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The practice of harmony 7th edition answer key

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Considers the practices and possibilities of music Iubal, Pythagoras and Philolaus engaged in theoretical investigations, in a woodcut from Franchinus Gaffurius, Theorica musicæ (1492). Music theory is the study of the practices and possibilities of music. The Oxford Companion to Music describes three interrelated uses of the term "music theory"
The first is the "rudiments", that are needed to understand music notation (key signatures, and rhythmic notation); the second is learning scholars' views on music from antiquity to the present; the third a sub-topic of musicology that "seeks to define processes and general principles in music". The musicological approach to theory
differs from music analysis "in that it takes as its starting-point not the individual work or performance but the fundamental materials from which it is built."[1] Music theory is frequently concerned with describing how musicians and composers make music, including tuning systems and composition methods among other topics. Because of the ever-
expanding conception of what constitutes music (see Definition could be that music theory is the consideration of any sonic phenomena, including silence, as they relate to music. This is not an absolute guideline; for example, the study of "music" in the Quadrivium liberal arts university curriculum that was
common in medieval Europe was an abstract system of proportions that was carefully studied at a distance from actual musical practice.[2] However, this medieval discipline became the basis for tuning systems in later centuries, and it is generally included in modern scholarship on the history of music theory.[3] Music theory as a practical discipline
encompasses the methods and concepts composers and other musicians use in creating music. The development, preservation, and transmission of music theory in this sense may be found in oral and written music-making traditions, musical instruments, and other artifacts. For example, ancient instruments from prehistoric sites around the world
reveal details about the music they produced and potentially something of the musical theory that might have been used by their makers (see History of music theory are visible in instruments, or all traditions, and current music-making. Many
cultures have also considered music theory in more formal ways such as written treatises and music notation. Practical and scholarly traditions overlap, as many practical treatises about music place themselves within a tradition of other treatises, which are cited regularly just as scholarly writing cites earlier research. In modern academia, music
theory is a subfield of musicology, the wider study of musical cultures and history. Etymologically, music theory is an act of contemplation of music, from the Greek θεωρία, a looking at, viewing, contemplation, speculation, theory, also a sight, a spectacle.[4] As such, it is often concerned with abstract musical aspects such as tuning and tonal systems,
scales, consonance and dissonance, and rhythmic relationships, but there is also a body of theory concerning practical aspects, such as the creation or the performance of music, orchestration, ornamentation, improvisation, and electronic sound production.[5] A person who researches, teaches, or writes articles about music theory is a music theorist.
University study, typically to the MA or PhD level, is required to teach as a tenure-track music theorist in a US or Canadian university. Methods of analysis enabled by Western music notation. Comparative, descriptive, statistical, and other methods are also used. Music theory textbooks,
especially in the United States of America, often include elements of musical acoustics, considerations of musical acoustics, considerations of musical notation, and techniques of tonal composition (harmony and counterpoint), among other topics. History Prehistory Main article: Prehistoric music Preserved prehistoric instruments, artifacts, and later depictions of performance in
artworks can give clues to the structure of pitch systems in prehistoric cultures. See for instance Paleolithic flutes, Gudí, and Anasazi flute. Antiquity Mesopotamia Several surviving Sumerian and Akkadian clay tablets include musical information of a theoretical nature, mainly lists of intervals and tunings. [6] The
scholar Sam Mirelman reports that the earliest of these texts dates from before 1500 BCE, a millennium earlier than surviving evidence from any other culture of comparable musical thought. Further, "All the Mesopotamian texts [about music] are united by the use of a terminology for music that, according to the approximate dating of the texts, was
in use for over 1,000 years."[7] China See also: Music of China and Chinese musicology Much of Chinese music history and theory remains unclear.[8] Chinese theory starts from numbers, the main musical numbers being twelve, five and eight. Twelve refers to the number of pitches on which the scales can be constructed. The Lüshi chunqiu from
about 239 BCE recalls the legend of Ling Lun. On order of the Yellow Emperor, Ling Lun collected twelve bamboo lengths with thick and even nodes. Blowing on one of these like a pipe, he found its sound agreeable and named it huangzhong, the "Yellow Bell." He then heard phoenixes singing. The male and female phoenix each sang six tones. Ling
Lun cut his bamboo pipes to match the pitches of the phoenixes, producing twelve pitch pipes in two sets: six from the female: these were called the lülü or later the shierlü.[9] Apart from technical and structural aspects, ancient Chinese music theory also discusses topics such as the nature and functions of music. The
Yueji ("Record of music", c1st and 2nd centuries BCE), for example, manifests Confucian moral theories of understanding music in its social context. Studied and implemented by Confucian scholar-officials [...], these theories helped form a musical Confucianism that overshadowed but did not erase rival approaches. These include the assertion of Mozi
(c. 468 - c. 376 BCE) that music wasted human and material resources, and Laozi's claim that the greatest music had no sounds of Jade Pendants").[8]
