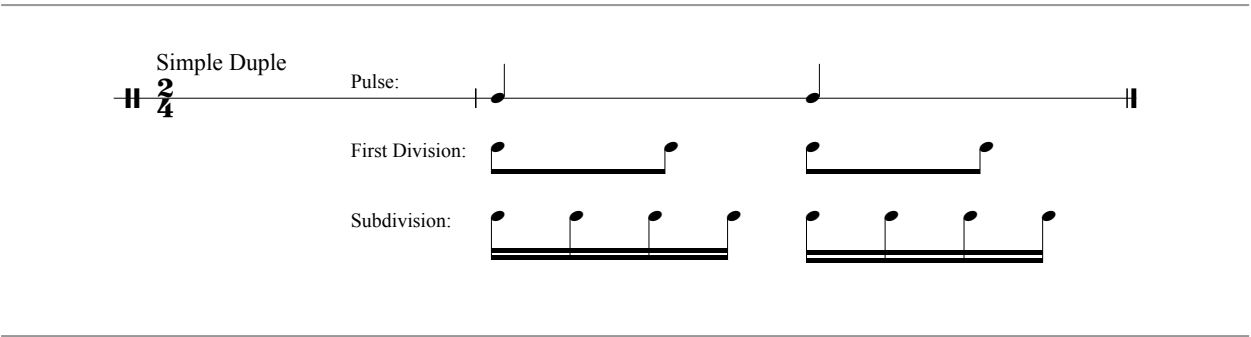
1. The prevailing background **Pulse** or beat;
2. **First Division**: the level wherein we determine if the pulse divides into two equal portions (simple meter) or three equal portions (compound meter);
3. **Subdivisions**: how First Division values subdivide into proportionally smaller values.

Therefore, we can graph time signatures using the following table:

TABLE 1.1 Time Signature Table

<i>Pulse</i>	<i>(The fundamental background pulse.)</i>
<i>First Division</i>	<i>(The level determining pulse division into two portions or three portions.)</i>
<i>Subdivisions</i>	<i>(Subsequent divisions into smaller values.)</i>

Figure 1.20 Time Signature Table Example



Use this table to map out time signatures and their component organizational layers.

Compound Meters

Understanding compound meters is somewhat more complex. Several preparatory statements will assist in comprehension:

- Statement 1: Note that compound meters have certain characteristics that will enable prompt recognition:**
- a. *The upper number is 3 or a multiple of 3.*
 - b. *The prevailing background pulse must be a dotted value: remember, in compound meter, the pulse must have the capacity to divide into three equal portions.*
 - c. *Subdivisions of the background pulse are usually grouped in sets of three by the use of connecting beams.*

Statement 2: In theory, any compound meter may be perceived as a simple meter, *depending upon tempo*.

- a. *If a tempo is slow enough, any compound time signature may be perceived as a simple meter.*
- b. *In practice, this is limited by style and context in compositions.*

Statement 3. In compound meter, the written time signature represents the level of First Division, *not* Pulse.

- a. *In order to find the pulse value in compound time signatures, use the Time Signature Table. List First Division values (the written time signature) in groupings of three.*
- b. *Sum these to the dotted value representing the level of Pulse.*

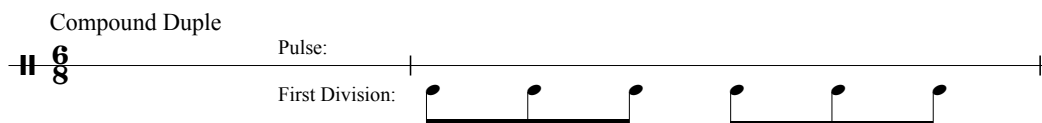
As with Simple time signatures, let us employ the same Time Signature Table to graph Compound time signatures. Reviewing Statement 3 above, we will follow a slightly different procedure:

1. Given the Compound Duple time signature **6**, list six eighth-notes

8

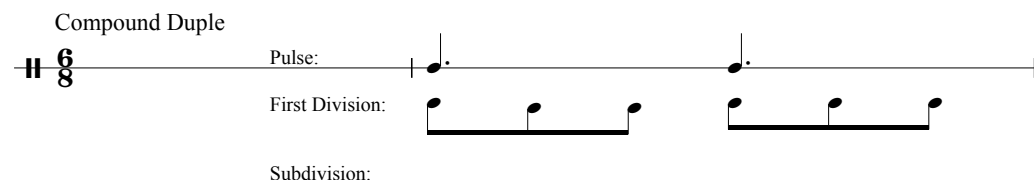
 into two groupings of three in the First Division row:

