

MUSIC FUNDAMENTALS (Chapter Two)

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CW2.1 – The Building Blocks of Melody

A melody is a succession of distinct pitches (or tones or notes). Stated in a more natural way, the melody is a composition's tune. Melodies have motion, that is, they move upward and downward.

A melody that moves smoothly is **conjunct**.



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A melody that has many leaps is **disjunct**.



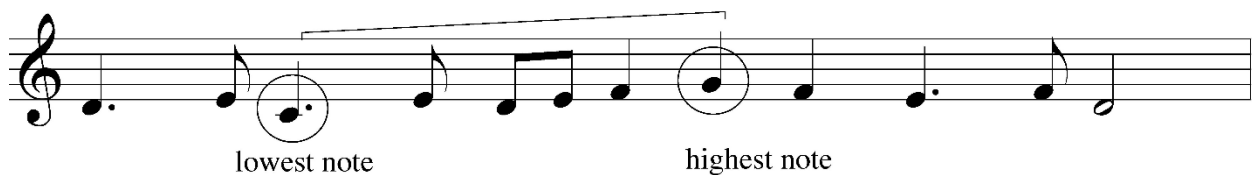
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Here is a melody with a combination of **conjunct and disjunct** motion.



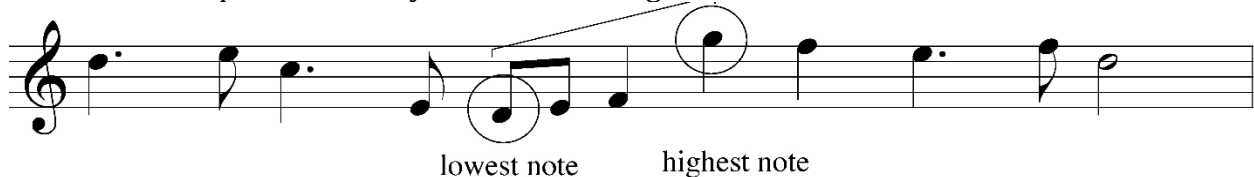
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The distance between the highest and lowest pitches in a melody is its **range**. This melody has a narrow range.



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This is an example of a melody with a wide range:



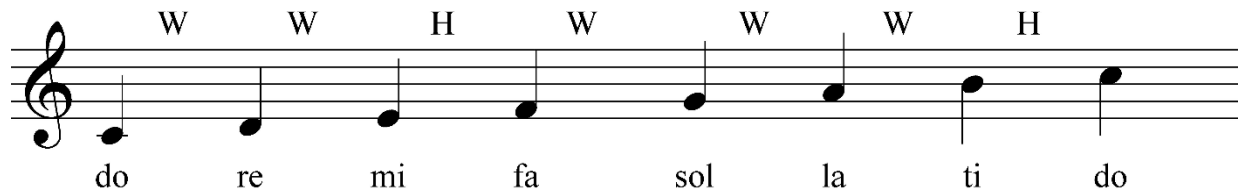
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Here is an example of a melody that uses a lot of chromatic motion.



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The major scale consists of eight notes (or tones) in a fixed pattern of whole steps and half steps.



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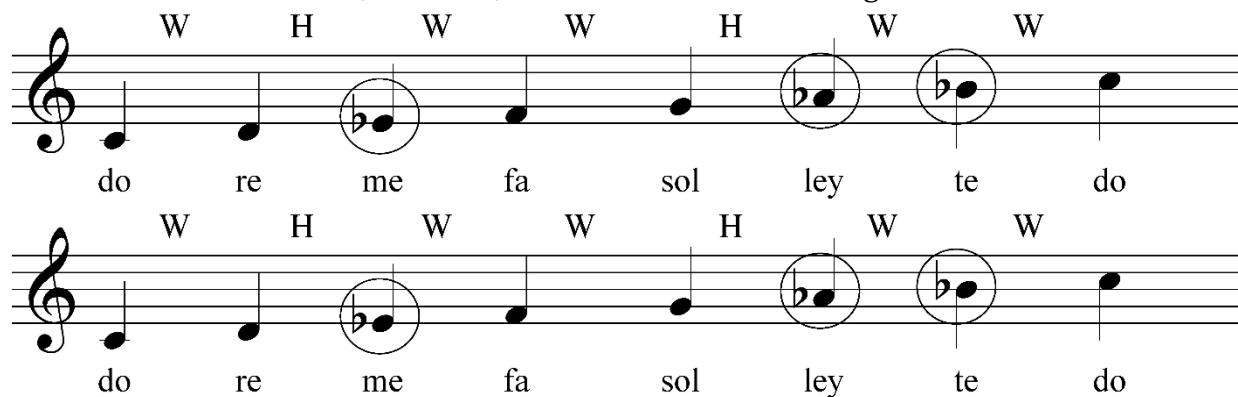
Minor Scales

In the Western melodic system, “mi” is a particularly important note. When it is lowered, it changes the scale from major to minor.

