FORMATION, DEVELOPMENT AND HISTORY OF HARMONY

Abstract: This article analyzes recent studies on harmony. In particular, the history of the formation and historical development of the harmony have been discussed. The main sources of information from the Internet resources and the latest books are collected and systematized. The researcher concludes that this theme needs to be seriously studied and systematized.

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Introduction
The term harmony derives from the Greek harmonia, meaning "joint, agreement, concord" [1], from the verb harmozô, "(I) fit together, join" [2]. In the past, harmony often referred to the whole field of music, while music referred to the arts in general. In Ancient Greece, the term defined the combination of contrasted elements: a higher and lower note. Nevertheless, it is unclear whether the simultaneous sounding of notes was part of ancient Greek musical practice; harmony may have merely provided a system of classification of the relationships between different pitches. In the Middle Ages the term was used to describe two pitches sounding in combination, and in the Renaissance the concept was expanded to denote three pitches sounding together. Aristoxenus wrote a work entitled Harmonika Stoicheia, which is thought the first work in European history written on the subject of harmony [11].

It was not until the publication of Rameau's Traité de l'harmonie (Treatise on Harmony) in 1722 that any text discussing musical practice made use of the term in the title, although that work is not the earliest record of theoretical discussion of the topic. The underlying principle behind these texts is that harmony sanctions harmoniousness (sounds that please) by conforming to certain pre-established compositional principles.

Current dictionary definitions, while attempting to give concise descriptions, often highlight the ambiguity of the term in modern use. Ambiguities tend to arise from either aesthetic considerations (for example the view that only pleasing concords may be harmonious) or from the point of view of musical texture (distinguishing between harmonic (simultaneously sounding pitches) and "contrapuntal" (successively sounding tones). In the words of Arnold Whittall [3]:

While the entire history of music theory appears to depend on just such a distinction between harmony and counterpoint, it is no less evident that developments in the nature of musical composition down the centuries have presumed the interdependence—at times amounting to integration, at other times a source of sustained tension—between the vertical and horizontal dimensions of musical space [11].

The view that modern tonal harmony in Western music began in about 1600 is commonplace in music theory [6]. This is usually accounted for by the replacement of horizontal (or contrapuntal) composition, common in the music of the Renaissance, with a new emphasis on the vertical element of composed music. Modern theorists, however, tend to see this as an unsatisfactory generalization [11]. According to Carl Dahlhaus:
It was not that counterpoint was supplanted by harmony (Bach’s tonal counterpoint is surely no less polyphonic than Palestrina’s modal writing) but that an older type both of counterpoint and of vertical technique was succeeded by a newer type. And harmony comprises not only the (“vertical”) structure of chords but also their (“horizontal”) movement. Like music as a whole, harmony is a process [7].

Descriptions and definitions of harmony and harmonic practice may show bias towards European (or Western) musical traditions. For example, South Asian art music (Hindustani and Carnatic music) is frequently cited as placing little emphasis on what is perceived in Western practice as conventional harmony; the underlying harmonic foundation for most South Asian music is the drone, a held open fifth interval (or fourth interval) that does not alter in pitch throughout the course of a composition. Pitch simultaneity in particular is rarely a major consideration. Nevertheless, many other considerations of pitch are relevant to the music, its theory and its structure, such as the complex system of Rāgas, which combines both melodic and modal considerations and codifications within it [8].

So, intricate pitch combinations that sound simultaneously do occur in Indian classical music—but they are rarely studied as teleological harmonic or contrapuntal progressions—as with notated Western music. This contrasting emphasis (with regard to Indian music in particular) manifests itself in the different methods of performance adopted: in Indian Music improvisation takes a major role in the structural framework of a piece, whereas in Western Music improvisation has been uncommon since the end of the 19th century. Where it does occur in Western music (or has in the past), the improvisation either embellishes pre-notated music or draws from musical models previously established in notated compositions, and therefore uses familiar harmonic schemes [9].

Nevertheless, emphasis on the precomposed in European art music and the written theory surrounding it shows considerable cultural bias. The Grove Dictionary of Music and Musicians (Oxford University Press) identifies this clearly [11]:

In Western culture the musics that are most dependent on improvisation, such as jazz, have traditionally been regarded as inferior to art music, in which pre-composition is considered paramount. The conception of musics that live in oral traditions as something composed with the use of improvisatory techniques separates them from the higher-standing works that use notation.