Figure 1.21 Compound Meter First Division Groupings



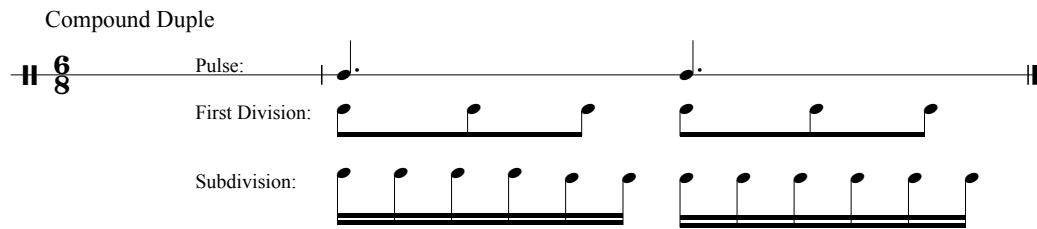
2. Next, sum these groupings of three into dotted values (“two eighth-notes equal a quarter-note, the additional quarter-note is represented by a dot”); list the two resulting dotted quarter-notes in the Pulse row:

Figure 1.22 Sum to Find Compound Pulse Value



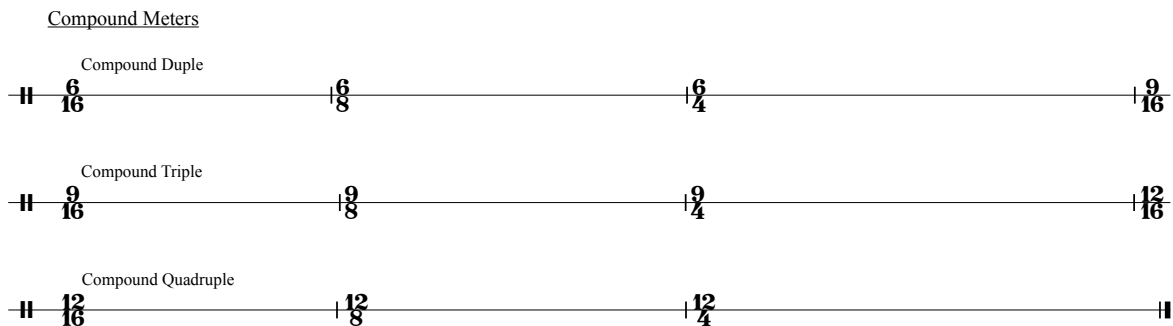
3. Lastly, draw subdivisions of the First Division values in the Subdivision row:

Figure 1.23 Subdivision



Below are typical compound meters and their respective labels.

Figure 1.24 Typical Compound Meters



Note that Simple meters divide all values into two of the next lower value. Compound meters divide the First Division level into three of the next lower value (see Statement 1 above). Subsequent subdivisions divide into two of the next lower values.

The Special Case of Simple Triple

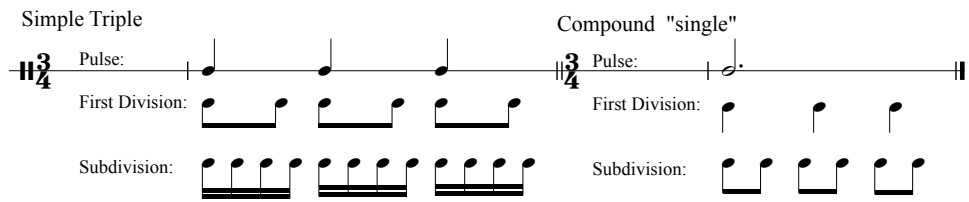
Some Simple Triple time signatures may be perceived as either simple or compound, again depending upon tempo. In practice, this is a limited list: The time signatures-

$$\begin{array}{ccc} 3 & 3 & 3 \\ 16 & 8 & 4 \end{array}$$

-may each be perceived as Simple Triple if the tempo is relatively slow; in other words, you perceive the “lower number” of the time signature as the fundamental background pulse value. As the tempo for any of these becomes relatively faster, we cease to perceive the lower number as Pulse. Instead we perceive the lower number as the First Division of a Compound meter.

