

# Music and Mysticism

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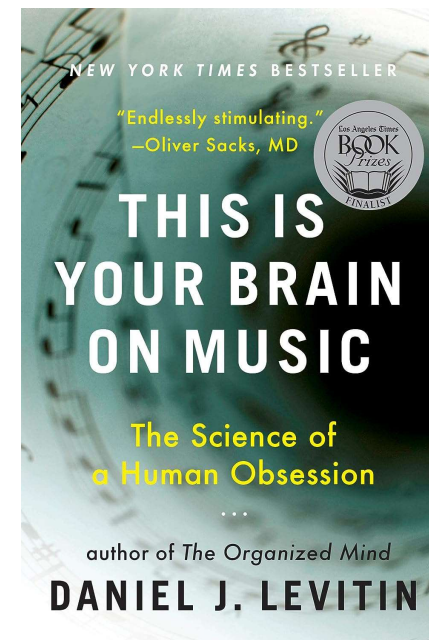
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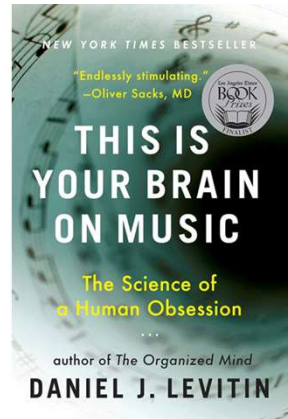
# Outline

- What Is Mysticism
- What Is Music
- History of Musical Instruments
- Taxonomy of Music
- Elements of Music
- Western European Music
- Linkages: From Rhythm to Timbre



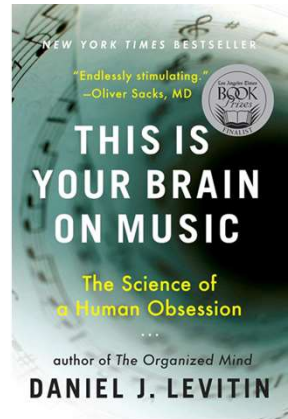
# You and Music

- [Daniel Levitin](#)
  - [Your Brain on Music](#)
  - [This Is Your Brain on Music: The Science of a Human Obsession](#)
- Your brain is a music machine: part of the brain is stimulated by
  - Sex
  - Drugs
  - Making money and
  - Rock and roll
- Music originally started with rhythm
- Over the past two hundred years timbre (the harmonic content of music) has become increasingly important



# Daniel Levitin

- [The World in Six Songs, TEDxUSC 2012](#)
- [This Is Your Brain On Music](#)
- [Why Music Moves Us](#)
- [This Is Your Brain on Music: The Science of a Human Obsession](#)
- [Music and the Mind: How They Co-Evolved](#)
- [The Organized Mind](#)
- [How to Age Well](#)
- [Successful Aging](#)
- [How to Stay Calm When You Know You'll Be Stressed](#)
- [A Field Guide to Lies](#)





# Music Potpourri

- [John Coltrane's Philosophy and Spirituality of Music](#)
- [The World's Ugliest Music](#)
- [Beethoven, the Heavy Metal of the Early 19<sup>th</sup> Century, TEDxYouth@Montreal](#)
- [Music as a Window into the Autistic Mind, TEDxSalem](#)
- [The Harmonic Series in Music, TEDxNYIT](#)
- [Opening the Door to the Language of Music, TEDxCaFoscariU](#)
- [Down the Rabbit Hole: The Hidden Connections of Music, TEDxNapaValley](#)
- [The Spirituality of Music \(According to Sufism\)](#)



# What Is Mysticism

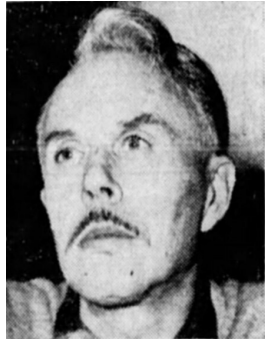
- The word mysticism refers to a divine experience where an individual believes to have become one with a supreme deity (or deities, based on the belief system of said person). Mysticism signifies a mystery regarding religious or spiritual practices.
- A religious experience (sometimes known as a spiritual experience, sacred experience, mystical experience) is a subjective experience which is interpreted within a religious framework. The concept originated in the 19th century, as a defense against the growing rationalism of Western society. William James popularised the concept. In some religions, this may result in unverified personal gnosis
- Mysticism is popularly known as becoming one with God or the Absolute, but may refer to any kind of ecstasy or altered state of consciousness which is given a religious or spiritual meaning. It may also refer to the attainment of insight in ultimate or hidden truths, and to human transformation supported by various practices and experiences.



# What Is Music?

- In the most general of terms, music is the arrangement of sound to create some combination of form, harmony, melody, rhythm, or otherwise expressive content.
- Definitions of music vary depending on culture, though it is an aspect of all human societies and a cultural universal.
- While scholars agree that music is defined by a few specific elements, there is no consensus on their precise definitions.
- The creation of music is commonly divided into musical composition, musical improvisation, and musical performance, though the topic itself extends into academic disciplines, criticism, philosophy, psychology, and therapeutic contexts.
- Music may be performed using a vast range of instruments, including the human voice to sing, and thus is often credited for its extreme versatility and opportunity for creativity.

# Harry Partch



- Harry Partch (June 24, 1901 – September 3, 1974) was an American composer, music theorist, and creator of unique musical instruments. He composed using scales of unequal intervals in just intonation, and was one of the first 20th-century composers in the West to work systematically with microtonal scales, alongside Lou Harrison. He built his own instruments in these tunings on which to play his compositions, and described the method behind his theory and practice in his book *Genesis of a Music* (1947). See [BBC documentary](#) on his life.
- Partch composed with scales dividing the octave into 43 unequal tones derived from the natural harmonic series; these scales allowed for more tones of smaller intervals than in standard Western tuning, which uses twelve equal intervals to the octave. To play his music, Partch built many unique instruments, with such names as the Chromelodeon, the Quadrangularis Reversum, and the Zymo-Xyl. Partch described his music as corporeal, and distinguished it from abstract music, which he perceived as the dominant trend in Western music since the time of Bach. His earliest compositions were small-scale pieces to be intoned to instrumental backing; his later works were large-scale, integrated theater productions in which he expected each of the performers to sing, dance, speak, and play instruments. Ancient Greek theatre and Japanese Noh and kabuki heavily influenced his music theatre.



