Part I

Elements

Presentation developed by:
Robert Elliott
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Music—vital part of human society

- Provides entertainment, emotional release

Heard almost everywhere in modern life

- Recorded music innovation of 20th Century

  - Music “on demand” available to almost anyone
Informal music making

– Source of pleasure for players and listeners

- *Amateur*: person who engages in an activity without compensation—for the simple pleasure that the activity brings

- E.g., sports, visual arts, performing arts
Live performance—special excitement

– Experience affected by emotional state of both performer and audience

Evaluating music performances

– Background music vs. alert, active listening
– Perceptive listening enhances enjoyment
  - Knowledge of musical elements enhances perception
Chapter 1 — Sound: Pitch, Dynamics, and Tone Color

Our world filled with sounds

– Sounds can be pleasant or unpleasant

– Humans able to focus on specific sounds

  - Can ignore sounds that do not interest us
Sound
– Begins as result of a vibrating object
– Transmitted through medium as vibration
– Perceived by eardrums as vibrations
  - Impulses sent to brain for processing

Music: organization of sounds in time

Four main properties of musical sounds:
– *Pitch*
– *Dynamics* 
  – *Tone color*
  – *Duration*
Pitch: Highness or Lowness of Sound

- Determined by frequency of vibration
  - Fast vibration = high pitch, slow vibration = low pitch
  - Generally, smaller vibrating objects = higher pitches

- In music, definite pitch is a tone
  - Tones have specific frequencies
    - E.g., 440 cycles (vibrations) per second
  - Irregular vibrations create sounds of indefinite pitch
Pitch: Highness or Lowness of Sound

- **Interval**: difference in pitch between 2 tones
  - **Octave**: doubling/halving of frequency
    - Tones an octave apart seem to blend together

- **Western music divides octave into 12 tones**
  - Non-western music may divide into different number
  - Most western music based on scale of 8 tones

- **Range**: distance between voice or instrument’s highest & lowest possible pitch
Dynamics

- Relative loudness of a sound
  - Related to amplitude of vibration producing sound
  - Changes in dynamics may be sudden or gradual

- Accent: tone played louder than tones near it
Dynamics

Italian terms used to indicate dynamics

<table>
<thead>
<tr>
<th>Term</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>pianissimo</td>
<td>pp</td>
<td>very soft</td>
</tr>
<tr>
<td>piano</td>
<td>p</td>
<td>soft</td>
</tr>
<tr>
<td>mezzo piano</td>
<td>mp</td>
<td>moderately soft</td>
</tr>
<tr>
<td>mezzo forte</td>
<td>mf</td>
<td>moderately loud</td>
</tr>
<tr>
<td>forte</td>
<td>f</td>
<td>loud</td>
</tr>
<tr>
<td>fortissimo</td>
<td>ff</td>
<td>very loud</td>
</tr>
</tbody>
</table>

- **Extremes**: ppp, pppp, fff, ffff
- **Crescendo**: gradually louder
- **Decrescendo (diminuendo)**: gradually softer
Tone Color

- Also called *timbre*: quality of a sound
  - Can be *bright, dark, mellow*, etc.

- Changes in tone color create variety and contrast

- Tone color can add to continuity
  - Specific melodies with specific tone colors

- Composers frequently blend sounds of instruments to create new tone colors

- Modern electronic instruments allow for unlimited number of different tone colors
Listening Outlines, Vocal Music Guides, and the Properties of Sound

- Intended to be read *while listening* to the music

*Listening outlines & vocal music guides:*

- *Listening outline:* points out notable musical sounds
- *Vocal music guide:* vocal text w/ margin comments
- *Outlines & guides* preceded by music’s description
  - *Brief set* CD’s accompany this text
  - *Basic & supplementary set* are additional instructor discs

*Suggestion:* while listening to one passage, look ahead to the next passage’s notes
Listening

The Firebird, Scene 2 (1910)
by Igor Stravinsky

Listening Outline: p. 10
Brief set, CD 1:1

Listen for: Crescendo
Gradual addition of instruments
Repetition of melody at different pitches
Sudden dynamic change
Crescendo to ending
Listening

C-Jam Blues (1942)
by Duke Ellington and His Famous Orchestra

Listening Outline: p. 11
Brief set, CD 1:3

Listen for:
- Repeated-note melody
- Tone color change as melody moves between instruments
- Improvisation by solo instruments
- Brass instruments using *mutes*
- Full-band at end
Chapter 2—Performing Media: Voices and Instruments

