

THE INTERACTIONS OF MUSICAL ELEMENTS

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SUMMARY. This study analyses the early intersections between melody, rhythm and harmony, up to the recent emergence of new musical styles. Psychological studies of rhythm have shown that it has played an important role in social and relational experience. At the same time, it creates a sense of bonding between people and can alter the moods of several people at once and lead them in a unified direction. Melody, rhythm and tempo tell the listener that they are in a safe and good place, expressing a psychological need for a sense of security, providing a sense of life's pulse, similarly to the heartbeat. Unfortunately, modern human life lacks the life-like rhythm that God provided for us in creation. Ritual is our identity, our memory, a continuation of the old, an exit from the individual sphere and an entry into a communal one, into a new role, suggesting a transition, accompanied by sounds, rhythm, song, music and dance

Keywords: music, rhythm, melody, rites, syncopation phenomenon, Christian, Old Testament

1. The first points of encounter between melody and rhythm

A sculptural ensemble in the Cairo Museum, nearly 5,000 years old, depicts the following joyful scene: a wealthy Egyptian couple is serenaded by a harpist and three child singers. The latter clap to the beat as they sing.² Another important mural from the Eighteenth Dynasty,³ found in Thebes, Greece, shows musicians playing instruments, including a child snapping his

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² Menuhin, Yehudi and Davis, Curtis W.: *The Music of Man*. Ontario, Canada 1979, Methuen Publications 2330, Milland Avenue, Agincourt. I.

³ The Dynasty XVIII dates from about 1550 BC to 1292 BC.



fingers to the rhythm.⁴ Music has thus provided a communal and relational experience from the very beginning. According to psychologist Ferenc Honbolygó, the oxytocin hormones released⁵ create a bond in the crowd, allowing the mood of several people to be changed and unified at the same time. In addition to the melody, the rhythm, tempo and melodic structure can also have a mind-altering effect, telling the listener that they are in a safe and good place.⁶ Music and rhythm can therefore express a psychological need for a sense of security, providing a sense of life's pulse, similarly to the heartbeat. Sound and rhythm are a way of establishing contact,⁷ a form of communication between the prenatal foetus - who hears his mother's heartbeat before he can see her - and his mother.

One of the hypotheses of Peter Petersen,⁸ who studies *rhythm* (rhythmos in Greek) and *melody*, concerning "rhythmic weight" is that although the elements of rhythm can be separated in the analysis of a piece of music, in reality they occur and interact simultaneously. The distribution of rhythmic weights along the temporal continuum is a function of the composer's calculation.⁹ Rhythm therefore has a *weight* on our lives, defined as the periodic organisation of individual events not only in music but in all forms of life that change over time: heartbeat, gait, breathing, electrochemical oscillations of the brain, ovarian and menstrual cycles, eating, sexuality. The text of Psalm 68 has come down to us in a particularly degraded state,¹⁰ yet musically it is very important that melody and rhythm are embraced in the following verse: 'The singers went before, the players on instruments followed after; among them were the damsels playing with timbrels.' (Psalm 68:25). The biblical Song of Songs places the rhythm, the drum known as the masculine noun, in the middle,¹¹ surrounded by harmony and melody.

⁴ Metropolitan Museum of Art, New York.

⁵ A hormone produced by the hypothalamus. Greek: swift birth.

⁶ Farkas Judit: *Megszólal a zene, módosul a tudat: közösségi élmény, hormonális háttérrel. [Music is played, consciousness is changed: a communal experience with hormonal underpinnings]* http://www.delmagyar.hu/vilagvevo/megszolal_a_zene_modosul_a_tudat_kozossegi_elm_eny_hormonalis_hatterrel/2398154/ (18 October 2023).

⁷ Katinka Erdősi Boda: *Zene és kommunikáció. [Music and communication.]* <http://www.parlando.hu/2014/2014-3/2014-3-04-Erdosi.htm> (3 April 2023).

⁸ Peter Petersen (1940 -), professor of music at the University of Hamburg, teaches educational, Germanic and historical musicology.

⁹ Peterson, Peter: *Music and rhythm. Fundamentals – History – Analysis.* Mainz/Mayence 2010, Peter Lang GmbH Music & Co. KG., p. 8.

¹⁰ László Ravasz: *Ószövetségi magyarázatok. [Old Testament Explanations.]* Budapest 1993, Kálvin János Publishers, p. 131.

