

МУЗЫКА В ЗЕРКАЛЕ ФИЛОСОФИИ

MUSIC IN THE MIRROR OF PHILOSOPHY



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ON THE SYMBOLISM OF CONSONANCES

The history of world culture presents various symbols of harmony of the universe. Most of them are of visual nature. As for acoustic symbols, their semantic content is not sufficiently realized. In this connection it is expedient to consider perfect and imperfect consonances, as well as major and minor triads from the point of view of the symbolism contained in them.

Perfect consonances for many centuries have fulfilled the function of symbols of the super-real (heavenly, divine) world. The absolute purity of their sound is conditioned by the proportions of prime numbers from 1 to 4, which form the basis of these consonances and received the name of the Divine Tetraxis – the numerical basis of the world – from the Pythagoreans.

In the music of the New Age, the consonances of thirds (major and minor thirds) and chords having third structure were widely spread. The mathematical justification of third was presented by G. Zarlino, who expanded the quantity of numbers creating harmony to six. Thanks to the discovery of the overtone series, it was proved that thirds are generated, respectively, by the fifth and sixth sounds of the main tone.

Since the numbers 4 and 5 have symbolized nature and man since ancient times, and the number 6 served as a symbol of their harmony, the imperfect consonances of the thirds can be regarded as symbols of the imperfect material world and human existence, the sum of which gives rise to the perfect consonance of the fifth – the image of the perfect world.

The theory and practice of new European music confirmed the high status of both thirds, as well as the major triad as having a natural origin. The minor triad, which is absent in the structure of the sound, was apparently the result of human creative endeavors, which created a consonance opposite to the major in structural and emotional terms.

The unity of the results of acoustic research, numerical laws, symbolism of ancient numerology and human auditory perception allows us to assert that both triads are symbols of the harmony of the universe in its natural (major) or humanistic (minor) version.

Keywords: acoustic symbols, numeral proportions, consonance, third, overtone series, major triad, minor triad.

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О СИМВОЛИЗМЕ КОНСОНАНСОВ

В истории мировой культуры представлены различные символы гармонии мироздания. Большинство из них имеют визуальную природу. Что же касается акустических символов, то их смысловое наполнение осознано недостаточно. В этой связи целесообразно рассмотреть совершенные и несовершенные консонансы, а также мажорное и минорное трезвучия с точки зрения заключенного в них символизма.

Совершенные консонансы на протяжении многих столетий выполняли функцию символов сверхреального (небесного, божественного) мира. Абсолютная чистота их звучания обуславливалась

пропорциями простых чисел от 1 до 4, составляющих основание этих созвучий и получивших у пифагорейцев наименование Божественной Тетраксис – числового основания мира.

В музыке Нового времени широкое распространение получили терцовые созвучия (большая, малая терции) и аккорды терцового строения. Математическое обоснование терций представил Дж. Царлино, который расширил количество творящих гармонию чисел до шести. Благодаря открытию обертонового ряда было доказано, что терции порождаются, соответственно, пятым и шестым призвуками основного тона.

Поскольку числа 4 и 5 с древнейших времен символизировали природу и человека, а число 6 служило символом их гармонии, то несовершенные консонансы терций можно рассматривать в качестве символов несовершенного материального мира и бытия человека, сумма которых порождает совершенный консонанс квинты – образ совершенного мира.

Теория и практика новоевропейской музыки утвердила высокий статус обеих терций, а также мажорного трезвучия как имеющего природное происхождение. Минорное трезвучие, которое отсутствует в структуре звука, по-видимому, явилось результатом творческих усилий человека, создавшего созвучие, противоположное мажору в структурном и эмоциональном отношениях.

Единство результатов акустических исследований, числовых закономерностей, символизма древней нумерологии и слухового восприятия человека позволяет утверждать, что оба трезвучия являются символами гармонии мироздания в его природном (мажорном) или гуманистическом (минорном) варианте.

Ключевые слова: акустические символы, числовые пропорции, консонанс, терция, обертоновый ряд, мажорное трезвучие, минорное трезвучие.