The Time Signature Table in Figure 1.25 will show this:

Figure 1.25 Simple Triple/Compound "Single"



In the next section, these fundamental elements of sound, symbol, and time will be placed in full musical context by uniting them with common notational practices. This is how much music is written.

Review Points from this Section:

The student should be able to define and understand:

- 1. Pulse ("beat"), Tempo ("rate"), and Meter ("ratio").
- 2. Simple Meter: recognizing/analyzing Simple time signatures.
- 3. Compound Meter: recognizing/analyzing Compound time signatures.
- 4. Time signatures that may be either simple or compound and why.
- 5. The Use of the Time Signature Table as a tool

Sample Exercises

- 1. Using the Time Signature Table, map out all examples of:
 - a. Simple Duple and Compound Duple.

TABLE 1.2 Time Signature Table

Pulse	
First Division	
Subdivisions	

b. Simple Triple and Compound Triple.

TABLE 1.3 Time Signature Table

Pulse

First Division

Subdivisions

c. Simple Quadruple and Compound Quadruple.

TABLE 1.4 Time Signature Table

Pulse

First Division

Subdivisions

Note: At the Subdivision level, draw one layer of subdivisions only.
 2. Using the Time Signature Table map out the following time signatures as both Simple and Compound Meters:

TABLE 1.5 Time Signature Table

3	
16	
<i>Pulse</i>	
<i>First Division</i>	
<i>Subdivisions</i>	

TABLE 1.6 Time Signature Table

3	
8	
<i>Pulse</i>	
<i>First Division</i>	
<i>Subdivisions</i>	

TABLE 1.7 Time Signature Table

6
8
Pulse

First Division

Subdivisions

TABLE 1.8 Time Signature Table

9
8
Pulse

First Division

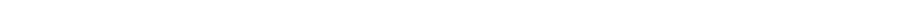
Subdivisions

La

in

Fi

$\text{♩} = 72$

1. 

2.

2.

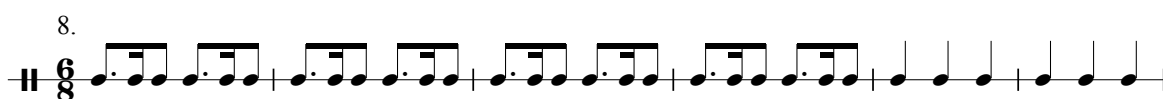
3.

[illegible][illegible]

5.

6. 

2



SECTION 3: MUSIC NOTATION PRACTICES

Section Objectives:

Defining and understanding:

~Measures, bar lines.

~“Roadmaps” in music: sectional directions.

~Basic conducting patterns.

Measures and Bar Lines

In Section 2, when describing meter and time signatures, we spoke of “grouping pulse values together” to form discrete units. In music these groupings are delineated, or “offset” by vertical strokes called bar lines. Bar lines serve as boundaries, defining a “measure” of music.ⁱⁱⁱ

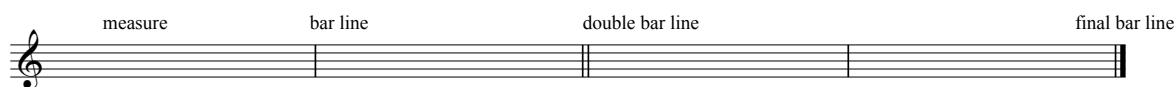
The crossover period between Renaissance and Baroque music at end of the 16th Century and the beginning of the 17th Century witnessed many changes as to how music was written. The rise of the “Second Practice,” or “New Style” of composition (early opera) and the concomitant rise of instrumental music necessitated changes in notational practice.

Since rhythmic durations in Renaissance music were organized in proportion to one another (differing forms of *mensural* notation), measures and their separating bar lines were not in use, nor were time signatures.

These elements came into gradual use. Scholars offer many explanations for this: practicality and ease of reading and interpretation, a shift away from multi-voiced music and toward solo or homophonic settings in dramatic music, the desire for segmenting music into discrete sections, and so forth.

