

What is Music?

Philosophers, musicians, social and natural scientists have argued about what constitutes music. The definition has varied through history, and within different cultures.

According to Webster's Dictionary, music is "the art of arranging tones in an orderly sequence so as to produce a unified and continuous composition".

Music is a form of expression whose medium is sound. Common elements of music are pitch, rhythm, timbre and texture.

Pitch is associated with melody and harmony

Rhythm is associated with tempo, meter, and articulation

Sound quality is associated with timbre and texture

The word derives from the Greek word 'mousike' which means, "(art) of the Muses." According to ancient Greek mythology the 'Muses' were goddesses who inspire the creation of literature and the arts.

The Roman scholar Varro relates that there are only three Muses: one who is born from the movement of water, another who makes sound by striking the air, and a third, who is embodied only in the human voice. Other writers such as Homer said that there were nine goddesses, who embody the arts and inspire creation with their graces through song, drama, writing, traditional music, and dance. (Scheinberg, S. 1979)

Organised Sound

An often-cited definition of music, coined by Edgard Varèse, is that it is "organised sound" (Goldman, R.F.1961)

The Encyclopædia Britannica describes that "while there are no sounds that can be described as inherently unmusical, musicians in each culture have tended to restrict the range of sounds they will admit."

"Organisation" also seems necessary because it implies purpose and thus human organisation. This human organising element seems crucial to the common understanding of music. Sounds produced by nature, such as waterfalls or birds, are often described as "musical", but rarely as "music".

The 20th-century composer John Cage thought that any sound could be music, saying, for example, "There is no noise, only sound."

Musicologist Jean-Jacques Nattiez summarises the relativist, post-modern viewpoint: "...the border between music and noise is always culturally defined which implies that, even within a single society, this border does not always pass through the same place; in short, there is rarely a consensus.... By all accounts there is no single and intercultural universal concept defining what music might be, except that it is 'sound through time'." (Nattiez, J.J. 1990 p47-8, 55)

Elements of Music

Sound begins with the vibration of an object, such as a string that is plucked. The vibrations are transmitted to our ears by a medium, which is usually air. As a result of the vibrations, our eardrums start vibrating too, and nerve impulses are transmitted to the brain. There the nerve impulses are selected, organised and interpreted.

Properties of Musical Sounds

We distinguish music from other sounds by recognising the main properties of musical sounds: duration, pitch, dynamics (loudness or softness), tone colour, and rhythm.

Duration

Duration is the length of time a musical sound lasts

Pitch

The pitch of a sound is determined by the frequency of its vibrations. The faster the vibrations the higher the pitch, the slower the vibrations the lower the pitch. Vibration frequency is measured in cycles per second (Hertz).

On a piano the highest-frequency note is 4,186 Hz (cycles per second), and the lowest is about 27 Hz (cycles per second).

In general, the smaller the vibrating object, the faster its vibrations and the higher its pitch. All other things being equal, plucking a short string produces a higher pitch than plucking a long string. The relatively short strings of a violin produce higher sounds than do the longer strings of a double bass.

In music, a sound that has a definite pitch is called a tone or note. It has a specific frequency, such as the note 'A' at 440Hz. The vibrations of a tone are regular and reach the ear at equal time intervals.

Noise such as squeaking brakes or clashing cymbals have an indefinite pitch because irregular vibrations produce them.

Two tones will sound different when they have different pitches. The "distance" in pitch between any two tones is called an interval. When tones are separated by the interval called an octave, they sound very much alike.

The distance between the lowest and highest tones that a voice or instrument can produce is called its pitch range, or simply its range. The range of the average untrained voice is between 1 and 2 octaves. A piano's range is over 7 octaves. When men and women sing the same melody, they usually sing it an octave apart.

Though most music we know is based on definite pitches, indefinite pitches such as those made by a bass drum or by cymbals are important as well. Some percussion instruments, such as gongs, cowbells, and wood blocks, come in different sizes and therefore produce higher or lower indefinite pitches.

Dynamics

Degrees of loudness or softness in music are called dynamics. Loudness is related to the amplitude of the vibration that produces the sound. The harder a guitar string is plucked (the farther it moves from the fingerboard), the louder its sound.

A crescendo is a gradual increase in loudness. It is used to create excitement. A decrescendo is a gradual decrease in loudness. It is used to convey a sense of calm.

When notating music, composers have traditionally used Italian words, and their abbreviations, to

Dynamic marks

<i>pp</i>	<i>pianissimo</i>	very soft
<i>p</i>	<i>piano</i>	soft
<i>mp</i>	<i>mezzopiano</i>	moderately soft
<i>mf</i>	<i>mezzoforte</i>	moderately loud
<i>f</i>	<i>forte</i>	loud
<i>ff</i>	<i>fortissimo</i>	very loud
<i>fp</i>	<i>fortepiano</i>	loud, then immediately soft
<i>fz</i>	<i>forzato</i>	forced
<i>sf</i>	<i>sforzato</i>	
<i>sfz</i>		
	<i>crescendo</i>	getting louder
	<i>decrescendo,</i> <i>diminuendo</i>	getting softer
		attack
		agogic accent

indicate dynamics. For extremes of softness and loudness, composers use ‘ppp’ or ‘pppp’ and ‘fff’ or ‘ffff’. The following notations indicate gradual changes in dynamics (see below).

