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## Tuvan Music and the Twentieth Century

**Valentina Yu. Suzukei\***

*Tuva State University*

*36 Lenin st, Kyzyl, Republic Tyva, 667000 Russia<sup>1</sup>*

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*The twentieth century was the first in the entire centuries-long history of the Tuvans to bring about a revolutionary transformation of musical life. This transformation occurred both as a result of the change from a nomadic way of life to a sedentary one, and as a result of the introduction of new musical forms and ideas. This social transformation had both positive and, to a negative results. In this article are considered some base parameters of the tuvan music culture, which, in spite of social and political transformations, save own specific configuration stability that itself is new and topical.*

*Keywords: Tuva, the music culture of Tuvans, the traditional musical instruments, khoomei (throat singing), the drone-overtone music.*

Throughout the course of the 20<sup>th</sup> century, Tuvan musical culture has functioned in three different state, political, and socio-cultural contexts, outliving two great shocks over this short period of time. In the early 20<sup>th</sup> century, traditional Tuvan musical culture as a specific form of reflection of the mode of life, economic activities, material and spiritual culture, history, and people's worldview was an original aesthetic phenomenon preserved in its primordial form. It represented a complex sound-world which corresponded to a specific ethnic sound-ideal.

The 20<sup>th</sup> century entered the course of history with its worldwide revolutionary changes and, for the first time in the many centuries of the history of the Tuvan people, it brought about fundamental changes. After 1917, Tuvans, like many other peoples, were involved in a revolutionary movement responsible for fundamental changes in their lives. 1921 saw the

establishment of the Tuvan People's Republic (TPR), the second socialist state after the USSR. In 1944, Tuva entered the Soviet Union initially as an autonomous oblast. From 1961 to 1991, the republic was the Tuvan Autonomous Soviet Socialist Republic. In 1991, after the collapse of the Soviet Union, Tuva as a rightful subject of the Russian Federation came to be called the «Republic of Tyva».

At present, against the background of the events of the 1990s, which also caused fundamental reconstruction of socio-economic and cultural systems of the entire post-soviet space, rethinking the achievements and losses which occurred in the cultures of the ethnic republics of the former USSR is vital. Interest has arisen in the contribution of ethnic cultures both to the development of world civilization and to the intellectual culture of the world as a whole. It is reasonable to conclude that in the context of

\* Corresponding author E-mail address: aldyn@mail.ru

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the social transformations of the 20<sup>th</sup> century, the value system of the traditional musical culture of Tuvans has changed as well.

In this article, I consider some basic parameters of Tuvan musical culture which, despite these social and political transformations, *preserves a peculiar rigidity of configuration*, a topic which has not been raised by anyone to the present day. The significance of this theme is dictated as well by the existing *conceptual contradictions* between musical performance in practice and the development of the scientific study of music. The foundations of these contradictions were laid by the *cultural politics* of the Soviet state which attempted to unify the cultures within its territory *exclusively on the basis of a European model of musical art development*. For this reason the entire educational system in the domain of culture and art within the Soviet Union was oriented solely toward the note-training of musicians. This educational system was based on theory, practice, and cultural politics—three components, which by their very nature must be interrelated. In actuality, however, they turned out to be not consistent with traditional cultures.

Present-day elderly people in Tuva, as witnesses of the revolutionary events of the beginning of the 20<sup>th</sup> century, absorbed the ideals of the epoch of construction of socialism from childhood. As such, the influence of the bearers of the traditional *oral-auditory* culture is weakening. Moreover, there is a noticeable increase of graduates of music schools, colleges, conservatories, universities, and academies of culture and arts *not* raised with traditional values. This increasing number of professionals actively adopts European musical terminology and introduces criteria of assessment external to Tuvan traditional musical practice. This occurs in a context where there is already a sufficient number of serious scientific works on traditional Tuvan musical culture written by Russian, Tuvan,

and foreign scholars (Aksenov, 1964; Kyrgys, 1992, 2002a; Dmitriev et al., 1992; Kazantseva, 2002, 2003a; Suzukei, 1989, 2007a; Gunji, 1992; Bloothoof, 1992; Tongeren, 2002; Levin et al., 2006 and others). Nevertheless, the results of such scientific investigations have not found their way into the educational system for the development of educational programs, methodological and pedagogical aids in the process of training folk musicians. The above-listed circumstances frame the main goal of this article – to explain the reasons for the existing contradictions between theory and practice which in the long run threaten to lead to the loss of inner features inherent in Tuvan music.