There are three types of minor scales: (1) natural minor, (2) harmonic minor, and (3) melodic minor. Unlike the major scale, all minor scales have a lowered third degree (“me” instead of “mi”). The main different between the three minor scales is the placement of the sixth and seventh scale degrees.

Natural Minor

In the natural minor scale, the third, sixth and seventh scale degrees are lowered.



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Harmonic Minor

In the harmonic minor scale, the third and sixth scale degrees are lowered. To Western ears, this sound of this scale is similar to the melodic characteristics of Middle Eastern music. It is therefore sometimes used by Western art music composers to replicate an “exotic” sound in their works.

W H W W H (W+H) H

do re me fa sol ley ti do

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Melodic Minor

In the ascending melodic minor scale, the third scale degree is lowered and the third, sixth, and seventh degrees are lowered in the descending version only.

W H W W W W H W W H W W H W

do re me fa sol la ti do do te le sol fa me re do

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Octave

Major and minor scales consist of eight notes (or tones) that eventually repeat as the pitches get higher or lower. The interval (or distance) from one tone to its upper or lower repetition (for example, “do” to “do” or “sol” to “sol”) is called an octave.

do do re re mi mi fa fa sol sol la la ti ti do do

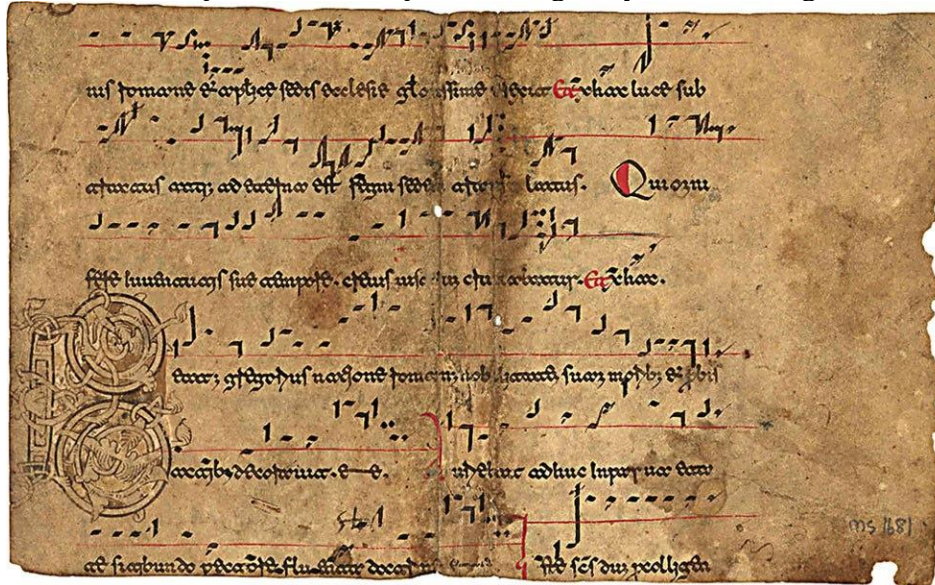
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CW2.2 – The Notation of Western Art Music

Early History

Western musical notation developed in Europe throughout the Middle Ages and Renaissance. Although changes occurred after that time, the basic principles of notating pitch and rhythm have remained the same since the sixteenth century.

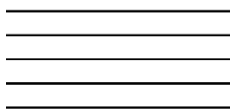
Here is an example of 12th-century notation from Italy. There is only one staff line (in red) and the notes (called neumes) are arranged by relative height around that line.



