THE RELATIONSHIP BETWEEN MUSIC AND MOVEMENT

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SUMMARY. We have studied both the results of the scientific research on humans' motor reaction to music and the form in which the close connection between music and movement manifested throughout history - in dance, in the syncretism of the arts in the classical Greek culture, in various folk genres. First we discussed about *beat perception* and *entrainment* (the exclusively human ability of synchronizing movement with an external rhythm) after which we presented various forms of music and movement being closely connected. Regarding music and dance we presented the human need to move induced by an external rhythm, after which we discussed the syncretism of the arts in the classical Greek culture showing that music and movement did not exist separately but as one phenomenon called *mousike*. Finally, studying folk genres we found that the music and movement tandem existed in almost every main aspect of human life: labour (work songs), parenthood (lullaby) and childhood (singing games).

Keywords: music, movement, entrainment, dance, *mousike*, work song, lullaby, singing game.

Introduction

The relationship between music and movement is complex, and its various aspects are studied within several scientific disciplines. The production and transmission of the musical sound to the ear - the organ that perceives the sound - are based on mechanical phenomena studied mainly by physics: the sound is produced by periodic oscillatory movements of an elastic medium, which propagate as sound waves. The perception of sound, studied by physiology, is located in the ear, where the sound waves are transmitted as mechanical movements to the auditory nerve, which in turn conveys the information to the brain. Both in the production and

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transmission of sound and during the first stage of its perception (in the ear) a major role is played by movement.

The human reaction to the perceived sounds is a complex neurological and psychological phenomenon. One's emotional response to music, as well as the link between this reaction and movement, is known and documented since antiquity. The etymology of the word "emotion" (in French *émotion*, in Italian *emozione*), which designates an emotional reaction, indicates a connection of the affective reactions (including the emotional reaction to music) with movement, since the Latin term *emotio* from the verb *emovere* is derived from the verb *movere,* which translates as "to move." The systematic scientific study of human reactions to musical sounds is relatively new, and constitutes the field of music neuroscience and psycho musicology.

Particularly interesting for our study is the motor reaction to music, typical of the human being, universal and found not only in adults but also in children (Ahtisaari & Karanam, 2015). We review the results of the research on the mechanisms that underlie the connection between music and movement and of course, the motor reaction to music. We also present in the following chapters different forms of manifestation of the relationship between music and movement in human civilization over time: in dance and in various folklore genres, as well as in the culture of ancient Greece. Knowing the various aspects of the relationship between music and movement presents not only theoretical interest but also a real practical value both for musical education in preschool and school education as well as for the musician who organises and presents educational concerts in all forms of manifestation and, especially, in its most widespread form, that of the educational concert for children.

Study of the Relationship between Music and Movement

The multiple aspects of music perception and the reaction of human beings to music became the subject of study for neuroscientists in the last twenty years (Thaut, 2008:VII). Studying the relationship between music and movement, with the methods and devices at the disposal of modern neuroscience, led to interesting discoveries (Ahtisaari & Karanam, 2015), but the complexity of the research studies makes them accessible mostly to the professionals in this field. It is, however, necessary to retain some research results that we consider relevant to our study.

Although the human motor reaction to music is a phenomenon known through its multiple spontaneous, almost involuntary manifestations, such as shaking the head, tapping or stamping the feet or hands to the

beat, and even the desire to dance, the scientific study of this phenomenon and of the mechanisms underlying it became possible only due to the technical progress of the last two decades and especially with the rapid development of neuroimaging (Fitch, 2013:1). It is interesting to note that motor reactions do not seem to exist in visual stimuli, even if they are rhythmic. Research has shown that most people start tapping almost involuntarily to the stimulus of an auditory beat, but would probably not do the same to a visual stimulus that has a similar temporal regularity (Patel et al., 2008:1).

According to the researchers, the special connection between sound and motion is obvious especially in the domain of rhythm (Ahtisaari & Karanam, 2015). Humans not only have the ability to move in a rhythmic way (Wallin et al., 2000:12), a capacity that also many animals have, for example in the alternating metric movement in the process of walking, but as well as in the coordination of rhythmic movements with an external rhythm (Repp & Su, 2013:403). For this humans have a cognitive ability that enables them to perceive the pulse of music, commonly referred to as *beat perception*. Some researchers prefer the term *beat induction* to highlight that beating must not always be physically present to be perceived but induced, which makes the process not passive, but an active one in which the rhythm evokes a regular pattern to the listener (Honing, 2012:85). The human ability to induce the beat of music they perceive (beat induction) is a fundamental skill in music processing. This apparently simple ability to "extract the beat" hides a fair amount of complexity in fact (Fitch, 2013:2) and the study of its theoretical and cognitive aspects has attracted in recent times the interest of specialists in the field of evolutionary psychology[2] and developmental psychology,[3] cognitive biology and neuroscience (Honing, 2012:85).

Research has proven that the music beat detected by this mechanism is the one that induces motion (Ahtisaari & Karanam, 2015). Reviewing a large number of studies from 2005 to 2011, a group of Belgian and Canadian neuroscientist researchers found that the relationship between beat perception and movement is fascinatingly related (Nozaradan et al., 2013:736). In the culture of all societies there is music with a regular beat (Nettle, 2000:468), and "the rhythmic movement to a musical beat is noticed in every human culture, which makes it one of the few truly universal features of music" (Patel et al., 2008:1).