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Throughout the foreseeable history, the existence of mankind is accompanied by a variety of symbols. Among the most significant of them are symbols of harmony of the universe. As a rule, such symbols are formed of two opposite sides, which are in a state of harmony, balance. As examples, we should name the hexagram formed of two triangles – a symbol of the ancient principle of unity of the macrocosm and the microcosm, the leading symbol of Taoism (Yin – Yang), denoting the unity and interpenetration of the active male and passive female principles, as well as the cross, symbolizing the unity and opposition of the vertical (super-real) and horizontal (material) worlds. The interpretation of these symbols and their significance in the history of world culture is the subject of a significant number of philosophical, cultural and art studies.

However, all of the above symbols are visual in nature. They are perceived by human vision, that is, the sensory organ through which a person receives the greatest amount of information. As for the consonances perceived by hearing, their symbolic nature is not sufficiently understood at present. In this connection, the question arises: how to explain the existence of a variety of visual symbols and the lack of knowledge about symbols of acoustic nature? Can we say that there are no such symbols or that the symbolic status of consonances is not fully comprehended?

It seems more reasonable to believe that sonic symbols occupy an important place in the history of mankind, and therefore require their comprehension. In this regard, it seems appropriate to turn to the history of musical art in order to discover the symbolic background of the consonances that prevailed in the music of specific historical epochs.

As we know, the variety of sound combinations used both in professional music and in the practice of folk music, music theory divides into perfect consonances, imperfect consonances and dissonances. The expressive possibilities of the above sound combinations, as well as major and minor triads, have been investigated in detail within the framework of modern musicology. Hence the need for efforts aimed at revealing their symbolic meanings, since any consonance including two, three or more elements can be interpreted from the point of view of the symbolism hidden in them. This explains the relevance of this study, which involves a worldview interpretation of such universally significant elements of musical art as major and minor triads.

Since ancient times, perfect consonances (octave, fifth, fourth) have been used to recreate the image of the super-real (heavenly or divine) world, which is explained by the following circumstances. Firstly, the sounding of perfect consonances is perceived by the ear as absolute euphony that is not inherent

in living nature, and therefore addresses the human consciousness to the realm of the beyond. Secondly, perfect consonances have no emotional coloring, they sound detached, as something distant from the real men's existence. This is largely due to the large distance between the elements that make up the consonance, which gives a sense of weightlessness, immateriality and lack of volume. It is no coincidence that in the field of musicology such sounds are characterized by the terms "empty", "hard", "cold". "Fourth and fifth intervals do not create a complete harmonic feeling, leaving the impression of emptiness" [1, p. 16]. This quality allows us to compare the sound of perfect consonances with the flat, almost incorporeal images represented on medieval icons.

The extreme euphony of such sound combinations, perceived by the human ear, was confirmed by the studies of the ancient Pythagoreans, who presented a mathematical justification of their absolute perfection. The Pythagoreans discovered the proportions of prime numbers underlying perfect consonances. By carrying out experiments with the division of a string, the Hellenes revealed that the basis of a pure octave is the proportion 1:2; of a perfect fifth, 2:3; of a perfect fourth, 3:4. "Scientific researches of theorists from the earliest times were reduced, in essence, to the establishment of dependence of the character of simultaneous sounding (in other words – harmonic qualities) of intervals on the mathematical ratio of the segments of the string forming the given sounds" [1, p. 36].

According to Pythagorean numerology, the basis of perfect consonances are the numbers that symbolize the Supreme or super-real world. These are those first four numbers (1, 2, 3, 4), which make up the Divine Tetraxis – the First Cause and Origin of all the existing world. Consequently, the consonances generated by these numbers can be regarded as sonic symbols of the super-real world. This is confirmed by the musical art of the Middle Ages and, partly, of the Renaissance, which aimed at recreating the music of heaven, and for this purpose used the above-mentioned perfect consonances and demanded to avoid other consonances.