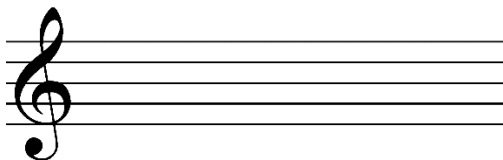
For examples of other early manuscripts and composers' manuscripts, see British Library music manuscripts on-line: <http://www.bl.uk/onlinegallery/onlineex/musicmanu>

Staff, clef, pitch, key signature

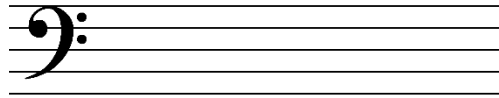
A staff consists of five lines and four spaces.



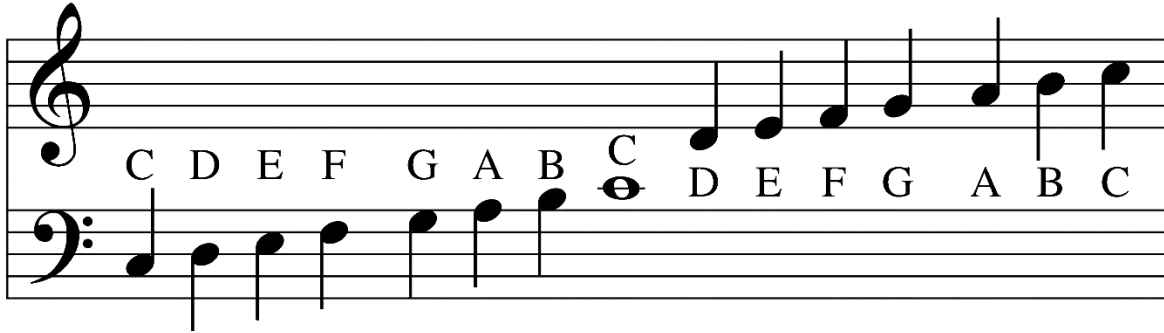
A symbol called a “clef” is placed on the left side of the staff and indicates the overall range of the pitches. A treble clef (below) indicates high pitches.



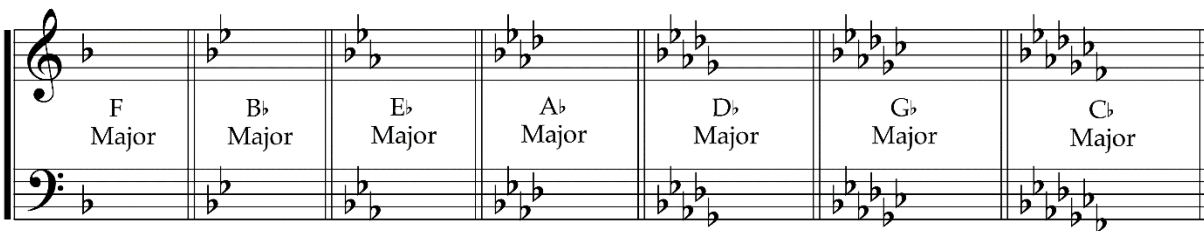
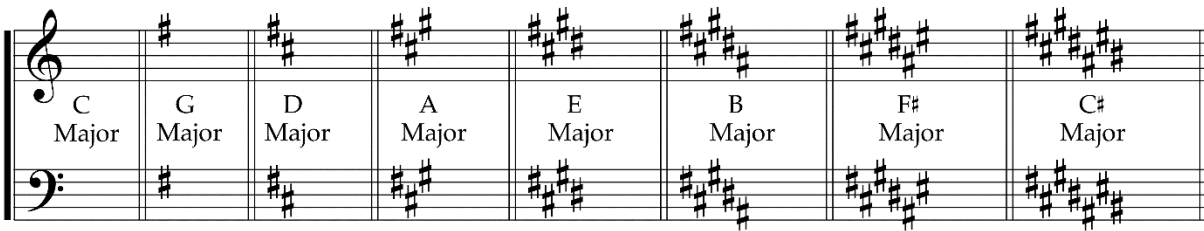
A bass clef indicates low pitches.



Notes are placed on the lines and spaces to indicate how high or low they are.

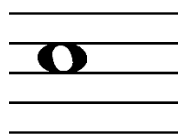


A “key signature,” which is placed to the right of the clef, indicates the number of sharps or flats used in the composition. These indicate what “key” the work is in. Each major key has a corresponding minor key (not shown).



Rhythm

The color (black or white), stem, and flags (or beams) indicate the length of a note. A whole tone (note) is held for four beats.



Half notes are held for two beats.