# Music Etymology



- The modern English word 'music' came into use in the 1630s. It is derived from a long line of successive precursors: the Old English 'musike' of the mid-13th century; the Old French musique of the 12th century; and the Latin mūsica.
- The Latin word itself derives from the Ancient Greek mousiké (technē)—μουσική (τέχνη)—literally meaning "(art) of the Muses".
- The Muses were nine deities in Ancient Greek mythology who presided over the arts and sciences.
- They were included in tales by the earliest Western authors, Homer and Hesiod, and eventually came to be associated with music specifically.
- Over time, Polyhymnia would reside over music more prominently than the other muses.
- The Latin word musica was also the originator for both the Spanish música and French musique via spelling and linguistic adjustment, though other European terms were probably loanwords, including the Italian musica, German Musik, Dutch muziek, Norwegian musikk, Polish muzyka and Russian muzika.



# Music Etymology

- The modern Western world usually defines music as an all-encompassing term used to describe diverse genres, styles, and traditions.
- This is not the case worldwide, and languages such as modern Indonesian (musik) and Shona (musakazo) have recently adopted words to reflect this universal conception, as they did not have words that fit exactly the Western scope.
- Before Western contact in East Asia, neither Japan nor China had a single word that encompasses music in a broad sense, but culturally, they often regarded music in such a fashion.
- The closest word to mean music in Chinese, yue, shares a character with le, meaning joy, and originally referred to all the arts before narrowing in meaning.
- Africa is too diverse to make firm generalizations, but the musicologist J. H. Kwabena Nketia has emphasized African music's often inseparable connection to dance and speech in general. Some African cultures, such as the Songye people of the Democratic Republic of the Congo and the Tiv people of Nigeria, have a strong and broad conception of 'music' but no corresponding word in their native languages.
- Other words commonly translated as 'music' often have more specific meanings in their respective cultures: the Hindi word for music, sangita, properly refers to art music, while the many Indigenous languages of the Americas have words for music that refer specifically to song but describe instrumental music regardless.
- Though the Arabic musiqi can refer to all music, it is usually used for instrumental and metric music, while khandan identifies vocal and improvised music.



# History of Musical Instruments

- Prehistoric music can only be theorized based on findings from paleolithic archaeology sites. The Divje Babe flute, carved from a cave bear femur, is thought to be at least 40,000 years old, though there is considerable debate surrounding whether it is truly a musical instrument or an object formed by animals.
- The earliest objects whose designations as musical instruments are widely accepted are bone flutes from the Swabian Jura, Germany, namely from the Geissenklösterle, Hohle Fels and Vogelherd caves. Dated to the Aurignacian (of the Upper Paleolithic) and used by Early European modern humans, from all three caves there are eight examples, four made from the wing bones of birds and four from mammoth ivory; three of these are near complete.
- Three flutes from the Geissenklösterle are dated as the oldest, c. 43,150–39,370 BP.



# History of Musical Instruments

- The earliest material and representational evidence of Egyptian musical instruments dates to the Predynastic period, but the evidence is more securely attested in the Old Kingdom when harps, flutes and double clarinets were played.
- Percussion instruments, lyres, and lutes were added to orchestras by the Middle Kingdom.
- Cymbals frequently accompanied music and dance, much as they still do in Egypt today. Egyptian folk music, including the traditional Sufi dhikr rituals, are the closest contemporary music genre to ancient Egyptian music, having preserved many of its features, rhythms and instruments.
- The "Hurrian Hymn to Nikkal", found on clay tablets in the ancient Syrian city of Ugarit, is the oldest surviving notated work of music, dating back to approximately 1400 BCE



# History of Musical Instruments

- Music was an important part of social and cultural life in ancient Greece, in fact it was one of the main subjects taught to children. Musical education was considered to be important for the development of an individual's soul. Musicians and singers played a prominent role in Greek theater, and those who received a musical education were seen as nobles and in perfect harmony (as can be read in the Republic, Plato). Mixed gender choruses performed for entertainment, celebration, and spiritual ceremonies.
- Instruments included the double-reed aulos and a plucked string instrument, the lyre, principally a special kind called a kithara. Music was an important part of education, and boys were taught music starting at age six. Greek musical literacy created significant musical development. Greek music theory included the Greek musical modes, that eventually became the basis for Western religious and classical music. Later, influences from the Roman Empire, Eastern Europe, and the Byzantine Empire changed Greek music. The Seikilos epitaph is the oldest surviving example of a complete musical composition, including musical notation, from anywhere in the world.
- The oldest surviving work written on the subject of music theory is Harmonika Stoicheia by Aristoxenus.



# History of Musical Instruments

- Indian classical music is one of the oldest musical traditions in the world. Sculptures from the Indus Valley civilization show dance and old musical instruments, like the seven-holed flute.
- Stringed instruments and drums have been recovered from Harappa and Mohenjo Daro by excavations carried out by Mortimer Wheeler. The Rigveda, an ancient Hindu text, has elements of present Indian music, with musical notation to denote the meter and mode of chanting. Indian classical music (marga) is monophonic, and based on a single melody line or raga rhythmically organized through talas. The poem Cilappatikaram provides information about how new scales can be formed by modal shifting of the tonic from an existing scale.
- Present day Hindi music was influenced by Persian traditional music and Afghan Mughals. Carnatic music, popular in the southern states, is largely devotional; the majority of the songs are addressed to the Hindu deities. There are songs emphasizing love and other social issues.

