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THE PROBLEM OF MOTOR ACTIVITY AND MUSCLE RELAXATION OF A MUSIC PERFORMER

Abstract. The article describes the therapeutic effect of music. It deals with the problem of development of technical skills of musicians, and their psychomotor development in different types of musical activities. The author traces the relationship between motor skills and auditory presentation of the musical image, and between motor activity and muscle relaxation of the performer. The article substantiates the necessity of alternating tension and relaxation of the muscular apparatus in the process of singing, conducting and playing musical instruments. The article reviews various methods of psychomotor development of musicians including the training of actors by K. S. Stanislavskiy, gymnastics of feelings by S. V. Gippius, the complex of exercises in training piano playing and for treatment of professional diseases of musicians by A. A. Shmidt-Shklovskaya, the exercises for treatment of professional diseases of pianists' arms by V. A. Guterma, and the method of voice gymnastics of the speech organs by E. M. Chareli, Oskar Gutman, Leo Kofler. Many of the above-mentioned systems and kinds of exercises for the development of motor skills can be used in the work with pupils on condition they are adapted to the definite age group and the musical experience of the learners. The problem of psychomotor development should be in the focus of attention of all teachers who train future musicians (instrument players, conductors, singers, etc.). Relaxation, self-regulation and self-control, use of various exercises and correct usage and distribution of muscle tension in performing are the necessary conditions of successful realization of creative tasks by young musicians.

Keywords: music performing activity, motor activity, muscle relaxation, auditory notions, psychomotor system.

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In ancient times people elegized on music as a beautiful gift of gods. Myths and legends of many peoples contain stories about the magic force of music. Philosophers, scientists, artists and representatives of supreme power watched it influence the surrounding people. Music was also used in medicine: from times immemorial it has been used by many peoples to

cure the sick. Pythagoras paid considerable attention to the healing power of music; he widely used musical art not only for curing mental disorders but also for their prevention, i.e. with the aim of prophylactic and psychohygiene. Music was used for treatment of both mental and physical ailments. The use of music for treatment and prevention of disease gradually

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gained solid scientific foundation. A new integrative discipline “music therapy” appeared on the borderline of several sciences (*neurophysiology, music psychology, music studies, etc.*). Having acknowledged the healing potential of music, people began to use it also as a means of pedagogical influence upon children with special educational needs. On the basis of analysis of practical observations scientists argued that hearing that develops under the influence of music is more important than vision, because a deaf child dramatically lags behind in development, much more dramatically than a baby born blind.

Really, the history of music art shows that wonderful performers of instrumental and vocal music have been among babies born totally blind. This fact found its reflection in fiction: it's enough to recollect the famous short novel by V. G. Korolenko *The Blind Musician*. We can also name the world most outstanding blind musicians: the famous Italian opera singer Andrea Bocelli (1958); the great Afro-American composer and singer Ray Charles (1930-2004), who paved the way for Afro-Americans into the music industry; Stevie Wonder (1950), also an Afro-American composer and singer, having magical scenic charm, and many, many other blind musicians from abroad. The Russian history of musical performance has also seen fantastically talented blind musicians at all times. Quite recently, great interest of music lovers was aroused by Oleg Akkuratov, born blind, who virtuously plays jazz and classical

music (Lyudmila Gurchenko dedicated to Oleg her first directed work – the film *Pestrye sumerki*, shot in 2009). The blind singers Diana Gurtskaya and Patritya Kurganova became also widely known. Deaf musicians deserve equal admiration – they are the flute player Ruth Montgomery and the Scottish percussionist Evelyn Glennie (who plays simultaneously several different percussive instruments, which needs special skills and excellent coordination).

So, the musical activity of children with special educational needs (SEN) corroborates the therapeutical effect of music; its pedagogical impact upon children with different physical abilities is quite evident. At the same time, performing activity of any musician – conductor, singer or instrumentalist – is rather complex and versatile in its structure. Its realization needs coordination of well developed psychological processes accompanied by subtle purposeful physical movements. Motor activity plays an important role in musical performance. The musician's movements should always reflect a certain performing intention. Solution of many artistic tasks is impossible without due orientation of these movements. All actions are manifested in this way or another by muscle contractions or changes of muscle tension (tone). Physiologists have often marked the unity of the cognitive process with the act of moving. As a result, the Russian physiologist I. M. Sechenov introduced the notion “psychomotor system”. In practical studies of interaction between the process of cogni-

tion and the act of moving this term was often replaced by similar notions: moving activity, moving actions, sensorimotor system, ideomotor system, etc.

The whole creative life of a performer is subject to continuous development of his/her spiritual, intellectual, psychological and psychomotor properties. That is why psychomotor development of a performing musician is nothing but a change in controlled actions defined by morphologic-functional, physiological and psychological peculiarities. The study of psychomotor system in musicians is complicated due to constantly arising questions of performing mastery, and complex interaction between intellectual sphere, emotional domain, ear for music and motor system. According to some music performers and music pedagogues our organism sometimes intuitively chooses the most suitable movements in the process of musical performing activity of various kinds. But the majority of performers master rational movements through conscious and painstaking effort, realizing their freedom through perceptions.