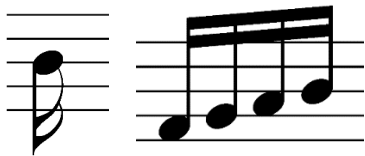
Quarter notes are held for one beat.



Eighth notes are held for half a beat and are indicated with flags or beams.



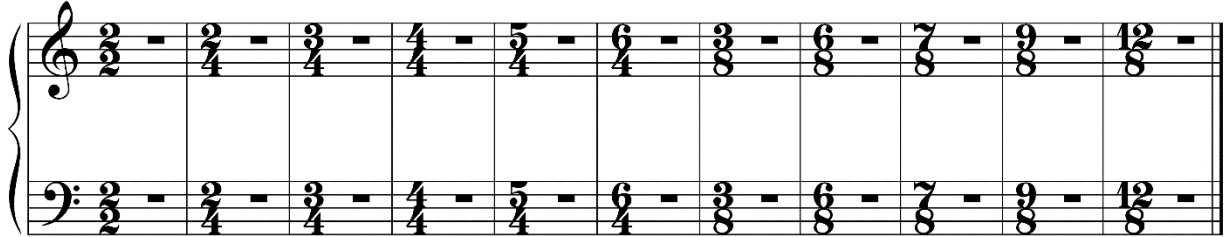
Sixteenth notes are held for one quarter of a beat and are indicated with double flags or beams.



Rests work similarly:

Name	Note	Rest
Whole Note		
Half Note		
Quarter Note		
Eighth Note		
Sixteenth Note		

The time signature (which looks like a fraction) indicates meter. The top number designates the number of beats in a measure; the bottom indicates the type of note that gets the beat. For instance, 2/2 means that there are two beats in each measure and the half note gets the beat. 3/4 means that there are three beats in a measure and that the quarter note gets the beat.



A Sample Piano Score

Examine the first six measure of Ludwig van Beethoven’s piano piece, *Für Elise* (for Elise).

Poco Moto

Musical score for the first six measures of 'Für Elise' by Beethoven. The score is in 3/4 time and A minor. It features a treble and bass staff. The first measure starts with a piano (*pp*) dynamic marking. The tempo marking 'Poco Moto' is written above the first staff. The score includes fingering numbers (1-5) above notes and pedal markings (pedals) below bass notes. Hairpin marks indicate a crescendo in measure 2 and a decrescendo in measure 5. Brackets are used to group notes in measures 2, 3, 5, and 6.

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This piece is in the key of A minor (no sharps or flats). It is in triple meter (three beats in each measure, the quarter note gets the beat). It begins with two **pick up** eighth notes (on beat three) before the first measure. The **tempo marking** (*Poco Moto*—with motion) is indicated at the beginning, above the staff. **Dynamic marks** (volume) are indicated between the two staves. The work opens with the dynamic marking of “*pp*,” (pianissimo, which means “very soft”). In the next measure and in measure 5, the “hairpin” marks indicate a brief crescendo (get louder) and decrescendo (get softer). The small numbers above the notes indicate fingerings for the pianist and the symbols below the bass notes indicate pedal markings.

CW2.3 – More on *Porgy and Bess*, and American Classic

Synopsis of the opera:

Porgy and Bess takes place in 1930s Catfish Row, a fictional African-American settlement in Charleston, North Carolina. The opera opens on a hot summer evening. Men are gathering to play craps and a young mother sings a lullaby (“Summertime”). In a drunken frenzy, the burly Crown kills a fellow gambler, then flees. Crown’s lover, Bess, moves in with Porgy, the town beggar. Though an unlikely couple, the two fall in love. Eventually Crown returns with plans to reclaim Bess. The men fight and Porgy kills Crown. The next day Porgy is arrested. Sportin’ Life, a troublemaker and drug dealer, seizes the opportunity to seduce Bess and tempts her with promises of the good life in New York. Porgy returns to find Bess gone. The opera ends with Porgy setting off for New York in search of his love.

The opera premiered on Broadway in 1935. For the next 20 years, touring companies and a 1942 Broadway revival kept the opera in front of audiences throughout the United States, Europe and Latin America. From the beginning, however, *Porgy and Bess* encountered resistance because of racial stereotypes in the plot. Some African-American opera companies refused to perform it. African-American singers who did participate sometimes later regretted it because they were pigeonholed into these roles. As accusations of racism increased during the Civil Rights Movement of the 1960s and 70s, there were few performances. Critics had long seen the work as flawed, inauthentic, and insufficiently “operatic” (influenced by its appearance on Broadway and spoken dialogue, which opera does not have). In 1976 the opera’s critical reception began to change when the Houston Grand Opera performed *Porgy and Bess* in its original form, without the massive cuts made for Broadway and subsequent performances. For the first time, *Porgy and Bess* was seen as Gershwin had intended.