# History of Musical Instruments



- Indonesian music has been formed since the Bronze Age culture migrated to the Indonesian archipelago in the 2nd-3rd centuries BCE.
- Indonesian traditional music uses percussion instruments, especially kendang and gongs. Some of them developed elaborate and distinctive instruments, such as the sasando stringed instrument on the island of Rote, the Sundanese angklung, and the complex and sophisticated Javanese and Balinese gamelan orchestras. Indonesia is the home of gong chime, a general term for a set of small, high pitched pot gongs.
- Gongs are usually placed in order of note, with the boss up on a string held in a low wooden frame. The most popular form of Indonesian music is gamelan, an ensemble of tuned percussion instruments that include metallophones, drums, gongs and spike fiddles along with bamboo suling (like a flute).



# History of Musical Instruments

- Chinese classical music, the traditional art or court music of China, has a history stretching over about 3,000 years.
- It has its own unique systems of musical notation, as well as musical tuning and pitch, musical instruments and styles or genres.
- Chinese music is pentatonic-diatonic, having a scale of twelve notes to an octave ( $5 + 7 = 12$ ) as does European-influenced music.





# Western Europe Middle Ages Music

- The medieval music era (500 to 1400), which took place during the Middle Ages, started with the introduction of monophonic (single melodic line) chanting into Catholic Church services.
- Musical notation was used since ancient times in Greek culture, but in the Middle Ages, notation was first introduced by the Catholic Church, so chant melodies could be written down, to facilitate the use of the same melodies for religious music across the Catholic empire.
- The only European Medieval repertory that has been found, in written form, from before 800 is the monophonic liturgical plainsong chant of the Catholic Church, the central tradition of which was called Gregorian chant.
- Alongside these traditions of sacred and church music there existed a vibrant tradition of secular song (non-religious songs). Examples of composers from this period are Léonin, Pérotin, Guillaume de Machaut, and Walther von der Vogelweide



# Western Europe Renaissance Music

- Renaissance music (c. 1400 to 1600) was more focused on secular themes, such as courtly love.
- Around 1450, the printing press was invented, which made printed sheet music much less expensive and easier to mass-produce (prior to the invention of the press, all notated music was hand-copied).
- The increased availability of sheet music spread musical styles quicker and across a larger area. Musicians and singers often worked for the church, courts and towns. Church choirs grew in size, and the church remained an important patron of music. By the middle of the 15th century, composers wrote richly polyphonic sacred music, in which different melody lines were interwoven simultaneously. Prominent composers from this era include Guillaume Du Fay, Giovanni Pierluigi da Palestrina, Thomas Morley, Orlando di Lasso and Josquin des Prez.
- As musical activity shifted from the church to aristocratic courts, kings, queens and princes competed for the finest composers. Many leading composers came from the Netherlands, Belgium, and France; they are called the Franco-Flemish composers.
- They held important positions throughout Europe, especially in Italy. Other countries with vibrant musical activity included Germany, England, and Spain.



# Western Europe Baroque Music

- The Baroque era of music took place from 1600 to 1750, as the Baroque artistic style flourished across Europe; and during this time, music expanded in its range and complexity. Baroque music began when the first operas (dramatic solo vocal music accompanied by orchestra) were written.
- During the Baroque era, polyphonic contrapuntal music, in which multiple, simultaneous independent melody lines were used, remained important (counterpoint was important in the vocal music of the Medieval era).
- German Baroque composers wrote for small ensembles including strings, brass, and woodwinds, as well as for choirs and keyboard instruments such as pipe organ, harpsichord, and clavichord. During this period several major music forms were defined that lasted into later periods when they were expanded and evolved further, including the fugue, the invention, the sonata, and the concerto.
- The late Baroque style was polyphonically complex and richly ornamented. Important composers from the Baroque era include Johann Sebastian Bach (Cello suites), George Frideric Handel (Messiah), Georg Philipp Telemann and Antonio Vivaldi (The Four Seasons).



# Western Europe Classical Music

- The music of the Classical period (1730 to 1820) aimed to imitate what were seen as the key elements of the art and philosophy of Ancient Greece and Rome: the ideals of balance, proportion and disciplined expression. (Note: the music from the Classical period should not be confused with Classical music in general, a term which refers to Western art music from the 5th century to the 2000s, which includes the Classical period as one of a number of periods).
- Music from the Classical period has a lighter, clearer and considerably simpler texture than the Baroque music which preceded it.
- The main style was homophony, where a prominent melody and a subordinate chordal accompaniment part are clearly distinct.
- Classical instrumental melodies tended to be almost voicelike and singable. New genres were developed, and the fortepiano, the forerunner to the modern piano, replaced the Baroque era harpsichord and pipe organ as the main keyboard instrument (though pipe organ continued to be used in sacred music, such as Masses).



# Western Europe Classical Music

- Importance was given to instrumental music. It was dominated by further development of musical forms initially defined in the Baroque period: the sonata, the concerto, and the symphony.
- Other main kinds were the trio, string quartet, serenade and divertimento. The sonata was the most important and developed form. Although Baroque composers also wrote sonatas, the Classical style of sonata is completely distinct. All of the main instrumental forms of the Classical era, from string quartets to symphonies and concertos, were based on the structure of the sonata.
- The instruments used chamber music and orchestra became more standardized. In place of the basso continuo group of the Baroque era, which consisted of harpsichord, organ or lute along with a number of bass instruments selected at the discretion of the group leader (e.g., viol, cello, theorbo, serpent), Classical chamber groups used specified, standardized instruments (e.g., a string quartet would be performed by two violins, a viola and a cello).
- The practice of improvised chord-playing by the continuo keyboardist or lute player, a hallmark of Baroque music, underwent a gradual decline between 1750-1800.