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[2] Branch of psychology that studies the human psychic system from the perspective of evolutionary theories.
[3] Branch of psychology that studies the changes of the human psychic system during the individual's life, from birth to death.

The phenomenon by which humans synchronize their movement with the musical beat has been called *entrainment*,[4] the term used in various physical and biological systems to denote the "coordination of events structured in time by means of interaction" (Clayton et al., 2004:3). The phenomenon of entrainment is defined as "two rhythmic processes that interact and adjust with each other in such a way that they reach a common phase and / or periodicity" (Clayton et al., 2004:2). Movements in the same rhythm with an external one, such as those coordinated with the rhythm - more precisely with the beat - of music, are the effect of a type of synchronization that specialists call sensory-motor (Repp & Su, 2013:403). Experimental studies with modern neuroimaging techniques have shown that some cortical regions of the brain that are activated in motor processes are also mobilized when listening to music (Nozaradan et al., 2013:736). "The motor system is involved not only in *producing* a rhythm but also in the *perception* of rhythm: this allows us to understand in part why we experience a visceral reaction to rhythm" (Clayton et al., 2004:3). Neurobiological studies have also shown that the human ability to induce the beat of music and to synchronize their movements with it is separate from the ability to perceive and produce the tonal functions of music (Peretz, 1990:1185-1205; Peretz & Kolinsky, 1993:301-325; Lennart et al., 2000:12).

The conclusions of the scientific studies on the relationship between music and movement are particularly important for musical education, especially since research has shown that the detection of the musical beat is an ability that even very young children possess (Ahtisaari & Karanam, 2015).

Cultural Instances of the Relationship between Music and Movement

1.1. Music and dance

Throughout the development of human civilization, the universality of the human reaction to the rhythm of music found its expression in many cultural forms, the most relevant being presented below. The engaging effect of music, called *entrainment*, manifests itself most clearly through the human need to dance, to move the whole body to the rhythm of music. In different historical periods and geographic regions, on the occasion of rituals or secular social activities, dances differ, but "dancing on, with and

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[4] From the verb *to entrain* meaning to attract, move, draw along with or after oneself.

for music is omnipresent" (Noel & Moore, 2008:422). Psychologist Marcel Zentner, director of *The Personality, Emotion and Music Laboratory*,[5] believes that dance - a universal human manifestation involving whole body movements - is the most striking phenomenon of entrainment, and is based on the specific and exclusive ability of people to closely connect auditory-motor circuits (Zentner & Eerola, 2010:5768).

Studying the cultures of several peoples and tribes in Africa, many researchers found that there is such an intimate relationship between dance and music that the two arts seem inseparable (Reed-Jones, 2014:36-40). Keil notes that in many African languages there is no word corresponding to the term "music" (Keil, 1983:27). In Swahili (East Africa) a single word is used for both dance and music – *ngoma* (Gearhart, 2005:21). For Ninette Mans, a professor of music and dance at the University of Namibia, "the term [*ngoma*] summarizes the holistic connection between music, dance, other arts, society, and *l'élan vital*" (Mans, 2000). A Silozi native speaker (a language used in western Zambia and north-eastern Namibia) describes *ngoma* as the communication between drums and spirits, which is impossible without dancing (Mans, 2000). As for the rhythms accompanying the dance called *gahu*, danced in a circle by the inhabitants of the coasts of Ghana, Jessup affirms that they mirror the African philosophy which states that the soil is the drum of the dancer (Jessup, 2009:20). A group of Nigerian researchers observed in the traditional music of the ethnic group "Tiv" from central Nigeria the existence of a broad concept that is so closely intertwined that the Tiv people do not speak about music, dance and singing separately (Tsevende et al., 2013:6). Nzewi states that in the African philosophy of music, movement is an essential imperative (Nzewi & Nzewi, 2007:140).

In his book *Music as Social Life. The Politics of Participation*, acclaimed as a major landmark in ethnomusicology, Thomas Turino explores music and dance as important factors in the personal and social life of people (Turino, 2008:134). The author analyses various examples of Zimbabwe's rural and urban culture, from which we mention the description of a dance of the "Shona" ethnic group. The *dandanda* drummer conducting music coordinates his stamping with the stampings of the dancers' feet and responds to their various movements. The drummer may concentrate on a certain dancer, singing rhythmic motifs that are in unison with the accents of his body; it is equally possible for the drummer to improvise rhythmic motifs in contrast with those of the dancer and to emphasise the non-

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[5] Markus Zentner is a professor of psychology at the University of Innsbruck, where he also leads the research group *The Personality, Emotion and Music Laboratory* (Zentnerlab), which deals with the study of the nature of human musicality http://www.zentnerlab.com/.

accented rhythmic moments of a dancer's body. Similarly, dancers move different parts of the body simultaneously to create multiple rhythmic motifs that can be in unison, or alternate in a mutual engagement relationship with drum lines or vocal lines (Turino, 2008:134). In the description of this dance, we notice not only the interrelation between the drum and the dancer, but also the fact that the dancers contribute "musically" with percussion sounds through feet stamping, even with rattles attached to the legs. Turino concludes that the separate terms "music" and "dance" do not correspond to their relationship of interdependence, because they distort the fact that music and dance are only different roles within the structure of a unified artistic manifestation that combines movement and sound. In formulating this conclusion, the author uses the term *gestalt* with the sense of "a structure [...] of physical, biological or psychological phenomena so integrated that it constitutes a functional unit with properties that cannot be derived by summing up its parts" ("Gestalt," 2003).

