

IMAGINATIVE TIMBRE

TIMBRUL IMAGINAR

SNEJANA PÎSLARI,

doctorandă,

Academia de Muzică, Teatru și Arte Plastice

The perception of the timbral factor in musical compositions is the result of the synthesis of its acoustic capabilities with the peculiarities of a person's inner world, such as knowledge, experience, outlook and the spiritual wealth he accumulated. This article examines ways of using various timbral aspects in the composer's creation using the concepts of timbral apperception and separation developed by V. Tsytovich. The article is aimed at the study of simulative, associative, imaginary timbres, their varieties in the works of European composers and in the "Symphonic Dances" by Pavel Rivilis.

Keywords: *Symphonic Dances, timbre, timbral mixt, illusory timbres, simulative timbres, associative timbres, imaginary timbre.*

Din cercetările domeniului gândirii orchestrale se pot face unele concluzii cu privire la percepția factorului timbral în lucrările muzicale. Timbru este rezultatul fuziunii parametrilor săi acustici cu particularitățile activității umane, și anume de conștientizare, cultivare și înțelegere a proceselor culturale, evoluția imaginației etc. În acest articol autorul în baza a percepției și a concepției divizării timbrale în real și iluzoriu, elaborate de V. Tsytoich, propune o clasificare proprie a timbrului. Astfel sunt analizate timbre modelate, asociative, imaginare și varietățile lor în creația compozitorilor europeni dar și în „Dansurile simfonice” de Pavel Rivilis.

Cuvinte-cheie: Dansuri simfonice, timbru, mixt timbral, timbruri iluzorii, timbruri modelate, timbruri asociative, timbruri imaginare.

The musical timbre represents a highly original synthesis of its acoustic components with the mental ability of man to perceive (or produce) the sound image. “On the one hand, the sound, - writes E. Nazaikinskii, - is an objective physical phenomenon, an oscillatory process, which generates an elastic medium of fast propagating waves. On the other hand, it is subjective psychological: something perceived by hearing and reflected in consciousness as a particular *mental image*”. [1, p. 64].

In the 19th century many scientists suggested that musical hearing fuses pitch, strength, and *timbre*, along with more complex elements of phrasing, form, rhythm, etc., into a whole indissoluble perception, and that it could be understood as our ability to apprehend and visualize musical images. Musical hearing, then, seems to be inextricably linked to an interactive processes that take place between memory and imagination. According to J. Donovan’s theory, the sound is particularly suited to become symbolic [2, p. 499]. Our mind’s special mechanism of musical perception may be self-evident in light of its possible universal meaning, for a suggestion was even made that music might represent an archaic form of thinking.

Modern physiology and psychology have shown that our mind analyzes and synthesizes, summarizes and abstracts opinions and notions about things and phenomena of objective material reality. The dependence of man’s perception of new objects and phenomena on his prior knowledge and experience, on man’s world outlook and content of his spiritual life, as well as on man’s mental state at the moment of perception, has been given the definition of *apperception* in science.

Apperception (Lat. *ad* - to, and *perceptio* - perception) is one of the fundamental properties of the human psyche, manifested in both conditionality of the perception of objects and phenomena of the outside world, and awareness of this perception by the peculiarities of entire content of mental life, prior knowledge, and specific status of the individual. The initial images of person’s sensation and perception assemble into a more complex single image because in objective reality things and phenomena are related to a unity that affects the senses of man.

In modern psychology the notion of apperception means that different people (and even one person at different times) can have a different perception of the same object and, conversely, different objects could be perceived as one and the same. The richer experience of a person, the richer his perception, and the more he sees in the object. An important factor influencing the content of perception, is to set the object formed under the influence of prior perceptions and representing a kind of willingness to perceive again the given object in a certain way.