It is undeniable that no world culture exists in isolation, and it is beyond question that clash and interaction of cultures in the context of globalization processes are inevitable. New trends in the development of regional studies, partially stemming from the general direction of and advances in social sciences as a whole, are also the result of worldwide progress toward free practice and further development of various aspects of ethnic culture consistent with the needs of its members. The problem of preservation and development of culture is a vitally important task for the many numerically small peoples of the Russian Federation. Guided by the Constitution (Main Law) of the Russian Federation, Federal Agreement, and the norms of international law, on October 9, 1992 the Supreme Soviet of the Russian Federation adopted the Law of the RF «The Basics of Legislation of the Russian Federation about Culture» in which it is emphasized that the main goal of the state is to ensure preservation of the diversity of the values accumulated by previous generations in the united cultures of Russia. Regional scientific investigations in the field of ethnic cultures of the peoples of Russia are carried out on the basis of this legislation.

As an object of scientific research and practical development, Tuvan traditional musical culture represents a unique phenomenon in the Sayan-Altai Region. In its richness, originality, and diversity, it distinguishes the Tuvans even among related Turkic-speaking peoples. «Vast Turkic regions of the world including Turkic-speaking republics of Russia are at the stage of modernization transformations and oriented to initiation into the structure and values of ‘modernistic civilization’. Today, the questions concerning the role of Turkic-speaking peoples in the development of world civilization and their contribution in the depository of world’s learning ‘scientific money-box’ become more topical» (Ulakov, 2004).

The trends of globalization and worldwide cultural interaction render the interest in cultural *distinctness* topical and significant. Of special interest is the Tuvan culture which is far from relinquishing its unique status to mass culture. In the history of mankind there are many examples of the disappearance of cultures (as well as the «dying» of languages) *absorbed* by larger cultures. In the case of Tuvan musical culture, however, one can observe the directly opposite effect. It attracts widespread attention thus gaining worldwide recognition, and it begins to have a significant influence upon the world music community. Only as part of an integrated system could the traditional culture of Tuva absorb new trends of the 20<sup>th</sup> century.

However, in present-day conditions the problem of training performers of traditional music is becoming acute. This problem is closely connected to the attempt of modernizing traditional instruments undertaken in the period of the «professionalization» of folk music. The standards of European musical thinking which had to be introduced to Tuvan culture were so different from the traditional ones that this distinction amounted to a new musical language

which had to be learned not only by the musical workers but also by great masses of the population. It is precisely this difference which necessitated the remaking of traditional instruments. This difference was most conspicuous in the sphere of instrumental music.

Beginning in the 1940’s, both the scientific investigation of traditional Tuvan music and its practical development involved some difficulties. The reason for these difficulties is that the specificity of ergologic, morphologic, and phonic characteristics of Tuvan folk instruments is determined by a peculiar system of *drone-overtone* sound interrelationship behind which is a specific logic of sound thinking. Until now, this system seems to be beyond the scope of theoretical musicology and for this reason remains an unknown phenomenon for the science. However, the *drone-overtone* organization of sound material of traditional instrumental music of Tuvans is an outward manifestation of an extant musical system having a specific logic of internal organisation.

Since the term «drone» is widely used in musicology, there are many who overlook the difference between the terms *drone-overtone* and *drone-nonoveritone*. *Drone-nonoveritone* music-making can be found in other cultures (for example, European organ or piano music, Scottish bagpipe, or Georgian male choir in which the drone is also widely used). Nevertheless, in all of the above cases the melody is based upon **nonoveritone** sounds having their own source independent from the drone, whereas the overtones in Tuvan instrumental music are produced from the same source of sound. As such, **overtone** melody cannot exist without drone (otherwise, it would have to develop new properties, i.e. to turn into *non-overtone* melody for production of which an independent source separate from the drone will be necessary) making it an essential feature of traditional Tuvan music.