# Western Europe Classical Music

- One of the most important changes made in the Classical period was the development of public concerts. The aristocracy still played a significant role in the sponsorship of concerts and compositions, but it was now possible for composers to survive without being permanent employees of queens or princes. The increasing popularity of classical music led to a growth in the number and types of orchestras.
- The expansion of orchestral concerts necessitated the building of large public performance spaces. Symphonic music including symphonies, musical accompaniment to ballet and mixed vocal/instrumental genres, such as opera and oratorio, became more popular.
- The best known composers of Classicism are Carl Philipp Emanuel Bach, Christoph Willibald Gluck, Johann Christian Bach, Joseph Haydn, Wolfgang Amadeus Mozart, Ludwig van Beethoven and Franz Schubert. Beethoven and Schubert are also considered to be composers in the later part of the Classical era, as it began to move towards Romanticism.



# Western Europe Romantic Music

- Romantic music (c. 1820 to 1900) from the 19th century had many elements in common with the Romantic styles in literature and painting of the era. Romanticism was an artistic, literary, and intellectual movement characterized by its emphasis on emotion and individualism as well as glorification of all the past and nature.
- Romantic music expanded beyond the rigid styles and forms of the Classical era into more passionate, dramatic expressive pieces and songs.
- Romantic composers such as Wagner and Brahms attempted to increase emotional expression and power in their music to describe deeper truths or human feelings.
- With symphonic tone poems, composers tried to tell stories and evoke images or landscapes using instrumental music. Some composers promoted nationalistic pride with patriotic orchestral music inspired by folk music. The emotional and expressive qualities of music came to take precedence over tradition.



# Western European Romantic Music

- Romantic composers grew in idiosyncrasy, and went further in the syncretism of exploring different art-forms in a musical context, (such as literature), history (historical figures and legends), or nature itself. Romantic love or longing was a prevalent theme in many works composed during this period. In some cases, the formal structures from the classical period continued to be used (e.g., the sonata form used in string quartets and symphonies), but these forms were expanded and altered. In many cases, new approaches were explored for existing genres, forms, and functions. Also, new forms were created that were deemed better suited to the new subject matter. Composers continued to develop opera and ballet music, exploring new styles and themes.
- In the years after 1800, the music developed by Ludwig van Beethoven and Franz Schubert introduced a more dramatic, expressive style. In Beethoven's case, short motifs, developed organically, came to replace melody as the most significant compositional unit (an example is the distinctive four note figure used in his Fifth Symphony).
- Later Romantic composers such as Pyotr Ilyich Tchaikovsky, Antonín Dvořák, and Gustav Mahler used more unusual chords and more dissonance to create dramatic tension. They generated complex and often much longer musical works. During the late Romantic period, composers explored dramatic chromatic alterations of tonality, such as extended chords and altered chords, which created new sound "colors." The late 19th century saw a dramatic expansion in the size of the orchestra, and the industrial revolution helped to create better instruments, creating a more powerful sound.
- Public concerts became an important part of well-to-do urban society. It also saw a new diversity in theatre music, including operetta, and musical comedy and other forms of musical theatre.





# Western Modern Music

- In the 19th century, a key way new compositions became known to the public, was by the sales of sheet music, which middle class amateur music lovers would perform at home, on their piano or other common instruments, such as the violin.
- With 20th-century music, the invention of new electric technologies such as radio broadcasting and mass market availability of gramophone records meant sound recordings heard by listeners (on the radio or record player), became the main way to learn about new songs and pieces.
- There was a vast increase in music listening as the radio gained popularity and phonographs were used to replay and distribute music, anyone with a radio or record player could hear operas, symphonies and big bands in their own living room.
- During the 19th century, the focus on sheet music had restricted access to new music to middle and upper-class people who could read music and who owned pianos and other instruments. Radios and record players allowed lower-income people, who could not afford an opera or symphony concert ticket to hear this music.
- It meant people could hear music from different parts of the country, or even different parts of the world, even if they could not afford to travel to these locations. This helped to spread musical styles



# Western Modern Music

- The focus of art music in the 20th century was characterized by exploration of new rhythms, styles, and sounds.
- The horrors of World War I influenced many of the arts, including music, and composers began exploring darker, harsher sounds. Traditional music styles such as jazz and folk music were used by composers as a source of ideas for classical music. Igor Stravinsky, Arnold Schoenberg, and John Cage were influential composers in 20th-century art music.
- The invention of sound recording and the ability to edit music gave rise to new subgenres of classical music, including the acousmatic and Musique concrète schools of electronic composition. Sound recording was a major influence on the development of popular music genres, because it enabled recordings of songs and bands to be widely distributed.
- The introduction of the multitrack recording system had a major influence on rock music, because it could do more than record a band's performance. Using a multitrack system, a band and their music producer could overdub many layers of instrument tracks and vocals, creating new sounds that would not be possible in a live performance.



# Western Modern Music

- Jazz evolved and became an important genre of music over the course of the 20th century, and during the second half, rock music did the same. Jazz is an American musical artform that originated in the beginning of the 20th century, in African American communities in the Southern United States from a confluence of African and European music traditions. The style's West African pedigree is evident in its use of blue notes, improvisation, polyrhythms, syncopation, and the swung note.
- Rock music is a genre of popular music that developed in the 1950s from rock and roll, rockabilly, blues, and country music. The sound of rock often revolves around the electric or acoustic guitar, and it uses a strong back beat laid down by a rhythm section. Along with the guitar or keyboards, saxophone and blues-style harmonica are used as soloing instruments. In its "purest form", it "has three chords, a strong, insistent back beat, and a catchy melody." The traditional rhythm section for popular music is rhythm guitar, electric bass guitar, drums. Some bands have keyboard instruments such as organ, piano, or, since the 1970s, analog synthesizers. In the 1980s, pop musicians began using digital synthesizers, such as the DX-7 synthesizer, electronic drum machines such as the TR-808 and synth bass devices (such as the TB-303) or synth bass keyboards.
- In the 1990s, an increasingly large range of computerized hardware musical devices and instruments and software (e.g. digital audio workstations) were used. In the 2020s, soft synths and computer music apps make it possible for bedroom producers to create and record types of music, such as electronic dance music, in their home, adding sampled and digital instruments and editing the recording digitally. In the 1990s, bands in genres such as nu metal began including DJs in their bands. DJs create music by manipulating recorded music, using a DJ mixer.
- Innovation in music technology continued into the 21st century, including the development of isomorphic keyboards and Dynamic Tonality.