India The Samaveda and Yajurveda (c. 1200 - 1000 BCE) are among the earliest testimonies of Indian music, but they contain no theory properly speaking. The Natya Shastra, written between 200 BCE to 200 CE, discusses intervals (Śrutis), scales (Grāmas), consonances and dissonances, classes of melodic structure (Mūrchanās, modes?), melodic
types (Jātis), instruments, etc.[10] Greece See also: Musical system of ancient Greece and List of music theory include two types of works:[11] technical manuals describing the Greek musical system including notation, scales, consonance and dissonance, rhythm, and types of musical
compositions treatises on the way in which music reveals universal patterns of order leading to the highest levels of knowledge and understanding. Several names of theorists are known before these works, including Pythagoras (c. 570 - c. 495 BCE), Philolaus (c. 470 - c. 385 BCE), Archytas (428-347 BCE), and others. Works of the first type
(technical manuals) include Anonymous (erroneously attributed to Euclid) Division of the Canon, Κατατομή κανόνος, 4th-3rd century BCE.[12] Theon of Smyrna, On Mathematics Useful for the Understanding of Plato, Των κατά τό μαθηματικόν χρησίμων είς τήν Πλάτωνος άνάγνωσις, 115-140 CE. Nicomachus of Gerasa, Manual of Harmonics,
 Άρμονικόν έγχειρίδιον, 100-150 CE Cleonides, Introduction to Harmonics, Είσαγωγή αρμονική, 2nd century CE. Gaudentius, Harmonic Introduction to the Art of Music, Είσαγωγή τέχνης μουσικής, 4th century CE or later. Alypius, Introduction to Music, Είσαγωγή μουσική, 4th-
5th century CE. More philosophical treatises of the second type include Aristoxenus, Harmonics, Άρμονικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Pυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Ρυθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Puθμικά στοιχεία, 375/360 - after 320 BCE. Aristoxenus, Rhythmic Elements, Rhythmic 
305 CE. Middle Ages See also: List of music theorists § Middle Ages China The pipa instrument carried with it a theory of musical modes.[13] Arabic countries Medieval Arabic music theorists include:[14] Abū Yūsuf Ya'qūb al-Kindi († Bagdad, 873 CE), who uses
the first twelve letters of the alphabet to describe the twelve frets on five strings of the oud, producing a chromatic scale of 25 degrees.[15] [Yaḥyā ibn] al-Munajjim (Baghdad, 856-912), author of Risāla fī al-mūsīqī ("Treatise on music", MS GB-Lbl Oriental 2361) which describes a Pythagorean tuning of the oud and a system of eight modes perhaps
inspired by Ishaq al-Mawsili (767-850).[16] Abū n-Naṣr Muḥammad al-Fārābi (Persia, 872? - Damas, 950 or 951 CE), author of Kitāb al-Husayn ul-Isfahānī (897-967), known as Abu al-Faraj al-Isfahani, author of Kitāb al-Aghānī ("The Book of Songs"). Abū 'Alī al-Ḥusayn ibn 'Abd-Allāh ibn Sīnā,
known as Avicenna (c. 980 - 1037), whose contribution to music theory consists mainly in Chapter 12 of the section on mathematics of his Kitab Al-Shifa ("The Perfection of Musical Knowledge"), copied in 1225 (Istanbul, Topkapi Museum, Ms 1727).[19]
Safi al-Din al-Urmawi (1216-1294 CE), author of the Kitabu al-Adwār ("Treatise of musical cycles") and ar-Risālah aš-Šarafiyyah ("Epistle to Šaraf").[20] Mubārak Šāh, commentator of Safi al-Din's Kitāb al-Adwār (British Museum, Ms 823).[21] Anon. LXI, Anonymous commentary on Safi al-Din's Kitāb al-Adwār.[22] Shams al-dīn al-Saydāwī Al-Dhahabī
(14th century CE (?)), music theorist. Author of Urjūza fi'l-mūsīqā ("A Didactic Poem on Music").[23] Europe The Latin treatise De institutione music in medieval Europe. Boethius represented Classical authority on music during the Middle Ages, as the
Greek writings on which he based his work were not read or translated by later Europeans until the 15th century. [24] This treatise carefully maintains distance from the actual practice of music, focusing mostly on the mathematical proportions involved in tuning systems and on the moral character of particular modes. Several centuries later,
treatises began to appear which dealt with the actual composition of pieces of music in the plainchant tradition. [25] At the end of the ninth century, Hucbald worked towards more precise pitch notation for the neumes used to record plainchant. Guido d'Arezzo' wrote in 1028 a letter to Michael of Pomposa, entitled Epistola de ignoto cantu, [26] in
which he introduced the practice of using syllables to describe notes and intervals. This was the source of the modes, the phrase structure of plainchant, the temporal meaning of the neumes, etc.; his chapters on polyphony
 "come closer to describing and illustrating real music than any previous account" in the Western tradition.[24] During the thirteenth century, a new rhythms in terms of fixed repetitive patterns, the so-called rhythmic modes, which were developed in
France around 1200. An early form of mensural notation was first described and codified in the treatise Ars cantus mensurabilis ("The art of measured chant") by Franco of Cologne (c. 1280). Mensural notation used different note shapes to specify different durations, allowing scribes to capture rhythms which varied instead of repeating the same
fixed pattern; it is a proportional notation, in the sense that each note value is equal to two or three times the shorter value, or half or a third of the longer value. This same notation, transformed through various extensions and improvements during the Renaissance, forms the basis for rhythmic notation in European classical music today. Modern
Middle Eastern and Central Asian countries Bāqiyā Nāyinī (Uzbekistan, 17th century CE), Uzbek author of La musique arabe and Ta'rīkh al-mūsīqā al-
arabiyya wa-usūluha wa-tatawwurātuha ("A History of Arabian Music, its principles and its Development") D'Erlanger divulges that the Arabic music is connected to certain features of Arabic culture, such as astrology.[23] Europe Renaissance Further information: List of music
theorists § Renaissance Baroque Further information: List of music theorists § 17th century Further information: List of music theorists § 17th century Further information: List of music theorists § 17th century 1750-1900 As Western musical influence spread throughout the world in the 1800s, musicians adopted Western theory as an international standard—but other theoretical traditions in both textual and
oral traditions remain in use. For example, the long and rich musical traditions unique to ancient and current cultures of Africa are primarily oral, but describe specific forms, genres, performance practices, tunings, and other aspects of music theory. [27][28] Sacred Harp music uses a different kind of scale and theory in practice. The music focuses on