Internal laws of the formation and development of sound interrelations in this system are *in no way correlated* with the equal-tempered system found in the basis of European music. Describing European instruments (or those fitted to them) and working out their methodological and pedagogical aids present no special problems as they are rooted in well-studied and established rules of European music theory. Nevertheless, the problems which occurred in the process of the practical development of traditional Tuvan instruments with the aim to create an orchestra (one example is the «Andreevsky» orchestra) were mainly connected with the attempt to apply the same criteria of assessment and to use the same concepts reserved for European instruments to Tuvan instruments. To examine the problem of terminological incompatibility more closely, it is first necessary to define in which specific sound (musical-acoustic) systems the European and Tuvan folk instruments function and what the fundamental difference between these systems is.

It is well known that the specificity of particular characteristics of instruments functioning in the limits of one or another system is dictated primarily by typical features of structural organization of the musical-acoustic systems themselves. As mentioned above, the fundamental property of Tuvan **instrumental** music is its clearly defined *drone-overtone* organization (Suzukei, 1993). Music based on drone-overtone sound relations is inherent in Tuvan folk instruments, representing a properly Turkic layer in the musical heritage of Tuvans, such as *igil* (two-stringed bowed instrument), *khomus* (jew's harp), *shoor* (end-blown flute), *doshpuluur* (two-stringed plucked instrument), *chadagan* (many-stringed zither) and *khoomei* (throat singing). It is appropriate at this point to specify that Tuvan **vocal** music does not function in the system of drone-overtone sound

relations whereas *khoomei* does. Such a sound organization is unique to Tuvan instrumental music and *khoomei*.

Thus, *khoomei* functions in *the same* system of sound coordinates as musical instruments. An incontestable indicator of their accord is *drone-overtone* structure of sound organization. That is why the determination of this kind of art as «singing» is highly debatable. One can agree with such a term as «throat singing» solely by force of habit and because of its wide use. The difference between the sounds of *khoomei* and standard vocal performance lies in the fact that it is performed with different human organs and as does not fit within the framework of ideas connected with the standard notion 'singing'. In this context, we view *khoomei* more as an instrumental art or as an 'art of making music with throat' which defines its character more precisely. In traditional culture there is a highly developed system of naming its various styles while the generic name for it is lacking (and in tradition, as a rule, nothing is accidental). The lack of a generic name for this phenomenon points to the fact that each of its styles (*sygyt*, *khoomei*, *kargyraa*, *borbangnadyr*) is represented culturally as the sounding of an instrument which occupies a specific register in sound space.

As far back as the beginning of the last century, well-known investigator of the musical folklore of Turkic-speaking peoples of Sayan-Altai Region A.V. Anokhin noted that there is a peculiar concept unknown for the sciences behind the unusual sound schemes of *khoomei*: «Guttural singing of the Tuvans stands *beyond all the established theories* and seems to represent a singular phenomenon in the field of vocal art (Anokhin, 1914). The fact that the Tuvans themselves consider *khoomei* and *khomus* playing as closely related was clearly noted by A.N. Anokhin: «It is not coincidental that the Tuvans bring together the art of guttural

singing and the art of *khomus* playing. Both of these kinds of Tuvan musical art are based on the similar technique of the production of melodic sounds. They differ solely in the technique of the production of drone» (Aksenov, 1964).

Even though Tuvan music has a peculiar type of sound organization based on a steady coordination and subordination of the fundamental (drone) and its partials (overtones), this has consistently been neglected by academics as being the *constant* basis of sound structure of Tuvan music. Just the same, the interrelation and interdependence between the drone and overtone melody in traditional instrumental music of Tuva is a regularity *manifested within the limits of a system* and has an immanent character which is preconditioned by the nature of sound itself. The foundation for drone-overtone structure is a *natural system of sound relations*. In this case I intentionally do not use well-known collocation ‘natural tone row’. Drone-overtone music-making in no way correlates with ‘row-organized’ or ‘linear’ thinking. Accordingly, both the term ‘**tone row**’ and the term ‘**pitch**’ can not be automatically used in relation to properties of Tuvan instruments. This represents one of the main distinctions of the specificity of Tuvan thought, also being one of the most difficult to catch.