¹¹ Kaim Pollák: *Héber-magyar teljes szótár. [Complete Hebrew-Hungarian dictionary.]* Budapest 1881, Workshop of Péter Tillinger, p. 406, drum - תוף

Plato, who says that reality is “*beyond things*”,¹² in his Republic, Socrates and Glaucon discuss the relationship between melody and rhythm: “*Is it not true, Glaucon, that musical education is the most important, because rhythm and harmony plunge most deeply into the soul and grip it most powerfully, creating in it a beautiful form; this makes the soul beautiful, provided one is properly educated, but if not, the opposite*”.¹³ It is clear from their conversation that melody, rhythm and speech interact affectively. This was later considered important also by William Billings,¹⁴ who composed Christian music: “... *Do I hear the voices of men, or of angels! Such angelic voices surely cannot come from the mouths of sinful mortals... the musicians change, and begin to play in a soft key (minor) so touching and pathetic as to direct our attention to such mournful thoughts... What a pleasant effect they have on my nerves! How soft, how sweet, how soothing...*”.¹⁵

Let us conclude our introductory reflections with the statement of Hans Walter Wolff, who says that the Old Testament does not rely on a unified anthropology of man, and who believes that biblical anthropology “as a scientific task must seek its own space where questions about man appear in the text itself”.¹⁶ By merging melody and rhythm, music also seeks a “space” in the soul of man which it can fill, with which it can comfort, encourage and uplift him. This space-sound calls for a different melody in each person’s life.

2. Living rhythm: music and dance

In the documentary *Music of the Brain*, we hear that when two people of the same height walk down the street and talk to each other, they walk to the same beat and rhythm. Are we the only species that can do this automatically and unconsciously? We can adapt to an external rhythm, but how? What might be the connection between hearing a periodic sound and reorganising our motor activity around it?¹⁷

Apostle Paul calls the human body *the temple of the Holy Spirit* (1 Cor 16-19), which provides space and opportunity to express joy and sorrow,

¹² Antal Szerb: *A világirodalom története. [History of world literature.]* Budapest 1941, Magvető Publishers, Ninth edition, p. 60.

¹³ Plato: Republic <http://mek.oszk.hu/03600/03629/03629.pdf#page=15&zoom=140,-64,479>. (8 August 2023).

¹⁴ William Billings (1746-1800), Boston-born, is regarded as the first American choral composer.

¹⁵ William Billings: *Continental Harmony*. Boston 1974, Typographically, https://ia800708.us.archive.org/10/items/imslp-continental-harmony-billings-william/PMLP84315-billings_continental_harmony.pdf (accessed September 5, 2023).

¹⁶ Hans Walter Wolff: *Anthropology of the Old Testament*, Gütersloh 1973, Chr. Kaiser/Gütersloher Verlagshaus, p. 18.

¹⁷ Fiona Cochrane: *Music of the Brain*. Documentary film, USA 2009.

to sing and even dance out the feelings that are stirring within. In the first impressions of rhythmic singing, we encounter the happy, the glorifying, the liberated state of mind. After the crossing of the Red Sea, we read: “*And Miriam the prophetess, the sister of Aaron, took a timbrel in her hand; and all the women went out after her with timbrels and with dances. And Miriam answered them, Sing ye to the Lord, for he hath triumphed gloriously; the horse and his rider hath he thrown into the sea.*” (Exodus 15:20-21). It must have been a wonderful experience to hear the victory song of nearly 600,000 men,¹⁸ imbued with a joy and gratitude, deeply emotional state derived from genuine experience. Dance and music are thus presented as a manifestation of self-expressed emotion. It is also interesting that the singer of all this is a woman, Moses’ sister. This event inspired Franz Schubert, who composed his cantata *Mirjams Siegesgesang*¹⁹ (‘Miriam’s Song of Victory’) while Franz Grillparzer, the renowned Austrian playwright, wrote a long poem on the miraculous rescue.²⁰ This song must have been accompanied by some kind of dance or movement formula, so that by repeating the text “*linked to a penetrating rhythm, it is likely it induces an ecstatic state*”.²¹

This wonderful musical feast is similar to the song of Deborah (Judg 5), Lamech (Gen 4:23) and Samson (Judg 15:16), or even to the joyful circle dance of the Shiloh girls (Judg 21:21). The women also sang the battle songs of David’s victory over the Philistines: ‘...the women came out of all cities of Israel, singing and dancing, to meet *king Saul, with tabrets, with joy, and with instruments of musick. And the women answered one another as they played, and said, Saul hath slain his thousands, and David his ten thousands.*’ (1 Sam 18:6-7). One of the most dynamic scenes of music and dance is the moment when David’s dance provokes hatred in his wife Michal during the procession of the Ark of the Covenant to Jerusalem (2 Sam 6:5sk). Psalms 149 and 150 describe a circular dance as an expression of praise to God,²² but the Song of Songs no longer evokes a worship dance (7,1). Luke’s Gospel also describes a dance of rejoicing at the return of the prodigal son (Luke 15, 25).