Research in the field of orchestral thinking permits us to draw conclusions about the perception of the timbre factor in this or that work. The timbre is a synthesis of its acoustic qualities with features of human mental activity - awareness, education and understanding of cultural processes, development of imagination, etc. The role of these factors of the human personality in the perception of music is extremely important.

“The most complicated subjectively perceived parameter is the timbre. With the definition of the term difficulties arise, comparable with the definition of “life”: all understand what it is, but science has been struggling for several centuries to give its scientific definition” [3]. In musicology there have been repeated attempts to classify the timbre. In this study, I decided to consider the classification of V. Tsytoich, dividing the sound of instruments into *real* and *illusory*. The illusory timbre, according

to V. Tsytovich, is a complex of rhythmic, textural, articulation, dynamic means that create an illusion of timbre variety of instruments [4, p. 148 – 149].

In reality, these kinds are highly interconnected, and for its better understanding I propose to extend the concept of illusory timbres and conventionally bring out three types - *simulated*, *associative* and *imaginative* timbres. We will consider in detail each of them:

Simulated timbres. We conventionally divide the modeled sounds into three types:

- *The type in which one component of the mixed timbre in certain register circumstances enhances the qualities of the other.*

In *Dancing dandies* from *The Rite of Spring* by I. Stravinsky the orchestral vertical lines up in the most dense arrangement and is a bitonal structure (*E-dur - Es-dur*) in the range of two octaves (*E - es1*). This harmonic complex, outlining the straight-eighths notes, sounds in the string group of the orchestra (except for the first violins). The accents in the strings, resulting in a system of irregular repetition, in fact are the subject of the *Dancing*. The introduction of eight horns (in absolute accuracy with the location of the strings) gives the sensation of additional strings on the accents. This is due to the merge of the loose, soft and low-middle register of horns with the low and middle register of strings. The effect of additional strings is created by the correlation of regularity (strings) and irregularity (horns). At the moment of the coincidence the listener does not have the time to distinguish the timbre of these groups. Thus, the timbre of the strings becomes dominant.

- *The type in which one of the components is endowed with improper to its nature features.*

In *Baba Yaga* from M. Mussorgsky's *Pictures at an Exhibition*, orchestrated by M. Ravel, between the cellos and double basses arranged in two octaves (respectively *ais - e* and *Ais1 - E1*) is placed the tuba¹. Its inherent soft *piano* in the big octave, framed with the colorful *pizzicato* timbre of the strings creates the illusion of playing the tuba *pizzicato*. In this case, the *pizzicato* is the sound field surrounding the tuba and affecting the perception of the listener.

- *The type in which the mixed sound timbre takes on new characteristics.*

This type of orchestration was widely used in the work of the romantic composers, to evaluate the difference in timbre and loudness of different registers of woodwind instruments. They noticed that as a result of a multiple overlay, the woodwinds lose their natural characteristics, and their mixed acquires a certain sound that does not differ particularly, but is significantly superior to the usual sonority of the woodwinds.

A similar phenomenon is evident in the second unfolding of the theme in the *Introduction* to R. Wagner's opera *Lohengrin*. Three flutes, two oboes and an English horn, two clarinets and a bass clarinet, and finally, two bassoons and a horn are superimposed on each other so that the voices perfectly merge and none of them can be distinguished. Together they form a "little muffled sonority of the woodwinds". In the *introduction* to R. Wagner's *Parsifal* to the unison of the bassoon, clarinet and later the English horn are joined the violins and cellos - all in unison. What is low register for violins is almost high for cellos. All this generates a timbre indistinguishable unison.

Associative timbres. Its classification as a kind of illusory ones is based on the fact that the listener characterizes the timbre primarily by associative perception, that is, compares this sound quality with his experiences. The associative timbres can be divided into two types:

- *The type starting from an unmusical context.*

The brightest example of this type of timbre is *The procession to execution* from H. Berlioz's *Symphonie fantastique*. In its final section, a short fragment of the leitmotif is entrusted to the clarinet *solo*, interrupted by the orchestral *tutti*, causing the listener's association with the stroke of the headsman's hatchet. In the "marine landscapes" by N. Rimsky - Korsakov (the symphonic suite *Scheherazade*, the operas *Sadko*, *The Tale of Tsar Saltan*) the texture in combination with a specific timbre is set in such condition that it creates associations with a marine element.