«Once one uses the terms of European musical theory even with reverse in relation to the *music conceivable beyond the harmony* (stable tone, tonic, measure) there begins the *thesaurus effect* of the term, behind which is a centuries-old experience of perception of these notions, and you hear tensions, strong beat and backbeat, breath marks, etc. where they are not there and they cannot be there because of a different nature of differently-organized musical phenomena» (Matsievsky, 2003). A similar problem holds when we use the terms *pitch* and *tone row*. Once employed, the entire body of knowledge about

the equally-tempered system is automatically activated and the particular qualities of traditional instruments not oriented to pitch scale sounds get ignored. The logic of the sound thinking of Tuvans, initially oriented to drone-overtone intonations, is not coordinated with independent row-organized pitch scale sounds but it is manifest in definite, predetermined parameters of traditional instruments materialized in a *timbral* richness and a wide range of overtones. In the drone-overtone system of sound organization the performers produce a *complex of overtones*, which under specific conditions of drone ‘splitting’ become audible, rather than consisting of discrete sounds. The difference of the technique of sound production in these two (European and overtone) systems can be illustrated in the following way. If we imagine that sound is a small ball that appears in space and reaches our ears, the sound production in the European system can be illustrated in the following way (Fig. 1)

Moreover, in the European system one has to produce a new sound each time from a different source in order to create melody. However, in the drone-overtone system, performers first split the drone into partials and then make music with overtones freed from the drone (Fig. 2).

Drone and overtones *are not reproduced* each time to create melody. The availability of the *drone* and a *complex of free overtones* represent a *constant flow* of sound characteristic of Tuvan musical instruments. Melodic alternation of overtones occurs against the background of uninterrupted and constantly-sounding drone. It is reasonable to assume that once the drone is removed, the overtones will disappear. This is an important point which will be discussed in greater length below.

In order to characterize the European sound system, we shall refer to Genrikh Orlov as he denotes the main features typical of this system: «A large number of western musical styles,



Fig. 1

theories and performance schools are based upon the idea of tone. Musical tone is a ‘pure sound’ having a definite stable pitch and a definite color. Such an object is easily identifiable and usable. As an element of a structure, it is similar to a point on a coordinate grid. The tones cannot be anywhere: acceptable for them is nothing but definitely located points of pitch scale. The purity of these points of pitch scale is strictly observed: any perceptible deviation from them is judged to be ‘mud’, bad pitch or false intonation» (Orlov, 2005).

So, the theoretical foundation of European music is based on pitch relations of sounds of twelve-tone equal temperament (with diversity of tones expressed through tone rows) which function within the confines of a homophonic-harmonic hierarchy. At this point, it should be recalled that the equally tempered system is a musical-acoustic system in which the tone-pitch interrelation (frequency) is expressed in concrete mathematical expressions. These mathematical expressions were realized as the result of a reform carried out by German organist and music theorist Andreas Werckmeister. After this, the perfect fifth *was closed* and therefore an equal-tempered scale was developed. Finally, enharmonic equality of sounds, which was lacking in all well-tempered scales created before, surfaced. Accordingly, the ‘fifth’ in drone-overtone system and the ‘fifth’ in the equally tempered system are already two different entities.

European musical instruments must be made in accordance with strict requirements in relation

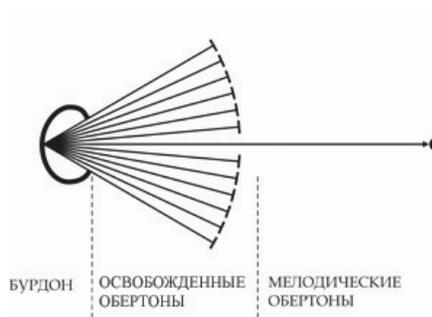


Fig. 2

to such parameters as *size, range, pitch, tone row*, etc. which have *constant* properties depending on the specific instrument. These requirements are dictated by the above-mentioned fact that the sound relations are based on strict mathematical expressions. A thorough examination of these terms as applied to Tuvan musical instruments allows one to see more specifically how Tuvan and European instrumental music differ.

**Size.** Such an indicator as the *size* of the instrument is one of the most precise and stable parameters characteristic of European instruments. The requirement of *accuracy in size* is dictated by the need for preservation of tone row purity. The reason for such rigidity is that many other technical points are tightly correlated with the *size* of the instrument. For example, a) calculation of the thickness and length of the strings so that the strings will withstand the tension, b) calculation of the distance between the frets (for plucked musical instruments) so that the strings will produce true notes in different octaves, c) calculation of mensura, length of the fingerboard, thickness of the sounding board, relation of the parts of the body and so on.