Rite, but also rhythm, is a means of establishing contact and a feeling of security.²³ The baby hears his mother’s heartbeat for the first time in the

¹⁸ Charles Henry Mackintosh: *Elmékedések Mózes 1. 2. 3. könyveiről. [Reflections on Genesis 1, 2, 3]* (trans. Sándor Vida), Dillenburg 2000, Gute Botschaft Verlag, 323.

¹⁹ Mirjam’s song of victory. One of the composer’s last opus’, 1828, D. 924 (Op. 136).

²⁰ <https://www.youtube.com/watch?v=h1f1QRq0nVQ> (23 September 2023).

²¹ Andrew Wilson-Dickson: *The Story of Christian Music*. Oxford - Batavia - Sydney 1992, A Lion Book, p. 17.

²² Ann Stephenson: *Dance! God’s Holy Purpose*, Shippensburg U.S.A. 1998, Destiny Image Publishers Inc., pp. 113-128.

²³ <http://rhythmconnections.co.uk/>, <http://azrhythmconnection.com/> (22 September 2023).

womb. In some maternity wards, an experiment was carried out: newborn babies were played heartbeat recordings, some of whom became so relaxed that they forgot to breathe.²⁴ A sense of security “*is one of the social reasons for the development of religious rites: the search for security... emotions also have instinctive gestures; when they become consciously repeated, culturally traditionalised ways of acting and behaving, then we can speak of a rite.*”²⁵ We often travelled home from university by train, the rhythmic movement of which seemed to call out for melody, creating associations. It told us that we were on the right track and that we were safe.

Early Christians, unlike the people of the Old Testament, rejected instrumental music and dancing in worship services, associating it in their minds with unethical and immoral living. Referring to a 4th century source, James McKinnon, a music professor who taught in New York and Buffalo, writes of the relationship between music and dance: “when they blow the tibia,²⁶ they inflate their faces..., they make an ear-piercing noise with the clatter of scabellos, causing other lustful spirits to let themselves go, to let their bodies make strange movements.”²⁷

In 328 AD, the Ethiopians took up Christianity, and their worship was very much based on movement, musical instruments and small drums to mark rhythm. Jeromo Lobo refers to this in the fourth chapter of his book written in 1627: “The instruments used in the rite of worship are the small drums... they stop beating the drums and start jumping, dancing and clapping”.²⁸ Not only in the Old Testament, but also in the New Testament, we read of the worship of God accompanied by physical movement, a sign of the free flow of emotion, of passion, even when not accompanied by music. Such as the raising of hands (1Tim 2,8), prostrating (Lk 5,8), falling to the ground (Rev 1,17) and hopping (Acts 3,8).

The above ideas also support the idea of music psychologist Klára Kokas²⁹ that “freedom of movement helps to deeply receive music”.³⁰

²⁴ Menuhin, Yehudi and Davis, Curtis W.: op. cit., p. 19

²⁵ Gyula Ortay (Editor-in-Chief): *Magyar néprajzi lexikon öt kötetben – MNL (1977-1982) [Hungarian Ethnographic Encyclopedia in Five Volumes – MNL (1977-1982)]*. <http://mek.niif.hu/02100/02115/html/1-8.html> (20 March 2023.).

²⁶ The Latin name for aulos, an ancient Greek wind instrument.

²⁷ James McKinnon, *Music in Early Christian Literature*, New York 1987, Cambridge University Press, p. 158.

²⁸ Lobo, Father Jerome: *A Voyage to Abyssinia* (trans. by Samuel Johnson) London 1735, Printed for ELLIOT and KAY, N° 332. Strand, and C. ELLIOT, Edinburgh, p. 78.

²⁹ Klára Kokas (1929-2010), research interests: music psychology, music education and music therapy.

³⁰ Hajnalka Szabó, Júlia Szarka: *Két lélek, egy gondolat. Kodály öröksége Forrai Katalin és Kokas Klára értelmezésében. [Two souls, one thought. Kodály's legacy as interpreted by Katalin Forrai and Klára Kokas.]* http://www.parlando.hu/2016/2016-3/Szabo_Szarka.pdf (23 October 2023).