Voices

- Range: based on physical makeup & training

- 2 main groupings:
  - Female
    - Soprano (high)
    - Mezzo Soprano (medium high)
    - Alto (low)
  - Male
    - Tenor (high)
    - Baritone (medium high)
    - Bass (low)

- Vocal methods and styles vary between cultures
  - Vocal methods and styles can vary within a culture

- Instruments frequently accompany vocal music
Musical Instruments

- Mechanism (not a voice) that produces musical sounds

- Western instruments: 6 broad categories
  - String
  - Woodwind
  - Brass
  - Percussion
  - Keyboard
  - Electronic

- Frequently made in different sizes (for range)
Musical Instruments

- Tone color varies by register
  - *Register* is portion of range where instrument is playing

- Use and makeup of instruments varies by culture

- Only a fraction of all instruments ever invented are in use today

- Groups frequently led by *conductor* using *baton*
String Instruments

Sound produced by vibrating a tight cable
- Longer string = lower pitch

Orchestral instruments
- Violin
- Viola
- Cello (violoncello)
- Bass (double bass)

Symphonic music uses bow
String Instruments

- Stopping string reduces vibrating length

- Common playing techniques
  - Pizzicato
  - Double stop
  - Vibrato
  - Mute
  - Tremolo
  - Harmonics

- Some string instruments not played with bow
  - Guitar & harp use *plectrum* (small wedge—pick)
Woodwind Instruments

Traditionally, woodwinds made of wood

- In 20th Century, metal & plastic became common
- The longer the tube, the lower the pitch
  - Covering holes along instrument serves to lengthen the tube

Main orchestral woodwinds and ranges:

<table>
<thead>
<tr>
<th>Flute Family</th>
<th>Clarinet Family</th>
<th>Oboe Family</th>
<th>Bassoon Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piccolo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flute</td>
<td>Clarinet</td>
<td>Oboe</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>English horn</td>
<td></td>
</tr>
<tr>
<td>Bass clarinet</td>
<td></td>
<td></td>
<td>Bassoon</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Contrabassoon</td>
</tr>
</tbody>
</table>
Woodwind Instruments

- Woodwinds—single note instruments
- Sound produced by blowing—player’s breath
  - “Whistle mouthpiece”
  - Single reed
  - Double reed
- Saxophone—single reed instrument common in jazz music
Brass Instruments

Orchestral brasses (in order of range):

- Trumpet
- French horn
- Trombone
- Tuba

Cornet, baritone horn, & euphonium used mainly in concert and marching bands
Brass Instruments

Sound produce by blowing into mouthpiece

- Vibration of player’s lips produces sound
- Sound exits through flared end called the bell
- Pitch changed in 2 ways:
  - Pressure of player’s lips (together or against mouthpiece)
  - Lengthening the instrument via slide or valves
    - Trombone uses sliding tubes
    - Others use valves connected to additional tubing
    - Generally, the longer the tube, the lower the pitch

Tone color is altered by inserting mute into bell

Brass provides power and emphasis in music
Percussion Instruments

Sound (generally) produced by striking, shaking, or rubbing the instrument

- Instruments of *definite pitch* produce tones
Percussion Instruments

- Instruments of *indefinite pitch* produce noise-like sounds

<table>
<thead>
<tr>
<th>Definite Pitch</th>
<th>Indefinite Pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Timpani (kettledrums)</em></td>
<td><em>Snare drum (side drum)</em></td>
</tr>
<tr>
<td><em>Glockenspiel</em></td>
<td><em>Bass drum</em></td>
</tr>
<tr>
<td><em>Xylophone</em></td>
<td><em>Tambourine</em></td>
</tr>
<tr>
<td><em>Celesta</em></td>
<td><em>Triangle</em></td>
</tr>
<tr>
<td><em>Chimes</em></td>
<td><em>Cymbals</em></td>
</tr>
<tr>
<td><em>Gong (tam-tam)</em></td>
<td></td>
</tr>
</tbody>
</table>

- Membranes, plates, or bars vibrate
Percussion Instruments

- Percussionists must play many instruments
- Percussion traditionally emphasizes rhythm
  - 20th Century music—greater use of percussion
  - Complexity of African & Asian percussion music often surpasses percussion of Western music
Keyboard Instruments