NPR podcast: *The Great American Opera: ‘Porgy and Bess’* (aired July 4, 2008)

<https://www.npr.org/2008/07/04/92147536/the-great-american-opera-porgy-and-bess>

NPR podcast: *70 years of Gershwin’s ‘Porgy and Bess’* (aired Oct. 10, 2005)

<https://www.npr.org/templates/story/story.php?storyId=4951238>

NPR podcast: *A Languid Look Back to Gershwin’s ‘Summertime’* (aired Oct. 23, 2008)

<https://www.npr.org/2008/10/23/95761927/a-languid-look-back-to-gershwins-summertime>

CW2.4 – Hindustani (North Indian) Raga

Click on the following two links for more information on Hindustani music:

Indian Classical Music 101 with Ravi Shankar

(be sure to scroll down and click on the red arrows)

<https://www.npr.org/2010/04/06/125512689/indian-classical-music-101-with-ravi-shankar>

The Magical World of Ragas, Sharat Chandra (TEDx Talks)

<https://www.youtube.com/watch?v=S6VWsLD48gg>

CW2.5 – Rhythm

Rhythm refers to the ways in which music is organized into distinct time units.

Listen to the rhythm of “Amazing Grace,” which is built on a general pattern of long and short notes.

A musical staff in treble clef showing the rhythm of the first line of the hymn. The notes are: quarter, half, quarter, half, quarter, half, quarter, half. Above the staff, the words 'short long short long short long short long' are written, with vertical lines connecting them to the notes below. Below the staff, the lyrics 'A - ma - zing grace; how sweet the sound.' are written, with vertical lines connecting them to the notes above.

INSERT AUDIO FILE: 17

Beat

The basic unit of time is called the beat or pulse. Beats are organized into strong and weak beats. The first beat of every measure is strong and is called the downbeat. If a piece begins before the downbeat, that is called a pickup beat (or upbeat).

Clap or tap your foot along with the beat.

A musical staff in treble clef with a 3/4 time signature. The notes are: quarter, half, quarter, half, quarter, half, quarter, half. Above the staff, the words 'strong strong strong strong' are written, with vertical lines connecting them to the notes below. Below the staff, the lyrics 'A - ma - zing grace; how sweet the sound.' are written, with vertical lines connecting them to the notes above. An arrow labeled 'pick-up' points to the first note.

INSERT AUDIO FILE 17 (again)

Meter

The number and accentuation of beats in every measure determines a work's meter. “Amazing Grace” has three beats per measure. Therefore, it is in ternary meter. Although the rhythmic feel in “Amazing Grace” is slow and solemn, sometime composers choose triple meter to portray agility or a lilting feeling, as in a waltz or a minuet.

INSERT AUDIO FILE: 18

When there are two beats per measure, the piece is in duple meter; four beats per measure is quadruple meter. These are the meters of the march, the polka, and the tango.

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CW2.6 – Tempo markings (speed)

The basic terms are:

- Adagio (at ease)
- Andante (walking tempo)
- Allegro (lively)

Other tempo markings include:

- Grave (slow and solemn)
- Lento (very slow)
- Largo (very slow)
- Larghissimo (very very slow)
- Moderato (moderate)
- Andante moderato (slightly faster than moderato)
- Tranquillo (tranquil or calm)
- Allegretto (slightly less fast than allegro)
- Vivace (lively and fast)
- Presto (very fast)
- Prestissimo (very very fast)

CW2.7 – Indonesian Gamelan, Kotekan, and *Kecak*

A gamelan is a set of musical instruments from the Indonesian Islands, particularly Java and Bali. There are many kinds of gamelans (with different varieties of instruments) and several styles of playing. Most gamelans include metallophones (usually with bronze keys), drums, gongs, and sometimes *suling* (bamboo flute), *rebab* (spiked fiddle), and/or singers. Some gamelans contain just three or four instruments; others include 25-30 instruments. Gamelans are thought to house religious spirits. The instruments' wooden frames often include intricate carvings of sacred or natural images. It is important for players to remove their shoes and not step over the instruments in order to show respect for the gods.