¹ Pavel Rivilis was referring to this example in his lectures.

The *Second Symphony* by R. Shchedrin, written in the form of 25 preludes for orchestra, is inspired by images of World War II. In one of the preludes the *glissando* of trombones in the low register creates an illusion of aircraft drone. Precedent to this device can serve the theme of invasion from the first movement of the *Seventh Symphony* by D. Shostakovich, in which the *glissando* of the trombones is a characteristic timbre, creating images of enemy aggression.

The function of the snare in noteworthy in the introduction to *Bolero* by M. Ravel and the same instrument in the invasion theme from Shostakovich's *Seventh Symphony*. The same technique, rhythm, timbre cause quite different associations. If in *Bolero* the snare drum is directly related to the dance genre of folk Spanish music, then in the works of Shostakovich it is associated with the aggressive tread of an enemy army.

- *The type starting from a purely musical context.*

In the fourth movement of Berlioz's *Symphonie fantastique* the double basses *divisi a 4 pizzicato* for the first time sound in close position in their lowest register. This leads to the fact that the harmonic function cannot be heard so distinctly, resulting in the *G-minor* accord and becoming a sonic blur. The performed *pizzicato* on the *p* or *pp* creates a kind of the sound of extra timpani. The illusion of timpani timbre is also created by the timpani environment - the presence of real timpani with their sextuplet rhythm creates a timbre field influencing the double basses partition.

In the Third Movement of *Scheherazade Suite* by N. Rimsky-Korsakov (*Pochissimo piu mosso*), probably for the first time in orchestral practice, the rhythmic figuration of the flute in its thick lower register (on the sound *f1*) creates the illusion of "a snare drum with a certain pitch"². But if the flute's percussion - like part in the *Tsarevna's theme* is associated with the rhythm of an oriental dance, in *Bolero* by M. Ravel the similar effect in the opening theme (Rehearsals 1-3) has an out of program explanation, and acquires its reverse meaning. The associative impulse is given in the initial part by the real sound of the snare drum and its imprint is imposed on all the subsequent reentries of the rhythmic figuration in the "melodic instruments".

Imaginative timbres. The phenomena which we conventionally call *imaginative timbre* based on the properties of human hearing and memory to keep for some more time the earlier impression deserves special attention. In the light of numerous versions of its realization of perception this timbre can affect the shape, dramatic development and the content of a musical work. However, despite the important role of the imaginative timbre in musical works it has not received a scientific definition yet, and is rarely mentioned in the literature on musicology.

Composers did not come immediately to the awareness and understanding of this quality of timbre and used it in their works unconsciously. One of the first composers who felt this property of the timbre was J.S. Bach. The most widely-spread form of the imaginative timbres in his works are *timbre substitutions*, creating the illusion of sound at the moment when the instrument is silent. Owing to hearing inertia the listeners as if continue to hear, to feel that sound mass, which was given before.

A representative example of such an acoustic illusion explained by the property of our ear to keep for some time the strongest received timbre impressions is found in the *Introduction* to the opera *The Golden Cockerel* by N. Rimsky-Korsakov. The initial impulse is given by two trumpet calls *con sordini*, caught up and reinforced by two oboes in unison in the second octave. On the stretched sound of *as2* is imposed the unison pedal of the first violins *con sordini*. An important role in the treatment of the timbre of this fragment is the timbre proximity of trumpets and violins *con sordini*. Then the trumpets are gradually "switched off" (at the beginning of the first one, which lasts about nine quarters, then the second, sounding for about five quarters). The oboes "echo" sounds about the same time. After the trumpets are "turned off" the cellos play the melodic line. They serve as a "diversion" to leave the impression of the retained sound. As a result in the perception of listeners continues to sound *as2* of the trumpet.