Yet the evolution of harmonic practice and language itself, in Western art music, is and was facilitated by this process of prior composition, which permitted the study and analysis by theorists and composers of individual pre-constructed works in which pitches (and to some extent rhythms) remained unchanged regardless of the nature of the performance [10].

The main results and findings

The formation of polyphonic harmony (IX-XI centuries) is the most important stage in the evolution of musical thinking. The interconnectedness of all sounds in relation to the tone-tone is expressed by the category of fret, and the differentiation of their meanings is expressed by the system of modal functions. The primary form of polyphony - bourdon - represents harmony within the framework of the monodic principle of musical thinking. In the conditions of developed polyphony, harmony becomes a system of consonances, the most important of the unstable monodies - non-chord sounds. The many-voice harmony in the course of evolution captures as aesthetically and compositionally acceptable increasingly complex harmonies - from quarto-fifths to large-sept-o-news and polyaccords (in the XX-XXI centuries).

Simultaneously with the evolution of harmony (and sound system), the modal system is internally reorganized as the totality and focus of the musical and logical meanings of tones and harmonies; one of the pinnacle achievements of this process was the classical tonality with its inherent fret functions - first of all, tonic, subdominant and dominant. The classical harmonic structure in European music is closely connected by form-formation and meter [24].

The initial history of harmony in music is the development of the properties of consonance — dissonance and fret forms in monodic mode modes (of Ancient China, India, the Middle East, Ancient Greece and Rome, and other cultures). The preforms of harmony (sonorously colored heterophony, etc.) have fixed in the human auditory perception the very phenomenon of vertical harmony, which, however, has not yet become a conscious factor in musical thinking.

In the early forms of polyphony (organum of the 9th-11th centuries), a new element of music came forward - autonomous harmony. The role of the sonant supports in the Middle Ages (for example, in the polyphonic music of the Notre Dame school and during the Ars nova period) was played by the fifth and fifth.

From the 13th century, harmony was enriched by tertz harmonies, which at first were interpreted as imperfect dissonances requiring resolution; later, in the XV-XVI centuries, tertz harmonies began to be used freely and, finally, became dominant [26].

Until the beginning of the XVII century, modality reigned (such harmony is called old-fashioned). Church music (one-voiced and many-voiced) is based on eight (from the mid-sixteenth century to twelve) church tones, with the addition of intralad chromaticism. Secular music of the Renaissance is often also explained through church
The harmony of the New Age (XVII-XIX centuries) is based on tonality as a system of musical thinking of a special type, which finally took shape in line with the ideas of the Enlightenment and is characterized by functional centralization, strict rational alignment and hierarchy, ramifiedness, dynamism of tonal functions, optimal uniformity of all structures - from the structure and location of chords to monumental tonal plans in large forms. Although traces of an ancient modality are still noticeable to I.S.Bach (the Phrygian fret in the 2nd part of the 1st Brandenburg Concert), in the Baroque era major and minor are already established as two dominant frets. They are dominant in our time (especially in popular culture), despite the extreme complication of harmony in the 20th century and the emergence of atonal music.

**Discussion**

The philosophical and aesthetic concept of harmony was developed from ancient times. Among the Greeks, it was reflected in the doctrine of the concord ("symphony") of opposites. In this philosophical context, the word "harmony" as applied to music was used (with reference to Heraclitus), for example, by an unknown author of the treatise "On the World" (Pseudo-Aristotle, 1st century BC):

Presumably, nature is attracted to opposites, and from them, and not from a similar one, forms a consonant (dr. Greek. Τό σύμφωνον). So, she brought a man with a woman, and not with a same-sex being (as well as a woman) and combined the first consent from opposite, and not similar to each other, beings. It seems that art (dr. Greek. Τέχνη), imitating nature, does the same. Painting, mixing white and black, yellow and red colors, creates images that match the originals. Music, mixing at the same time high and low, long and short sounds in different voices, creates a single harmony (dr. Greek. Αρμονία). Grammar, mixing vowels and consonants, made up all of [verbal] art. Heraclitus, nicknamed the Dark One, spoke of the same thing [26].