# Elements of Music



- Music has many different fundamentals or elements. Depending on the definition of "element" being used, these can include pitch, beat or pulse, tempo, rhythm, melody, harmony, texture, style, allocation of voices, timbre or color, dynamics, expression, articulation, form, and structure. The elements of music feature prominently in the music curriculums of Australia, the UK, and the US. All three curriculums identify pitch, dynamics, timbre, and texture as elements, but the other identified elements of music are far from universally agreed upon. Below is a list of the three official versions of the "elements of music":
  - Australia: pitch, timbre, texture, dynamics and expression, rhythm, form and structure.
  - UK: pitch, timbre, texture, dynamics, duration, tempo, structure.
  - USA: pitch, timbre, texture, dynamics, rhythm, form, harmony, style/articulation.
- In relation to the UK curriculum, in 2013 the term: "appropriate musical notations" was added to their list of elements and the title of the list was changed from the "elements of music" to the "inter-related dimensions of music". The inter-related dimensions of music are listed as: pitch, duration, dynamics, tempo, timbre, texture, structure, and appropriate musical notations.
- The phrase "the elements of music" is used in a number of different contexts. The two most common contexts can be differentiated by describing them as the "rudimentary elements of music" and the "perceptual elements of music"

# Pitch



- Pitch is an aspect of a sound that we can hear, reflecting whether one musical sound, note, or tone is "higher" or "lower" than another musical sound, note, or tone.
- We can talk about the highness or lowness of pitch in the more general sense, such as the way a listener hears a piercingly high piccolo note or whistling tone as higher in pitch than a deep thump of a bass drum.
- We also talk about pitch in the precise sense associated with musical melodies, basslines and chords.
- Precise pitch can only be determined in sounds that have a frequency that is clear and stable enough to distinguish from noise. For example, it is much easier for listeners to discern the pitch of a single note played on a piano than to try to discern the pitch of a crash cymbal that is struck.

# Melody



- A melody, also called a "tune", is a series of pitches (notes) sounding in succession (one after the other), often in a rising and falling pattern.
- The notes of a melody are typically created using pitch systems such as scales or modes. Melodies also often contain notes from the chords used in the song. The melodies in simple folk songs and traditional songs may use only the notes of a single scale, the scale associated with the tonic note or key of a given song.
- For example, a folk song in the key of C (also referred to as C major) may have a melody that uses only the notes of the C major scale (the individual notes C, D, E, F, G, A, B, and C; these are the "white notes" on a piano keyboard).
- On the other hand, Bebop-era jazz from the 1940s and contemporary music from the 20th and 21st centuries may use melodies with many chromatic notes (i.e., notes in addition to the notes of the major scale; on a piano, a chromatic scale would include all the notes on the keyboard, including the "white notes" and "black notes" and unusual scales, such as the whole tone scale (a whole tone scale in the key of C would contain the notes C, D, E, F $\sharp$ , G $\sharp$  and A $\sharp$ ). A low musical line played by bass instruments, such as double bass, electric bass, or tuba, is called a bassline.

# Harmony



- Harmony refers to the "vertical" sounds of pitches in music, which means pitches that are played or sung together at the same time to create a chord.
- Usually, this means the notes are played at the same time, although harmony may also be implied by a melody that outlines a harmonic structure (i.e., by using melody notes that are played one after the other, outlining the notes of a chord).
- In music written using the system of major-minor tonality ("keys"), which includes most classical music written from 1600 to 1900 and most Western pop, rock, and traditional music, the key of a piece determines the "home note" or tonic to which the piece generally resolves, and the character (e.g. major or minor) of the scale in use.
- Simple classical pieces and many pop and traditional music songs are written so that all the music is in a single key. More complex Classical, pop, and traditional music songs and pieces may have two keys (and in some cases three or more keys).
- Classical music from the Romantic era (written from about 1820–1900) often contains multiple keys, as does jazz, especially Bebop jazz from the 1940s, in which the key or "home note" of a song may change every four bars or even every two bars

# Rhythm



- Rhythm is the arrangement of sounds and silences in time.
- Meter animates time in regular pulse groupings, called measures or bars, which in Western classical, popular, and traditional music often group notes in sets of two (e.g., 2/4 time), three (e.g., 3/4 time, also known as Waltz time, or 3/8 time), or four (e.g., 4/4 time).
- Meters are made easier to hear because songs and pieces often (but not always) place an emphasis on the first beat of each grouping. Notable exceptions exist, such as the backbeat used in much Western pop and rock, in which a song that uses a measure that consists of four beats (called 4/4 time or common time) will have accents on beats two and four, which are typically performed by the drummer on the snare drum, a loud and distinctive-sounding percussion instrument.
- In pop and rock, the rhythm parts of a song are played by the rhythm section, which includes chord-playing instruments (e.g., electric guitar, acoustic guitar, piano, or other keyboard instruments), a bass instrument (typically electric bass or for some styles such as jazz and bluegrass, double bass) and a drum kit player.