The process of significant changes in the figurative structure of musical art and the means of its embodiment began in the Renaissance, when the interest of masters of music and other arts was increasingly lowered from heaven to earth. Accordingly, previously undesirable sound combinations began to penetrate into the sphere of musical consonances, among which the major and minor thirds took a significant place. Moreover, already in the Renaissance, the formation of a stable harmonic vertical was being realized, and the foundations of the doctrine of chords made of

three notes, having third structure was being laid. Already on the threshold of the New Age, G. Zarlino proposed a rational justification of major and minor triads. He found out that the basis of the major triad is harmonic proportion (15:12:10), and of the minor triad – arithmetic proportion (6:5:4), thus continuing the traditions of the Pythagorean theory of music.

However, the status of third consonances and triads was finally established in the conditions of music of the New Age, that is, in the seventeenth–eighteenth centuries, when, as a result of intensive development of natural science, the phenomenon of overtone series was discovered, which is a set of natural tones formed by the sounding of different parts of the string or another sound source. Acoustic experiments showed that the first overtones include the octave and fifth, and that the sphere of perfect consonances is limited to the fourth overtone. "It was only after centuries of artistic experience that the harmonic thinking, which had already been fully formed, received a new illumination in musical science: it was discovered that the division of the string, which had been the subject of research by scientists since ancient times and which was achieved artificially (on the monochord), is formed when vibrating by itself, giving rise to 'harmony'..." [1, pp. 38–39].

The discovery of overtones turned out to be extremely timely: at this period of history, mankind turned to the cognition and exploration of the real world, as a result of which nature and man became the main object of research for science and the main theme for various types of art. Consequently, significant changes occurred in the sphere of those means that opened the way for the art of music to embody new images. One of the most significant among such means was the third in its two variants. It was the interval of third (major and minor) that formed the basis of both the melodic horizontal and harmonic vertical of works in New European musical art, and musical theory included third in the list of officially recognized consonances: "not only fourths and fifths, but also thirds acquired the rights of consonant tuning norms" [1, p. 37].

Included in the narrow circle of recognized consonances, the thirds made it possible to overcome the "weightlessness", "emptiness", and "limitlessness" of perfect consonances. Thanks to their third structure, three- and four-notes chords acquired such qualities as weightiness, heaviness and volume. Drawing parallels with the fine arts, we can say that such chords gave musical images the quality of volumetricity, which allows us to consider them as a sound analogue to the three-dimensional, emphasized bodily images of new European painters. Consequently, third consonances should be interpreted as a sonic symbol of the real

material world. If perfect consonances served as a symbol of the perfection of heaven, then imperfect consonances became a symbol of the real, and therefore imperfect, world.

In addition, unlike perfect consonances, the third (as well as its inversion – sixth) has two varieties with opposite emotional coloring. The human ear perceives the sound of major and minor third as an embodiment of contrasting emotional states, which allows us to include in the imagery of music the sphere of affects, emotions and feelings, to give the musical images the qualities of vitality and humanity. Thanks to the presence of an emotional component, third consonances made it possible to recreate not only the sound diversity of nature, but also the movements of the human soul. And this means that by the 18th century music had already “descended” from heaven to earth and turned to recreating the existence of nature and man. “Both classical and classicism of the eighteenth century is an art about man and for man” [2, p. 38].

It is no coincidence that the harmonic vertical of the art of musical classicism, which had developed by the 18th century, was based on three- and four-notes chords built on the principle of thirds. “The classical system of Major and Minor uses primarily third consonances as chord combinations, which reflects its specifics”, – writes Yu. Bychkov [3, pp. 35–36]. At the same time, the major triad became the dominant element of classical harmony. Its high status can be justified by both natural (the structure of the overtone series, the laws of human auditory perception) and mystical arguments, namely, the provisions of ancient numerical symbolism.

Already in the 16th century G. Zarlino showed that the basis of the major third is the proportion 4:5, and the minor third – 5:6. As we see, these proportions include numbers that go beyond the Divine Tetraxis, and, consequently, their symbolism is no longer addressed to the heavens, but to the real material world. In the course of history, the mysticism of ancient numerical symbolism has surprisingly coincided with new knowledge about the natural structure of sound. As it turned out, the considered thirds are generated, respectively, by the fifth and sixth sound of the main tone. And, therefore, the major triad not only corresponds to the harmony of numbers, but is also a natural component of the internal structure of sound, being the sum of the original sound, its fifth and sixth overtones. This discovery served as a justification for the natural origin of major.