the solfege "fa, sol, la" on the music scale. Sacred Harp also employs a different notation involving "shape notes", or notes that are shaped to correspond to a certain solfege syllable on the music scale. Sacred Harp music and its music theory originated with Reverend Thomas Symmes in 1720, where he developed a system for "singing by note" in
order to help his church members with note accuracy. [29] Further information: List of music theorists § 21st century Fundamentals of music Main article: Aspect of music Music is composed of aural phenomena; "music theory" considers how
those phenomena apply in music. Music theory considers melody, rhythm, counterpoint, harmony, form, tonal systems, composition, performance, dissonance, durational proportions, the acoustics of pitch systems, composition, performance, orchestration, improvisation, electronic sound production, etc.[30] Pitch Main
article: Pitch (music) Middle C (261.626 Hz) Play (help info). Pitch is the lowness or highness of a tone, for example the difference between middle C and a higher C. The frequency of the sound waves producing a pitch can be measured precisely, but the perception of pitch is more complex because single notes from natural sources are usually a
complex mix of many frequencies. Accordingly, theorists often describe pitch as a subjective measurement of sound.[31] Specific frequencies are often assigned letter names. Today most orchestras assign Concert A (the A above middle C on the piano) to the frequency of 440 Hz. This assignment is somewhat
arbitrary; for example, in 1859 France, the same A was tuned to 435 Hz. Such differences can have a noticeable effect on the timbre of instruments and other phenomena. Thus, in historically informed performance of older music, tuning is often set to match the tuning used in the period when it was written. Additionally, many cultures do not attempt
to standardize pitch, often considering that it should be allowed to vary depending on genre, style, mood, etc. The difference in pitch between two notes of the same pitch. The octave interval is two pitches that are either double or half the frequency of one another.
The unique characteristics of octaves gave rise to the concept of pitch class: pitches of the same letter name that occur in different octaves may be grouped into a single "class" by ignoring the difference in octave. For example, a high C and a low C are members of the same pitch class—the class that contains all C's. [32] Musical tuning systems, or
temperaments, determine the precise size of intervals. Tuning systems vary widely within and between world cultures. In Western culture, there have long been several competing tuning systems vary widely within and between world cultures. In ternationally, the system known as equal temperament is most commonly used today because it is considered the most
satisfactory compromise that allows instruments of fixed tuning (e.g. the piano) to sound acceptably in tune in all keys. Scales and modes Main articles: Musical scale and Musical mode A pattern of whole and half steps in the Ionian mode or major scales and modes. Western music
theory generally divides the octave into a series of twelve tones, called a chromatic scale, within which the interval between adjacent tones is called a half step or semitone. Selecting tones from this set of 12 and arranging them in patterns of semitones are the seven-
toned major, the harmonic minor, the melodic minor, and the natural minor. Other examples of scales are the octave. For example, classical
Ottoman, Persian, Indian and Arabic musical systems often make use of multiples of quarter tones (half the size of a semitone, as the name indicates), for instance in 'neutral' seconds (three quarter tones)—they do not normally use the quarter tone itself as a direct interval.[33] In traditional Western notation,
the scale used for a composition is usually indicated by a key signature at the beginning to designate the pitches that make up that scale. As the music progresses, the pitches used may change and introduce a different scale. Such
transposition raises or lowers the overall pitch range, but preserves the intervalic relationships of the original scale. For example, transposition from the key of C major to D major raises all pitches of the scale of C major equally by a whole tone. Since the interval relationships remain unchanged, transposition may be unnoticed by a listener, however
other qualities may change noticeably because transposition changes the relationship of the overall pitch range compared to the music's overall sound, as well as having technical implications for the performers.[34] The interrelationship of the keys most commonly used
in Western tonal music is conveniently shown by the circle of fifths. Unique key signatures are also sometimes devised for a particular composition. During the Baroque period, emotional associations with specific keys, known as the doctrine of the affections, were an important topic in music theory, but the unique tonal colorings of keys that gave rise
to that doctrine were largely erased with the adoption of equal temperament. However, many musicians continue to feel that certain keys are more appropriate to certain emotions than other extra-musical concepts and notably, does not
employ equal temperament. Consonance and dissonance Main article: Consonance and dissonance The perfect octave, a consonant interval Play (help-info) The minor second, a dissonance and d
Consonance (or concord) is the quality of an interval or chord that seems stable and complete in itself. Dissonant intervals seem to clash. Consonant intervals seem to sound comfortable together. Commonly, perfect fourths, fifths, and
octaves and all major and minor thirds and sixths are considered consonant. All others are dissonant to greater or lesser degree. [35] Context and many other aspects can affect apparent dissonance and consonance. For example, in a Debussy prelude, a major second may sound stable and consonant, while the same interval may sound dissonant in a
Bach fugue. In the Common practice era, the perfect fourth is considered dissonant when not supported by a lower third or fifth. Since the early 20th century, Arnold Schoenberg's concept of "emancipated" dissonant intervals can be treated as "higher," more remote consonances, has become more widely accepted.
