

Man, Music, Psycho-and Music Therapy

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Introduction

At present it is taken for granted that music cannot only be the cause of serious diseases but can also be the means of treatment of dangerous illnesses. Therefore, the relationship between psycho- and music therapy is to be seriously considered by specialists working in the field of medicine and psychology. Since music is the highest expression of the perceptual activity of the human brain and has a profound emotional impact on man, the time has come to bring clarity into biological mechanisms of the impact of music.

A new working hypothesis opens the possibilities to carry out further scientific research dealing with this problem. The interrelation between human activity, music and the nature of physical characteristics of the effect of music on biological systems serves as a starting point and aims at defining the common grounds which open up the possibilities to implement the phenomenon of impact of music on live organisms. Thus, in two apparently independent systems the target object is man, while music is an ecological factor. The connection between them is to be bound between frequencies of genetically defined biological processes and of music, which for its part, is reflected in the psychological state of the human being.

Based on recent scientific data, there is convincing evidence which proves that musical sounds are of biological nature:

1. Music is one of the means of expression of the emotional state of man via sounds.
2. A sound is a mechanical vibration perceived by the ear within the frames of 20 to 20,000 frequencies. The higher the frequency, the higher the pitch. The sound contains frequency tones on which timbre is dependent. Every sound possesses its own specific power.
3. The sound is an expression of an emotional activity of a new-born baby in spite of not being able to speak yet.
4. During the mating season the sound is an emotional expression of the activity of animals when they produce specific sounds in order to attract their partners into mating. The tuning of wolf howling as well as sounds produced by monkeys or apes during alert or unrest are also strictly defined.

Certain differences between musical sounds in melodies of various nations and ethnic tribes indicate that music has a biological nature and shows the signs of evolutionary resemblance in its formation. It may be assumed that primitive musical melodies, as one of the means of expression of the emotional state, create the mood by definite sound activities. This continuous process is subdued to selection, similar to the process of natural selection. As a result, the sound expression of the emotional state is shown on the level of the genetic apparatus (i.e., genetic memory). Thus, it demonstrates that sound expression and the function of emotional state are changeable and are controlled by the laws of Darwinian natural selection.

Today a great number of scientists admit that capacities of musical expression are recorded in the genetic apparatus of every nation. This opinion has been proved by the negative effect caused by application of headphones by teenagers. Those teenagers who used to listen to rock music through MP3 player headphones suffered from severe headaches, loss of consciousness and a feeling of sickness. They frequently consulted neuropathologists complaining about the above-mentioned symptoms. This case aroused interest due to one significant fact: listening to rock music negatively affected only the Caucasian listeners, which,

from the biological point of view, had been predicted theoretically. There was a failure in correlation between frequencies of foreign music and frequencies of genetic activity, which caused a serious disturbance in the activity of the nervous system. Today it has been taken for granted that deoxyribonucleic acid (DNA), the carrier of genetic information, produces specific sounds. The sound causes vibrations producing acoustic waves. In fact, the DNA sings. Fluctuation of DNA molecules corresponds to the color of the light spectrum.

Based on the data obtained by the Russian scientist Gorjaev, all the above-mentioned phenomena are changed according to the functional state of genetic biological molecules and depend solely on temperature fluctuations. For example, at 36-37°C, DNA 'sounds' normally at low frequencies, though at 40-42°C there appear some disturbances in DNA frequencies and the DNA starts 'complaining'. However, at higher temperatures there occurs the process of DNA double spiral division and the possibilities of the realization of genetic signs are delayed. Recently, with the help of computer technology a woman scientist from London has proved that plant as well as animal cells "sing". Apparently, the means of species transformation in music is sound, the foundation of music -melody, whereas the most significant means of musical expression are tone, rhythm, metrics and harmony perceived at the performance of a musical piece.

On the basis of these physical indicators we should search mechanisms of perception of musical sounds by brain nerve cells and their impact on the central nervous system. It is well known that a human embryo reacts specifically to music. For example, scientists registered that when there was classical music in the background, the embryo 'smiled', whereas in the background of rock music the embryo 'frowned'. From the genetic viewpoint, it seems that rock music is inadequate for the embryo. According to French scientists, it is not only possible to control the formation of the embryo, but also to make corrections in the embryonic development with the help of music.