Before referring in detail to the relationship between music and movement in ancient Greek culture, we evoke here the art of European ballet. No matter how different the tradition of this form of dance would seem to be both from the traditional African artistic manifestations and those of the ancient Greek culture, European artists frequently stressed the intimate connection between the art of dance and music. We only mention the opinions of two prestigious figures of twentieth century ballet: Russian artist Alexandre Benois[6] once stated that "for us music was the one that ensured ballet the centre of gravity" (Jordan, 2000:1; Noel & Moore, 2008:422), and great choreographer George Balanchine[7] affirmed that he could not move nor wanted to move unless he heard music first, because he could not move without a reason, and the reason to move was music (Jordan, 2000:422).

1.2. Mousike *in Ancient Greek Culture*

A particular form of the relationship between music and movement is that of the culture of ancient Greece, in which the artistic manifestations were syncretic in nature. The word "music" is etymologically derived from the Latin *musica*, having its roots in ancient Greek - *Μουσική* ("mousike"); the current meaning of the term is different from what was meant in ancient

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[6] Alexandre Benois (1870-1960), painter, writer, historian and critic of Russian art; as stage designer of Sergei Diaghilev for productions of the famous Ballets Russes in Paris, influenced both the art of stage design and that of twentieth century ballet.

[7] George Balanchine (1904-1983), a choreographer of Russian descent, who brought the art of neoclassical ballet to the USA, being co-founder of the New York City Ballet company.

Greece by *mousike*. In the seventeenth century the British mathematician John Wallis[8] wrote that *mousike* had a much wider sense for ancient Greeks than its current connotation (Wallis, 2014:77). In ancient Greece, music "was not the distinct form of art we today consider as music, but a perfect combination of poetry, melody and dance in a unitary whole" (Stamou, 2002:3).

The word *mousike* designates "the art of the Muses," from whose name it is derived. In Greek mythology, the daughters of Zeus and the goddess of memory Mnemosina were patrons of the arts and sciences ("Muse," 2010). Homer mentions for the first time in the *Odyssey* the number of nine muses (Murray & Wilson, 2004:365), and Hesiod in *Theogony* gives each one a name. It is necessary to point out that Hesiod describes the muses singing and dancing together, presenting them as an "archetypal female choir" (Murray & Wilson, 2004:365). The Greek word *choros* refers both to singing (vocal) and to dancing, which explains that both a word referring to music ("chorus") and one to dance ("choreography" - the art of creating dances and ballet performances) have an etymological origin in the word *choros*. In the plastic arts, the muses were most often represented through their attributes, which with small variations became canonical. Not only Euterpe, who as the muse of lyric poetry included in her field also music, is represented by a musical instrument - often a flute or aulos – but also Erato, the muse of love poetry, is often represented with a lyre, which corresponds to the tradition in which poetry was most often sung. The domain of the muse Terpsichore is dance and choral singing, and this muse is often represented dancing and holding a lyre.

The sphere of the muses - *mousike* - was vast and played a particularly important role in the culture of ancient Greece. Penelope Murray and Peter Wilson, who suggestively gave the title *Mousike not Music* (Murray & Wilson, 2004) to their introductory chapter in the monography on the role of the mousike culture in classical Athens, are of the opinion that mousike lies "in the heart of the Greek culture" and compare the broad field which the term *mousike* includes with the magnitude characteristic of the domain we today call "culture" (Murray & Wilson, 2004:1). The authors define mousike as "that union of song, dance and word named by the muses" (Murray & Wilson, 2004:1). In its most widespread form, *mousike* represented for Greeks a holistic complex of instrumental music, poetic words, and coordinated physical movements. It manifested in a variety of forms, ranging from entertaining audiences to large-scale festivals involving the entire community (Murray & Wilson, 2004:1).

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[8] John Wallis (1616-1703).

The tradition of theatre in ancient Greece is the most famous form of blending different arts. A special role in the Greek theatre was played by the chorus - the group that "sang and dance" (Ley, 2007:8), as a collective voice that commented on the dramatic action. Among the evidence that allow the choral fragments to be considered as "a combination of the three arts: poetry, dancing and singing" listed by Kitto (1956:1-2),we recall that the place where the chorus performed was called *orchestra*, a word that meant a dancing floor, and that the text of the lyrical passages was composed in a metre that would make them particularly artificial when read, indicating that it is a musical rhythm (Kitto, 1956:1-2).

Several researchers assert that not only theatre but also other literary forms were interpreted in a syncretism of the arts, being sung, danced and accompanied by musical instruments (Mathiesen, 1999:7). "Lyric poetry meant for the Greeks what the words mean. It was meant to be sung to the lyre, and not simply recited. [...] The rhythmical movement of the body – the dance – completed the poetry and music, forming a trinity that could not be dissociated without loss" (Gildersleeve, 1980:LXV).