Musical features include:

- 1) a shimmering texture due to variations in pitch between paired instruments
- 2) the use of kotekan, which are interlocking rhythmic parts
- 3) a colotomic (cyclic) structure delineated by strikes on the gong(s).

Gamelan is an integral part of daily life in many parts of Indonesia. Ensembles perform regularly for public, sacred, and private ceremonies. In Java, gamelans are owned by musicians, patrons, courts, or institutions. In Bali, every community district (*banjar*) owns at least one gamelan.

Gamelan music is well known in the West. Many colleges and universities sponsor their own gamelan ensembles.

For performances of Balinese gamelan music see:

- <https://www.youtube.com/watch?v=BmlAZxha8Pw>
- <https://www.youtube.com/watch?v=qIq8LNbYKT8>

For performances of Javanese gamelan music see:

- <https://www.youtube.com/watch?v=qIq8LNbYKT8>

Rhythm in Balinese music is based on interlocking patterns called kotekan. For a few examples of kotekan see:

- <https://www.youtube.com/watch?v=qIq8LNbYKT8>
- <https://www.youtube.com/watch?v=qIq8LNbYKT8>

For performances of "**Kecak**," see:

- <https://www.youtube.com/watch?v=E55dQXdiIms>
- <https://www.youtube.com/watch?v=aGXcnWUqV-Y>



Photo courtesy of Kendra Stepputat, taken June 2010 at Taman Kaja, Ubud, Bali

CW2.8 - Harmony

Notions of consonance and dissonance are socially defined and vary according to time and place.

Harmonies that sound pleasing to us are **consonant**.



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Harmonies that sound harsh or clash are **dissonant**.



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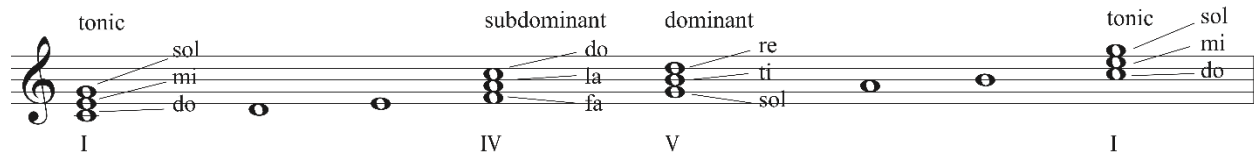
Chord

In Western art music, three or more pitches sounding at the same time create a chord. A three-note chord (triad), is built from the root up, with alternating scale tones. Chords can be built on any note of the scale, but the three most important harmonies in Western music are built on the first, fourth, and fifth scale degrees. These are called the tonic, subdominant, and dominant chords.

The chord built on “do” is the tonic or “I” chord. It is the most stable of all harmonies and most pieces end on this chord.

The chord built on “sol” is called the dominant or “V” chord. It is less stable than the tonic and tends to resolve to I.

The third in importance is the subdominant chord, “IV,” built on “fa”. This chord tends to move to either the tonic or dominant chord.



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Take a look at “Axis of Awesome’s” video that parodies the four main chords used in pop music: <https://www.youtube.com/watch?v=oOIdewpCfZQ>

Cadence

A cadence is a progression of chords that signals the end of a phrase or piece. The progression, I, IV, V, I is a common cadential formula.

A musical staff in treble clef showing a cadence progression. The chords are represented by their constituent notes: I (C4, E4, G4), IV (F4, A4, C5), V7 (G4, B4, D5, F5), and I (C4, E4, G4). A bracket labeled "cadence" spans the V7 and I chords. Below the staff, the Roman numerals I, IV, V7, and I are aligned with their respective chords.

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CW2.9 – Musical Instruments

In Western art music, instruments are categorized according to how they are used in the modern orchestra:

- Strings: violin, viola, violincello (cello), bass
- Woodwinds: flute, clarinet, oboe, bassoon, horn
- Brass: trumpet, horn, trombone, tuba
- Percussion: timpani, snare drum, cymbals, xylophone, and many more

Notice that the horn (formerly called French horn) falls in both the woodwind and brass categories. During the early development of the orchestra the horn was the only brass instrument used. At that time, it played along with the woodwind instruments. As other brass instruments were added, the horn could function both as a woodwind or brass instrument, depending on which group it was playing with. Other brass instruments such as the sousaphone, mellophone, euphonium, and baritone are usually found in bands, as is the woodwind instrument, the saxophone (also used in jazz bands). Other string instruments such as the guitar, electric bass, ukulele, banjo, and mandolin, are used in jazz, folk, and popular music ensembles.