² Pavel Rivilis was referring to this example in his lectures.

Similar manifestations of the imaginary timbre can be found by drawing a parallel line between *Scheherazade* by N. Rimsky-Korsakov and M. Ravel's *Bolero*. In the culminating final section of *Scheherazade* two measures precede the main theme maintaining the type of figuration support.

At the moment of the break in the melodic flow in each of these two measures the composer enhances this figuration by adding the violas to the cellos. Then violas are removed, but due to hearing inertia, the figuration continues to be heard, despite the dense orchestral pedal.

In M. Ravel's *Bolero* the 13th variation is accompanied by increased timbre tension in the melody. This calls for a corresponding dynamic growth in the accompaniment, but even a huge orchestral apparatus cannot provide the composer a constant and continuous development of the melody and accompaniment. A way out is to create a dynamic difference between the accompaniment plan of the previous two measures and a variation.

Beginning with the 13th variation to the end of the work, in the two measures preceding the melody, the accompaniment is more powerful than its further exposition of the variations. In variations 13-15 the preponderance of the sound force of the melodies is created by transferring in it the accompaniment instruments. The accompaniment plan in the previous two measures is not amplified, and in its subsequently interpretation, in the variations themselves, remains the same. Due to the presence in it of the snare drum, "colored" by a dense horns octave in variations 13-16 the accompaniment will be heard for a long time through the thickness of the orchestra. In combination with the psychological effect according to the law of apperception, sufficient to meet such expectations, the listener will continue to feel the sound mass "specified" in the previous two measures.

Studying the score of P. Rivili's *Symphonic Dances* (1969) allows us to make some conclusions about the process of working with timbre in this work. A striking example of the combination of real timbres (that do not create any acoustical illusions) and illusory timbres (simulated, associative and imaginary) is the fourth movement of the cycle in which the varieties of illusory timbre are as follows.

Simulated timbre of the first type include, for example, the sound of the quartet of horns, to which in the preceding reprise section are added two trumpets, creating a sound effect of six horns due to absorption by the first timbre of the second and the closeness of their acoustic characteristics. Expanding by a fifth the ambit of the horn sound, the trumpets, thus, give them more fullness and volume of sound. As a result, there is an image, jointed with the timbre environment and creates a pastoral picture of the extreme sections of the form.

An example of the *simulated timbre of the second type* is the timbre of the tuba in the middle section of the fourth movement. Placed in the low register, the tuba, to some extent, loses the pitched sound and proceeding from the intonation and the semantic context, acquires the color of the Moldovan folk friction musical instrument *buhai*.

The simulated timbre of the third type is represented by the instrumental treatment of the theme in the initial section of the fourth movement. For its presentation the composer chooses an unison of the second violins, violas and trumpets. In this combination the violas sound in their highest expressive register. "The spicy, slightly bell-like sound of the trumpet, joined with a slightly nasal violas timbre, gives a peculiar color, unlike any other combinations" [5, p.104]. Pavel Rivili gives a concrete explanation to the conductor which is entered in the score: "The unison of trumpet, the second violins and violas should be aligned so that not a single timbre could stand out" [6, p. 161]. As a result, a new unusual sound appears.

The associative timbre of the first type is presented in this work by all the genres of this cycle. In the *Symphonic Dances* the original instrumental composition and special registers create an original sound of various folk music orchestras (Romanian – *taraf*) in the first, second and fourth parts. To the second type can be attributed the timbre of horns duos, which combined with broad strokes and intonation calls make in the fourth movement associations with the intonation nature of *buchum* (Romanian - *bucium*) – an ancient shepherd pipe similar to the hutsul's *trembita*.