As already mentioned, traditional instruments function in Tuvan culture in the context of the drone-overtone sound system in which the *size* of the instruments is *not of basic importance* as the size of the instrument is not connected with mathematically definite pitch characteristics of the emitted sounds.

The music-making is oriented to the *sounds themselves* which on their own cannot be false. Because of this, wide variation in size is typical of traditional instruments. I mention in passing that despite the variations in size, the tradition carries no notions similar to register varieties of instruments like *prima, alto, tenor, bass, and contrabass*. For example, the overall length of two-stringed bowed instrument *igil* may be both 70 cm and 108 cm. These are extreme figures. As it happens, such a great difference (38 cm! – a dramatic difference for European instruments) does not change the character of the instrument's functions or the sphere of its genre use. Such variations in size will understandably introduce difficulties in defining the concrete limits of the *pitch, range, tessitura, tone row* of the instrument in the commonly accepted meaning of these terms if we define them from the point of view of the equally-tempered system. Meanwhile, such a great difference in size does not discomfort the folk musicians themselves in the process of music-making.

When making a musical instrument, the folk instrument-maker measures the necessary size with his fingers in accordance with their length. This is why the *size* of a traditional instrument is *proportional* only to **the height** of a particular performer who, for the most part, makes it himself. From this point of view, traditional Tuvan instrument is quite ergonomic. We must be constantly aware of the exclusively *solo* nature of traditional Tuvan music. The need for unification of the sizes of the instruments arises solely for ensemble or orchestra performance in accordance with the logic of the requirements for orchestra functionality. What is also interesting is the fact that the Tuvans for the first time came across the notion of 'falsity' only in the process of the 'professionalization' of Tuvan folk music.

Before we discuss the professional music of Tuva, we should define the notion 'professional'

as long as there is confusion as to the use of this term. When we consider professional music, as a rule, one has in mind a level which corresponds exclusively to the level of the theoretical standards of European classical music. As this takes place, the professionalism of oral tradition, providing the highest level of performance artistry and the availability of unique musical-acoustic cultural system is not taken into consideration. The determination of a tradition as being 'oral' or a 'folk' does not suggest a complete absence of its own *conception* of the formation and development of musical system. The knowledge base of this system was passed on from generation to generation orally, and it is exclusively the problem of musicology but not of the tradition itself to cognize the specific logic and objective laws of the above system which was not materialized in written form.

As a rule, the notion 'professional musician' indicates musicians who have finished conservatory i.e. those who have a *diploma*. However, the notion 'professional musician' is appropriate in relation to a folk musician not because he earns money by musical activities or has a diploma but owing to his highest performance skills. Consequently, folk musicians also possess empirical knowledge about the logic and objective laws of the sound organization in the context of their tradition. It is another matter that, as a rule, this knowledge is not presented by them verbally in the form of broad theoretical generalizations but materialized practically through instrumental performance.

**Strings.** Someone once ironically said: «One stick and two strings – here's nice music!» But the one who said it does not seem to have realized that he modified the truism «All the great is simple!». The traditional Tuvan stringed instruments *igil* and *doshpuluur* do have *only* two strings. One begins to realize, however, that two strings are sufficient to make music in a drone-overtone system only as one gets deeper insight

into the inner logic and laws of its functioning. I remember during the first years of my fieldwork, I often asked Tuvan musicians questions connected with the unstopped drone-producing string: «What is the second open string for?», «Is it possible to use the second string to create the melody?». Such questions baffled them. They did not understand what I meant. At that time, however, it was I who did not understand that such questions were inappropriate to the uniqueness of traditional music-making.

It is now clear that my questions were posed from the perspective of the homophonic-harmonic system which, on a Tuvan traditional instrument if one had stopped the second string simultaneously with the first, would have been possible to create such intervals as second, third, fourth, fifth and so on. Then, it would have been better to have the third string which would make it possible to play triads, seventh chords and so on. The availability of the fourth string would have made it possible to play full accords and modulate to any key without dramatically going out of tune. Such an approach reflects the logic of accord thinking raised within the framework of twelve-note equal temperament. The same logic was applied to the modernization of Tuvan folk instruments in order to fit them into an orchestra.