Use piano-type keyboard for control
   – Capable of several notes at once

Best known:
   – Piano
     - Created ~1700 & refined through ~1850
     - Sound created when felt hammer strikes tight string
     - Pedals affect sound
     - 88 keys
   – Harpsichord
     - Important ~1500 through ~1775
     - Sound produced by small wedges plucking string
Keyboard Instruments

– Pipe Organ

- Most prominent ~1600 to ~1750
- Wide range of pitch, dynamics, & tone color
- Sound produced by air being directed to pipes
  - Pipe sets of various materials produce different tone color
  - Pipe sets put into play by using knobs called stops

– Accordion

- Air bellows drives reeds controlled by keyboard & buttons
Electronic Instruments

- Produce or amplify sound using electronics
  - Invented ~1904, significant impact only after 1950
  - Modern technology blurs lines between instrument types, recording, computer, and hybrid devices

- **Tape studio**: main electronic tool of 1950’s

- **Synthesizers** came into use in 1960’s
  - Huge machines first built in mid-1950’s
  - *Analog synthesis* dominated until ~1980
  - *Digital (FM) synthesis* came to forefront in 1980’s
    - *Effects devices* were integrated into digital synthesizers
  - *Sampling* technology advanced in 1990’s
Electronic Instruments

MIDI (1983) allowed connection of devices

Small computers developed in 1970’s & 80’s

Modern composers connect these devices, use software, and write new types of music
Listening

Young Person’s Guide to the Orchestra, Op. 34 (1946)
by Benjamin Britten

Listening Outline: p. 30
Brief set, CD 1:11

Listen for: Main theme followed by variations
Tone colors of instruments and families
Contrast of dynamics, speed, & tone color
Chapter 3 — Rhythm

 µ Rhythm: flow of music (events) through time

 Beat

 µ Recurrent pulsation

 -- Divides music into equal units of time
Meter

- Grouping of beats
  - Groups of beats called *measures*

- *Downbeat*: first and strongest beat in measure

- Types of meter:
  - *Duple*  
  - *Triple*  
  - *Quadruple*  
  - Other meters

Accent and Syncopation

- *Accent*: emphasis placed on beat/note

- *Syncopation*: emphasis on unexpected note/beat
Tempo

🔗 The speed of the beat, the pace
  – Associated with emotional effect

🔗 Tempo indicated at beginning of piece
  – As with dynamics, Italian terms are used

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>largo</td>
<td>very slow, broad</td>
</tr>
<tr>
<td>grave</td>
<td>very slow, solemn</td>
</tr>
<tr>
<td>adagio</td>
<td>slow</td>
</tr>
<tr>
<td>andante</td>
<td>moderately slow, a walking pace</td>
</tr>
<tr>
<td>moderato</td>
<td>moderate</td>
</tr>
<tr>
<td>allegretto</td>
<td>moderately fast</td>
</tr>
<tr>
<td>allegro</td>
<td>fast</td>
</tr>
<tr>
<td>vivace</td>
<td>lively</td>
</tr>
<tr>
<td>presto</td>
<td>very fast</td>
</tr>
<tr>
<td>prestissimo</td>
<td>as fast as possible</td>
</tr>
</tbody>
</table>

🔗 Molto, non troppo, accelerando, ritardando

🔗 Metronome—indicates exact tempo
Chapter 4—Music Notation

Written music stores information
- Allows absent (or even dead) composers to communicate their ideas to others

Notating Pitch

Letter names for notes: A B C D E F G

Staff

Clef signs
- Treble
- Bass

Grand staff
Notating Pitch

Keyboard note naming with notation
Notating Rhythm

- Music notation indicates length of tone in relation to other tones in the piece
  - How note looks indicates duration
    - Note head & stem
    - Flag
    - Beam
    - Dotted note
    - Tie

Notating Silence

- Rests indicate notated silence
Notating Meter

-Time signature indicates the meter of a piece of music
  - Appears at beginning of piece
    - Appears again later if meter changes
  - Written as two numbers, one above other
    - Top number: how many beats in measure
    - Bottom number: what type note counts 1 beat
  - Common & cut time, duple & triple meter

The Score

- Includes music for every instrument
  - Can include 20+ lines of music at once
    - See example p. 39
Chapter 5 — Melody

- A series of single notes that add up to a recognizable whole
- Begins, moves, ends
- Tension & release
- Stepwise vs. leap motion
- Climax
Legato vs. staccato