A more comprehensive system for categorizing instruments was developed in the early twentieth century by German scholars, Kurt Sachs and Erich von Hornbostel. This system is based solely on how instruments produce sound. It allows for the inclusion of the world's instruments, not just those used in the West.

See: https://en.wikipedia.org/wiki/List_of_musical_instruments_by_Hornbostel-Sachs_number

For sound examples, pictures, and videos of many world instruments go to the Virtual Instrument Museum (Wesleyan University):

<https://www.youtube.com/playlist?list=PL3g4IY2aqziugR5xkP0fBmjW6IEXBDAAw>

CW2.10 – Texture

A composition is **monophonic** when it consists of a single melody line. Even if many voices or instruments are heard, as long as all are sounding the exact same line together, the texture is monophonic. See Example 2.3 from Chapter 2.

Here is another example of monophony, the Allemande movement from Johann Sebastian Bach's Partita no. 2 in d minor, BWV 1004.

<https://itunes.apple.com/us/album/violin-partita-no.2-in-d/id3320179?i=3320147&ign-mpt=uo%3D4>

Polyphony involves several independent melodies sounding simultaneously. Play the first few seconds of Palestrina's *Kyrie* from the Pope Marcellus Mass several times. (Example 2.4 from Chapter 2). On each hearing, try to focus on just one voice.

For another example of polyphony, see: <https://www.youtube.com/watch?v=-bYBJAQ-24>

This example begins monophonically and then becomes polyphonic when the other line(s) enter. The example here is a particular type of polyphonic genre called a *fugue*.

Homophony is a texture in which two or more parts (instruments and/or voices) move together in harmony, creating chords. A homophonic texture may consist of 1) block chords progressing in similar rhythmic patterns or 2) a melody above a chordal accompaniment. Sometimes the chordal structure is very complex, with different instruments or voices sounding the chord tones at different times. It might be hard to differentiate between a complex homophonic texture and a polyphonic texture. It takes lots of practice.

Here are a few examples of different kinds of homophony. See if you can tell which type each demonstrates.

- <https://www.youtube.com/watch?v=0l0rRdF5L1c>
- <https://www.youtube.com/watch?v=4f4UomRANYk>
- <https://www.youtube.com/watch?v=ojRj2JK5oCI>
- <https://www.youtube.com/watch?v=ojRj2JK5oCI>

Heterophony

A heterophonic texture results when a melody is performed by two or more performers with each performer playing/singing the melody slightly differently. One performer may add embellishments to the melody, or one performer might vary the tempo or rhythms slightly. This texture is uncommon in Western music, but is used quite often in Asian, Middle Eastern, and Native American cultures.

<https://www.youtube.com/watch?v=ojRj2JK5oCI>

In the following example, can you tell where the heterophonic texture begins?

<https://www.youtube.com/watch?v=neVF6Z9tZw>

Biphony

Here are two quite different examples of biphony.

<https://www.youtube.com/watch?v=neVF6Z9tZw>

What other textures, in addition to biphony, can you hear in this example?

<https://www.youtube.com/watch?v=TP7lZrMtFZY>

CW2.11 – Form

Form is the overall shape or structure of a piece of music. A formal section may be delineated by its melody, rhythm, harmony, timbre, texture, or any combination thereof. It generally takes repeated listening to discern the form of a composition. The longer the work, the more difficult the task, but knowing the standard forms gives one a blueprint from which to start. As you listen to a piece of music, begin by noting any obvious changes that you hear in the melody; then wait to hear if the previous melody comes back. As you become more fluent in listening for differences in melody, add the other elements to see how they work to shape the overall form.

Binary Form

Binary (two-part form, AB) is often used in the Baroque period and many times the sections are repeated, resulting in the form AABB.

Below is a link to the Minuet in G major (BWV Anh. 114) performed on a harpsichord, which was the main keyboard instrument in the Baroque period. The piece was originally attributed to Johann Sebastian Bach. In the 1970s scholars discovered that it was actually written by Christian Petzold, who was well known in his time, but few are familiar with him today. Most YouTube clips still incorrectly list the composer as Bach.

