Frequency (Hz)

- Number of vibrations per second
- All sounds contain a fundamental Hz or Hz's
- Fundamental Hz determines sensation of "Tone" (pitch)
- Frequency Bandwidth Range
- Range of Human Hearing - 20 Hz to 20,000 Hz

Frequency Partitions

- Organization of Hz spectrum
- Quality of bandwidth ranges
- Sound as Color

Frequency Partitions - Primary Bands

- Low *(primoris)* - 0 to 100 Hz
- Low-Mid *(fundis)* - 100 to 300 Hz
- Middle *(medius)* - 300 to 900 Hz
- Mid-High *(altus)* - 900 to 5,000 Hz
- High *(brevis)* - 5,000 to 20,000 Hz

Sound Characteristics

- Articulation
- Timbre
- Loudness
- Pitch
- Spatial Orientation
- Sonic Production

Sound Characteristics - Articulation

- Envelope
- Organization

Sound Characteristics - Articulation

Envelope

- Attack
- Sustain
- Decay

Sound Characteristics - Articulation

Organization

- Speed (tempo)
- Consistency (rhythm)
- Conjunction

Sound Characteristics - Articulation

Organization: Consistency

- Rhythm
- Type of repetition and variation
- Music: regular intervals
- Noise: irregular intervals

Sound Characteristics - Timbre *("tam'-ber")*

- Complexity
- Position in Hz spectrum
- Timbral Divergence

Sound Characteristics - Timbre *("tam'-ber")*

Complexity

- **"Noise"** (complex) contains multiple fundamental Hz's creating an elaborate collection of upper partials.

- A **"Tone"** (simple) contains a single fundamental Hz with standard integer partials.

Sound Characteristics - Timbre *("tam'-ber")*

TImbral Divergence

- Evolution of Timbre over time
- Emphasizing particular Hz partitions
- Can change perception of origin

Sound Characteristics - Loudness

- Perception of amplitude
- Dynamics - variation in loudness over time and phrase

Sound Characteristics - Pitch

- “Tone”
- Sensation defined by Hz fundamental
- Melody - tone sequence
- Chordal Harmony - tone clusters
- Theme and varriation