3. Rites, rhythm and music in the verses of rites de passage

In the song *A Rite of Passage*³¹ by the American progressive metal band *Dream Theater*, the rhythm, the rite of passage elements in the music video and the lyrics, which include terms such as *fear*, *rite*, *mystery* and *rite of passage*, are all elements that Arnold van Gennep³² calls *rite de passage*, or in synthetic terms, *transitional rites*. In the first chapter of his 1909 work, the author further divides rites of passage into three subcategories: *rites of separation* (rites de séparation), *rites of border* (rites de marge) and *rites of reception* (rites d'agrégation).³³ The rite is a continuation of our identity, our memory, of the old, an exit from the individual and an entry into a communal sphere, a new role. It suggests a transition, accompanied by sounds, rhythm, song, music and dance. These are manifested in a ritual, the ritual being a *"rite that is a prayer of body and soul."*³⁴ Cultures have attributed powerful sexual symbolism to drums that helped girls through their first menstrual cycle, or assisted boys "in the ritual of circumcision as a rite de passage through rhythm".³⁵ Rites "emotionally stabilize and convey a generally, collectively accepted, consensual meaning where the individual alone could not make and find it".³⁶ The singing or music expressed in the rite can serve this *articulatory function as a common language*.

Rhythm weaves through and interweaves one's life. In the village spinning mills, singing, melody and playing were more important during the winter than the activity of spinning and handcrafts,³⁷ because singing was a bonding and healing experience, and after the tiring work it was a chance to have fun³⁸ and recharge the soul. Zoltán Kodály created a new genre of Hungarian music when in 1932 he wrote a one-act musical drama based on

³¹ <https://www.youtube.com/watch?v=gX6jirCykl0> (23 October 2023)

³² Charles-Arnold Kurr van Gennep (1873-1957), Dutch-German-French ethnographer and folklorist.

³³ Arnold van Gennep: *Átmeneti rítusok*. (Ford. Vargyas Zoltán, Szerk. Vargyas Gábor) [*Rites of passage* (Transitional rites) (Trans. Zoltán Vargyas, Ed. Gábor Vargyas)] Budapest 2007, L'Harmattan Publishing House, p. 48.

³⁴ Csilla Imola Székely: *Rítus, ritmus, zene és lélek* [*Ritual, rhythm, music and soul*]. In András Falus (Ed.): *Music and health*. Budapest 2016, Kossuth Kiadó, pp. 130-131.

³⁵ Dean, Matt: *The Drum. A History*. UK 2012, The Scarecrow Press, INC, Plymouth, p. 3.

³⁶ Gábor Hézszer: *Pasztorálpszichológiai szempontok az istentisztelet útkereséséhez. Elméleti és gyakorlati lehetőségek*. [*Pastoral psychological aspects of the search for the path of worship. Theoretical and practical possibilities.*] Budapest 2007, Calvin János Publishers, p. 70.

³⁷ The hemp fibre was ready to be spun in autumn. Spinning took place from the autumn harvest until the end of Carnival.

³⁸ Zita Erika Rózsa: *Lakóhelyem énekes népszokásai, dalos ünnepei*. [*Singing folk traditions and song festivals of my place of residence.*] Eger 2004, Diploma Thesis, Eszterházy Károly College, Faculty of Dance and Drama Pedagogy, p. 3.

the traditions of folk ballads, the *Székelyfonó*³⁹ singspiel. In early childhood, the rhythmic combination of clinging and detachment, but also of hide-and-seek, is present in children's games. For example, Karl Groos (philosopher, psychologist) sees in hide-and-seek the rhythm of life, when he sees in the "*tension and release of attention*"⁴⁰ the essence and source of experience of this play. In Hungarian language regions, a baptismal feast was organised after the baptism, where music was also played. The celebration ended with merriment and dancing: men would finish their entertainment at the wine cellars, while women sometimes went to the tavern.⁴¹ However, we know of confirmation parties and dances⁴² that lasted for three days, as well as a bride's dance after the wedding that lasted the same number of days. The intersection of music and ritual often included dance, movement and percussion. This form of expression was a way of giving greater emphasis and depth to emotions. One example is the dance of the dead, where "*the man lying on the ground, personifying the dead, was danced around by the older men present after the funeral, with a burning candle lit next to their sheepskin hats.*"⁴³

The following lines of Sándor Petőfi's poem "*I am Hungarian*", which reflects the spiritual attitude of the Hungarian people, are of great help in understanding this phenomenon: "*A Magyar! By nature I am sad / As are the first tunes of my nation's lay. / And, though I often smile when I am glad, / I never laugh, however I be gay. / But when the utmost joy doth fill my breast, / In freely flowing tears breaks out my glee; / Yet joyous seems my face when most depressed, / For none I ever want to pity me.*"⁴⁴

One's life ritual compulsions serve to isolate aggression,⁴⁵ but at the same time, the various small rituals can also serve to make amends for what

³⁹ The plot begins with a love scene: the suitor has to say goodbye to his lover in an emergency, as he is being chased by gendarmes. The women gathered in the spinning mill try to cheer up the sorrowful maiden with dancing, singing and games.