[35] Rhythm Main article: Rhythm Metric levels: beat level shown in middle with division levels above and multiple levels below. Rhythm is produced by the sequential arrangement of sounds and silences in time. Meter measures music in regular pulse groupings, called measures or bars. The time signature or meter signature specifies how many
beats are in a measure, and which value of written note is counted or felt as a single beat. Through increased stress, or variations in most musical traditions for regular and hierarchical accentuation of beats to reinforce a given meter. Syncopated rhythms contradict
those conventions by accenting unexpected parts of the beat.[36] Playing simultaneous rhythms in more than one time signature is called polyrhythm.[37] In recent years, rhythm and meter have become an important area of research among music scholars. The most highly cited of these recent scholars are Maury Yeston,[38] Fred Lerdahl and Ray
Jackendoff,[39] Jonathan Kramer,[40] and Justin London.[41] Melody Main article: Melody "Pop Goes the Weasel" melody[42] Play (help-info) A melody is a series of tones perceived as an entity,[citation needed] sounding in succession that typically move toward a climax of tension then resolve to a state of rest. Because melody is such a prominent
aspect in so much music, its construction and other qualities are a primary interest of music theory. The basic elements of melody are pitch, duration, rhythm, and tempo. The tones of a melody are usually drawn from pitch systems such as scales or modes. Melody may consist, to increasing degree, of the figure, motive, semi-phrase, antecedent and
consequent phrase, and period or sentence. The period may be considered the complete melody, however some examples combine two periods, or use other combinations of constituents to create larger form melodies. [43] Chord Main article: Chord (music) C Major triad represented in staff notation. Play (help-info) in just intonation Play (help-info) in
Equal temperamentPlay (help·info) in 1/4-comma meantonePlay (help·info) in Young temperamentPlay (help·info) in Young temp
and theoretical purposes, constitute chords. Chords are frequently used in modern Western, West African, [46] and Oceanian [47] music, whereas they are absent from the music of many other parts of the world. [48] The most frequently encountered chords are triads, so called because they consist of three distinct notes:
further notes may be added to give seventh chords, or added tone chords, or added tone chords are the major, minor, augmented, and diminished triads. The descriptions major, minor, augmented and diminished triads are sometimes referred to collectively as chordal quality. Chords are also commonly classed by
their root note—so, for instance, the chord C major may be described as a triad of major quality built on the note C. Chords may also be classified by inversion, the order in which the notes are stacked. A series of chords is called a chord progression. Although any chord may in principle be followed by any other chord, certain patterns of chords have
been accepted as establishing key in common-practice harmony. To describe this, chords are numbered, using Roman numerals (upward from the key-note),[49] per their diatonic function. Common ways of notating or representing chords[50] in western music other than conventional staff notation include Roman numerals, figured bass (much used in
the Baroque era), chord letters (sometimes used in modern musicology), and various systems of chords so that the musician may play accompaniment chords or improvise a solo. Harmony Main article: Harmony Barbershop quartets, such as this US Navy
group, sing 4-part pieces, made up of a melody line (normally the second-highest voice, called the "lead") and 3 harmony involves chords and their construction and chord progressions and the principles of connection that govern them.[51]
harmony, chords are named by their root plus various terms and characters indicating their qualities. For example, a lead sheet may indicate chords such as C major, D minor, and G dominant seventh. In many types of music, notably Baroque, Romantic, modern, and jazz, chords are often augmented with "tensions". A tension is an additional chord such as C major, D minor, and G dominant seventh. In many types of music, notably Baroque, Romantic, modern, and jazz, chords are often augmented with "tensions". A tension is an additional chord such as C major, D minor, and G dominant seventh.
member that creates a relatively dissonant interval in relation to the bass. It is part of a chord, but is not one of the chord tones (1 3 5 7). Typically, in the classical common practice period a dissonant there is a balance between the
consonant and dissonant sounds. In simple words, that occurs when there is a balance between "tense" and "relaxed" moments.[54][unreliable source?] Timbre Main article: Timbre M
yet, no standardized nomenclature. It has been called "... the psychoacoustician's multidimensional waste-basket category for everything that cannot be labeled pitch or loudness,"[55] but can be accurately described and analyzed by Fourier analysis and other methods[56] because it results from the combination of all sound frequencies, attack and
release envelopes, and other qualities that a tone comprises. Timbre is principally determined by two things: (1) the envelope of the sound (including changes in the overtone structure over time). Timbre varies widely between different
instruments, voices, and to lesser degree, between instruments of the same type due to variations in their construction, and significantly, the performer's techniques while playing. For example, the timbre of a trumpet changes when a mute is inserted into the bell, the
player changes their embouchure, or volume. [citation needed] A voice can change its timbre by the way the performer manipulates their vocal apparatus, (e.g. the shape of the vocal cavity or mouth). Musical notation frequently specifies alteration in timbre by changes in sounding technique, volume, accent, and other means. These are indicated
variously by symbolic and verbal instruction. For example, the word dolce (sweetly) indicates a non-specific, but commonly understood soft and "sweet" timbre. Sul tasto instructs a brass player to produce a forced and stridently brassy sound. Accent
symbols like marcato (^) and dynamic indicate changes in timbre.[57] Dynamics This section by adding citations to reliable sources. Unsourced material may be challenged and removed. (July 2015) (Learn how and when to remove this template message)[relevant?]
