
Bibliography

- [1] Myers, G., The Art of Software Testing, Wiley, 1979.
- [2] Métrica 3. Ministerio de Administraciones Públicas. <http://www.map.es/csi>
- [3] Eugenia Díaz, Raquel Blanco, Javier Tuya. Comparación de técnicas metaheurísticas para la generación automática de casos de prueba que obtengan una cobertura software. ADIS 2002
- [4] Ntafos, S., On random and partition testing, Intl. Symp. On Software Testing and Analysis, 1998
- [5] DeMillo, R.A., Offutt, A.J., Constraint-based automatic test data generation, IEEE Transactions on Software Engineering, 17(9).1991.
- [6] Korel, B., Automated software test data generation, IEEE Transactions on Software Engineering, 16(8), 1990
- [7] Rice R.W. "Surviving the top 10 challenges of software test automation." CrossTalk: The Journal of Defense Software Engineering (Mayo): 26-29. (2002).
- [8] Dr. Macario Polo Usaola. Curso de doctorado sobre Proceso software y gestión del conocimiento. Pruebas del Software. Departamento de Tecnologías y Sistemas de Información. Febrero 2006.
- [9] <http://www.junit.org/>
- [10] Pedro Jesús Vázquez Escudero, María N. Moreno García, Francisco J. García Peñalvo. Verificación con XML. Departamento de Informática y Automática. Universidad de Salamanca. Noviembre 2001.
- [11] Flex, version 2.5. A fase Scanner Generator. Editor 2.5, march 1995. Ver Paxson.

Authors' Information

Rubén Álvarez González – BSC in Computer Science; Spain. e-mail: ruben.alvarez.gonzalez@gmail.com

Antonio Ortega Manchón – BSC in Computer Science; Spain. e-mail: antonio.ortega.manchon@gmail.com

SPECIAL FEATURES OF MUSICAL EDUCATION IN DISTANT LEARNING (TRAINING OF INTONATION THINKING)

Larissa Kuzemina

Abstract: The problem of using modern technologies in distant learning of intonation thinking is described in this article. An importance of intonation learning for musician students and the possibilities, provided by World Wide Web and multimedia technologies are the main point of this article.

Keywords: Intonation thinking, distant learning, fortepiano learning

Urgency and the formulation of the problem

Nowadays, in musical education the vital problem of learning musician students is intonation thinking. New possibilities opened due to rapid development of students' self-study and methods of distant learning, which differ from traditional ones with great possibilities of applying multimedia and Internet technologies.

In the process of learning students a fortepiano, technical equipment, as a rule, is used in traditional forms (audio and video recording). Different records of music with subsequent analysis depending on the concrete theme or individual lecture are used. During process of distant learning of teacher and student's with sound, techniques and polyphony fragments of video records are used. Listening and comparative analysis of best performers are used to show to a students particular features of musical composition intonation sounding. The educational methods sound-recording benefits adapt for training of students for the seminar studies. For the purpose of more complete disclosure of training intonation thinking the records of the concerts of the outstanding performers are used.

For the most qualitative training of intonation thinking it is proposed to widely use contemporary resources of distant learning:

- obtaining by the students information about the problem of intonation thinking in the interactive regime with the aid of the multimedia teaching;

- obtaining additional information on this problem from the Internet (musical and note libraries, musical anthologies, article, training publications);
- the possibility of self-verification (test tasks);
- the possibility of consultations with the instructor online;
- tracking training materials by note and audio samples;
- the forums (seminars), organized on the assigned themes.

Since the intonation thinking is the most important direction of professional training of musician, let us examine, first of all, however, what is included in this concept and what possibilities of distant learning can be used in the solution of this problem. "Think about intonation - means to hear life in the sounds through the generalized intonation of lyric hero, to feel his soul, to look at the world by his eyes" (V. Medushevskiy). Out of the emotions the music expresses nothing, through them - all! Emotional and psychological attitude of composer, performer, teacher, student, student, their aesthetical, ideological positions are transferred by means of and with the aid of the intonations: speech, motion, respiration, etc. This is why close attention to a question of training and self-education of intonation thinking is necessary.

What methods of operations in this direction are known?