It has been stated that there is some connection between sound frequency and the sum of electroactivity of neurons (biopotential frequencies, muscle tremor, the heartbeat rhythm). It opens up great possibilities to direct biological processes with the help of music. Hence, the scientific research has been carried out mainly in this direction with the aim to state the key factors which can promote realization of treatment of men via psycho-physiological effect. It is obvious that it should be based on physical indicators, such as a wavelength and a separate 'sound color', viz.: C-green (52nm), C-D flat-blue (490nm), D-dark blue (464nm), D-E flat-violet (438nm), E-violet (413nm), F-violet (391nm), F-G flat-red, purple (739nm), G-red (695nm), G-A flat-red (657), A-orange (620nm), A-B flat-yellow (585nm) and B-green (552nm). It is worth mentioning that light effects that are used today worldwide, are based on the above-mentioned principle. Though it is a pity that this principle implies only color mixture and is not based on application of sound frequencies and corresponding alteration of colors of a given melody. It is well-known that the musical system is a purposeful sound arrangement according to the frequency and pitch of each

sound. Every type of sound system within the frames of one bar is arranged according to relativity and diapason of intervals. Naturally, as wavelengths of musical sounds are in complete correspondence with colors, a musical piece, as an arrangement of tints and shades of colors with their corresponding wavelengths, is authentically reflected in the mood.

There is a viewpoint that red is an indicator of vitality, cheerfulness, fury and danger; yellow indicates optimism and talent, blue-harmony, creativity; green-energy, peace loving, balanced nature; violet-spiritual loftiness; orange-activity, responsibility, ambition; brown-industry, spiritual health, ambition; grey-narrow mindedness; black-evil, enmity, pink-love, devotion; white-intellect, steadiness, higher consciousness, golden-wisdom, higher consciousness, bluish and green-mercy, generosity and philanthropy, indigo-spirituality and sincerity. It is interesting to note that when children were unconsciously painting pictures in the background of music, they used mainly brown paints in order to express their spiritual experience, determination and diligence. Thus, due to the two basic indicators-wave length and frequency, which provide the basis for a musical sound, it has naturally become possible to make an impact directed towards the physical condition of a human being and regulate their emotional state during norm and pathology.

Thus, music is one of the methods of testing the physical condition and treatment of certain diseases of the human organism. There are plenty of literary and scientific sources on the impact of music on man and animals. Music is a kind of art where the existing reality and the emotional state of a man are expressed in an artistic and poetic form. Only two stanzas from 12th century Georgian poet-Shota Rustaveli's immortal poem "Night in the Panther's Skin" would be enough to demonstrate this idea: "It is better to live, ~ he said, as he pondered on life and its troubles, "I may see my beloved again, therefore why should I murmur?" Thus with new hope in his heart he sang while his tears flowed as freely. The nightingale's song was but croaking to the sweetness of Avtandil's singing. The beasts drew near to listen, such was the charm of his singing, Even the stones of the river came from the water to listen. They listened, enraptured, and marveled; wept at the sight of his weeping, flowing profusely in fountains as song upon song rose in paeans." Translated from the Georgian by Venera Urushadze. No one can deny the positive, consolatory and soothing effect of psalms, which, probably, all of us have experienced.

One of the ancient Georgian songs-"Batonebi" was not created accidentally centuries ago, as it has a therapeutic effect on those patients who suffer from childhood diseases, such as measles, scarlet fever, etc. An elegy, a nocturne and a lullaby also have the positive effect on those suffering from depression or aggressiveness. Recently the second volume of "Georgian Psalter" has been published. The book covers a certain number of religious songs (of Kartl-Kakhetian origin) sung at dawn, in the evening and at dusk. We purposely matched the sound wavelengths and frequencies of separate musical phrases of the songs to their corresponding colors. Owing to this methodological approach, it has been proved again that Georgian canticles, as a rule, are created by sound

wavelengths corresponding to green, blue and violet. A red color appears rarely and it is noticeable only in the middle of phrases. Hence it has become obvious that the therapeutic psycho-biological effect is provided with the background of green, blue and violet, which correspond to 52nm, 391nm and 413nm sound wavelengths (M. Erkvanidze, Georgian Psalter, Vol. II). In addition to the central nervous system, the heart, blood vessels and muscles reveal specific sensitivity to music. Owing to the effect of therapeutic musical melodies, there is a significant drop of blood pressure, widening of blood vessels and slow-down of the heartbeat.