Tone Colour

We can tell a trumpet from a flute even when they are both playing the same note at the same volume. The quality that distinguishes them our third property of musical sound is called tone colour, or timbre. Tone colour is described by words like bright, dark, brilliant, mellow, and rich.

The tome colour of an instrument is determined by its dominant harmonics. This will be discussed in the section on harmonics.

Like changes in dynamics, changes in tone colour create variety and contrast. When the same melody is played by one instrument and then by another, it takes on different expressive effects because of each instruments tone colour. On the other hand, a contrast in tone colour may be used to highlight a new melody: after violins play a melody, an oboe may present a contrasting one.

Tone colours also build a sense of continuity; it is easier to recognise the return of a melody when the same instruments play it each time. Specific instruments can reinforce a melodies emotional impact: the brilliant sound of a trumpet is suited to heroic or military tunes; the soothing tone colour of a flute fits the mood of a calm melody. In fact, composers often create a melody with a particular instrument’s tone colour in mind.

Rhythm

Rhythm is the flow of music through time. Rhythm has several interrelated aspects: beat, meter, accent and syncopation, and tempo.

Beat - is a regular, recurrent pulsation that divides music into equal units of time. When you clap your hands or tap your foot to music, you are responding to its beat. A note may last a fraction of a beat, an entire beat, or more than a beat. More specifically, rhythm can be defined as the particular arrangement of note lengths in a piece of music. The rhythm of a melody is an essential feature of its personality.

Meter - In music we find a repeated pattern of a strong beat plus one or more weaker beats. The organisation of beats into regular groups is called meter. A group containing a fixed number of beats is called a measure. There are several types of meter, which are based on the number of beats in a measure.

When a measure has 2 beats, it is in duple meter; we count 1-2, 1-2. The first, or stressed, beat of the measure is known as the downbeat.

A pattern of 3 beats to the measure is known as triple meter. All waltzes are in triple meter, we count 1-2-3, 1-2-3, etc.

Another basic metrical pattern is quadruple meter, which has 4 beats to the measure. As usual, the downbeat is strongest; but there is another stress on the third beat, which is stronger than the second and fourth beats and weaker than the first: 1-2-3-4, 1-2-3-4.

Upbeat: It is an unaccented pulse preceding the downbeat.

Sextuple meter contains six rather quick beats to the measure. The downbeat is strongest, and the fourth beat also receives a stress: 1-2-3-4-5-6.

Quintuple meter, with 5 beats to the measure, and septuple meter, with 7 beats to the measure, occur frequently in twentieth-century music and are found occasionally in earlier music. Each of these meters combines duple and triple meter. In quintuple meter, for example, the measure is subdivided into groups of 2 and 3 beats: 1-2-3/4-5 or 1-2/3-4-5.

Accent and Syncopation - An important aspect of rhythm is the way individual notes are stressed how they get special emphasis. A note is emphasised by being played louder than the notes around it, that is, by receiving a dynamic accent. When an accented note comes where we normally would not expect one, the effect is known as syncopation.

Tempo - is the speed of the beat, the pace of the music. A fast tempo is associated with a feeling of energy, drive, and excitement. A slow tempo often contributes to a solemn, lyrical, or calm mood. A tempo indication is usually given at the beginning of a piece. As with dynamics, the terms that show tempo (at the left) are in Italian.

Largo - very slow, broad

Grave - very slow, solemn

Adagio - slow

Andante - moderately slow, a walking pace

Moderato - moderate

Allegretto - moderately fast

Allegro - fast

Vivace - lively

Presto - very fast

Prestissimo - as fast as possible

A gradual quickening of tempo may be indicated by writing 'accelerando' (becoming faster), and a gradual slowing down of tempo by 'ritardando' (becoming slower). An 'accelerando', especially when combined with a rise in pitch and volume, increases excitement, and a 'ritardando' is associated with less tension and a feeling of conclusion.

A metronome is an apparatus that produces ticking sounds or flashes of light at any desired musical speed. The metronome setting indicates the exact number of beats per minute.

Melody

After hearing a piece of music, we usually remember its melody more than its other aspects. Melody is a series of single tones that add up to a recognisable whole. A melody begins, moves, and

ends; it has direction, shape, and continuity. The up-and-down movement of its pitches conveys tension and release, expectation and arrival. This is the melodic curve, or line.

A melody moves by small intervals called steps or by larger ones called leaps. A step is the interval between two adjacent tones in the do-re-mi scale (from do to re, re to mi, etc.). Any interval larger than a step is a leap (do to mi, for example). Besides moving up or down by step or leap, a melody may simply repeat the same note.

A melody's range is the distance between its lowest and highest tones. Range may be wide or narrow. Melodies written for instruments tend to have a wider range than those for voices do, and they often contain wide leaps and rapid notes that would be difficult to sing.