1. First of all, it is necessary to have at least general ideas about the intonation, theories of intonation thinking and their authors.
2. It is necessary to manage information about the introduction to this theory into the practice of musical formation, into musical pedagogy and performance.
3. Knowledge of principles of intonation thinking theory, qualitative sides of intonation and development of these concepts in the historical aspect is required.
4. In the self-work the preferred system of sensory orientation, on the basis of the specific features of thinking and perception must be selected.
5. Modern information technologies in the work on musical material with the use of multimedia teaching aids for the independent instruction and the self-control

Let us examine consecutively each of the enumerated methods.

Musical intonation, intonation thinking, culture of intonation - these concepts play the predominating role in the creation and performance pedagogy. By their introduction into the musical science and the practice we are obliged to the outstanding musician - the researcher B.L. Yavorskiy (1877-1942).

Even at the end of the XIX century B.L. Yavorskiy established the connection between the sonic side of verbal speech and the expressiveness in the music. Studies led scientist to the development of the concept of intonation. Specifically, intonation, i.e., the sonic side of verbal speech, is the basic decisive factor of its expressiveness.

The intonation of human speech marked the beginning of development of the science about the music - the theory of the musical thinking of Yavorskiy.

To questions of the expressiveness of intonation it dedicated the article "text and music", fragment from which is cited:

"When we hear conversation in the incomprehensible for us language, we, without being in the state to determine the object of conversation, very frequently guess mood, sense of conversation itself; when we hear after the wall or generally hereabout the sounds of human voice, we, without investigating words, always error-free determine - conversation whether this, story or reading aloud."

In the second case the rumour is guided by presence or absence the characteristic for the living speech intonations of increase and reduction, strengthening and weakening, quickening and tension, connection and separation, pause and stoppage. In the first case - on the relationship of the same modifications the rumour determines the mood or the overall meaning of conversation.

Performance of one and the same dramatic work by different artists produces different impression from one utterance alone of the words of this work, independently of the extrinsic ethos of executors and their mimic and plastic game. Yes even the separate persons possess the ability to repeatedly pronounce one and the same word, each time, giving to it another sound.

And further B.L. Yavorskiy makes the conclusion that the sense of speech give the intonation of human voice, they determine the content of our speech; specifically, by intonations we, in the limits of our skill and our

resourcefulness, mentally allot that read by us. In the living human word its essential attribute is not glasnost and concordance, but sounding, which transfers the intention spelled by us words; word itself, which consists of the combination of open and the consonants, only fixes this expressiveness with respect to the specific object, to the definite phenomenon. The selection of open and consonants, their relationship can emphasize only the concrete sense of word itself and simultaneously it can give grateful material for the expressiveness of intonation itself.

B.L. Yavorskiy indicates that, after imprinting in the phonograph human speech and after destroying in the record concordance and glasnost, leaving only one sounding, we in this phonograph will reveal the record of some intonations, the melody of human speech - musical composition. Each speaking person during the speech becomes a composer, and a good dramatic artist differs himself from mediocre only in terms of the fact that he is the best composer plastic (since plastic is also speech, speech of nonverbal).

Without being creator the "literary" (from the word of "warrant" - letter) side of work, artist he is for this stage idea the creator of the intonation, musical side of this work, allotting word by sound, by time, by dynamics, timbre and by emotion, using in the majority of the cases only by insignificant author's indications.

If we listen ourselves to the interrogative and affirmative sounding of one word (for example, "At home?" and "home"; "is it prepared?" and "it is prepared"; "is it understandable?" and "it is understandable" and the like.) that it is possible to note that the intonation of a question derives rumor from the state of rest and stability and converts it to the state of instability, gravity. In the instability the direction of gravity is most essential, while the stability of any direction does not have any. The answer in such a case will only satisfy rumor, if it restores broken auditory stability and carry rumor in the required direction.

Briefly, the intonations of a question, complaint, request, conversion, irritation, anger - are unstable. The intonations of answer, order, story - are steady. B.L. Yavorskiy emphasizes that independent stability there does not exist. There is only a completely definitely gravitating towards instability, nevertheless remaining relations are indifferent, i.e., they can produce one or other impression or another depending on that to the rumor, from what they are sonic they consist - steady or unstable.