The obtained results of the tests, which were carried out at the National Institute of France, are worth mentioning. During blood transfusion, in specially selected musical background not even one case of loss of consciousness was fixed. Another important experiment, performed by a renowned Georgian physiologist I. Tarkhnishvili, is also worth mentioning. Based on the results of this experiment, it has been proved that there is a close link between muscle tension and the type of music. Mainly, in the background of soothing classical music muscles loosen, whereas in the background of music with rising rhythm frequencies muscles begin to contract intensively.

Another interesting fact which has received a lot of attention is the phenomenon of a soft and gentle lullaby sung by a mother to her baby. It is composed of such sounds and colors, which have a soothing effect on the baby. It is true that spectators of a well-known Georgian comedy film 'A Fiancé with No Diploma' cannot help laughing while watching one of the main characters-the director of a collective farm carrying out his 'scientific research' on the impact of music on cows. But it has recently become known that cows really produce more milk in some specially chosen musical background. It is natural that in such conditions music causes relaxation of muscle tissues and the cow gives milk in considerably larger amount together with the relevant behaviour of a milk-maid, who, as a rule, first tries to calm the animal by massaging its udder and only then starts milking the cow. Indeed, this process is realized by such soothing movements of hands which promote complete relaxation. It is also worth mentioning that Ancient Egyptians successfully used choral folksongs to treat people from insomnia.

The renowned Russian physiologists, I Sechenov and S Botkin pointed to certain therapeutic properties of music. In their opinion, melodious music causes pleasant emotions, intensifies the activity of cerebral cortex, improves metabolism, stimulates blood circulation and respiratory processes. In addition to this, the impact of pleasant music promotes concentration of attention and activates the central nervous system, which eventually has a positive effect on the psycho-emotional state of man. It is obvious that man and music are two psycho-biological systems affecting each other. This effect can be used either to damage a human organism or to carry out effective therapeutic treatment.

Based on the above-mentioned principles, and taking into account the sound power and frequencies, it is possible to create a great number of devices which can be successfully applied to treat

various diseases. Medico-biologists and biophysicists, sharing full responsibility with doctors, declare that the sound holds the first place among the means of treatment of different diseases, which, for its part, depends on sound amplitude and duration; Soft and quiet music "purifies" the surrounding space from dirty and harmful aura. During conversation the voice of a kind man, especially the one of a true believers greatly improves the social environment leading to relaxation of the nervous system and improvement of the physical and functional state of the listener. A major pre-condition for health care is protection of the nervous system from unfavourable impact of inadequate music. Purposeful application of the musical pieces listed above will certainly lead to good health.

Music for Insomnia Treatment

- a. Baby lullaby sleep music
- b. 'iavnana ~-Tamriko WoxoneliZe
- c. Beethoven-Moonlight Sonata
- d. ufalo segviwyalen-samebis gundi
- e. Tchaikovsky-Autumn Song
- f. Schubert-Ave Maria
- g. Franz Schubert-Serenade
- h. R. Schumann-Dream
- i. C. Sen-Sans-Swan
- j. Relaxing Celtic Music: Sleep Music, Flute Music, Meditation
- k. Music, Beautiful Relaxing Music 86
- l. Relaxing Harp Music: Sleep Music, Meditation Music
- m. Spa Music, Study Music, Instrumental Music 49*
- n. Relaxing Spa Music, Music for Stress Relief, Relaxing
- o. Music, Meditation Music, Soft Music, 2302C*
- p. Meditation, Healing Music, Relaxation Music, Chakra
- q. Relaxing Music for Stress Relief, Relax*
- r. Tibetan Music, Healing Music, Relaxation Music
- s. Chakra, Relaxing Music for Stress
- t. Relief, 2729C*
- u. Mindfulness Relaxing Music for Stress Relief. Soothing
- v. Instrumental Background Music for Relaxation*

Fear Treatment Music

And with Bach Concerto for violin and orchestra in A minor, I part

- a. Beethoven-Moonlight Sonata
- b. Anton Rubinstein-Melody

- c. Music to Inspire Happiness and Motivation
- d. Music for Positive Energy, Healing and Positive Mood -Relaxing Music Relax Mind, Body and Soul
- e. 2 hours of peaceful, relaxing, nature instrumental music by Tim Janis
- f. Relaxing Music, Paradise HD, Water Sounds
- g. Relaxing Piano Music: Meditation Music, Beautiful Nature Music, Music by Tim Janis