⁴⁰ Imre Hermann: *Az ember ősi ösztönei. [The primal instincts of man.]* Budapest 1984, Magvető Book Publishing House, p. 164.

⁴¹ Gyula Ortay (Editor-in-Chief): *op. cit.*

⁴² Botond Somogyi: *Magyarvistai ünnep egykor és ma. [The feast of Magyarvista then and now.]* <https://erdelyinaplo.ro/aktualis/riportok/magyarvistai-unnep-egykor-es-ma/print> (25 October 2023).

⁴³ Gyula Ortay (Editor-in-Chief): *op. cit.*

⁴⁴ English version: <https://mek.oszk.hu/06500/06567/06567.htm#11> (accessed on April 8, 2024)

⁴⁵ István Hárdi defines aggression as follows: "Aggression is a belligerent behaviour, hostile - usually accompanied by tension - as a response to inner impulses, experiences, which may be directed either towards the outside world, a person or inwardly towards the experienter himself; they may be conscious or unconscious, they may manifest themselves directly or indirectly (for example, sending a gift that causes annoyance), or even in a transformed form (for example, anxiety resulting from repressed aggression, physical symptoms)." In: István Hárdi: The world of "aggression, the concept, theories and phenomena of aggression. In István Hárdi (ed.): *Az agresszió világa. [The World of Aggression]* Budapest 2010, Medicina Kiadó Zrt., p. 29.

one regrets having done in the past,⁴⁶ while at the same time temporarily disconnecting one's ego as one becomes absorbed in the ritual.⁴⁷

From the beginning, man has provided rhythm to life and time. It “*dignified the coming of time*”⁴⁸ and separated the weekdays from the holidays (sacred and profane time). Just as the heart has a rhythm,⁴⁹ so the time of human life had a rhythm, for “*the man of old lived in a sacred time and space. Consecrated space meant that he experienced an orderly world around him, and consecrated time meant that he had a rhythm to his life. Both the sanctification of space and time were aligned with cosmic events. The created order experienced in the external world helped the inner ordering as much as the rhythm experienced in time, in the order of successive rituals. It is the mysterious interconnection of space and creation, of system and ritual - indeed, of rite and rhythm.*”⁵⁰ But this rhythm of life and its relationship to time changed radically in the 19th century.⁵¹

According to Vilmos Táncoş, rhythm, like melody and ritual, evokes and purifies, ritual is itself sacred.⁵² So man needs rhythm, just as in music, in musical rhythm, we need the intervals, without which there is no melody and harmony. It gives balance and order to our relationships. Károly Veress refers to Mircea Eliade's religious tradition of ritual, which is that man is “open to transcendence”.⁵³ This idea has always provided humanity with new perspectives for its own analysis of existence: the rites of passage, the symbols and the sequences of actions associated with the transitional stages have

⁴⁶ Emőke Bagdy: *Önismeret, tudatosítás, lelki önvédelem. [Self-knowledge, awareness, spiritual self-defence.]* In: A lélek dolgai. [Spiritual Matters] op. cit. pp. 45-46.

⁴⁷ Boróka Bencze: *A vallásos életmód és a pszichoszomatikus rendellenességek. [Religious lifestyle and psychosomatic disorders].* Cluj-Napoca 2008, PhD thesis, p. 49.

⁴⁸ Quote from a lecture by Sára Bodó, delivered on the occasion of the 20th anniversary of the Faculty of Reformed Theology in Cluj-Napoca.

⁴⁹ “Systolic blood pressure is produced when the heart contracts, and the second pressure measured during the pause between heartbeats is diastolic blood pressure.” <https://www.webbeteg.hu/cikkek/magasvernyomas/272/szisztoles-es-diasztoles-ertek> (30 December 2023).

⁵⁰ Zoltán Csörgő: *A szimbólumok és a szertartások szerepe a modern kori emberi életében. [The Role of Symbols and Rituals in Modern Human Life.]* <http://www.inco.hu/inco3/hagyocikk0h.htm> (26 November 2023).

⁵¹ Zoltán Fónagy: *Egyik nap úgy, mint a másikon – Életritmus és időbeosztás a hagyományos társadalomban. [One day as the next - Rhythm of life and time management in traditional society.]* http://mindennapoktortenete.blog.hu/2014/02/02/hagyomanyos_tarsadalom_ido (21 October 2023).