Particularly interesting in this context is the direct relation of poetry with dance, and consequently with movement. In his introductory essay on an edition of Pindar's *Odes*, published in 1885, the famous American philologist, specialist in classical Greek literature, Basil Lanneau Gildersleeve, referring to rhythm, points out that it is "common to poetry, music and dance" (Gildersleeve, 1890:LXV). Analyzing the time-ordering of groups determined by strong and weak beats, Gildersleeve notes that "the elements of poetry are called feet, the same as we call the elements of dance steps; and these [elements] correspond to the measures in music" (Gildersleeve, 1890: LXVI). The use of the term "metric foot" in prosody is an indication of a complex phenomenon that has been studied in detail only in recent years, especially following the modern research on the accent in ancient Greek. In his volume bearing a poetic title *The Dance of the Muses: Choral Theory and Ancient Greek Poetics*, American scholar A. P. David states that the substance of ancient Greece poetic composition is rooted in the physicality of dance (David, 2006:22). Thus "the proper name for art and works of the ancient Greek poets is *Χορεία* (*choreia*)" (David, 2006:16). Moreover, William Mullen argues that the *odes*, the genre of lyrical poetry that reached its peak in Pindar's creation, are poems meant to be sung and danced, and that the modern approach of considering them only as texts prevents us from perceiving them in the light of their true nature, as a dance (Mullen, 1982:3).

Despite the real differences between the manifestations of the ancient Greek culture presented above and the way the arts of music, word

and dance have been approached in Europe for the past 500 years, the syncretism typical of *mousike*, and especially the tradition of the Greek theatre, have strongly influenced European culture. Thus the opera, a genre that combines the art of sounds with the arts of the theatre, was born in Florence at the turn of the seventeenth century, when a group known as the *Florentine Camerata*, reuniting composers, poets and humanist thinkers inspired by the Renaissance ideals, undertook a revival of the traditions of the theatre of ancient Greece. Even though the first works were based on subjects from mythology and ancient history, the Camerata's aspirations were not achieved. Nonetheless they stand at the beginning of the development of a musical genre, undoubtedly syncretic, which successfully dominated the lyrical scenes of the world for over four centuries.

In his essay "The Art-Work of the Future" (*Das Kunstwerk der Zukunft*) (Ellis, 1892) published in 1850, Richard Wagner calls the art of dance, music (tone) and poetry "three sisters," which cannot be separated without decomposing the "ring of art." When talking about the art of dance, Wagner undoubtedly refers not to ballet, but to the elegance of gestures and movements.[9] In this context, it should be remembered that in Greece the term dance was used differently than in the modern sense, including gestures and postures, which, along with movements of hands and arms, more important than of the feet, "were meant to facilitate the interpretation of poetry or the expression of emotion" (Fairclough, 1917:par.39). In his *Rhythm and Gesture in Music Drama and Criticism (1910-1916)*,[10] Émile Jaques-Dalcroze, famous for combining music with the movement in musical education, states that Wagner did not succeed entirely in realizing in his musical dramas the classic triad of word, gesture and music (Dalcroze & Rubinstein, 1921:199-200).

If during the history of the opera the moments of synchronous combination of music with the word and the dance are extremely rare, it should be remembered that a real union takes place rather on the stages of Broadway, where the singers must be as versatile in dance as in singing. It is likely that the much-appreciated and much praised staging of *Orpheus and Euridice* by Gluck in the Hellerau Festival of 1913, with the students of Émile Jaques-Dalcroze directed by Adolphe Appia in the presence of a plethora of artists from all over Europe (Bremner, 2008:55), was one of the stage events of the twentieth century, in which the blending of the art of the word, movement and sound was closest to the spirit of ancient Greece.

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[9] The English translator's note on Wagner's essay *The Art-Work of the Future.*
[10] Original title*: La rythmiqueet le gestedans le drame musical et devant la critique.*

1.3. Work songs

One of the oldest and most widespread genres in which music is intimately linked to movement is the work song. At all times and everywhere the human race seems to have accompanied their labour with songs. In this context, it is interesting to note that the German economist Karl Büchner proposed at the end of the nineteenth century a theory that considers the origin of music to be found in the relationship between rhythm and physical work (Constantinescu & Boga, 2008:7). Although his book *Arbeit und Rhythmus ("Work and Rhythm"* (Bucher, 1909)*,* published in 1896 and reprinted several times (reaching six editions by 1926), is not the result of a systematic folkloric collection, it has an undeniable value due to the numerous music examples from different countries, from the threshing song from Lithuania (Bucher, 1909) to that of the *palanquin* bearers in southern India (Bucher 1909:154-155).

Although work-related songs are among the oldest in the folklore of many peoples, their systematic collection and study began much later. Songs accompanying various physical works were first mentioned by travellers, who reported the peculiarities of the cultures in the remote areas they visited. These "travel impressions" described the circumstances in which the traveller had heard the song and sometimes the words were also written, sometimes directly translated into the European language of the occasional folklorist, but transcripts in musical notation are unfortunately almost non-existent. Today, the genre of the work song is almost extinct due to industrialization; they continue to exist only in isolated areas of the world where people still work largely without the help of modern tools and devices (Green, 1998:848-849).

For the classification of work songs, there seems to be a consensus on the criterion of the type of work that is accompanied by music: the shepherd's song, the peasant songs, the lumberjacks, the seamen, the masons, the handlers. As far as the definition of the work song is concerned, the opinions of the specialists do not coincide. The work song is defined through its functions, but the circumscription of these functions is viewed differently.