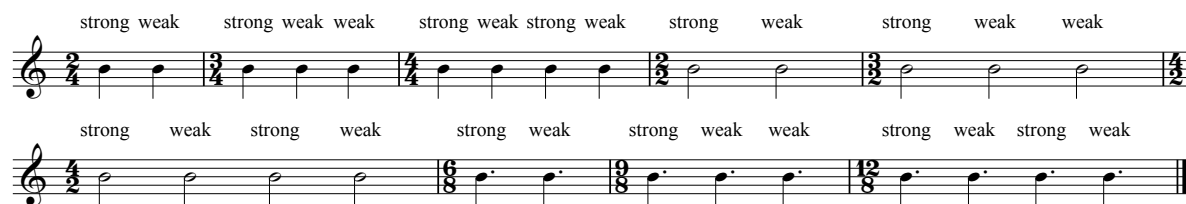
This became common notational practice. A *measure* of music constituted beat groupings (or their durational equivalents) within the context of the stated time signature, bounded by a bar-line. Composers may use a double bar line to denote sectional divisions in a piece. A final bar line ends the composition.

Figure 1.27 Measure, Bar lines, Double bar line, and Final bar line



Within measures, specified beats received greater or lesser accentuation, referred to simply as “*strong*” or “*weak*” beats. This perception is based upon how the relative strength of beats is perceived in a given time signature.

Figure 1.28 Sample Time Signatures and Beat Accents



Conducting Patterns

As performers as teachers, and as potential ensemble leaders, all musicians must have a basic understanding of typical conducting patterns. In conducting the terms *arsis* and *thesis* reappear in the discussion. In this context, synonyms for these terms are “*upbeat*” (preparatory beat) and “*downbeat*” (commencement beat). The common conducting patterns are shown in Figure 1.29 through 1.33.

Figure 1.29 Two Pattern

Two-pattern: for example any simple duple or compound duple time signature. When practicing this, think “away (from the body)-up, away-up...”

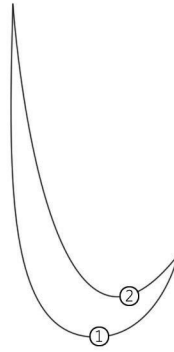


Figure 1.30 Three Pattern

Three-pattern: any simple triple or compound triple time signature. Think “down-away-up...”

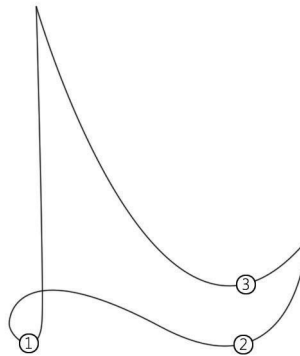


Figure 1.31 Four Pattern

Four-pattern: any simple quadruple or compound quadruple time signature. Think "down-across-away-up..."

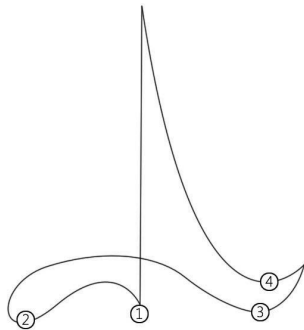
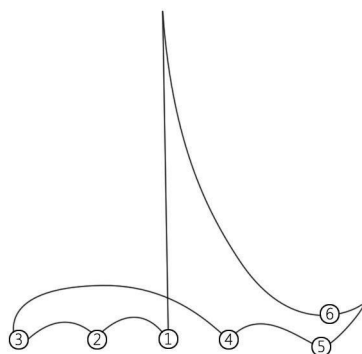


Figure 1.32 Single Beat Pattern

Single-beat pattern: for example, $\begin{matrix} 3 & 3 & 3 \\ 16 & 8 & 4 \end{matrix}$ conducted "in one."



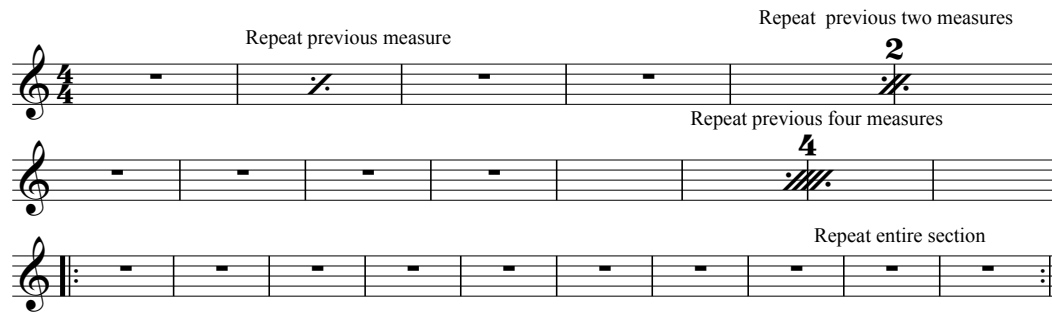
Figure 1.33 Six Pattern



Musical “Roadmaps”

Numerous shortcuts evolved to facilitate writing music efficiently, as well as eliminating the redundancy of writing a given passage over again. Specific symbols, called *Repeats*, came into use whereby a composer could indicate the repetition of a measure, a group of measures, or an entire passage.