At that time, one of my informants was well-known instrument-maker and performer Idamchap Khomushku (1917-1994). I asked him questions and tried to make him understand them «properly». One day on my visit with him, I showed him the *khomus* that he had offered me. The tongue of that *khomus* began to patter when it touched the edges. It usually did not take Idamchap a long time to repair such problems but in my case, the tongue of the instrument broke when he tried to repair it. He gave me another *khomus* and promised to make a new tongue for my instrument. Then he played various tunes and I, as usual, recorded his playing. Each time,

he was surprised that I recorded so many times. Moreover, in many cases he played the same melodies. Suddenly, he stopped playing as if he remembered something and, turning towards me, said: «Do you remember you asked why Tuvans all the time play with a buzzing string? Do you think it is possible to play any melody on a *khomus* with a broken tongue?» Lo and behold, I realized the role and importance of the drone in Tuvan music: without drone it is impossible to make music with *overtones*. They are not independent sound units. They are extracted only with the availability of the drone. On that memorable day, the first flashes of understanding about the paramount role of the *integrity* of the drone-overtone system began coming to me.

When Tuvans began to ‘modernize’ folk instruments, so-called ‘unsatisfactory’ characteristics such as *substandard size, imperfect performance technique vehicles, impossibility of performing European classical music with the help of these instruments*, which were not convenient for professional musicians began to emerge as concerns. One such ‘drawback’ was their *low volume*. To enhance their volume, horsehair strings were replaced with *metal* ones. This in turn created the need to add a fingerboard to the neck of the folk instrument so that it was possible to play by pressing the strings. The replacement of horse hair strings with metal ones also required the replacement of a *leather* soundboard with a wooden one because, in these changed conditions, a leather soundboard did not stand up to the tension of metal strings any longer. As such, the mode of play changed. One plays the traditional *igil* by lightly touching the strings (in Tuvan *suibap oinaar* – literally «to play by gliding») on the top, whereas in case of the four-stringed bowed instrument *byzaanchy*, the performer’s fingers are placed under the strings. These peculiarities of Tuvan instrumental performance technique will be discussed below.

Regarding the strings, we should note one more peculiarity. The melody in instrumental Tuvan music is shaped **only through overtones**. This raises the question: what is the reason of such a wide predisposition of Tuvan stringed instruments towards the production of overtones? One standard explanation from the literature notes: «The overtones are extracted at strictly specified sites of division of the strings into two, three, four, etc. parts to form an overtone row» (Musical Acoustics, 1954). This conclusion, however, is based solely on the acoustic parameters of a *metal* string which in cross-section has the shape of a regular circle while the cross-section of a *horsehair* of the *igil* and *byzaanchy* is a collection of micro-circles which allows for the production of overtones at *any* point of the string. Moreover, when being drawn across with a bow, a horsehair string does not maintain its regular circle shape at the bowing site or at the left hand finger touching site. In other words, when one plays the instrument, over its entire length, a horsehair string does not have the shape of a smooth and even circle in contrast to metal strings. As is known, *different sources deliver different acoustic sounds*. This is supported by the physico-acoustic research: «The character and frequency of the sound is preprogrammed by the physics of the sound source» (Tailor, 1976).

As we can see, the physical difference between a metal and horsehair string is considerable. It is obvious that the overtones obtained on metal and horsehair strings cannot have equivalent quantitative and qualitative characteristics. The complex of natural overtones of a horsehair string cannot agree with the natural overtone row of a metal string in sound density. It is difficult to imagine an overtone row without special acoustic investigations. However, it may be suggested that it is precisely the heterogeneity of the structure of a horsehair string (as a source of non-linear oscillations) which allows one to easily produce

the entire complex of overtones on it. Apparently, this quality explains the fact the folk instrument-makers who were empirically searching for ways to modernize instruments rejected metal strings and instead chose thin fishing line as a material for strings as a fishing line beam in cross-section is more similar to a horsehair beam. It should be understood that folk instrument-makers are not only guided by the durability of the strings but also by their instinctual feel of the equivalence of this material substitution.