⁵² Vilmos Táncoş: *A szent fogalma – Mircea Eliade és Rudolf Otto felfogása a szent mibenlétéről. [The Concept of the Sacred - Mircea Eliade and Rudolf Otto's Conception of the Sacred.]* <https://tancosvilmos.files.wordpress.com/2011/09/02szent.pdf> (20 September 2023).

⁵³ Károly Veress: *A vallásos hagyomány és az archaikus ember. [Religious tradition and the archaic man.]* <http://kellek.adatbank.transindex.ro/?cid=207> (25 October 2023).

given security, acceptance, purification and balance to man, who, through rhythm and melody, has become an active part of the rite.

4. Rhythm and association

The interconnected notion of rhythm and association was addressed by László Pollatsek, who, in his article *On the Relationship of the Elements of Music*,⁵⁴ linked rhythm and the unconscious, referring to the scientific finding that the unconscious is the truest root of spiritual events. According to him, “*association is a subconscious process, and musical association itself occurs through rhythm*. However, according to him, “*any melody, as dead matter, can only reach its maximum expression through one and only one rhythm.... And melody as a whole is dead matter, which can only express spiritual experiences, thoughts and emotions through the other two components of music, dynamics and rhythm*”. In the light of this statement, a rhythm is attached to all our spiritual moods, since melody is the “*associative product of rhythm*”.⁵⁵ The author tries to prove the rhythm association on an ethnographic and *ethnomusicological* level, citing as examples folk songs, the rhythmic differences found in Slavic and Russian music, which are also characteristic of the spiritual impulses of the nation in question. In the case of Hungarian music, he speaks of a *special rhythm*, with Slovak, Romanian and German motifs being present within the folk songs.

A number of regression analyses have shown that there is a very clear associative relationship between prosodic and musical rhythm perception, particularly in the area of rhythmic perception.⁵⁶ Related to this is the research of Márta Janurik, who summarizes the empirical research findings on the transfer effects of music on reading, “*music processing skills*”, “*phonological awareness and reading*”⁵⁷ and suggests the introduction of more singing lessons in kindergartens and schools to help children learn to read more successfully. According to Valeria Csépe, pitch plays a more important role in the perception of music, while in speech “*the processing of the pattern of the constituent elements plays a more important role.*”⁵⁸ One of her important basic assumptions is that in music, pitch processing is the more important

⁵⁴ Pollatsek László: *A zene alkotóelemeinek egymáshoz való viszonyáról [On the Relationship of the Elements of Music]* In: Zenei Szemle, year 8, no. 9, 1924. pp. 197-199.

⁵⁵ *Ibidem*.

⁵⁶ Majja Hausen, Ritva Torppa et al: *Music and speech prosody: a common rhythm*. In *Frontiers in Psychology*, vol. 4, 2013, article 566, pp. 1-8.

⁵⁷ Márta Janurik: *A zenei képességek szerepe az olvasás elsajátításában. [The role of musical skills in reading acquisition.]* In: *Hungarian Pedagogy*, Vol. 108, 2008, No. 4, p. 310.

⁵⁸ Valéria Csépe: *Zene, agy és egészség. [Music, brain and health.]* In: András Falus (ed.): *Music and Health*, Budapest 2016, Kossuth Publishing House, p. 31.

and requires more brain functions. At the same time, timbre as a temporal feature is important in speech, consider that “on average, there is a difference of 50 to 70 milliseconds between the *b* and *p* sounds.”⁵⁹ And melody as a whole is dead matter, which can only be understood as an expression of spiritual experiences, thoughts and emotions through the other two components of music: dynamics and rhythm.

The American documentary *Music of the Brain* starts with the question: has music evolved? It is possible that music and man evolved together, but it is also possible that music was created by man and has provided a certain dynamic in our evolution as humans. Humans have what is known as auditory discrimination, which is the process by which humans distinguish between certain sound waves. We can distinguish between the sounds of a human voice, a car and a telephone call in separate sound wave. If we didn't, we would have sound confusion in our lives and we would not be able to distinguish sounds.

The septal regions of the brain have been the subject of much research, mainly in rats,⁶⁰ and are home to the so-called *pacemaker* or *rhythm-generating cells*, which generate spontaneous activity at 4-10 Hz and synchronize the entire cell population. Among other things, these cells are the ones that carry impulses about our emotions and motivations, which, together with our cultural heritage, make up our inner world.⁶¹ We need to know this because of the concept of creativity and association, since creativity does not come from knowing a lot of information, but from thinking about a phenomenon in a different way from the average person.