Indeed, according to the numerological knowledge of Pythagoreans, the first numerical symbol of the material world is the number four: the natural world is formed of four primary elements, has four seasons, four cardinal directions. Finally,

the basis of the simplest volumetric figure of our three-dimensional world – the tetrahedron – are four points. This fact is pointed out, in particular, by Plato in his doctrine of sacred geometry. According to Plato the atoms of the initial primary element of the world – fire – have the structure of a tetrahedron. “The tetrahedron represents the general conception of the system of the Creation. This figure is obtained by emanation and interaction of four points” [4, p. 73].

The number five has served as a symbol of the microcosm – the human being – since ancient times. “The equilateral star represents the microcosm, the five extremities of the human body...” [4, p. 604]. It is not by chance that the five-pointed star or pentagram throughout history was used as a sign protecting a person from various kinds of influences (including magical ones) coming from the factors of the outer world.

As for the number six, it is seen as a symbol of the unity of opposites, namely, two triangles with opposite apexes. This is a hexagram or six-pointed star – the star of David or the seal of his son King Solomon. This is a sign of supreme harmony, the unity of opposites – the highest and the lowest, heavenly and earthly. Often the hexagram is interpreted as a symbol of harmony in man of his spiritual and physical beginnings, that is, as a symbol of the perfect man. “This is the mystical sign of the perfect and wise King Solomon” [4, p. 511]. In addition, this sign is considered as a visual image of the identity of the macrocosm and microcosm, the Cosmos and man, in other words, a symbol of the harmony of the universe. “The hexagram is usually drawn with one white and the other black triangle, which shows the spiritual and material aspects of being. The two trinities are intertwined; thus, all life appears as the product of the harmonious activity of spiritual and material principles, each influencing the other. The spirit is symbolized by the upper point and the matter by the lower one” [4, p. 507].

On the basis of the above, it can be argued that, like general visual symbols, the major triad also has a deep, but hidden from the uninitiated, meaning. If imperfect consonances of thirds can be considered as sound characteristics of real human existence, which allow us to recreate its contrasting emotional states – optimism and pessimism, joy and sadness, then the structure of the triad summing up two different thirds performs the unity of opposite beginnings, generating a perfect consonance of fifth, which gives reason to consider the triad as a sonic symbol of the harmony of the universe. As L. Kirillina notes, “the alpha and omega of classical music is undoubtedly the major triad, contained in the natural sound order and possessing, by virtue of its natural and divine origin, the highest aesthetic and ethical value” [5, p. 17].

In New European music, the major triad secured its status as a fundamental element of musical theory and practice. Its perfection was a testimony to the supreme reasonableness of the world order. It is a sound image of an ideal world free from chromaticism and dissonance – a world created by the human mind in accordance with the laws of supreme harmony. The fact that the sacred mathematics of antiquity, new European natural science experiments and the real experience of practical music-making had the same results, became a convincing evidence of the Supreme reasonableness of the world order and strengthened people's faith in the existence of unified, Godgiven laws, which are equally valid for all levels of the Supreme, natural and human existence.

The images of the ideal world were depicted in all types of classicist art, based on the belief in the supreme reasonableness of the world order. This belief also formed the basis of Enlightenment philosophy, whose representatives revived the understanding of God as the Supreme Reason and believed in the possibility of transforming the world through their intellectual and creative efforts in accordance with the laws of supreme harmony. "They perceived their intellectual breakthrough above all as a contribution to the sacred mission of science. Their scientific discoveries carried a spiritual victory, for they discerned the divine architecture of the world and the true cosmic order" [6, p. 253].

A similar goal was set for themselves by the representatives of classicism, who used art to create models of a perfect, reasonably organized world in which the laws sent by God coincide with the natural laws of nature. Creating artistic images of the ideal world, they tested the harmony with algebra, relying on the reason that brings man closer to God. As L. Kirillina notes, "imitation of nature was considered not as an end in itself, but as a sacred super-task of art, consisting not in a simple copying of reality, but in the conformity of creative manifestations to the highest laws of natural existence – the laws which are as spiritual as they are organic" [2, p. 35].