# Texture



- Musical texture is the overall sound of a piece of music or song. The texture of a piece or song is determined by how the melodic, rhythmic, and harmonic materials are combined in a composition, thus determining the overall nature of the sound in a piece. Texture is often described in regard to the density, or thickness, and range, or width, between lowest and highest pitches, in relative terms as well as more specifically distinguished according to the number of voices, or parts, and the relationship between these voices (see common types below). For example, a thick texture contains many 'layers' of instruments. One layer can be a string section or another brass. The thickness is affected by the amount and the richness of the instruments. Texture is commonly described according to the number of and relationship between parts or lines of music:
  - monophony: a single melody (or "tune") with neither instrumental accompaniment nor a harmony part. A mother singing a lullaby to her baby would be an example.
  - heterophony: two or more instruments or singers playing/singing the same melody, but with each performer slightly varying the rhythm or speed of the melody or adding different ornaments to the melody. Two bluegrass fiddlers playing the same traditional fiddle tune together will typically each vary the melody by some degree and each add different ornaments.
  - polyphony: multiple independent melody lines that interweave together, which are sung or played at the same time. Choral music written in the Renaissance music era was typically written in this style. A round, which is a song such as "Row, Row, Row Your Boat", which different groups of singers all start to sing at a different time, is an example of polyphony.
  - homophony: a clear melody supported by chordal accompaniment. Most Western popular music songs from the 19th century onward are written in this texture.
- Music that contains a large number of independent parts (e.g., a double concerto accompanied by 100 orchestral instruments with many interweaving melodic lines) is generally said to have a "thicker" or "denser" texture than a work with few parts (e.g., a solo flute melody accompanied by a single cello).



# Timbre

- Timbre, sometimes called "color" or "tone color" is the quality or sound of a voice or instrument.
- Timbre is what makes a particular musical sound different from another, even when they have the same pitch and loudness.
  - For example, a 440 Hz A note sounds different when it is played on oboe, piano, violin, or electric guitar. Even if different players of the same instrument play the same note, their notes might sound different due to differences in instrumental technique (e.g., different embouchures), different types of accessories (e.g., mouthpieces for brass players, reeds for oboe and bassoon players) or strings made out of different materials for string players (e.g., gut strings versus steel strings).
- Even two instrumentalists playing the same note on the same instrument (one after the other) may sound different due to different ways of playing the instrument (e.g., two string players might hold the bow differently).

# Timbre



- The physical characteristics of sound that determine the perception of timbre include the spectrum, envelope, and overtones of a note or musical sound.
- For electric instruments developed in the 20th century, such as electric guitar, electric bass and electric piano, the performer can also change the tone by adjusting equalizer controls, tone controls on the instrument, and by using electronic effects units such as distortion pedals.
- The tone of the electric Hammond organ is controlled by adjusting drawbars. Other electronic organs use digital signal processors or neural network processing. Artificial intelligence can be expected to have a significant impact on timbre.

# Expresssion



- Expressive qualities are those elements in music that create change in music without changing the main pitches or substantially changing the rhythms of the melody and its accompaniment.
- Performers, including singers and instrumentalists, can add musical expression to a song or piece by adding phrasing, by adding effects such as vibrato (with voice and some instruments, such as guitar, violin, brass instruments, and woodwinds), dynamics (the loudness or softness of piece or a section of it), tempo fluctuations (e.g., ritardando or accelerando, which are, respectively slowing down and speeding up the tempo), by adding pauses or fermatas on a cadence, and by changing the articulation of the notes (e.g., making notes more pronounced or accented, by making notes more legato, which means smoothly connected, or by making notes shorter).
- Expression is achieved through the manipulation of pitch (such as inflection, vibrato, slides etc.), volume (dynamics, accent, tremolo etc.), duration (tempo fluctuations, rhythmic changes, changing note duration such as with legato and staccato, etc.), timbre (e.g. changing vocal timbre from a light to a resonant voice) and sometimes even texture (e.g. doubling the bass note for a richer effect in a piano piece).
- Expression therefore can be seen as a manipulation of all elements to convey "an indication of mood, spirit, character etc." and as such cannot be included as a unique perceptual element of music, although it can be considered an important rudimentary element of music.

# Form



- In music, form describes the overall structure or plan of a song or piece of music, and it describes the layout of a composition as divided into sections. In the early 20th century, Tin Pan Alley songs and Broadway musical songs were often in AABA thirty-two-bar form, in which the A sections repeated the same eight bar melody (with variation) and the B section provided a contrasting melody or harmony for eight bars. From the 1960s onward, Western pop and rock songs are often in verse-chorus form, which comprises a sequence of verse and chorus ("refrain") sections, with new lyrics for most verses and repeating lyrics for the choruses. Popular music often makes use of strophic form, sometimes in conjunction with the twelve bar blues.
- In the tenth edition of *The Oxford Companion to Music*, Percy Scholes defines musical form as "a series of strategies designed to find a successful mean between the opposite extremes of unrelieved repetition and unrelieved alteration." Examples of common forms of Western music include the fugue, the invention, sonata-allegro, canon, strophic, theme and variations, and rondo.
- Scholes states that European classical music had only six stand-alone forms: simple binary, simple ternary, compound binary, rondo, air with variations, and fugue (although musicologist Alfred Mann emphasized that the fugue is primarily a method of composition that has sometimes taken on certain structural conventions.)
- Where a piece cannot readily be broken into sectional units (though it might borrow some form from a poem, story or programme), it is said to be through-composed. Such is often the case with a fantasia, prelude, rhapsody, etude (or study), symphonic poem, Bagatelle, impromptu or similar composition. Professor Charles Keil classified forms and formal detail as "sectional, developmental, or variational."