Main article: Dynamics (music) An illustration of hairpins in musical notation. In music, "dynamics" normally refers to variations of intensity or volume, as may be measured by physicists and audio engineers in decibels or phons. In music notation, however, dynamics are not treated as absolute values, but as relative ones. Because they are usually
measured subjectively, there are factors besides amplitude that affect the performance or perception of intensity, such as timbre, vibrato, and articulation. The conventional indications for Italian words like forte (f) for loud and piano (p) for soft. These two basic notations are modified by indications including mezzo piano
(mp) for moderately soft (literally "half soft") and mezzo forte (mf) for a loud attack with a sudden decrease to a soft level. The full span of these markings usually range from a nearly inaudible pianissississimo (pppp) to a loud-as-possible fortissississimo
(ffff). Greater extremes of pppppp and fffff and nuances such as p+ or più piano are sometimes found. Other systems of indicating volume are also used in languages other than Italian, and symbols such as those for progressively increasing volume
(crescendo) or decreasing volume (diminuendo or decrescendo), often called "hairpins" when indicated with diverging or converging lines as shown in the graphic above. Articulation This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. (July
2015) (Learn how and when to remove this template message) Main article: Articulation (music) Examples of articulation marks. From left to right: staccato is the shortening of duration compared to the written note value, legato
performs the notes in a smoothly joined sequence with no separation. Articulation is often described rather than quantified, therefore there is room to interpret how to execute precisely each articulation. For example, staccato is often described rather than quantified, therefore there is room to interpret how to execute precisely each articulation. For example, staccato is often described rather than quantified, therefore there is room to interpret how to execute precisely each articulation.
notated duration. Violin players use a variety of techniques to perform different qualities of staccato. The manner in which a performer decides to execute a given articulation is usually based on the context of the piece or phrase, but many articulation symbols and verbal instructions depend on the instrument and musical period (e.g. viol, wind;
classical, baroque; etc.). There is a set of articulations that most instruments and voices perform in common. They are—from long to short: legato (smooth, connected); tenuto (pressed or played to full notated duration); marcato (accented and detached); staccato ("separated", "detached"); martelé (heavily accented or "hammered").[contradictory]
Many of these can be combined to create certain "in-between" articulations. For example, portato is the combination of tenuto and staccato. Some instruments have unique methods by which to produce sounds, such as spicatto for bowed strings, where the bow bounces off the string. Texture Main article: Musical texture Introduction to Sousa's
"Washington Post March," mm. 1-7Play (help-info) features octave doubling [58] and a homorhythmic texture. In music, texture is how the melodic, rhythmic, and harmonic materials are combined in a composition, thus determining the overall quality 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. For example, a thick texture contains many "layers" of instruments. One of these layers could be a string section, or another brass. The thickness also is
affected by the number and the richness of the instruments playing the piece. The thickness varies from light to thick. A lightly textured piece will be scored for many instruments. A piece's texture may be affected by the number and character of parts playing at once, the timbre of the
instruments or voices playing these parts and the harmony, tempo, and rhythms used.[59] The types categorized by number and relationship of primary melody, secondary melody, static support, harmonic support, rhythmic support, and
harmonic and rhythmic support.[60] Common types included monophonic texture (a single melodic voice, such as a piece for solo soprano or solo flute), biphonic texture (atwo melodic voices, such as a duo for bassoon and flute in which the bassoon plays a drone note and the flute plays the melody), polyphonic texture and homophonic texture (chords
accompanying a melody).[citation needed] Form or structure A musical form.[61] Main article: Musical form (or musical form the term musical form (or musical form the term musical form.
composition as divided into sections.[62] 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 alteration."[63] According to Richard Middleton, musical form is "the shape or
structure of the work." He describes it through difference: the distance moved from a repeat; the latter being the smallest difference is quantitative and qualitative; how far, and of what type, difference is quantitative and connection. [64] Expression Main article
Musical expression A violinist performing Musical expression is the art of playing or singing music with emotional communication, such as forte or piano, phrasing, differing qualities of timbre and articulation, color, intensity, energy and excitement. All of these devices can
be incorporated by the performer. A performer aims to elicit responses of sympathetic feeling in the audience, and to excite, calm or otherwise sway the audience by a combination of other parameters, and sometimes described as a transcendent quality that
is more than the sum of measurable quantities such as pitch or duration. Expression on instruments can be closely related to the role of the breath in singing, and the voice's natural ability to express feelings, sentiment and deep emotions. [clarification needed] Whether these can somehow be categorized is perhaps the realm of academics, who viewed is not such as pitch or duration.