As for the minor triad, it is known to be absent in the structure of the primes of the main tone, i. e. it has no natural basis. As I. Sposobin notes, "the overtone series indicates only the major triad. No other chord (minor triad, dominant seventh chord) can be justified by it" [7, p. 12]. Moreover, the minor triad contradicts the structure of overtones, and therefore sounds less natural than the major one, which is pointed out, in particular, by Yu. Tyulin: "Phonically, the minor triad <...> contains a contradiction, which gives this triad special properties..." [1, p. 59]. Apparently, this can explain the perception of its insufficient euphony, as well as

the long tradition of ending compositions written in minor tonality with the sound of a major chord.

In this connection, a natural question arises: what arguments can justify the existence and high authority of the minor triad? In search of an answer to this question, we can assume that the opposite emotional coloring of the thirds gave rise to the desire to artificially change the natural (major) structure of the triad. Since the negative emotions recreated by the minor are generated by a man conscious of his insignificance and short-livedness, and therefore by a reflective person, the "justification" for the minor may be a human desire to create a humanistic "counterbalance" to the positively colored major. By changing the places of the major and minor thirds, man as if puts himself above nature, giving himself a priority position in the system of the universe. In this case, the minor triad should be regarded as the result of the creative activity of man, who performs a simple operation – the mirror projection of the major triad's upper third relative to its root third.

Apparently, the minor triad, which was born in the conditions of real practice of live music-making and composer's creativity, was the result of creative efforts to make a new artificial sound structure, opposite to the major in structural and figurative-emotional relations. At the same time, the structure of the triads in question demonstrates that harmony is produced exclusively by the unity of opposites. Thus, the augmented triad, including two major thirds, has the range of a minor sixth, and the range of the diminished triad, consisting of two minor thirds, is a tritone. This means that the summation of equal components can result in either imperfect consonance or dissonance.

On the basis of the fact that the major triad has a natural origin and the minor triad has an artificial origin, we can conclude that the unity-contradiction of the two triads (and, consequently, of the two parallel tonalities) allows us to recreate the idea of the harmonious coexistence of nature and man. And it was this idea that formed the basis of the art of classicism in all its manifestations. Musical art was no exception, and it remains the standard of the highest harmony and perfection up to the present time. Until now, musical works in their overwhelming majority end with a triad, and this is explained not only by the positive response of the ear to its sound. The structural and acoustic perfection of this chord makes it possible to fix in the minds of listeners the image of the harmony of the universe, the triumph of the cosmos over chaos, of Reason over instincts. In this connection, the triad can be considered with good reason to be a sound analogue of such universal human symbols as the cross, the hexagram or the Taoist symbol of Yin – Yang.

Thus, the major and minor triads, which formed the basis of musical theory and practice of the New Age, can be regarded as an image of the harmony of the world, which is generated by the balance of opposite principles – natural life-affirming major and artificial tragic minor. In this context, it is indicative of the fact that the human ear perceives the sound of a minor triad that does not correspond to the overtone series as euphony. This suggests that the minor triad is an image of harmony, in the conditions of which not the natural, but the human beginning becomes dominant. This means that not only God or nature, but also man is able to create images of higher harmony, that is, to solve the leading task of the epoch, which was called the Age of Reason or the Age of Enlightenment.

In conclusion, it should be stated that it is no coincidence that the third structure of the triad was

a fundamental element of the theory and practice of New European musical art. The high attitudinal, psychological, musical and technological status of the triad is ensured by the unity of three factors. These are the natural structure of sound, the objective laws of proportioning, the ancient symbolism of numbers, and the specificity of human auditory perception. The universality of the triad, which meets the requirements of all these factors, fully corresponds to the world outlook of the Age of Enlightenment, whose representatives worshipped the Divine Mind and deified the human mind. It is not by chance that practically all musical works of the New European tradition end with the sound of the triad, which affirms in the listener's mind the acoustic image of the harmony of the universe in its natural (major) or humanistic (minor) version.

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