Figure 1.34 Repeats, Measure repeats, Section repeats



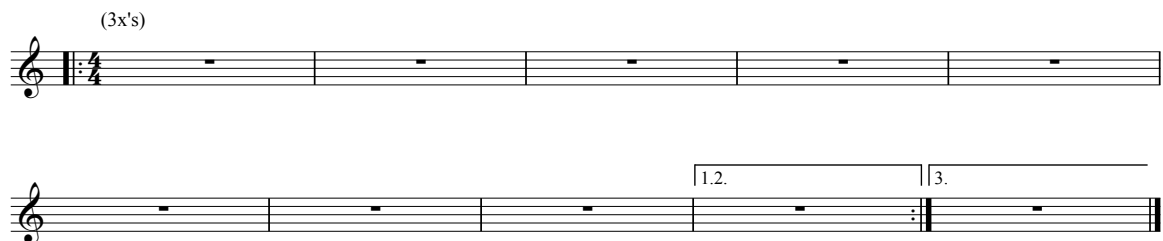
A repeated section might end differently than its first iteration: the repeated section might end differently or it might make a transition to a new section. Composers employ “First and Second Endings” to serve this function.

Figure 1.35 Endings



A passage that is repeated multiple times is indicated by listing the number of repetitions in the first ending. In Jazz notation and vernacular music, this may be accompanied by an instruction at the beginning of the passage that indicates the number of iterations, for example, *3x's*, meaning “repeat this passage three times.”

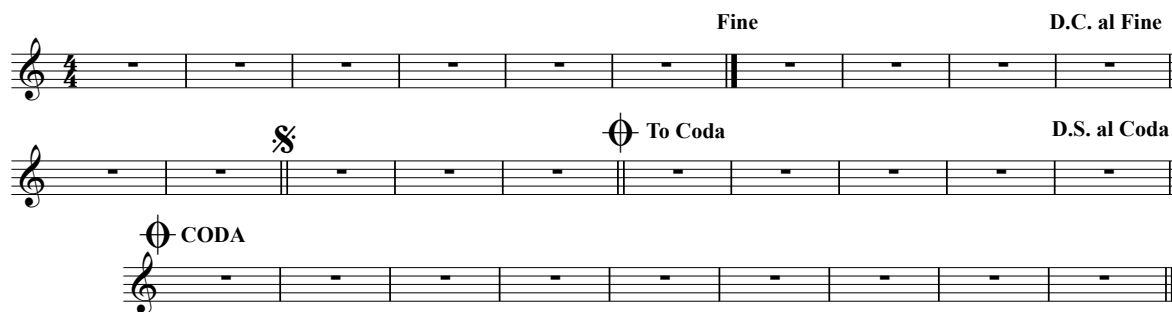
Figure 1.36 Multiple Endings,



In certain types of compositions, it is desirable or necessary to repeat an entire earlier passage, or to go back to the beginning of the piece. Rather than re-write the particular passage, specific notational shortcuts evolved to accommodate this. These shortcuts employed Italian phrases, accompanied by specific symbols. These phases and symbols are directions to the performer as to what segment is repeated and how to conclude the piece.

1. *Da Capo* (“from the head...”): return to the beginning of the piece. Abbreviated as *.DC*.
2. *Dal Segno* (“from the sign...”): return to the “sign.” Abbreviated as *D.S.* The *segno* is a special symbol, shown in Figure 1.37.
- 3...*al Fine* (“to the finish”): Most often used in conjunction with *Da Capo*, the word *Fine* appears above the music telling the performer to end the piece.
- 4...*al Coda* (“to the tail”): Most often used in conjunction with *Dal Segno*, this symbol (see Example 3.7) instructs the performer to “jump” to a final, separate, concluding section of the piece.