expression as an element of musical performance that embodies a consistently recognizable emotion, ideally causing a sympathetic emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotional content of musical expression is distinct from the emotion of musical expr
anthem), but can rarely be completely separated from its context.[citation needed] The components of musical expression continue to be the subject of extensive and unresolved dispute.[66][67][68][69][70][71] Notation Main articles: Musical notation and Sheet music Tibetan musical score from the 19th century Musical notation is the written or
symbolized representation of music. This is most often achieved by the use of commonly understood graphic symbols and written verbal instructions and their abbreviations. There are many systems of music notation from different cultures and different ages. Traditional Western notation evolved during the Middle Ages and remains an area of
experimentation and innovation.[72]In the 2000s, computer file formats have become important as well.[73] Spoken language and hand signs are also used to symbolically represent music, primarily in teaching. In standard Western music notation, tones are represented graphically by symbols (notes) placed on a staff or staves, the vertical axis
corresponding to pitch and the horizontal axis corresponding to time. Note head shapes, stems, flags, ties and dots are used to indicate duration. Additional symbols indicate tempo, technique, and other aspects. In Western music, a range of different
music notation systems are used. In Western Classical music, conductors use printed scores that show all of the instruments' parts and orchestra members read parts with their musical lines written out. In popular styles of music, much less of the music may be notated. A rock band may go into a recording session with just a handwritten chord chart
indicating the song's chord progression using chord names (e.g., C major, D minor, G7, etc.). All of the chord voicings, rhythms and accompaniment figures are improvised by the band members. Music theory as academic discipline The scholarly study of music theory in the twentieth century has a number of different subfields, each of which takes a
different perspective on what are the primary phenomenon of interest and the most useful methods for investigation. Analysis Main articles: Musical analysis, Schenkerian analysis, and Transformational theory Typically a given work is analysed by more than one person and different or divergent analyses are created. For instance, the first two bars of
the prelude to Claude Debussy's Pelléas et Melisande are analyzed differently by Leibowitz, Laloy, van Appledorn, and Christ. Leibowitz analyses the succession as D:I-V, seeing the G in the second measure as an ornament, and both van Appledorn and Christ
analyses the succession as D:I-VII. Play (help-info) Musical analysis is the attempt to answer the question how does this music work? The method employed to answer this question, and indeed exactly what is meant by the question, differs from analyst to analyst, and according to the purpose of the analysis. According to Ian Bent, "analysis, as a
pursuit in its own right, came to be established only in the late 19th century; its emergence as an approach and method can be traced back to the 1750s. However, it existed as a scholarly tool, albeit an auxiliary one, from the Middle Ages onwards."[74] Adolf Bernhard Marx was influential in formalising concepts about composition and music
understanding towards the second half of the 19th century. The principle of analysis has been variously criticized, especially by composers, such as Edgard Varèse's claim that, "to explain by means of [analysis of tonal music based on the
theories of Heinrich Schenker (1868-1935). The goal of a Schenkerian analysis is to interpret the underlying structure of a tonal work and to help reading the score according to that structure. The theory's basic tenets can be viewed as a way of defining tonality in music. A Schenkerian analysis of a passage of music shows hierarchical relationships
among its pitches, and draws conclusions about the structure of the passage from this hierarchy. The analysis makes use of a specialized symbolic form of musical notation that Schenker's theory of tonality may be that of tonal space. [76] The
intervals between the notes of the tonic triad form a tonal spaces, open for further elaborations until the surface of the work (the score) is reached. Although Schenker himself usually presents his analyses in the generative direction, starting from the
fundamental structure (Ursatz) to reach the score, the practice of Schenkerian analysis more often is reductive, starting from the score and showing how it can be reduced to its fundamental structure. The graph of the Ursatz is arrhythmic, as is a strict-counterpoint cantus firmus exercise. [77] Even at intermediate levels of the reduction, rhythmic
notation (open and closed noteheads, beams and flags) shows not rhythm but the hierarchical relationships between the pitch-events. Schenkerian analysis reflects the musical intuitions of the analysis represents a way of hearing (and reading) a piece of music
Transformational theory is a branch of music theory, which models musical Intervals and Transformations. The theory, which models musical transformations as elements of a mathematical group, can be used to analyze both tonal and atonal music. The goal of
transformational theory is to change the focus from musical objects—such as the "C major chord" or "G major 
(Symbolically, one might write "Dominant(C major) = G major.") While traditional musical set theory focuses on the makeup of musical objects, transformational theory focuses on the intervals or types of musical motion that can occur. According to Lewin's description of this change in emphasis, "[The transformational] attitude does not ask for some
observed measure of extension between reified 'points'; rather it asks: 'If I am at s and wish to get to t, what characteristic gesture should I perform in order to arrive there?'"[79] Music perception and cognition Further information: Music psychology of music may be regarded as
a branch of both psychology and musicology. It aims to explain and understand musical behavior and experience, including the processes through which music is perceived, created, responded to, and incorporated into everyday life.[80][81] Modern music psychology is primarily empirical; its knowledge tends to advance on the basis of interpretations
of data collected by systematic observation of and interaction with human participants. Music psychology is a field of research with practical relevance for many areas, including music performance, composition, education, criticism, and therapy, as well as investigations of human aptitude, skill, intelligence, creativity, and social behavior. Music
psychology can shed light on non-psychological aspects of musical practice. For example, it contributes to music theory through investigations of the perception and computational modelling of musical structures such as melody, harmony, tonality, rhythm, meter, and form. Research in music history can benefit from systematic study of the perception and computational modelling of musical structures such as melody, harmony, tonality, rhythm, meter, and form. Research in music history can benefit from systematic study of the perception and computational modelling of musical structures such as melody, harmony, tonality, rhythm, meter, and form. Research in music history can benefit from systematic study of the perception and computational modelling of musical structures such as melody, harmony, tonality, rhythm, meter, and form.