Many theorists use the term "work song" in a broad sense, according to how it is defined in the *Encyclopædia Britannica*: a work song is "any song that belongs to either of two broad categories: songs used as a rhythmic accompaniment to a task and songs used to make a statement about work" ("Work Song," 2010). This broad sense of the term is also employed by Victoria Williamson, a researcher in musical psychology, who theoretically addresses the relationship that has existed

for hundreds of years between music and physical labour, music having both the function of organizing movements and creating social connections (Williamson, 2014:111). Folklorist Stephen D. Winick strengthens this point of view, highlighting both the ability of songs to coordinate the efforts of a group of people who need to execute movements simultaneously or at the same speed, and the value of song lyrics in enhancing work efficiency (Winick, 2012:469). American ethnologist Jeff T. Titon shares the same view: on the one hand, a work song helps workers resist during the working hours, and on the other hand it sets a pace to their activity, and if group actions are needed, it coordinates the movements of the workers (Titon & Cooley, 2009:7).

Other scholars, however, restrict the meaning of the term and consider as work songs only those whose function is to keep the pace of work. Folklorist Bruce Jackson makes a distinction between the songs that are sung during more or less random work, and those that help maintain the pace of work, claiming that only the latter are part of the work song category (Jackson, 1972:848). This view is shared by the British folklorist Gerald Porter, who states that the work songs are not simply songs about work. Emphasizing the importance of the movement necessary for the respective work, Porter points out that interpreting the work song represents a form of participation in the work itself, as "the work provides the kinaesthetic substrate to the song" (Porter, 1994:36).

To solve the dilemma of circumscribing the functions of this genre, several specialists proposed the use of alternative names. Norm Cohen proposes a classification of work related songs in two major categories: occupational songs and work songs. The former category includes songs in which the role of the lyrics is to describe the working conditions, while the latter designates the songs that are sung only during work (Cohen, 1993:334). For the German notion of *Arbeitslied*, which for Hermann Strobach stands only for songs "with a rhythm that regulates the work of a group of workers involved in uniform physical work" (Strobach, 1987) the researcher proposes the narrower term of *Arbeitstaktlied* (literally "song for keeping the rhythm of work"), which emphasizes the close connection between the song and the rhythm of work. The term already appears in Karl Büchner at the end of the nineteenth century (Bucher, 1909:132).

A peculiarity of the work songs is that the singer and the listener are one and the same: "Work songs are special because they have no other audience than the interpreters themselves" (Jackson, 1972:29; Porter, 1994:35-55). Among the musical features of the work song must be emphasized the preponderance of the binary meter, which is not surprising, since many physical labours involve a two-phase activity (forward and

backward, effort and recovery) (Gioia, 2006). We present in the following some examples of work songs from the categories that have been collected and studied in detail by specialists: sea shanties, African-American songs, lullabies.

1.3.1. Sea shanties

The use of the song along with the hard work of maritime transport (river and especially sea transport) is as old as the art of navigation. The song of a fisherman in ancient Egypt, around 2500 BC, has been preserved until today (Gioia, 2006:116).

The term *shanty* (sometimes spelled *chanty* or *chantey*) denotes a type of work song of the British and American sailors during the age of sail navigation. The song is a dialogue between the leader (called *shantyman*) and the rest of the crew, the stanzas being performed by the leader – soloist, and the chorus sung by the rest of the crew. The leader was a particularly important member of the crew: he was responsible for selecting the right song according to the type and speeds appropriate to the task; if the song ended too quickly, he had to lengthen the song by improvising new lyrics as long as it was needed. The leader "had to combine the genius of a music prodigy and an ad-hoc poet!" (Runciman, 2011:ch.XI). The golden age of maritime work songs was in the 18th-19th centuries, when they evolved significantly, becoming the most developed subgenus of the work songs with the role of coordinating the rhythm of work (Winick, 2012:469). Shanty songs suffered a decline with the emergence of motor vessels, which gradually led to their disappearance.

If shanty songs are considered work songs in the broad sense of the word, two types can be distinguished: *work shanty* (work songs proper) and *forecastle shanty* (sung at the end of the workday, 'forecastle' being the term which designates the crew's quarters, in the front part of the ship). Work shanty songs coordinate the massive physical effort required by certain navigation activities. Depending on the type and duration of the activity, there are *short drag shanties* (short haul of the sails), *long drag shanties* or *haylard* (for raising or lowering the sails) and *capstan shanties* (for raising the anchor) (Winick, 2012:469).

Short drag shantie are sung to coordinate fast-haul ropes (to shorten or release the sails) in a relatively short time and as such have short lyrics and choruses. One of the oldest songs of this kind dates back to the time of King Henry VIII (the first half of the 16th century) and is known as *Haul on the Bowline* (Lord, 2003:59; Cohen, 2005:100). Hauling tasks (for shortening or unfurling the sails) had to be performed simultaneously by all

sailors at the end of each stanza on the monosyllabic word *haul*. We present below two very similar melodies of this song, which appear in different versions:

E.g. 1
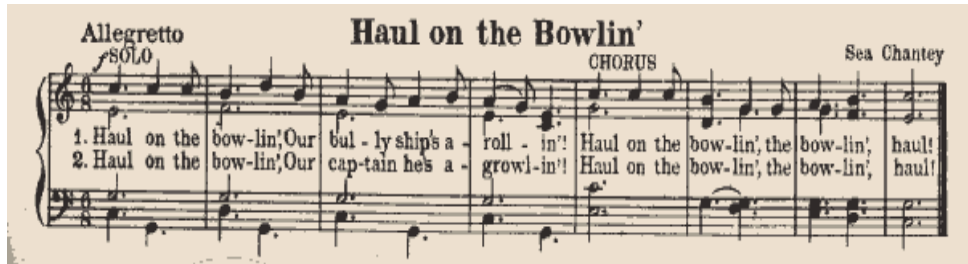
***Haul on the Bowlin`* (sea shanty)**
(Music of Yesterday. http://musicofyesterday.com/sheet-music-h/haul-bowlin/)