It is possible to make the following conclusions:

1. about the presence in speech it is sonic different functions - unstable, that gravitate towards in the determinate direction to the permission, and steady, relatively their solving (in the subsequent period B.L. Yavorskiy it connected the concept of instability - stability with the general psychological law of excitation - braking).
2. about connection of two it is sonic different functions between themselves, which in gravity conditions forms the double parted intonation of speech. Functional difference it is sonic between themselves easily it obtained by all people, which possess normal rumor. For this it is necessary under the conditions for the simplest auditory tuning to only carry out by voice or on the tool the unfinished construction: listener will immediately reveal this incompleteness, and itself will solve unstable sound with voice, or it will ask to solve it on the tool. Hence it follows that the sensation of instability it is sonic there is an organic property of human rumor. It is basic agent in the organization of musical thinking.

Briefly, the intonations of a question, complaint, request, irritation, anger - are unstable. The intonations of answer, order, and story - are steady.

B.L. Yavorskiy emphasizes that independent stability there does not exist. There is only a completely definitely gravitating towards instability, nevertheless remaining relations are indifferent, i.e., they can produce one or other impression or another depending on that to the rumor, from what they are sonic they consist - steady or unstable.

It is possible to make the following conclusions:

1. about the presence in speech it is sonic different functions - unstable, that gravitate towards in the determinate direction to the permission, and steady, relatively their solving (in the subsequent period B.L. Yavorskiy it connected the concept of instability - stability with the general psychological law of excitation - braking).
2. about connection of two it is sonic different functions between themselves, which in gravity conditions forms the two-part intonation of speech. Functional difference it is sonic between them easily is heard by all people, which possess normal rumor. For this it is necessary under the conditions for the simplest auditory tuning to only carry out by voice or on the tool the unfinished construction: listener will immediately reveal this incompleteness, and itself will solve unstable sound with voice, or it will ask to solve it on the tool.

Hence it follows that the sensation of instability it is sonic there is an organic property of human rumor. It is basic agent in the organization of musical thinking.

To the concept of "intonation" scientist in the different periods gives these definitions:

1. Intonation is the smallest sonic form in time; these are the motion of unstable sound to the side of gravity, into its resolving steady, and also - destabilization by sound unstable, to the side reverse to gravity. Intonations can be steady and unstable.
2. By intonation should be understood all possible cases of smallest sonic part, which can reproduce human sonic organ with the concrete internal auditory tuning. Indication of sonic construction signifies by itself not variation, but relationship it is sonic when energy of overcoming gravity force is present.

Thus, sound is received in two ways: as phenomenon is physical and intonation- expressive.

Auditory regularities, instability and role of intonation predetermined the historical study of sound in two directions: acoustic and "living" sound as material of music. In one of the letters B.L. Yavorskiy notes: "musical skill could arise only if was organized the mental labor of man, when appeared its process, i.e., musical speech. To the known stage of their development the sounds, used by human, are subordinated to acoustic laws, but, as soon as sounds they reach the stage of public expression, i.e., they become musical feature, acoustic laws cannot envelop the complexity of new phenomenon, and they become secondary; however, the main things are the laws, brought out from the the public of process"[2].

A quantity of number of fluctuations it is sonic not there is a basis of music. The dead overtones of linear- straight body existed as physical phenomenon, also, before the appearance of man on the earth. Sounds, as the phenomena of acoustics, cannot become the material of musical creation and science about the music. Realization it is sonic acoustic in contrast to it is sonic "living", that are been the material of music, it is extremely important both for understanding of the theory of musical thinking and for the orienting in the contemporary pedagogical practice and performance. The rumor of the musician OF B.L. Yavorskiy constructed on the basis of intonation thinking. Arpeggio is the phenomenon second, formed from the music functionality, by means of the arrangement it is sonic by way of height. If we in the exercises, intended for the development of musical rumor, and in the training repertoire (especially for the children) proceed from this "second-rateness", from the composition moment, then rumor is dulled. Mechanical displaces from it creative beginning. The result of training the rumor on the faceless arpeggios is most lamentable for any of the sides of the musical process: for the listener, the executor, especially for the composer. Since, if it by the force of the innate endowment does not overcome the habits, inculcated to it, it will not be able to sensitively recover the special features of reflection of the historical present. B.L. Yavorskiy wrote: "artistic work reflects the diagram of public process. Progressive-minded composers those, which transfer by the foremost of process, rest reflected different stages of the decomposed already public processes. Abstract "inspiration", which creates infinite beauty, does not exist.