the history of musical syntax, or from psychological analyses of composers and compositions in relation to perceptual, affective, and social responses to their music. Ethnomusicology can benefit from psychological approaches to the study of music genre and
Musical technique A Classical piano trio is a group that plays chamber music, including sonatas. The term "piano trio" also refers to works composed for such a group. A music genre is a conventional category that identifies some pieces of music as belonging to a shared tradition or set of conventions. [83] It is to be distinguished from musical form
and musical style, although in practice these terms are sometimes used interchangeably. [84][failed verification] Music can be divided into different ways. The artistic nature of music means that these classifications are often subjective and controversial, and some genres may overlap. There are even varying academic
definitions of the term genre itself. In his book Form in Tonal Music, Douglass M. Green distinguishes between genre and form. He lists madrigal, motet, canzona, ricercar, and dance as examples of genres from the Renaissance period. To further clarify the meaning of genre, Green writes, "Beethoven's Op. 61 and Mendelssohn's Op. 64 are identical
in genre—both are violin concertos—but different in form. However, Mozart's Rondo for Piano, K. 511, and the Agnus Dei from his Mass, K. 317 are quite different in genre but happen to be similar in form. "[85] Some, like Peter van der Merwe, treat the terms genre and style as the same, saying that genre should be defined as pieces of music that
came from the same style or "basic musical language." [86] Others, such as Allan F. Moore, state that genre and style are two separate terms, and that secondary characteristics such as subject matter can also differentiate between genres. [87] A music genre or subgenre may also be defined by the musical techniques, the style, the cultural context,
and the content and spirit of the themes. Geographical origin is sometimes used to identify a music genre, though a single geographical category will often include a wide variety of subgenres. Timothy Laurie argues that "since the early 1980s, genre has graduated from being a subset of popular music studies to being an almost ubiquitous framework
for constituting and evaluating musical research objects".[88] Musical technique is the ability of instrumental and vocal musicians to exert optimal control of their instruments or vocal cords to produce precise musical effects. Improving technique generally entails practicing exercises that improve muscular sensitivity and agility. To improve
technique, musicians often practice fundamental patterns of notes such as the natural, minor, major, and chromatic scales, minor and major triads, dominant and diminished sevenths, formula patterns and arpeggios. For example, triads and sevenths teach how to play chords with accuracy and speed. Scales teach how to move quickly and gracefully
from one note to another (usually by step). Arpeggios teach how to play broken chords over larger intervals. Many of these components of music are found in compositions, for example, a scale is a very common element of classical and romantic era compositions. [citation needed] Heinrich Schenker argued that musical technique's "most striking and
distinctive characteristic" is repetition.[89] Works known as études (meaning "study") are also frequently used for the improvement of technique. Mathematics music, and although music has no axiomatic foundation in modern mathematics, mathematics, mathematics are mathematics for the improvement of technique.
is "the basis of sound" and sound itself "in its musical aspects... exhibits a remarkable array of number properties", simply because nature itself "is amazingly mathematical".[90] The attempt to structure and communicate new ways of composing and hearing music has led to musical applications of set theory, abstract algebra and number theory
Some composers have incorporated the golden ratio and Fibonacci numbers into their work.[91][92] There is a long history of examining the relationships between music and mathematics. Though ancient Chinese, Egyptians and Mesopotamians are known to have studied the mathematical principles of sound,[93] the Pythagoreans (in particular
Philolaus and Archytas)[94] of ancient Greece were the first researchers known to have investigated the expression of musical scales in terms of numerical ratios. The first 16 harmonics, their names and frequencies, showing the exponential nature of the octave and the simple fractional nature of non-octave harmonics. In the modern era, musical set
theory uses the language of mathematical set theory in an elementary way to organize musical set theory, one usually starts with a set of tones, which could form motives or chords. By applying simple operations such as transposition
and inversion, one can discover deep structures in the music. Operations such as transposition and inversion are called isometries because they preserve the intervals between tones in a set. Expanding on the methods of musical set theory, some theorists have used abstract algebra to analyze music. For example, the pitch classes in an equally
tempered octave form an abelian group with 12 elements. It is possible to describe just intonation in terms of a free abelian group. [95] Serial composition and set theory (music), Arnold Schoenberg, Milton Babbitt, David Lewin, and Allen Forte In
music theory, serialism is a method or technique of composition that uses a series of values to manipulate different musical elements. Serialism began primarily with Arnold Schoenberg's twelve-tone technique orders the
twelve notes of the chromatic scale, forming a row or series and providing a unifying basis for a composition's melody, harmony, structural progressions, and variations. Other types of serialism also work with sets, collections of objects, but not necessarily with fixed-order series, and extend the technique to other musical dimensions (often called
"parameters"), such as duration, dynamics, and timbre. The idea of serialism is also applied in various ways in the visual arts, design, and register as well as pitch. [97] Other terms, used especially in Europe to distinguish post-
World War II serial music from twelve-tone music and its American extensions, are "general serialism" and "multiple serialism" and then tonal music, and then the notions were first elaborated by Howard Hanson (1960) in connection with tonal music, and then
mostly developed in connection with atonal music by theorists such as Allen Forte (1973), drawing on the work in twelve-tone theory of Milton Babbitt. The concepts of set theory are very generally than that.[citation needed] One