E.g. 2

***Haul on the Bowline* (sea shanty)**
(8notes.com. https://www.8notes.com/scores/4827.asp?ftype=gif)

In the case of more difficult tasks, which require alternating effort with periods of rest (such as raising a heavy sail up to the mast or furling the sails), the sailors sing *halyard shanty*, which has longer stanzas and shorter choruses. *Capstan shanty* is suitable for long and repetitive works, which only require a steady pace for synchronization (such as raising or lowering the anchor by rotating the capstan). Unlike the first two types of songs, *capstan shanty* has long stanzas and choruses in a moderate tempo (Runciman, 2011:ch.XI).

In his collection of poetry related to sea, sailing and sailors' life, first appeared in London in 1906, John Masefield records in the chapter entitled *Chanties* only the texts of the sea shanties without musical notation. He presents the three genres of *shanty* and evaluates them as follows: "*capstan chanties* are the most beautiful, *halyard chanties* the most frequently heard, and *short drag chanties* the oldest" (Masefield, 1908:301).

1.3.2. African-American work songs

Among the North American ethnic groups, African Americans have the most numerous songs (Brown, 1953:56). This is explained by the fact that the African Americans continued to be used for physical labour even after the abolition of slavery (1862). American penitentiaries, where the number of African Americans was exceedingly high, used prisoners for hard work, especially in the construction of roads and railways and in the timber industry. Thus, the tradition of the work song was preserved until the beginning of their systematic collection by ethnomusicologists, even with the help of the phonograph.

The most likely source of African-American songs is the African ancestral tradition (Titon & Cooley, 2009:157). Work songs were present in all cultures in West Africa even before its inhabitants were enslaved by Europeans and sold to work on the West Indies and the territory of the present-day United States of America.

In her book on the American Negro folklore, Dorothy Scarborough states that "the black man is rhythmical by nature and works better if he sings at his labour, the work being more pleasurable to himself and more profitable to his employer because he moves faster and accomplishes more when he sings" (Scarborough, 1925:206). Slave masters recognized the importance of work songs in their work productivity, so that the Africans had the opportunity to preserve their cultural values. Frederick Douglas, a former US slave, reports in his autobiography that a silent slave was not approved by the supervisors because the masters imposed on slaves not only to work but also to sing: "Make a noise, make a noise and bear a hand" were the words constantly addressed to slaves when they were silent (Titon & Cooley, 2009:158).

We present an example of a song from Dorothy Scarborough's book, picked from a group of roving blacks, sung while working on a construction site. The interjection *Ugh*! indicates the point where the pickaxe is raised or brought down; the interjection is common to many African-American songs. The author explains how this interjection, often

replaced by a kind of grunt, is harmonious with the song and does not produce a dissonance, as one may suppose (Scarborough, 1925:216).

E.g. 3

African-American work song
(Dorothy Scarborough: On the Trail of Negro Folk-Songs, p. 216)
(https://ia800802.us.archive.org/23/items/ontrailofnegrofo00scar/ontrailofnegrofo00scar.pdf)

The study of the literature on work songs is relevant to the knowledge of the different aspects regarding the relationship between music and movement, since the intimate connection manifests itself explicitly in this type of folk song so widespread over time, the music engaging in movement and the movement being the physical expression of music.

1.4. Lullabies

The lullaby is a musical genre meant to sooth and help children fall asleep, which is found both in folk and cultivated tradition, where it also appears as an instrumental form. The lullabies are present in the folklore of all cultures, and are particularly old; the first known lullaby, preserved engraved on a clay tablet in cuneiform writing, dates from approx. 2000 BC (Perry, 2013). The genre of the lullaby survived in a more stable way compared to other genres, probably because it is related to a social

phenomenon (the birth and education of a child) that has remained unchanged over time (Trehub & Trainor, 1998:50).

Some researchers consider the lullaby to be a sub-category of work songs, because getting children to sleep is a traditional occupation of the parents (Winick, 2012:470), but often delegated to wet nurses. Romanian ethnomusicologists attribute the lullaby to the folklore of family life (Mîrza, 1969:18), where it naturally appears from the parents' need to lull the child to sleep, given the primary instinct generally outlined by the movements of the one who gets the child to sleep (Suliţeanu, 1986:12).

Plato speaks of the lullabies when referring to the different age stages in which the appropriate education of future citizens must take place, education that he believes must start even since the mother's womb. The philosopher emphasizes the importance of the movement, of the child's swinging, for motion, and not quiet, melody, and not silence, is the best way to educate the newborn infant's soul (Patterson, 2014:368). "Thus when mothers have children suffering from sleeplessness, and want to lull them to rest, the treatment they apply is to give them, not quiet, but motion, for they rock them constantly in their arms; and not in silence, but singing to them; thus they literally cast a spell upon the children by employing the combined movements of dance and song as a remedy" (cf. Plato, 2010:202).