# Mysticism/Aesthetics in Music

- In ancient times, such as with the Ancient Greeks, the aesthetics of music explored the mathematical and cosmological dimensions of rhythmic and harmonic organization. In the 18th century, focus shifted to the experience of hearing music, and thus to questions about its beauty and human enjoyment (plaisir and jouissance) of music. The origin of this philosophic shift is sometimes attributed to Alexander Gottlieb Baumgarten in the 18th century, followed by Immanuel Kant. Through their writing, the ancient term 'aesthetics', meaning sensory perception, received its present-day connotation. In the 2000s, philosophers have tended to emphasize issues besides beauty and enjoyment. For example, music's capacity to express emotion has been foregrounded.
- In the 20th century, important contributions were made by Peter Kivy, Jerrold Levinson, Roger Scruton, and Stephen Davies. However, many musicians, music critics, and other non-philosophers have contributed to the aesthetics of music. In the 19th century, a significant debate arose between Eduard Hanslick, a music critic and musicologist, and composer Richard Wagner regarding whether music can express meaning. Harry Partch and some other musicologists, such as Kyle Gann, have studied and tried to popularize microtonal music and the usage of alternate musical scales. Modern composers like La Monte Young, Rhys Chatham and Glenn Branca paid much attention to a scale called just intonation.
- It is often thought that music has the ability to affect our emotions, intellect, and psychology; it can assuage our loneliness or incite our passions. The philosopher Plato suggests in *The Republic* that music has a direct effect on the soul. Therefore, he proposes that in the ideal regime music would be closely regulated by the state (Book VII).
- In Ancient China, the philosopher Confucius believed that music and rituals or rites are interconnected and harmonious with nature; he stated that music was the harmonization of heaven and earth, while the order was brought by the rites order, making them extremely crucial functions in society.

# Psychoacoustics



- Since the emergence of the study of psychoacoustics in the 1930s, most lists of elements of music have related more to how we hear music than how we learn to play it or study it. C.E. Seashore, in his book *Psychology of Music*, identified four "psychological attributes of sound". These were: "pitch, loudness, time, and timbre" (p. 3). He did not call them the "elements of music" but referred to them as "elemental components" (p. 2). Nonetheless, these elemental components link precisely with four of the most common musical elements: "Pitch" and "timbre" match exactly, "loudness" links with dynamics, and "time" links with the time-based elements of rhythm, duration, and tempo. This usage of the phrase "the elements of music" links more closely with Webster's New 20th Century Dictionary definition of an element as: "a substance which cannot be divided into a simpler form by known methods" and educational institutions' lists of elements generally align with this definition as well.
- Although writers of lists of "rudimentary elements of music" can vary their lists depending on their personal (or institutional) priorities, the perceptual elements of music should consist of an established (or proven) list of discrete elements which can be independently manipulated to achieve an intended musical effect. It seems at this stage that there is still research to be done in this area.
- A slightly different way of approaching the identification of the elements of music, is to identify the "elements of sound" as: pitch, duration, loudness, timbre, sonic texture and spatial location, and then to define the "elements of music" as: sound, structure, and artistic intent.



# The Role of Women in Music

- Women have played a major role in music throughout history, as composers, songwriters, instrumental performers, singers, conductors, music scholars, music educators, music critics/music journalists and other musical professions. In the 2010s, while women comprise a significant proportion of popular music and classical music singers, and a significant proportion of songwriters (many of them being singer-songwriters), there are few women record producers, rock critics and rock instrumentalists.
- Although there have been a huge number of women composers in classical music, from the medieval period to the present day, women composers are significantly underrepresented in the commonly performed classical music repertoire, music history textbooks and music encyclopedias; for example, in the Concise Oxford History of Music, Clara Schumann is one of the few female composers who is mentioned.
- Women comprise a significant proportion of instrumental soloists in classical music and the percentage of women in orchestras is increasing. A 2015 article on concerto soloists in major Canadian orchestras, however, indicated that 84% of the soloists with the Montreal Symphony Orchestra were men. In 2012, women still made up just 6% of the top-ranked Vienna Philharmonic orchestra. Women are less common as instrumental players in popular music genres such as rock and heavy metal, although there have been a number of notable female instrumentalists and all-female bands. Women are particularly underrepresented in extreme metal genres.
- In the 1960s pop-music scene, "[l]ike most aspects of the...music business, [in the 1960s,] songwriting was a male-dominated field. Though there were plenty of female singers on the radio, women ...were primarily seen as consumers:... Singing was sometimes an acceptable pastime for a girl, but playing an instrument, writing songs, or producing records simply wasn't done." Young women "...were not socialized to see themselves as people who create [music]."