Figure 1.37 D.C. al Fine, D.S. al Coda



The student will find these instructions slightly confusing at first. In time they shall become very familiar instructions due to their wide usage.

Review Points from this section:

The student should be able to define and understand:

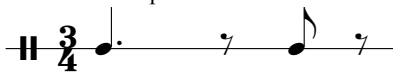
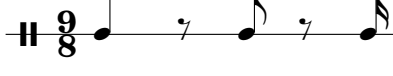
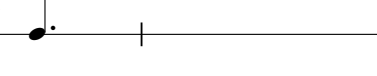
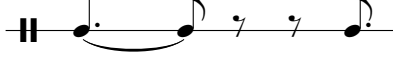
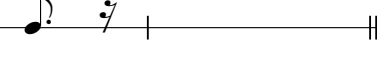
1. *Measures and bar lines*
2. *Basic Conducting patterns*
3. *Repeats*
4. *D.C. al Fine, D.S. al Coda*

Sample Exercises

1. Using a metronome to provide a background pulse, practice conducting patterns in 2, 3, 4, 6. Vary the tempo.
2. Incomplete rhythms are given in each of the following measures. Add the appropriate durational value to complete the measure. See example.

Figure 1.38 **Incomplete Measures**

Sample Solution

Incomplete measure	Durations added to complete
	
	
	
	
	
	
	
	

3. For each of the following measures, add the appropriate time signature, label strong beats (“s”), secondary strong beats as needed (“ss”), and weak beats (“w”). See example.

Figure 1.39 Strong and Weak Beats

Sample Solution

The figure shows musical notation for Figure 1.39. It includes a 'Sample Solution' and five numbered examples (1-5) for identifying strong and weak beats. The sample solution shows a 4/4 time signature with a strong beat (s) on the first half and a weak beat (w) on the second half. The examples show various rhythmic patterns with strong and weak beats indicated by vertical lines and dots.

4. In each example below using “roadmaps”, draw arrows to indicate what segment is repeated and how the segment concludes. See example.

Figure 1.40 “Roadmaps”

The figure shows musical notation for Figure 1.40, illustrating roadmaps for different musical structures. It includes three staves of music with various symbols and labels: 'Fine', 'D.C. al Fine', 'To Coda', 'D.S. al Coda', and 'CODA'. The symbols include a double bar line, a repeat sign, and a coda symbol.

SECTION 4: ADDITIONAL INFORMATION

Section Objectives:

Understanding the use of:

~*Slurs, phrase markings, and ties.*

~*Dynamics and Common Articulations:*

~*Staccato, Legato (Tenuto), Marcato, Marcatissimo, Martelé.*

~*Artificial division (tuplets).*

~*Syncopation.*

~*Introduction to Asymmetrical Meters ("Odd" Meters).*

Slurs, Phrase Markings, and Ties

Curved lines have several uses in music notation. Curved lines may be drawn above or below segments of a composition (*slurs or phrase markings*). A curved line may also connect two note values across a bar-line (*ties*).

1. A *slur* is a performance indication in music, used to instruct the performer to connect those notes encompassed by the slur. A wind player will not articulate ("tongue") these notes, a string player will play them all in one bow stroke, a pianist will strive to connect the notes fluidly.

Figure 1.41 **Slurs**



Slurs should be drawn connecting or encompassing note-heads. A common mistake by students is to draw slurs connecting stems. The exception to this general practice occurs when a slur is drawn over note stems that change direction. (See measure 1 of Figure 1.41.)

2. A *Phrase Marking* is also a performance indication. A composer will encase a passage of music within a phrase marking to indicate a complete idea, a complete musical statement. This does not have an effect upon articulation: many times slurs may be found within the bounds of a phrase marking. Phrase markings should be placed above the staff.

Figure 1.42 **Phrase Marking**



3. At times a durational value exceeds the bounds of a measure in a given time signature: the note value occupies more “beats” than the measure will allow. To accommodate this, we use a *tie*, a short curved line connecting one durational value to another in the succeeding measure.