In the process of investigating the strained working traffic of men its working respiration for its best organization wires for sound. This sonification is achieved by the introduction of resistance in the path of exhaled air.

Sonic speech arose as the passage of organized by physical working forces - motions respiratory- muscular, strained working traffic - in the sonic relationships - intonation, in the reverberating relationships of respiration.

Working sonic relationships, transmitted into the sonic reflexes, became the basis of the sonic motions, which organize (but not organized) contact with the working way of life, with the working behavior. As examples we can serve the working songs "Dubinushka", "31 years before", songs with the forging into two hammers, with the threshing dances, marches.

So B.L. Yavorskiy based the appearance of "living" sound, which in its development became the material of musical skill.

The history of the centuries-old sonic practice of musical art testifies that this sonic scale constantly advances depending on development both sonic scientific mind and musical- artistic practice technique. This evolution of the sonic scale attempts to reveal ever larger possibilities of the external sonic manifestations of the processes of internal sound thinking and internal rumor.

Although the discoveries of B.L. Yavorskiy were made at the end of XIX - the first of fourth of XX century, they did not lose urgency and practical expediency at present. B.L. Yavoskiy succeeded:

1. to investigate intonation in the historico-semantic aspect.
2. to reveal the interrelation of vocal and musical intonations (vocal and instrument) and to determine five qualitative aspects of word- intonation (sonic, temporary, dynamic, timbre, emotional).

3. to determine to the very concept of the intonation: "intonation is the smallest (by construction) sonic form in the time, this is speech itself and at the same time its sense, its expressiveness, its character.
4. to develop principles of intonation thinking theory (theory of musical thinking).

In the work of B.V. Asaf'ev we find continuation and development of ideas and positions of B.L. Yavorski connected with the intonation. In the work "Glinka" such properties of the intonation are stated:

1. intonation - "... the form of contact and transfer of feeling and musical laws governing the human speech and talk", i.e., the means of communication.
2. intonation – is a transmission medium of the intention of author
3. intonation – is a characteristic of defined musical style
4. intonation - many-valued concept, which expresses the sonic embodiment of musical thought, which treats as the manifestation of the socially and historically determined human consciousness [5].

According to Asaf'ev the intonation does possess a whole series of the properties, whose complex does form intonation culture, namely:

- emotionalism (or emotional fullness);
- tension;
- pre-determineness;
- semantic overloading;
- intuitiveness.

In this case the intonation can come out as the characteristic of:

- musical direction;
- human communication;
- the experience of the aesthetical of enjoyment;
- the internal world of man;
- its self-realisation in the creation;
- the method of existence of work; t
- the embodiment of existence in the art

Thus, an intonation theory of B.L. Yavorski- B.V. Asaf'ev was fundamental achievement in music science from the positions of the materialist dialectics:

- intonation - carrier of the social content;
- intonation is caused by social-historical processes, culture, way of life;
- intonation possesses communicative- semantic properties, fulfilling today systematic function.

It is known that each person studies the surrounding peace with the aid of the sensory systems, acquiring the individual life experience, which determines his sensory orientation. In the process of remote instruction, independent work on musical material it is necessary to reveal preferences in the perception of the music: visual, audio or digital. The tests to the determination of the leading system of perception are developed for this. After revealing the preferable system of perception, it is possible to pass to the use of modern information technologies, namely:

- to the use of traditional printed publications in Internet;
- new systematic developments for this problem;
- the electronic musical libraries (reference), in which besides the musical material, is built the system of its perception (description – performers - sounding).

Bibliography

1. Yavorskiy B.L. Text and music // Muzika. 1914. №163, 166, 169.
2. Yavorskiy B.L. Dialectics. - the manuscript archive CGMMK of M.I. Glinka, f. 146,310.
3. Yavorskiy B.L. Community and skill. - the manuscript archive CGMMK of M.I. Glinka, f. 146,297.
4. Kuzemina L.A. About the performer intonation. - Systematic recommendations for the students regarding the pedagogical practice., Kharkiv 1990.

Author's Information

Kuzemina L.A. – Prof. of Kharkiv State University of Arts named by V.N. Kotlyarevsky, Ukraine, Special fortepiano chair, kuzy@kture.kharkov.ua