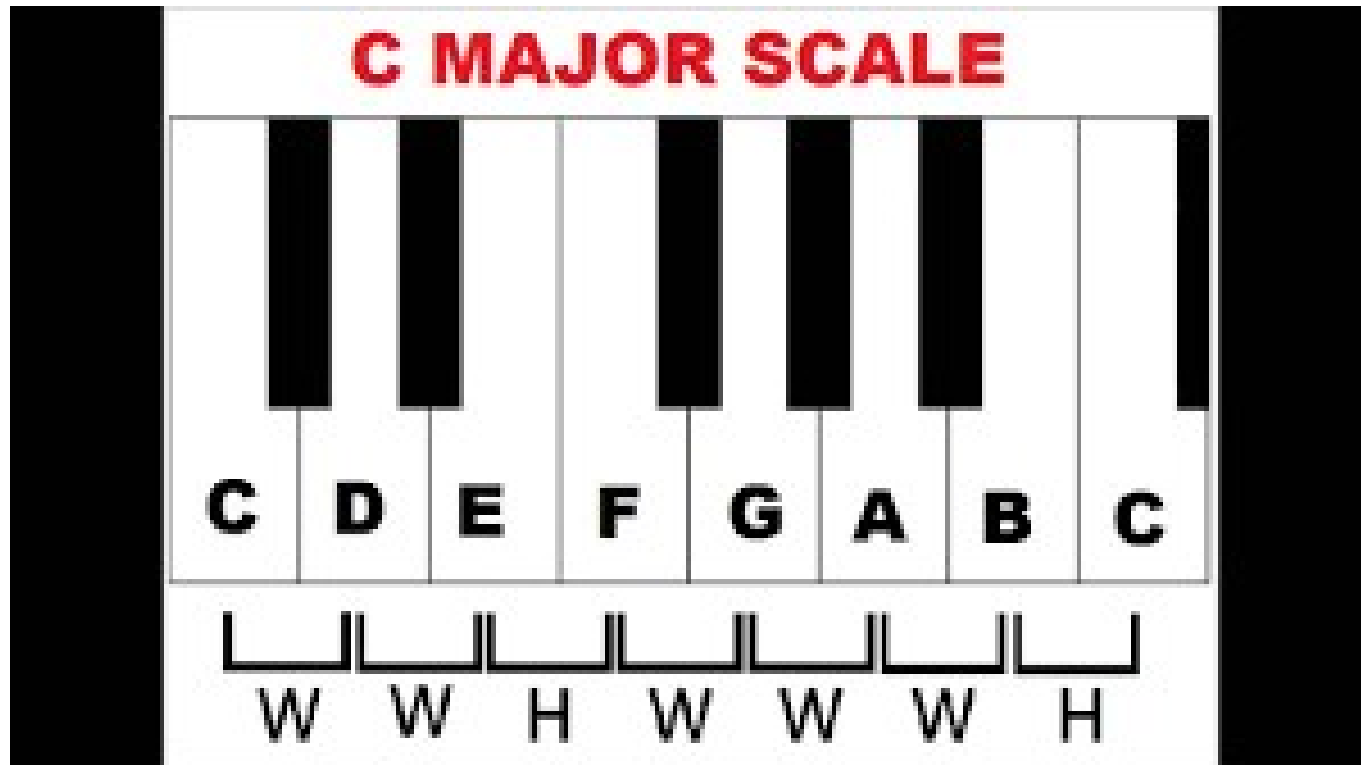




# Musical Instruments

- A musical instrument is a device created or adapted to make musical sounds. In principle, any object that produces sound can be considered a musical instrument—it is through purpose that the object becomes a musical instrument. A person who plays a musical instrument is known as an instrumentalist.
- The history of musical instruments dates to the beginnings of human culture. Early musical instruments may have been used for rituals, such as a horn to signal success on the hunt, or a drum in a religious ceremony. Cultures eventually developed composition and performance of melodies for entertainment. Musical instruments evolved in step with changing applications and technologies.
  - Percussion: drums, cymbals, piano, harp, lyre, guitar, marimba
  - Wind: flute, piccolo, clarinet, oboe, bassoon, saxophone, organ
  - Brass: trumpet, cornet, trombone, tuba, French horn
  - Strings: violin, viola, bass, cello
  - Bells: handbells, carillon

# Piano Keyboard One Octave





# 12 Semitones to An Octave

- | Distance in semitones | Interval name                                  |
|-----------------------|--|
| • 0                   | unison   |
| • 1                   | minor second                                   |
| • 2                   | major second                                   |
| • 3                   | minor third                                    |
| • 4                   | major third                                    |
| • 5                   | perfect fourth                                 |
| • 6                   | augmented fourth, diminished fifth, or tritone |
| • 7                   | perfect fifth                                  |
| • 8                   | minor sixth                                    |
| • 9                   | major sixth                                    |
| • 10                  | minor seventh                                  |
| • 11                  | major seventh                                  |
| • 12                  | octave   |
- Levitin, Daniel J. (2006-08-02T23:58:59.000). This Is Your Brain on Music . Penguin Publishing Group. Kindle Edition.



# Linkage of Mysticism and Music

- Resonances within different aspects of music that link to the collective unconsciousness and to archetypes
- Different types of emotions, depth and breadth
- Linkage of environment with music: Gregorian chant in a cathedral, organ music in a chapel, carillon in a plaza, chorus in a cathedral
- Mystical linkage to health: music can heal!

# Music and Technology



- Since the 20th century, live music can be broadcast over the radio, television or the Internet, or recorded and listened to on a CD player or MP3 player.
- In the early 20th century (in the late 1920s), as talking pictures emerged in the early 20th century, with their prerecorded musical tracks, an increasing number of moviehouse orchestra musicians found themselves out of work. During the 1920s, live musical performances by orchestras, pianists, and theater organists were common at first-run theaters.
- Sometimes, live performances incorporate prerecorded sounds. For example, a disc jockey uses disc records for scratching, and some 20th-century works have a solo for an instrument or voice that is performed along with music that is prerecorded onto a tape. Some pop bands use recorded backing tracks. Computers and many keyboards can be programmed to produce and play Musical Instrument Digital Interface (MIDI) music. Audiences can also become performers by participating in karaoke, an activity of Japanese origin centered on a device that plays voice-eliminated versions of well-known songs. Most karaoke machines also have video screens that show lyrics to songs being performed; performers can follow the lyrics as they sing over the instrumental tracks.
- The advent of the Internet and widespread high-speed broadband access has transformed the experience of music, partly through the increased ease of access to recordings of music via streaming video and vastly increased choice of music for consumers. Another effect of the Internet arose with online communities and social media websites like YouTube and Facebook, a social networking service.
- These sites make it easier for aspiring singers and amateur bands to distribute videos of their songs, connect with other musicians, and gain audience interest. Professional musicians also use YouTube as a free publisher of promotional material. YouTube users, for example, no longer only download and listen to MP3s, but also actively create their own. According to Don Tapscott and Anthony D. Williams, in their book *Wikinomics*, there has been a shift from a traditional consumer role to what they call a "prosumer" role, a consumer who both creates content and consumes. Manifestations of this in music include the production of mashes, remixes, and music videos by fans.