Figure 1.43 Ties



Dynamic and Articulation Markings

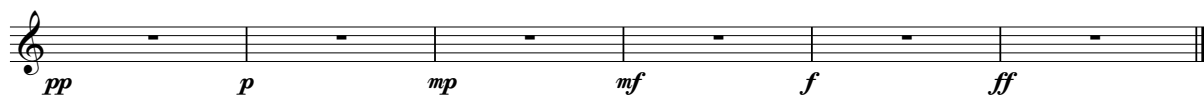
Dynamic markings indicate relative degrees of volume in a composition or a passage of music. Articulations are common symbols (and their associated terms) directing how notes are performed. These are listed in Appendix 1 with other common musical terms.

~Basic dynamic markings:

1. *pianissimo*: very “soft” (quiet)
2. *piano*: “soft”
3. *mezzo-piano*: medium “soft”
4. *mezzo-forte*: medium loud
5. *forte*: loud
6. *Fortissimo*: very loud

Some composers expanded this range, adding “p” or “f” to soft and loud markings.

Figure 1.44 Basic Dynamic Markings



~Articulations

1. *Staccato*: originally interpreted as “half the written value,” it has come to mean “detached” (not necessarily “short”).

Figure 1.45 Staccato Examples



2. *Legato*: properly *Tenuto* (“held”), meaning held to full value and implying connection to the following note value.

Figure 1.46 Legato Examples



3. *Marcato*: (“marked”), accented.

Figure 1.47 Marcato Examples



4. Marcatissimo: heavily accented.

Figure 1.48 Marcatissimo Examples



5. *Martelé*: in writing for strings, this marking is used to denote a very heavy accent, heavy bow pressure being achieved by the use of “downbow.”

Figure 1.49 Martelé Examples



Artificial Division or “Tuplets”

Review the fundamental attributes defining simple and compound meter. Simple meter divides the fundamental pulse into two, compound meter into three. At times it is desirable (or necessary) to insert a compound division into simple time, or a simple division into compound time. This process is called *artificial division*, commonly called *tuplets*.

In a simple meter, inserting a compound division (artificially dividing the beat into three equal portions) is called a *triplet* and is written thus:

Figure 1.50 **Tuplets in Simple Meters**



Conversely, inserting a simple division into a compound meter (artificially dividing the beat into two equal portions) is called a *duplet*, and is written thus:

Figure 1.51 **Duplets in Compound Meter**



A triplet may occur across multiple beats in Simple Meter, sometimes called a *super-triplet*. In Compound Meter, a larger tuplet across multiple beats may occur.

Figure 1.52 **Super-triplet, Tuplet**



Composers have employed many other *tuplet* figures, inserting larger artificial divisions within beats or groups of beats:

Figure 1.53 **Sample Larger Tuplets**



Artificial division is used as a process for making rigid time and beat division much more fluid and irregular. This technique becomes especially prevalent in music from the 19th Century onwards.

Syncopation

The simplest definition of syncopation is:

1. An arrangement of durational values that places accents or “stress” where it is unexpected.
2. This translates to “accents on the “off-beats” (or weak beats).”
3. Originating as a rhythmic device in early music, it has become an especially prevalent attribute of music after 1900.
4. Syncopation does occur in certain contexts throughout the evolution of Western Art Music.

Here are some typical rhythmic patterns demonstrating this device:

Figure 1.54 Sample Syncopation Patterns



Introduction to Asymmetrical Meters

Often called “Odd-meters” (a slang term) because the top number of such time signatures is an “odd number,” these are time signatures that mix simple and compound beats within a measure or pulse grouping. Common examples are:

5	5	5	7	7	7	11	11	11
16	8	4	16	8	4	16	8	4

Triple meters and their multiples are not included in this category generally. They may be treated as simple meters in terms of beat divisions, dependent upon tempo.

Often these meters are treated in the same manner that we treat compound meters, that is, the written time signature represents First Division. So, for example, **5** might be grouped as two eighth notes plus three eighth notes or the reverse.

8

Figure 1.55 Division Groupings



A seven-meter might be grouped 2+2+3, 3+2+2, or 2+3+2. And so forth for other asymmetrical meters. It is possible to construct asymmetrical divisions from typical meters by irregular groupings. For example,

8	8	10
8	8	8
might be grouped as 3+3+2	as 3+2+2+2	as 3+3+2+2 and so forth.

Figure 1.56 Other Meters and Sample Groupings

Until the 20th Century, there were relatively few examples of asymmetrical meter in the literature. A notable exception is the second movement of Tchaikovsky's Sixth Symphony (*Pathétique*) in **5**.