In the very beginning of development of a habit, hearing cognitions are, as a rule, primitive or inadequately clear. This phenomenon should result in approximate and primitive movements. Visualization of a musical image is being constantly changed, deepened and improved in the process of work. It is this factor that does not allow us to think of a possibility of intuitive choice and consolidation of a set of movements at early stages of habit development. In this case, auditory-motor ties are formed in the con-

ditions of mobility of auditory images and the issuing constant modification of the movements themselves. Thus, choosing an “ear” or “motor” method of teaching, the pedagogue should evaluate the general character of the musical ear of the student, the degree of his/her motor talent, the typological peculiarities of higher regions of the central nervous system, and the student’s age. It is these factors that should determine the construction of the general teaching method. Realization of correct organization and mastering the motor system should be aimed at solution of many artistic problems. Properly formed skills to a large degree define professional achievements of a music performer. And, on the contrary, uneven distribution and use of muscle load, improper breathing, and overstrain of the whole organism turn out to be obstacles to the realization of the set artistic tasks. In this connection, numerous theoretical conceptions and practical approaches have been worked out in home and foreign science to resolve this problem. There are authored methods of psychomotor development in various branches of art which could be useful to a musician:

- *The system of training actors* by K. S. Stanislavskiy;
- *gymnastics of feelings* (S. V. Gippius);
- *exercises in training piano playing and for treatment of professional diseases of musicians* (A. A. Shmidt-Shklovskaya);
- *exercises for treatment of professional diseases of pianists’ arms* (V. A. Guterman);

- *breathing gymnastics for easing muscle spasms in choreography* (E. Y. Popova);

- *лечебная гимнастика головного аппарата певцов* (Leo Kofler, O. G. Lobanova);

- *system of exercises at the piano and without it* (József Gát);

- *voice gymnastics* (Oskar Gutman);

- *exercises for development of conductor techniques* (S. Kazachkov, I. Musin);

- *massage and voice gymnastics of the speech organs* (E. M. Chareli), etc.

All these methods concentrate, as a rule, on the fact that excessive physical strain paralyzes our activity and energy, and muscle tension limits the psychic life of a person. Thus, K. S. Stanislavskiy considered muscle cramps and body spasms to be the worst “evil” for the artistic process. “When they occur in a speech organ,” he wrote, “people born with a beautiful voice begin to wheeze and make hoarse sounds or lose the ability to speak at all. When the cramp occurs in the legs the actor moves as a paralyzed man; when the cramp is in the arms – they get rigid, turn to sticks and are raised as roadway gates. The same cramps, with all their consequences, take place in the spine, neck and shoulders.” [15]. K. S. Stanislavskiy stressed that muscle tensions interfered with the inner activity, and with feelings and subtle emotions in particular. That is why, prior to speaking, the actor has to bring his muscles to order lest they should limit his freedom of action.

At the same time, many music performers and pedagogues realized that in the process of performance there occurs certain muscle tension, without which no action can take place. They understood that absolute control of one’s actions in the process of playing an instrument, singing or conducting presupposes correct and precise *sequence of tensions and relaxations*. That is why the search of musical sound was associated by them with looking for certain muscle tone, muscle perception in movement. It was the method of activation of muscle tone that the famous piano player and pedagogue A. A. Shmidt-Shklovskaya for prevention and treatment of professional diseases of piano players. As different from pedagogues who began treatment of professional diseases with muscle relaxation, A. A. Shmidt-Shklovskaya almost always started with organization of the working tone and activation of the whole muscle system. She advised her students to do physical exercises developing general body dexterity which should precede playing the instrument [17].

A progressive figure of the Hungarian music culture, Professor of the Liszt Musical Academy József Gát also noted that regular gymnastic exercises contribute to the development of piano playing technique. Properly selected exercises provide correct innervation of the most essential movements and guarantee harmony of muscle development. Regular gymnastics gives better and more stable results than just playing the instrument. Any exercise

facilitating harmonious development of muscles and making our movements lively and free is useful. It is necessary to avoid only those exercises which are based on overload of a group of muscles and may innervate tension and spasmodic state [6].

This position was shared by the conductor and *chorus master* S. Kazachkov who wrote that "...freedom of action should be interpreted as rational tension ... There is no absolute muscle freedom. Even an organ excluded from action and being at rest has muscle tone. In the process of performance, there appears certain muscle tension without which no action can take place... Absolute control of one's actions presupposes correct and precise sequence of tensions and relaxations creating a flow of freely streaming energy in our muscles [7]. The principle of muscle freedom was similarly interpreted by a symphony conductor I. Musin. He used special exercises to treat various defects at the initial stage of training conductors. And while doing so he did not aim at muscle relaxation, but tried to make students avoid spasms, rigidity, clumsiness and poor coordination of movements [10].

The work of vocal muscles and the nervous system of larynx differs radically from that of other muscles and nerves of the body. The question of their freedom has been studied for many a century and still attracts vocal pedagogues. Some techniques of preventing muscle fatigue of a singer were suggested by Oskar Gutman as early as in the late 19th century [4]. They include gymnastic exercises for

the tongue, lower jaw, soft palate, lips and breathing.

At about the same time, the method of restoration and treatment of singing voice by Leo Kofler was very popular in the USA. While being a singer at one of the German theaters he fell ill with TB and lost his voice. Having studied a huge number of works in physiology and medicine, and the system of yoga into the bargain, Kofler worked out his own method of treatment of voice disorders with help of breathing gymnastics. His "school of breathing" was based on speech and singing exercises and exercises accompanied by movements. His method was used and propagated in Russia by one of his students Ol'ga Lobanova.

At present, we successfully use exercises worked out by Professor of the Urals Mussorgsky State Conservatoire, author of a number of teaching aids, Eduard Mikhaylovich Chareli. His recommendations are used for work with the voices of both children and grown up people in order to treat sound defects; and they are quite effective for treatment and prevention of voice disorders.

We believe that many of the above mentioned systems and kinds of exercises for development of motor skills may be used in the work with students provided they are adapted to a certain age group and music experience of the students. Thus, the problem of psychomotor development should be in the focus of attention of all teachers who train future musicians (instrument players, conductors, singers, etc.). Relaxation, self-

regulation and self-control, use of various exercises and correct usage and distribution of muscle tension in performing are the necessary conditions of successful realization of creative tasks by young musicians.

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