How the tones of a melody are performed can vary its effect, too. Sometimes they are sung or played in a smooth, connected style called legato. Or they may be performed in a short, detached manner called staccato.

Frequently, a melody will serve as the starting point for a more extended piece of music and, in stretching out, will go through all kinds of changes. This kind of melody is called a theme.

When folksingers accompany themselves on a guitar, they add support, depth, and richness to the melody. We call this harmonising. Most music in western culture is a blend of melody and harmony.

Harmony

Harmony refers to the way chords are constructed and how they follow each other. A chord is a combination of three or more tones sounded at once. Essentially, a chord is a group of simultaneous tones, and a melody is a series of individual tones heard one after another.

Some chords have been considered stable and restful, others unstable and tense. A tone combination that is stable is called a consonance. Consonances are points of arrival, rest, and resolution.

A tone combination that is unstable is called a dissonance. A dissonant combination of notes has its resolution when it moves to a consonance. When this resolution is delayed or accomplished in unexpected ways, a feeling of drama, suspense, or surprise is created. In this way a composer plays with the listener's sense of expectation.

Dissonant chords are active and move music forward. Traditionally they have been considered harsh and have been used in music that expresses pain, grief, and conflict.

Some consonant chords are more stable than others and some dissonant chords are more tense than others are. Dissonant chords have been used with increasing freedom over the centuries, so that a chord considered intolerably harsh in one period has later come to seem rather mild.

Chords

A great variety of chords have been used in music. Some chords consist of three different tones; others have four, five, or even more. Depending on their makeup chords sound simple or complex, calm or tense, bright or dark.

The simplest, most basic chord is the triad that consists of three tones. The bottom tone is called the root; the others are a third and a fifth above the root.

A triad built on the first, or tonic, note of the scale (do) is called the tonic chord.

The triad built on the fifth note of the scale (sol) is next in importance to the tonic. It is called the dominant chord (sol-ti-re). The dominant chord is strongly pulled toward the tonic chord. This attraction has great importance in music. A dominant chord sets up tension that is resolved by the tonic chord.

A progression from dominant chord to tonic chord is called a cadence. The word cadence can be used to mean both the resting point at the end of a melodic phrase and a chord progression that gives a sense of conclusion.

The central tone is the keynote, or tonic, of the melody. When a piece is in the key of C, for example, C is the keynote, or tonic. The keynote can also be E, or A, or any of the twelve tones that are found in western music.

Key

Key involves not only a central tone but also a central scale and chord. A piece of music in the key of C has a basic scale, do-re-mi-fa-sol-la-ti-do, with C as its do, or tonic. Key, then, refers to the presence of a central note, scale, and chord within a piece. Another term for key is tonality.

After 1900, some composers abandoned the traditional melodic system, however much of the music we hear is built around a central tone, chord, and scale. Practically all familiar melodies are built around a central tone. The other tones of the melody gravitate toward this central one. Since the central tone is especially stable and restful, a melody usually ends on it.

Shifting from one key to another within the same piece is called modulation. A modulation is like a temporary shift in the centre of gravity. When the music starts out in the key of C major, for instance, C is the central tone, and the C major scale and chord predominate. With a modulation to G major, G temporarily becomes the central tone, and the G major scale and chord are now the main ones. Though modulations are sometimes subtle and difficult to spot, they produce subconscious effects that increase our enjoyment of the music.

Polyphonic Texture

Simultaneous performance of two or more melodic lines of relatively equal interest produces the texture called polyphonic, meaning having many sounds. In polyphony several melodic lines compete for attention. (When several jazz musicians improvise different melodies at once, they produce polyphony.)

The technique of combining several melodic lines into a meaningful whole is called counterpoint. The term contrapuntal texture is sometimes used in place of polyphonic texture

Polyphonic music often contains imitation, which occurs when a melodic idea is presented by one voice or instrument and is then restated immediately by another voice or instrument.

Form

Form in music is the organisation of musical elements in time. In a musical composition, pitch, tone colour, dynamics, rhythm, melody, and texture interact to produce a sense of shape and structure.

Repetition, contrast, and variation are essential techniques in short tunes as well as in compositions lasting much longer. Repetition creates a sense of unity; contrast provides variety; and variation, in keeping some elements of a musical thought while changing others, gives a work unity and variety at the same time.

Repetition - In music the repetition of melodies or extended sections is a technique widely used for binding a composition together. Through repetition, a melody is engraved in the memory.

Contrast - Forward motion, conflict, and change of mood all come from contrast. Opposition of loud and soft, strings and woodwinds, fast and slow, major and minor propels and develops musical ideas. A composer can emphasise the power and excitement of one musical idea by contrasting it with another idea that is calm and lyrical

Variation - In the variation of a musical idea, some of its features will be retained while others are changed. For example, the melody might be restated with a different accompaniment. Or the pitches

of a melody might stay the same while its rhythmic pattern is changed. A whole composition can be created from a series of variations on a single musical idea.

Elements of Music - Sylvia Constantinidis from the web site -
<http://historyofmusic.tripod.com/id6.html>