The wet nurses' lullabies working in the houses of their masters in southern US greatly enriched the repertoire of folk songs of the black slaves (Scarborough, 1925:145). In the south, the children of wealthy white families were nursed by black slaves, who took over the mother's role, becoming a "second mother" in the lives of these children. The nurse held an honourable position in the household, white children being taught to respect and listen to her (Scarborough, 1925:144). The Romanian folklore is rich in lullabies, which were studied and are studied by many famous folklorists; however today the genre is considered to be in a continuous decline.

Lullabies have a number of similar characteristics, the specific features proving the centuries-old experience of the people who noticed the soothing effect of the rhythm of the movement (swinging) along with the musical rhythm (Mîrza, 1969:48). The lullaby usually has a binary metre, often in a 6/8 pattern (Green, 1998:515), with melodic phrases and repetitive rhythmic formulas that accompany the rocking and swaying movements that trigger sleep (Green, 1998:515). From a melodic point of view, the incipient form of the swing song is nothing more than a vocalization of the swinging itself, which has a strictly functional role, of physiological influence (Mîrza, 1969:54).

A peculiarity of the lullaby is the ambiguous boundary between singing and speaking, the lyrics being either recited in a musical manner, enriched with onomatopoeias, or sung (Tonu, 2013:47). With regard to the content of the lullabies, there is a wide variety, the lyrics expressing incantations for the child's sleep, images from the life of the parents, or descriptions of the difficulties of life. Swing songs, usually the mother's field, often mirror family relationships and are also an opportunity for expressing mental states and maternal feelings. The lyrics of the early lullabies are often scolding, sometimes even scary, as the advice they envelop states that the child's crying upsets God or awaken the demons. The phenomenon can be explained by the fact that darkness has always been associated with danger and fear, so mothers tried to advise their newborn babies in order to protect them (Perry, 2013). In addition to its main role in helping sleep induction, lullabies have also a therapeutic value for mothers, allowing them to express their worries and negative thoughts as well as the affection for their children.

Poetry, music and movement co-exist in the lullaby, but since the new born baby cannot understand the text, the lullaby is probably his first encounter with music accompanied by motion.

1.5. Singing games in children's folklore

The singing games, specific to children's folklore, are action and movement games coupled with singing. The folklore characteristic of children is "of a vocal nature" and "can be sung or just recited, but usually accompanied by gesture and mimics or accompanying itself the children's games" (Mîrza, 1969:24).

The diversity of singing games is springs from the children's imagination, which is limitless, manifest in games for two, counting games, ring-games, songs for jumping the rope, ball games, or other types of games. The genre caught the attention of ethnomusicologists only in the nineteenth century (Myers, 1990:66) and the collection of examples was not and is not easy for many reasons: children do not like to be seen in their spontaneous actions, and they are reluctant to share what regards them as a group (Scarborough, 1925: 129-130); adults do not always accurately remember their own childhood games. In addition, the presence of the singing games that have been transmitted from one generation of children to another suffered a decline with the advent of the media.

Folklorists refer to the songs associated with children's games by employing different terms, even in the same language. In Romanian, Emilia Comişel calls them *game related songs* (Comişel, 1967:261), Traian Mîrza

speaks about *auxiliary songs to the game* (Mîrza, 1969:28), in Italian they are called *giochicantati* (sung games) (Staccioli & Schmidt, 1980:10), in French they are called *jeuxchantés*(sung games) (Lemit, 1957) or *chansons de jeux* (play songs) (Lempereur, 1995:41) and in German *Spiel- und Bewegungslieder* (play and movement songs). The term "singing games" emphasises the importance of movement in relation to the song and is consistent with both Traian Mîrza's ideas, who states that "in most children games, the movement is predominant; in the order of importance following the poetic texts and only afterwards the song" (Mîrza, 1969:29) and Emilia Comişel, who claims that "the child's attention is absorbed almost entirely by the action, by the content of the lyrics or by the rhythmic scheme ... therefore the melodic line remains on the secondary plane" (Comişel, 1967:266).

Some games in the children's folklore occur in different cultures and can be considered universal, while others "are products of human diversity" (Sutton-Smith, 1989:31). Many researchers share the view, emerged in the nineteenth century, that the origin of some of today's children's games can be found in the games played by adults in the past. Gheorghe Dem Teodorescu argues that games like "hide and seek" derive from the ancient Greek games described in Homer's *Iliad* (Mîrza, 1969:31). Gianfranco Staccioli adds that "it is almost superfluous to note that many of the ring games [...] recall ceremonies of primitive groups of people" (Staccioli & Schmidt, 1980:10).

Among the most common types of children's songs are the ring-games (called *ronde* in French, *Ringelreigen* in German, *girotondo* in Italian) and those with a "bridge." Examples of the latter are *London Bridge* (England), *Die golden Brücke* (Germany), *Le Pont-Levis* (France), *Charleston Bridge* (USA), *Podul de piatră* (Romania) (Carlisle, 2009:366), *Ponticello d'oro* (Italian Switzerland) (Staccioli & Schmidt, 1980:30). The "bridge nursery rhymes" have their archetype in the ancient metaphorical representation of the transition from life to death, as a "bridge" over which man must pass in order to enter the afterlife (Staccioli & Schmidt, 1980:10).

To illustrate the similarity of some of the games sung in the tradition of several peoples, we exemplify in detail two bridge games. In the children's folklore in Romania, the *Podul de piatră* (Stone Bridge) game is very popular.