<https://www.youtube.com/watch?v=KqSAGwa49MM>

This piece is **binary**, with each section repeated. How many melodic phrases are in each section? Are they similar to one another or different? Notice that the performer embellishes the melodic material in the repeats of both the A and B sections. This would have been a common practice in the Baroque period.

A (0:09-0:24)

A (0:25-0:41)

B (0:42-0:58)

B (0:59-1:16)

Sometimes a bit of material from the first section of a binary piece returns to “round off” the end of the piece. This is called **Rounded Binary Form** (ABa).

Listen to the theme of Mozart’s Piano Sonata, K. 284 (third movement):

<https://www.youtube.com/watch?v=KqSAGwa49MM>

Theme

A (0:00-0:15) repeat

B (0:30-0:41)

a (0:43-0:50) repeat B and a

Now listen to the rest of the movement. There are twelve more sections. Can you tell where they begin and end? Do they sound familiar? How are they the same as the theme? How are they different?

Each section is a variation of the original theme, which makes this movement as a whole in a form called: **Theme and Variations**.

Ternary Form

Ternary form (three parts, ABA) is often found in the third movements of symphonies and chamber music in the Classical period. Listen to the third movement of Wolfgang Amadeus Mozart's Serenade No. 13 for strings in G major, K. 525 (*Eine Kleine Nachtmusik*, "A Little Night Music"): <https://www.youtube.com/watch?v=NABnXeStA5w>

A (0:03-0:37)

B (0:38-1:32)

A (1:33-1:53)

In each section, you will hear pairs of short melodic phrases about every 10 seconds: aabb ccdd ab. This is the "micro" form. If you look at the big picture you will hear "same [set of phrases, aabb]"—different [set of phrases, ccdd]—same [set of phrases, though shortened, ab], thus ternary form: ABA.

Rondo Form

A form with a refrain that alternates with new material, called an episode, is rondo form. A five-part rondo would be diagramed: ABACA, with the "A" being the refrain. A seven-part rondo would be ABACAD(or B)A. Here is an example of Beethoven's String Quartet in C minor (opus 18, no.4), fourth movement, which is in seven-part rondo form (ABACABA): <https://www.youtube.com/watch?v=kM3Sv8cgGEw>

A (0:07)

B (0:41)

A (1:26)

C (1:57)

A (2:22)

B (3:02) plus transition to:

A (3:45)

32-Bar Song Form

32-bar song form consists of four 8-measure sections: three (A) sections, separated by a bridge (B), as in AABA, hence, 32 bars (or measures). Listen to Louis Armstrong's "What a Wonderful World" (found on the internet). See if you can count out each measure (four beats in each measure). Depending on the performance, here are the approximate timings:

A (0:06)

A (0:32)

B (0:59)

A (1:26)

12-Bar Blues

This is a popular blues form that divides into three equal sections (AAB) of four measures each. The song's lyrics and chord patterns go through a single cycle.

Listen to Elmore James singing, "Dust My Broom":

<https://www.youtube.com/watch?v=G4RzBHio9cQ>

The song begins with an instrumental introduction.

Verse 1:

A (0:28)

A (0:37)

B (0:47)

Here is an analysis of the song and how it fits into the 12-bar blues form:

<http://www.pbs.org/theblues/classroom/essays12bar.html>

Strophic Form

Most folk songs, traditional hymns, and patriotic songs are strophic, which means that each verse is sung to the same music but with different words: AAA, etc.

Listen to Pete Seeger's three verses from the classic American ballad, "Shenandoah":

<https://www.youtube.com/watch?v=jFNhAec04KI&index=2&list=PL8SIHw-NjBHYAsyhnBBYX5Wg6-RVbVJGK>

Sonata Form

This form is used in the first movements of most Classical Period genres (such as symphonies, string quartets, sonatas, etc.). Sonata form has three main sections: exposition, development, and recapitulation. See the diagram in your text in Chapter 5.

Watch this clip of Leonard Bernstein talking about sonata form on one of his famous Young People's Concerts: <https://www.youtube.com/watch?v=5NNEiofnc90>

Although all of these elements of music may be difficult to grasp at first, start with something that you hear well and build on that. Like any new skill, careful listening to music takes time. Eventually you will begin to hear and identify more and more and as you do, your understanding of music's many faceted meanings will become evident.