4

Asymmetrical meter is a hallmark of 20th- and 21st-century music, in both classical and vernacular genre. Composers freely employed asymmetrical meters for entire segments and pieces or employed them incidentally as context demanded. Examples that come readily to mind include:

"Money," Pink Floyd (*Dark Side of the Moon*) in 7 (4+3);

"Solsbury Hill," Peter Gabriel, mostly in 7 (4+3);

"Back in New York City," Genesis (*The Lamb Lies Down on Broadway*), again mostly in 7 (2+2+3);

The wonderful compositions and arrangements by the legendary Jazz composer and arranger Hank Levy;

Béla Bartók, *Concerto for Orchestra*, IV, *Intermezzo*, simple duple alternating with 5;

Igor Stravinsky, the closing passage of *L'Oiseau de feu* (*The Firebird*), *Le Sacre du Printemps* (*The Rite of Spring*);

There are many other examples too numerous to mention.

It became customary for 20th-century composers to mix asymmetrical meters as needed, their use dictated by phrasing, text rhythm, and so forth.

Concluding our discussion of rhythm, we are fully prepared to enter the realm of pitch in the next chapter.

Review Points from this Section:

The student should understand:

- 1. Varying uses of the slur***
- 2. Dynamics and basic articulations***
- 3. Syncopation***
- 4. Asymmetrical meters: basic understanding and uses***

Sample Exercises

1. List the six basic dynamics markings and give their relative volumes.
2. Using the Time Signature Table, graph the following asymmetrical meters. List each written time signature in the First Division row, sum to find component Pulses, then provide one level of Subdivision.

TABLE 1.9 Asymmetrical Time Signature Tables

5
16
Pulse
First Division
Subdivisions

TABLE 1.10 Asymmetrical Time Signature Tables

5
8
Pulse
First Division
Subdivisions

TABLE 1.11 Asymmetrical Time Signature Tables

7	
8	
<i>Pulse</i>	
<i>First Division</i>	
<i>Subdivisions</i>	

TABLE 1.12 Asymmetrical Time Signature Tables

11	
8	
<i>Pulse</i>	
<i>First Division</i>	
<i>Subdivisions</i>	

TABLE 1.13 Asymmetrical Time Signature Tables

13	
8	
<i>Pulse</i>	
<i>First Division</i>	
<i>Subdivisions</i>	

3a. List three possible division groupings for the following time signatures:

7	9	10	11	13
8	8	8	8	8

Figure 1.57 Asymmetrical Division Groupings

3b. Sum these divisions in order to determine pulse values. See example.

Sample Solution 2+3+2 2+2+3 3+2+2

The figure displays eight staves of musical notation. The first staff, labeled 'Sample Solution', is in 7/16 time and contains a sequence of eighth notes grouped as 2+3+2. The subsequent seven staves show the same sequence of groupings (2+3+2, 2+2+3, 3+2+2) repeated in different time signatures (7/8, 9/8, 10/8, 11/8, 12/8, 13/8, 14/8) to illustrate how the total pulse value changes.

Figure 1.58 Asymmetrical Pulse Values

Sample Solution

2+3+2 2+2+3 3+2+2

The figure displays six musical staves. The first staff, labeled 'Sample Solution', is in 7/16 time and contains a sequence of eighth notes. Above the staff, three groups of notes are bracketed with the pulse values '2+3+2', '2+2+3', and '3+2+2'. The following five staves show the same sequence of eighth notes in different time signatures: 7/8, 9/8, 10/8, 11/8, and 13/8. In each of these staves, the first staff contains the eighth notes, and the subsequent three staves are empty, illustrating how the same pulse sequence can be represented in various time signatures.

Endnotes

- i. Chapter 2 will discuss general rules and practices as to how note values are drawn in the context of pitch placement.
- ii. Concerning accentuation of pulse, you will encounter the terms *Arsis* and *Thesis*, terms adapted from Hellenistic poetic meter. These have come to mean “upbeat” and “downbeat” respectively. These are nearly slang definitions or, at best, jargon. *Arsis* is best described as “preparatory,” hence perceived as a relatively weak pulse. *Thesis* is best described as “accentuated,” hence relatively strong. It is interesting to note that, at various times in the history of music, the meaning of these two terms has been reversed from time to time.
- iii. For these examples we will employ a five-line staff. Use of the staff will be explained fully in Chapter 2.