E.g. 4

Po - dul de pia - tră sa dă - ra - mât, Vom fa - ce al - tul

A ve - nit a - pa și la lu - at.

pe riu în jos, al - tul mai trai - nic și mai fru - mos.

***Podul de piatră* (singing game)**

During the game, two children standing face to face join their hands and raise their arms to form a bridge. The other children pass under this "bridge" singing. The moment the last word in the song is pronounced (the word 'beautiful'), the two lower their hands, seizing between their arms the child found under the bridge at the time. The captured player will no longer pass under the bridge but will stand behind one of the two forming the bridge and wait for all the other children to be captured and become part of the wall of the bridge (they place themselves alternately on one side and the other behind the children forming the bridge).

A singing game from the Italian culture with similar actions (the arch that catches one player from the string passing underneath) is *La gallina bella bianca*.
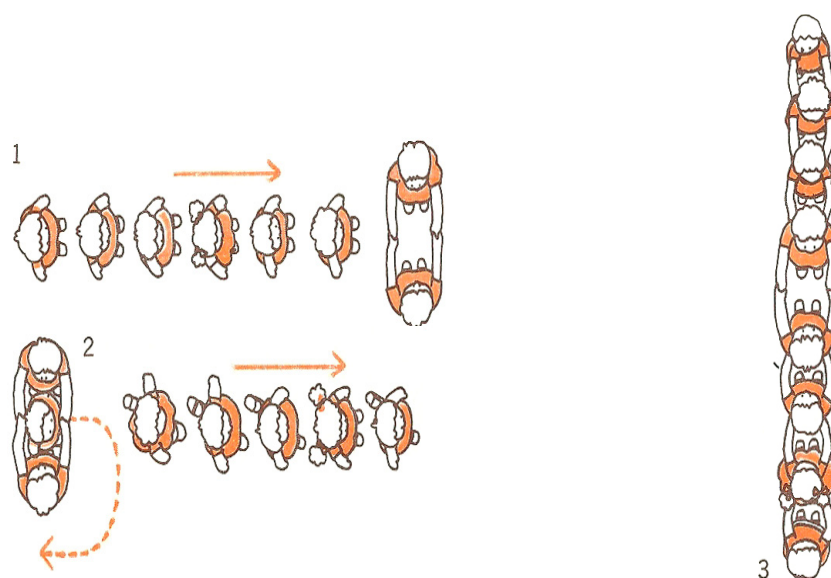
E.g. 5

A- La gal - li - na bel - la bian - ca se ne an - da - va per

D- Pas - sa vi - a, pas - sa vi - a chi è l'ul - ti - ma

l'al - to ma - re, se ne an - da - va per l'al - to ma - re.

sa - rà mi - a, chi è l'ul - ti - ma sa - rà mi - a.

B- I can - cel - li so - no chiu - si non si

C- Fi - gli siam del - la gal - li - na a - pri - te -

può pas - sa - re, non si può pas - sa - re.

ci le por - te a - pri - te - ci le por - te.

La gallina bella bianca (**singing game from the Italian folklore**)
(Gianfranco Staccioli & Ruth Schmidt, p. 32-33)

Two players form an arch, the others form a string that sings the A stanza, and the first two respond with the B stanza. The string begins to walk singing the C stanza. The two players sing the next stanza and raise the arms to let the string pass under the arch (see the Graphical representation number 1 from Example 5. When the last player in the string passes under the arch, it is lowered and the player is trapped inside. The two players who form the bridge ask him to choose between two opposing words (names) that they have agreed to in secret. Depending on the choice of the prisoner (see Figure 2), he must sit behind one of the two and put his hands onto the waist of the player in front. The game continues until everyone is behind one of the two. At the end, the two strings start pulling the arch in the opposite direction until it breaks (see the graphical representation number 3).

Accompanied by physical movement, the singing games, be they individual games or group games that in turn can be played in a single group or in teams (Mîrza, 1969:29), have a positive effect both on the body, being an occasion for exercise and movement, as well as on the psyche, due to their role in developing the imagination of children.

Conclusions

Given the importance of the relationship between music and movement both in the perception of music and in human culture over the centuries, knowing the various aspects of this relationship is indispensable for effective music mediation, especially during the educational concert for children. We have studied both the results of the scientific research on humans' motor reaction to music and the form in which the close connection between music and movement manifested throughout history - in dance, in the syncretism of the arts in the classical Greek culture, in various folk genres - to be able to effectively use the knowledge thus acquired in organising and conducting educational concerts.

In the classical music concert, the natural quintessential reaction of the listener, that of moving, dancing or applauding on music is generally suppressed due to traditional conventions. An innovative element of the twenty-first century educational concert is the introduction of the movement as a participatory activity with the public. Similar development can also be noticed in school education. Until recently music lessons did not necessarily include kinaesthetic elements, but the current curriculum of the Ministry of National Education in Romania includes the "Music and Movement" discipline for the primary school, which is situated "in the category of the integrated approaches" ("Programa şcolară […]," 2013:2). The association of music with movement is motivated, among other things, by the fact that it is "appropriate to the age specifics of children," that it has "pedagogical valences" in many spheres of the children's development" ("Programa şcolară […]," 2013:2-3).

Although the ideas about the connection of music and movement in relation to education are not new, appropriate forms and manifestations must be developed for today's society, which is not only the duty of the specialists in the field of education, but also of those in the field of music mediation within the educational concert.

Translated from Romanian by Dora Felicia Barta

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