Music Cure Restlessness and Fear

- a. Frédéric Chopin - 19 Mazurka in E Minor
- b. Johann Strauss-Beautiful Classics, All Waltzes / Best of Strauss II Waltz
- c. Beethoven Symphony No. 6.part 2
- d. 3 Hour Relaxing Guitar Music: Meditation Music, Instrumental Music, Calming Music, Soft Music
- e. Relaxing Beautiful Romantic Music: Piano Music, Violin Music, Cello Music, Guitar Music 74
- f. <http://www.omgarmonika.ru/audio> Deep relaxation level Morning Music for Positive Energy in House: Relaxing
- g. Piano Music Therapy for Stress Relief

Music for the Treatment of Fear of Headaches

- a. Vangelis-La petite fille de la mer
- b. F. Liszt Hungarian Rhapsody N2
- c. Sadko Musical picture Rimsky-Korsakov
- d. P. Tchaikovsky-Sentimental Waltz
- e. Music for sleep. From headache*
- f. Music for sleep. From nervous exhaustion*
- g. Music for sleep. From obsessive thoughts*
- h. Music for sleep. Easy hypnosis. (For insomnia)*
- i. Music for sleep. 30 minutes of peace*
- j. Music for sleep. From irritability*
- k. Music for sleep. Removing fatigue*
- l. Music for the treatment of hypertension
- m. Frederic Chopin NOCTURNE C-sharp minor
- n. Secret garden the promise
- o. Secret garden-adagio
- p. Nino Rota-Romeo & Juliet (Love Theme)
- q. Nocturne in D-flat-Op.27 No.2, Chopin"
- r. Brain Music Study Focus Concentrate-Brain Music Study Focus Concentrate Help You Work Fast

- s. Super Intelligence: Alpha Waves-Improve Your Memory and Concentration Study Music
- t. Beethoven Classical Music for Studying and Concentration
- u. Relaxation | Study Music Piano
- v. Study Music-SUPER Memory & Concentration Alpha Binaural Beat-Focus Music

Music to Appease Aggressive People

- a. Relaxing Harp Music: Sleep, Meditation & Relaxation| Instrumental Background Music for stress relief
- b. Relaxing Harp Music: Sleep Music, Meditation Music, Spa Music, Study Music, Instrumental Music 49
- c. 1 HOUR of The Best Relaxing Music | Bamboo Flute | -Meditation-Healing-Sleep-Zen-Peace
- d. Collection of classical music for concentrating on the studies of Chopin, Vivaldi, Bach, Schubert, etc classical
- e. Tchaikovsky-Waltz of the Flowers
- f. George Davidson-Mariage D'amour
- g. 3 hours The Best Relaxing Piano Flute Music Ever
- h. Study Music Alpha Waves: Relaxing Studying Music, Brain Power, Focus Concentration Music, 161
- i. Music for Stress Relief, Classical Music for Relaxation, Instrumental Music, Mozart, E092
- j. 3 hours Positive Instrumental Relaxing Guitar Music |Nature Sound

Music to Activate and Achieve Success

- a. Motivational music for success in life Steve Jobs
- b. Instrumental music for working in office easy listening
- c. Concentration Music for Working Fast-Concentration Music for Working Piano
- d. Brain food | Super learning fast skills for memory recall, study exams
- e. Deep Brain Stimulation Music | Study Music for Concentration and Exam Preparation; »Study Music -SUPER Memory & Concentration Alpha Binaural Beat- Focus Music
- f. Instrumental Music for Studying, Concentration and Focus Memory-Thinking Music Inspire Creativity
- g. Study Music, Focus & Concentrate studying instrumental music (Brain Power with Alpha Waves).

Music for Morning Exercises

- a. Datta Mantra. The Strongest Mantra of Success. (Datta Mantra)
- b. Morning Relaxing Music-Positive Feelings and Energy

- c. Morning Motivation: energy, motivation, focus, Isochronic Tones
- d. Motivation to Work Out 2014-25 min-Kygo Remix
- e. Motivational Workout Music
- f. Best Uplifting Energetic Trance Mix 2016-CLUB MUSIC
- g. Music gym, music for exercise*
Music for physical fitness, motivational, fitness*.

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