The Greeks understood harmony as a universal category of being. They saw its manifestations not only in natural entities, but also in human occupations (art "tehne"), but also in space. From this came the philosophical and musical doctrine of the harmony of the spheres.

In the V — IV centuries, BC e. the first evidence of the use of the word "harmony" in a special musical-theoretical sense is noted. In Philolaus and Plato, "octave scale" is called "harmony" (varieties of the interval structure of consonances were called "species" in harmonics), which was thought of as a coupling of a quart and fifth. Aristoxen and (later) Boethius also called "harmony" one of the three - enarmonic - genera of melos.

Antique harmonics textbooks (Cleonides, Bakhîy, Gaudentsy, Boethius) and musical and theoretical studies of harmony (the most significant works of the Greeks Aristoxen, Ptolemy, Aristide Quintilian) contained a compulsory presentation and interpretation of harmony issues: the doctrine of musical (pitch) sound, about intervals (in the Pythagorean tradition - always in a "mathematical" way), about interval-sound (including the Full two-octave system with its inherent sound-row ("modal") functions, about the fret scale x ("colors", "trouble") of the metabolite and others.

Subsequently, the concept of harmony retained its semantic basis ("logos"), however, specific ideas about harmony as sound-altitude coherence were dictated by evaluation criteria that were relevant for a given historical era. With the development of polyphonic music, harmony was divided into "simple" (one-voice) and "compound" (polyphonic; in the treatise of the English scientist Walter Odington "The Sum of Music Theory", beginning of the 14th century). J. Tsarlinco gave a mathematical justification (which he himself considered "natural") of large and small triads (which, according to tradition, he described as concords); divided all frets (one-voice) into tibia and fowl. He also owns the famous characteristic (now assessed as simplified) of the major triad as "funny" (Italian harmony allegra), and the minor as "sad" (Italian harmony mesta). M. Mersonne defined the role of bass as the foundation of harmony, described the phenomenon of overtones in the composition of musical sound. Johann Lippius first interpreted both triads as chords, describing the "harmonic triad" (lat. Trias harmonica) as "the true and triune sounding root of the most perfect and complete harmony "; also first witnessed the treatment of chords.

Jean-Philippe Rameau (1722, 1726) developed the science of harmony as a system of chords (the theory of chords, fundamental bass basse fondamentale, inversions, tonal communication, tonal cadence; the formation of a tonal circle, the S-T-D "triple proportion" system). In many ways, his treatise determined the tendencies of tonal harmony based on tertz harmonies.

Kölner D. True instruction in the composition of the bass general [4]. Translation from German by N. Zubrilov. Moscow, 1791. The first book on (major-minor) harmony in Russian.

Francois-Joseph Fétis (1844, rev. 1867) introduced the concept of tonality into global use (in his teaching, the term "tonality" encompassed both ancient modal frets and major-minor key), which was considered for the first time in historical perspective - from Gregorian choral to "omnintonality" - Romantics - Berlioz and Wagner. In contrast to the Pythagoreans.
and rationalists of the Enlightenment, he interpreted “tonality” (in the broad sense, that is, the lad) as a “purely metaphysical principle” (French principe purement métaphysique), finding in it “gravitations”, “permissions”, “foundations”, “Attractive consonance” of a newt, etc.  

Hugo Riemann (1893), drawing on the ideas of Rameau and the theory of “harmonic dualism” (major and minor as opposite poles) by A. von Oettingen, substantiated the functional theory of classical harmony, gave an in-depth analysis of modulation and other specific phenomena of tonal harmony.

B. L. Yavorsky (1908) and S. V. Protopopov (1930) described new (also called “symmetrical”) frets, in addition to major and minor. The core of Jaworski’s theory is the concept of mode of rhythm [26].

Heinrich Schenker (1935) put forward the theory of structural levels of harmonic fabric in tonal music of the 18th-19th centuries. He developed an analysis algorithm, which is based on the sequential removal (“reduction”) of layers of live music, up to the elementary melodic-harmonic skeleton (Ursatz) and, ultimately, leads to the simplest major or minor triad. Harmonic analysis according to Schenker has become widespread in the USA.

Yu. N. Tyulin (1937) put forward the theory of variability of tonal functions.