This is due to the fact that they have a very complex inner universe, and it is this which gives color, adds to and associates with the already existing information.⁶²

Hámori refers to the left hemisphere as the locus of the sense of time, and thus the sense of rhythm in music. This is one of the reasons why the right hand (controlled by the left hemisphere) can hit the required rhythm more accurately, whether the person is left or right-handed.⁶³ Rhythm is inherent to Hungarian folk songs and limericks: it is an integral part of the

⁵⁹ *Ibidem*.

⁶⁰ L. W. Swanson and W. M. Cowan: *The Connections of the Septal Region in the Rat*. In *The Journal of Comparative Neurology*, Vol. 188, No. 3, 1979, p. 505.

⁶¹ Tamás Freund: *Agyhullámok – tanulás – kreativitás... i. m. Agyhullámok – tanulás – kreativitás: az információ-robbanás és a művészeti nevelés hatásai. [Brainwaves - Learning - Creativity... i. m. Brainwaves - Learning - Creativity: the impact of the information explosion and art education.]* https://www.youtube.com/watch?v=kdZmwd_YW_Q (3 January 2023)

⁶² Tamás Freund: *Tanulási folyamatok és belső világunk. [Learning processes and our inner world.]* In *Magyar Szemle*, Vol. 15, 2017, No. 11-12,

⁶³ József Hámori: *A zene és az agy. [Music and the brain].* In *Music and Health*, (ed. András Falus) op. cit. p. 22.

galloping, chugging rhythm and the human voice.⁶⁴ The rhythm of the drum is almost a compelling element that harmonizes the movements of the group of people, and thus the rhythm or rhythmic music can induce an altered state of consciousness, which was well known to shamans. According to brain researchers, memory and remembering are nothing more than associative processes.⁶⁵

In the Old Testament, certain instruments and songs created associations in a way that revealed the spiritual impulses of the people of Israel. The *drum* was the instrument of revelry, thanksgiving, joy, and circle dances (Ex 15:20; 1 Sam 18:6). At the same time, the sickly one complains that the offspring of the wicked play the harp to the rhythm of the drum and rejoice at the sound of the whistle (Job 21:11-12). In the performance of strenuous or monotonous work, *singing* provided the rhythm and thus the energy (Jer 25:30; 48:33).⁶⁶

The song of the wine drinkers is an expression of instinct, of the release of emotion,⁶⁷ and could also be a means of mockery (Psalm 69:12). The playing of music and the possible accompanying *dance* were also a communal and religious act: The daughters of Shiloh danced yearly in a circle in the vineyards (Judges 21:19-21), the coronation of kings was heralded by *horns* and the people by *flutes* (1 Kings 1:39-40). The *cymbal* or *cimbalom* were not only instruments of cultic power and expression of joy but were also used in warfare (2 Sam 6:5; 2 Chron 5:12; 1 Chron 25:1). The flute was a messenger of mourning and sorrow (Jer 48:36), while the horn was used as a signal in battle as well as in worship (Lev 25:9k; 1 Sam 13:3).

5. The syncopation phenomenon in our society

The concept of syncopation⁶⁸ is a familiar term not only in music or medicine, but also in linguistics. “The linguist Béla Adamik, who analyses the frequency of the omission or deletion of unstressed vowels in imperial and late Latin, notes that in the areas studied, syncopation was a common phenomenon only in the first three centuries, but later declined.⁶⁹ However,

⁶⁴ The Ringató programme is designed for mothers who want to learn all these things. <http://www.ringato.hu/> (30 January 2023).

⁶⁵ Allan and Barbara Pease: *The Definitive Book of Body Language. How to Read Other's Thoughts by Their Gestures*. London 2017, Orion Press, p. 68.

⁶⁶ Victor H. Matthews: *Music in Ancient Israel*. <https://www.gci.org/bible/poetry/music> (28 September 2023).

⁶⁷ The free expression of emotions through music is still prominent in the music of the Ethiopian Orthodox Church. <https://www.youtube.com/watch?v=kP0V42DA4as> (28 September 2023).

⁶⁸ Greek: syn “at once” and koptein “to beat”; syncope in Latin

⁶⁹ Béla Adamik: *A szinkópa gyakorisága a kései latin nyelvben a feliratok tanúbizonysága*

we do not intend to carry out a phonetic, metrical or inscriptional analysis, but to share some thoughts on the unevenness of the rhythmic structure of syncopation, and the disruption of the rhythm of life in society.