branch of musical set theory deals with collections (sets and permutations) of pitches and pitch classes (pitch-class set theory), which may be ordered or unordered, and can be related by musical set theory are sometimes applied to the analysis of rhythm as
well.[citation needed] Musical semiotics Further information: Music semiology and Jean-Jacques Nattiez Semiotician Roman Jakobson, Kofi Agawu adopts the idea of musical semiotics Further information: Music semiology and Jean-Jacques Nattiez Semiotics is the study of signs as they pertain to music on a variety of levels. Following Roman Jakobson, Kofi Agawu adopts the idea of musical semiotics further information: Music semiology and Jean-Jacques Nattiez Semiotics further information and information for musical semiotics for musical semiotics for musical semiotics further information for music semiology and Jean-Jacques Nattiez Semiotics further information for musical semiotics for musical semio
musical signs within a text and without.[citation needed] "Topics," or various musical conventions (such as horn calls, dance forms, and styles), have been treated suggestively by Agawu, among others.[citation needed] The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "There are strong arguments that the strong arguments that the strong arguments is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to play a large role in musico-semiotic enquiry.[citation needed] "The notion of gesture is beginning to
music inhabits a semiological realm which, on both ontogenetic and phylogenetic levels, has developmental priority over verbal language."[99][100][101][102][103][104][105][106][clarification needed] Writers on music semiology include Kofi Agawu (on topical theory,[citation needed] Heinrich Schenker,[107][108] Robert Hatten (on topic, gesture)
 citation needed |, Raymond Monelle (on topic, musical meaning) citation needed |, Jean-Jacques Nattiez (on introversive taxonomic analysis and ethnomusicological application needed | (generally considered the founder of musical semiotics). | clarification
needed] Roland Barthes, himself a semiotician and skilled amateur pianist, wrote about music in Image-Music-Text,[full citation needed] The Responsibilities of Form,[full citation needed] and Eiffel Tower,[full citation needed] The Responsibilities of Form,[full citation needed] and Eiffel Tower,[full citation needed] The Responsibilities of Form,[full citation needed] and Eiffel Tower,[full citation needed] The Responsibilities of Form,[full citation needed] The Responsibilities o
through the connotations of sounds, and through the social construction, appropriation and amplification needed] Fernando the Flute, [full citation needed] Music's Meanings [full citation needed] provides one of the most complete and
systematic analysis of the relation between musical structures and connotations in western and film music. The work of Leonard B. Meyer in Style and Music[full citation needed] theorizes the relationship between ideologies and musical structures and the phenomena of style change, and focuses on romanticism as a
case study. Education and careers Columbia University music theory in the practical sense has been a part of education at conservatories and music schools for centuries, but the status music theory currently has within academic institutions is relatively recent. In the 1970s, few universities had dedicated
music theory programs, many music theorists had been trained as composers or historians, and there was a belief among theorists that the teaching of music theory was inadequate and that the subject was not properly recognised as a scholarly discipline in its own right. [109] A growing number of scholars began promoting the idea that music theory
should be taught by theorists, rather than composers, performers or music historians, [109] This led to the founding of the Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the French Society for Music Theory in the United States in 1977. In Europe, the International Europe States in 1977. In Europe States
of the Société belge d'Analyse musicale in Belgium and the Gruppo analisi e teoria musicale in Italy the same year, the Society for Music Analysis in the UK in 1991, the Vereniging voor Muziektheorie in Germany in 2000.[110] They were later followed by the Russian Society for Music
Theory in 2013 and the Polish Society for Music Analysis in 2015, and others are in construction. These societies coordinate the publication of music theory researchers. As part of their initial training, music theory scholarship and support the professional development of music theory researchers.
field) and in many cases an M.A. in music theory. Some individuals apply directly from a bachelor's degree to a PhD, and in these cases, they may not receive an M.A. In the 2010s, given the increasingly interdisciplinary nature of university graduate programs, some applicants for music theory PhD programs may have academic training both in music
and outside of music (e.g., a student may apply with a B.Mus and a Masters in Music Composition or Philosophy of Music). Most music theorists work as instructors, lecturers or professors in colleges, universities or conservatories. The job market for tenure-track professor positions is very competitive: with an average of around 25 tenure-track
positions advertised per year in the past decade, 80-100 PhD graduates are produced each year (according to the Survey of Earned Doctorates) who compete not only with each other for those positions but with job seekers that received PhD or the
equivalent degree (or expect to receive one within a year of being hired—called an "ABD", for "All But Dissertation" stage) and (for more senior positions) have a strong record of publishing in peer-reviewed journals. Some PhD-holding music theorists are only able to find insecure positions as sessional lecturers. The job tasks of a music theorist are
the same as those of a professor in any other humanities discipline: teaching undergraduate and/or graduate classes in this area of specialization and, in many cases some general courses (such as Music Appreciation or Introduction to Music Theory), conducting research in this area of expertise, publishing research articles in peer-reviewed journals,
authoring book chapters, books or textbooks, traveling to conferences to present papers and learn about research in the field, and, if the program includes a graduate school, supervising M.A. and PhD students and giving them guidance on the preparation of their theses and dissertations. Some music theory professors may take on senior
administrative positions in their institution, such as Dean or Chair of the School of Music. See also AP Music Theory List of music theorists Music psychology Musicology Theory of painting Notes ^ Fallows, David (2011). Theory. The Oxford Companion to Music. Oxford Music Online. ISBN 978-0199579037. Retrieved 11 September 2016. ^ See
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