In the middle section of the fourth movement the dance theme is performed by the flute in its highest and tuba in its lowest registers accompanied by cymbals and a bass drum. The register gap between the flute and the tuba is four octaves. The theme is entrusted to the first flute *solo*. In addition, each entry of the second flute, emphasizing the beginning of the phrases played as trills by the first flute and is characterized by the use of special methods of playing *frullato*. The association with the timbre of an ethnic woodwind instrument creates a difference in the heterophony sound of this duo.

The effect of the *imaginative timbre* characterizes the entire fourth movement of the cycle. The “choral” of wind instruments in the initial section is presented by the *B-flat chord* in three trombones, unfolding against a background of extremely low pedal sounds of the contrabassoon, two bassoons and two horns. This “choral” combination is characterized by special force, strength and memorability.

Further, the “choral” is played by woodwind instruments: bassoon, bass clarinet, clarinet and English horn. Backed by the massive pedal *B1* of the tuba and double basses, they stand the *major third b-d*. By its dynamics (*mf*), register position (all woodwinds sound in the middle register, except for the extremely low register of clarinets which have a metal, a little ringing tone and the ability to “cut” the rather dense orchestral texture) and harmonic arrangement they give the musical sound the effect of “echo” and is not drowning out the melody, unfolding against the background.

The effect of the *imaginative timbre* appears at the moment when, after sounding “echo” two bassoons which participated in both the timbre combinations, repeat their extremely low *B1*, and according to the law of apperception, there is a feeling of a whole “choral” sound (although only one of its timbre component sounds).

In the final sounding of the *B-flat major chord* on the bassoons, contrabassoon, double bass and horn pedals are superimposed the *third B-d* of the cellos *divisi*. The rhythmic figuration is played by three timpani. On the basis of the acquired in the course of audition sound experience, where this “choral” sounded in a different timbre combinations, the composer, authorizing the chord to the timpani, gives only a hint of the tone and the listener himself “imagines” the idea proposed by the composer.

An example of the *imaginative timbre* can also be found in presenting the theme in the initial section of the fourth movement. At first, it sounds in the timbre combination of the trumpet, the second violins and violas. Later the trumpet never plays the theme fully - it then starts, then terminates it. In the latter reentries, in the initial section, the theme is played by the strings (the first and second violins and violas), but the timbre of the trumpet continues to be felt partly because of the proximity of the trumpet and viola sounds partly due to the inertia of the listener’s perception.

In the middle part the theme of “the pastoral folk tune” is passed from the flutes to the first and second violins. Sounding mostly in the strings, the melody occasionally moves to the flutes, but there is still an impression of a single tone of the strings because of its prevailing beginning.

Thus, by comparing different types of timbre - *real* and *illusory* - the author proves that this work is perceived by the laws that are not limited to the familiar sound reality. It appeals to the listener’s imagination, the limits of which are inexhaustible.

Bibliographical references

1. НАЗАЙКИНСКИЙ, Е; РАГС, Ю. *Восприятие музыкальных тембров и значение отдельных гармоник звука*. In: *Применение акустических методов исследования в музыковедении*, Москва: Музыка, 1964.
2. DONOVAN, J. *The Festal Origin of Human Speech*, part I. London: Oxford University Press, 1953.
3. АЛДОШИНА, И. *Основы психоакустики*. Часть 14. Тембр. [online] [cit. Звукорежиссер, 2001, nr. 2]. Available on the Internet <rus.625-net.ru/audioproducer/2001/02/theory_2>.
4. ЦЫТОВИЧ, В. *Специфика тембрового мышления Б.Бартока в квартетах и оркестровых сочинениях*. In: *Вопросы теории и эстетики музыки*: Ленинград: Музыка, 1972, вып. 11.
5. ВАСИЛЕНКО, С. *Инструментовка для симфонического оркестра*, т. 2. Москва: Музгиз, 1959.
6. РИВИЛИС, П. *Симфонические танцы*. Партитура. Москва: Советский композитор, 1973.