At the time of creation, God gave us the gift of rest and liberation from the pressure to perform,⁷⁰ through the rhythmic alternation of night and day, workday and Saturday, weekday and holiday. The imposition of a day of rest encourages “making the most of all time” and “renouncing profit”.⁷¹

Barnard refers to Michelle Weil, an American psychologist, who writes in her book *TechnoStress* that half of all executives, managers and office workers are under technical stress, and that American psychologists have already invented the syndrome of *network rage*, while the *Information Fatigue Syndrome* has also been invented by the information society.⁷² The economic and social changes of the twentieth century have not only given rise to new words, and synthetic biology to new bacteria,⁷³ but also to new rhythm cultures, such as *off-beat*⁷⁴ and *eurhythmics*,⁷⁵ which means good, beautiful and harmonious rhythm, and which can be embodied in dance therapy as a separate art form. In Carl Orff's *Carmina Burana*, the primitive set of motifs and magical repetition are key concepts. In non-verbal cues, tapping your fingers on the table or stomping your feet on the floor is a sign of impatience, and the more impatient someone is, the more intense the tapping. Communication has found new ways of doing things. And communication is nothing but culture.⁷⁶

Music follows, expresses and reflects the flow of world events and

alapján. [The frequency of syncopation in Late Latin based on inscriptional evidence.] In Studia Classica, Studies from the Institute of Classical Studies of Eötvös Loránd University, (eds. István Bárány, Gábor Bolonyai, Attila Ferenczi, Ádám Vér), Budapest 2015, ELTE Eötvös Kiadó, p. 303.

⁷⁰ According to Péter Popper, the European man is characterised by a “compulsion to act”, which is based on the belief that his life is a force that shapes destiny. In Péter Popper, *Mit tehetünk magunkért? [What can we do for ourselves?]* <https://www.youtube.com/watch?v=iXBrCAhFGLI> (2 August 2016).

⁷¹ Hans Walter Wolff, *op. cit.* p. 203.

⁷² Barnard, Christiaan: *50 Wege zu einem gesunden Herz*. München, 2000, ECON Ulstein List Verlag, p. 112.

⁷³ *Die Gen-Köche – Biohacker und die genetische Revolution*. Dokumentarfilm, Deutsch 2012, Alexander Schlichters und Sascha Karberg.

⁷⁴ “So “off-beat” is a musical term, commonly applied to syncopation that emphasizes the weak even beats of a bar, as opposed to the usual on-beat.” [http://en.wikipedia.org/wiki/Off-beat_\(music\)#On-beat_and_off-beat](http://en.wikipedia.org/wiki/Off-beat_(music)#On-beat_and_off-beat) (6 March 2023).

⁷⁵ Émile Jaques-Dalcroze (1865-1950), Swedish composer and inventor of eurhythmics.

⁷⁶ Gábor Hézser: *Újra szárnyra kapni. [Taking flight again.]* Târgu Mures 2014, Lector Publishing House. p. 79.

their movements, in many cases ‘*reflecting the feeling of the times*’.⁷⁷ Today, people who are short of time tend to listen to songs lasting three or four minutes, as opposed to operas and oratorios, which can last several hours. One of the major problems of today’s society is the accelerated pace of life. Peter Popper draws attention to the “*fast pace of life*”, which means that the pace of life in modern culture has accelerated as a result of modern technology and requires a much faster ability to adapt and react.⁷⁸ This expectation causes frustration⁷⁹ and tension, especially in the older generation, who are less able to cope with the new demands because they have not been brought up in this pace of life. In a fast-paced world, the position of the individual has also changed radically, with the change of lifestyle giving less space to tradition, ritual and a balanced rhythmical life.⁸⁰ Popular music is also well aware of this phenomenon, which is why songs with titles that complain about the lack of time have emerged.⁸¹

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⁷⁷ Music as a representation of the macro- and microcosm. <https://www.harmonet.hu/ezoteria/68802-zene-es-spiritualitas.html> (26 November 2017).

⁷⁸ Péter Popper: *Gyors élet, lassú halál. [Fast life, slow death.]* <https://www.youtube.com/watch?v=xYj1XKe3sj0> (21 May 2017).

⁷⁹ According to Peter Popper, today’s man suffers from “oral frustration”, i.e. he lives his life in a state of “thirst”, which he tries to replace with cigarettes, chewing gum, talking a lot, eating, etc. He traces the root of the problem of oral frustration back to infancy, and more specifically to the short duration of breastfeeding. In Popper Péter: *Láthatatlan ellenségek [Invisible Enemies]*. <https://www.youtube.com/watch?v=2B6H3ScsKW0> (20 September 2017).

⁸⁰ You are probably familiar with István Nemere’s book, whose title is also expressive: *No Time to Die*. 2014

⁸¹ The Guess Who: *No Time*. 1969; Keane: *She has no Time*. 2004; PnB Rock: *No Time*. 2015; LB x Iraq X Lanks: *No Time*. 2017.

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