Made of phrases (parts)

Sequence within melodies

Cadence: Complete vs. Incomplete

Theme: melody used as starting point and evolving throughout an extended piece of music
Chapter 6 — Harmony

- The way chords are constructed and how they follow each other

- **Chord**: 3 or more tones sounded at once
  - Chord is simultaneous tones
  - Melody is series of individual tones

- **Progression**: how chords follow each other
Consonance and Dissonance

- Stable, restful chords—*consonant*

- Unstable, tense chords—*dissonant*
  - Degree of dissonance—more & less dissonant

- *Resolution*—movement away from dissonance
The Triad

> Simplest, most basic chord
  - Made up of three notes
    - Notated on 3 adjacent lines or spaces

> Triad built on 1st scale note called tonic
  - Most stable, restful chord
    - Pieces usually begin & end on this chord

> Triad built on 5th scale note: dominant
  - Most unstable, tense chord
    - Dominant to tonic movement feels conclusive

Broken Chords (Arpeggios)

> Chord tones sounded in series
Listening

Prelude in E minor for Piano,
Op. 28, No. 4 (1839)
by Frederic Chopin

Listening Outline: p. 46
Brief set, CD 1:36

Listen for:
- Pulsating chords & monotonous melody
- Dissonant chords underlying melody
- Climax with faster rhythm & crescendo
- Near end, dissonant chord, silence, resolution at cadence

Performance Profile: Roger Kamien-piano
Listen for performer's interpretation of tempo and dynamic indications in music
Chapter 7 — Key

Centering of a melody or harmony around a central note

The Major Scale

Whole step, half step

Formula:

- Bright, happy sound
The Minor Scale

- Whole steps and half steps occur in another predetermined order

- Formula: \[ \text{W H W W H W W} \]

- Dark, sad sound
The Key Signature

- Pieces of music using major scales—major key
- Pieces of music using minor scales—minor key
- Number of sharps or flats played determines scale and key
  - Also determines key signature
    - Key signature notated at beginning of piece between clef sign and time signature

The Chromatic Scale

- Utilizes all 12 notes within the octave
  - Includes both black and white piano keys
  - This scale does not define a key
Modulation: Change of Key

- Provides contrast within longer piece
- Modulation like temporary shift in gravity
  - New tone and key becomes “home”

Tonic Key

- The main key of a piece
  - Modulations away usually return to the tonic key
  - Return to tonic creates feeling of conclusion
    - Return to tonic usually occurs near end of piece
Chapter 8 — Musical Texture

Layering of sound, how layers relate

Monophonic Texture

Single, unaccompanied melody
- Literally “one sound” (solo or unison)

Polyphonic Texture

2 or more equally important melodies sounding simultaneously (counterpoint and imitation)

Homophonic Texture

One melody with chordal accompaniment

Changes of Texture

Within a piece, creates variety and contrast
Listening

Farandole from L’Arlesienne
Suite No. 2 (1879)
by Georges Bizet

Listening Outline: page 52
Brief Set, CD 1:37

Note contrasting textures
Chapter 9 — Musical Form

Organization of musical elements in time

Techniques that Create Musical Form

- **Repetition**—restating musical ideas
- **Contrast**—avoiding monotony with new ideas
- **Variation**—reworking ideas to keep them new

Types of Musical Form

- **Ternary**
  - Simple
    - A
    - B
    - A
  - Subdivided
    - aba
    - cdc
    - aba
Listening

*Dance of the Reed Pipes*

from *Nutcracker* Suite (1892)

by Peter Ilyich Tchaikovsky

Listening Outline: p. 56
Brief Set, CD 1:42

Note ternary form
Types of Musical Form

Binary

– A B
– A A B
– A B B
– A A B B
Listening

Contradance No. 7 in Eb Major
from Twelve Contradances for Orchestra (1892)
by Ludwig van Beethoven

Listening Outline: p. 57
Brief Set, CD 1:45

Note binary form: A A B B
Chapter 10 — Musical Style

Based upon time period and the continuous development of music as an art form

Western art music can be divided into:

- Middle Ages—450-1450
- Renaissance—1450-1600
- Baroque—1600-1750
- Classical—1750-1820
- Romantic—1820-1900
- 20th Century to 1945
- 1945 to present

Music of each these periods reflects the society that supported it