Paul Hindemith (1937) developed the evolutionary doctrine of harmony, based on it “natural foundations”, including mainly the acoustic concept of the fundamental tone (German Grundton) of the interval, chord, any harmony.

Karl Dahlhaus (1968) investigated the formation of the classical major-minor key, “harmonious key” (German harmonische Tonalität), demonstrated its formation on the samples of polyphonic music of the Middle Ages, especially the Renaissance and Baroque [18].

Yu. N. Khlopov (1988) developed a universal theory of harmony (without any chronological and stylistic restrictions in the musical material), which was based on the idea of two principles of fret, modality and tonality, which are not correlated to each other. He advanced the theory of modal functions and substantially developed the Riemannian theory of tonal functions. He identified 6 universal, most significant in music, typical interval structures, designating them as "interval births" [26].

In the Western tradition, in music after the seventeenth century, harmony is manipulated using chords, which are combinations of pitch classes. In tertian harmony, so named after the interval of a third, the members of chords are found and named by stacking intervals of the third, starting with the "root", then the "third" above the root, and the "fifth" above the root (which is a third above the third), etc. (Note that chord members are named after their interval above the root.) Dyads, the simplest chords, contain only two members (see power chords).

A chord with three members is called a triad because it has three members, not because it is necessarily built in thirds (see Quartal and quintal harmony for chords built with other intervals). Depending on the size of the intervals being stacked, different qualities of chords are formed. In popular and jazz harmony, chords are named by their root plus various terms and characters indicating their qualities. To keep the nomenclature as simple as possible, some defaults are accepted (not tabulated here). For example, the chord members C, E, and G, form a C Major triad, called by default simply a C chord. In an Ab chord (pronounced A-flat), the members are As, C, and Eb.

In many types of music, notably baroque, romantic, modern and jazz, chords are often augmented with "tensions" [11]. A tension is an additional chord member that creates a relatively dissonant interval in relation to the bass. Following the tertian practice of building chords by stacking thirds, the simplest first tension is added to a triad by stacking on top of the existing root, third, and fifth, another third above the fifth, giving a new, potentially dissonant member the interval of a seventh away from the root and therefore called the "seventh" of the chord, and producing a four-note chord, called a "seventh chord".

Depending on the widths of the individual thirds stacked to build the chord, the interval between the root and the seventh of the chord may be major, minor, or diminished. (The interval of an augmented seventh reproduces the root, and is therefore left out of the chordal nomenclature.) The nomenclature allows that, by default, "C7" indicates a chord with a root, third, fifth, and seventh spelled C, E, G, and B₅. Other types of seventh chords must be named more explicitly, such as "C Major 7" (spelled C, E, G, B₅), "C augmented 7" (here the word augmented applies to the fifth, not the seventh, spelled C, E, G♯, B₅), etc. (For a more complete exposition of nomenclature see Chord (music)).

Continuing to stack thirds on top of a seventh chord produces extensions, and brings in the "extended tensions" or "upper tensions" (those more than an octave above the root when stacked in thirds), the ninths, elevenths, and thirteenth. This creates the chords named after them. (Note that except for dyads and triads, tertian chord types are named for the interval of the largest size and magnitude in use in the stack, not for the number of chord members: thus a ninth chord has five members [tonic, 3rd, 5th, 7th, 9th], not nine.) Extensions beyond the thirteenth reproduce existing chord members and are (usually) left out of the nomenclature. Complex harmonies based on extended chords are found in abundance in

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|               | JIF = 1.500 | SJIF (Morocco) = 5.667 | OAJI (USA) = 0.350 |
jazz, late-romantic music, modern orchestral works, film music, etc [11].

Typically, in the classical Common practice period a dissonant chord (chord with tension) resolves to a consonant chord. Harmonization usually sounds pleasant to the ear when 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. For this reason, usually tension is 'prepared' and then 'resolved', where preparing tension means to place a series of consonant chords that lead smoothly to the dissonant chord. In this way the composer ensures introducing tension smoothly, without disturbing the listener. Once the piece reaches its sub-climax, the listener needs a moment of relaxation to clear up the tension, which is obtained by playing a consonant chord that resolves the tension of the previous chords. The clearing of this tension usually sounds pleasant to the listener, though this is not always the case in late-nineteenth century music, such as Tristan und Isolde by Richard Wagner [11].

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