Apropos, the difference between the technique of the production of overtones on metal and horsehair strings was pointed out by G.N. Omarova, studying the Kazakh *kobyz*: «The quality of a horsehair string, its different acoustic properties preconditioned the technique of overtone-production. In a beam of some horsehairs tuned to the same frequency...there appear conditions for different intensity of frequency generation by different horsehairs. For this reason the horsehairs can actually produce various overtones which are sometimes audible almost simultaneously» (Omarova, 1989). The specifics of overtone music-making are not limited only by physico-acoustic parameters of the sound source, as in our case – horsehair strings. The entire process of drone-overtone intonation is generated also by: 1) the interaction of vibrations with a thin and sensitive resonator made of leather, 2) the general view and shape of the instrument's body, 3) left-right hand coordination, 4) bow shape and bowing technique, etc. We must also keep in mind that when one plays the *igil*, both of its strings which have a different thickness sound only simultaneously, resulting in an increase of the overall volume of the overtone's sound.

**Tuning.** The tuning of the instruments in an orchestra, as is well-known, begins with the choirmaster producing A (440 Hz) with a tuning fork to which all the other instruments of the orchestra begin to tune. At first, the string

section tunes the A string. Then the bottom and top strings are stretched to be relative to this A string. In the case of solo performance on a stringed instrument, the accompanist plays A on the piano to which the instrument must be tuned. At first glance, it seems a truism which needs no mention. However, the above description was given in order to turn attention to the fact that in the case of European stringed instruments, at the beginning *one string is tuned* to reference pitch *la* and then the other strings must be tuned *in turn* to accommodate the first string.

Traditional Tuvan culture does not have such notions as *do, re, mi, fa, sol, la, si*. The naming of each note also appeals to the knowledge of a fixed position of a given sound relative other sounds on pitch-height equal temperament scale. The notion of *octave* is absent in traditional discourse as well. Folk performers have never used such terms nor have they imagined what they would mean as traditional Tuvan culture does not use such notions or their analogues. But, in *descriptions* of folk instruments, however, one can find mention of such-and such instruments having been tuned to, for example, *D-A* of small octave. I was always intrigued by one question: if tradition does not have the notion of a fixed pitch of tuning, for example A, then – how do folk musicians manage to tune their instruments to, for example, *D-A* of small octave? Generally, a musician is born from the point of *tuning* rather than from the point of performance of a piece of music. The way a folk musician tunes his instrument tells a good deal about him. It is the tuning of the instrument that is one of the specific factors in the instrumental music-making of Tuvans which was always disregarded.

After a long and close communication with old performers and instrument-makers in the course of my fieldwork, I came to understand that there was a considerable difference between my knowledge and their knowledge. Here is

a dramatic example. During my training as a folklorist, we were taught how to collect and document field materials, how to describe instruments (size, pitch, range, etc.), and how to record not only music produced by instruments, but also their *tuning*. Moreover, in the case of stringed instruments, it was necessary to record the tuning of each string individually.

In the village of Kyzyl-Dag of the Bai-Taiga District (Western Tuva), I met an old performer. His name was Salchak Shombul Ulaachy oglu (1913-1987). I recorded some instrumental tunes played by him and asked him to bow the open strings so that I could record the tuning of his *igil*. He drew the bow across the both of the *igil*'s strings *together*. I asked him to bow the open strings individually. He looked at me silently and again bowed them *together*. I asked him once more to bow one string and then the other. He looked at me surprisingly and said: «You wanted to record **the tuning** of the *igil*, didn't you? What is the point of recording one string? It is not a *tuning* without the second string, is it? You should tune two strings one to another. Isn't that so?» We stared at each other with surprise for a while. I felt he was getting angry with my slow-wittedness. Once more he drew his bow across the both strings together as if attentively cocking his ear to something. Then he shrugged his shoulders and put his *igil* aside. «Go drink some tea. I'm going out for a smoke», and with that, he got up and left. As I drank my tea, I thought with surprise: «What a stubborn old man! Is it that hard to bow the strings individually?» It was much later that I recalled this little episode and it came to me why we had not understood each other. Or more specifically, why I had not understood him: if I had simply asked him to bow one string and then the other without mention of the word 'tuning', the performer most likely would have done so. But as far as the question was about the **tuning** of the instrument, this notion had a special meaning

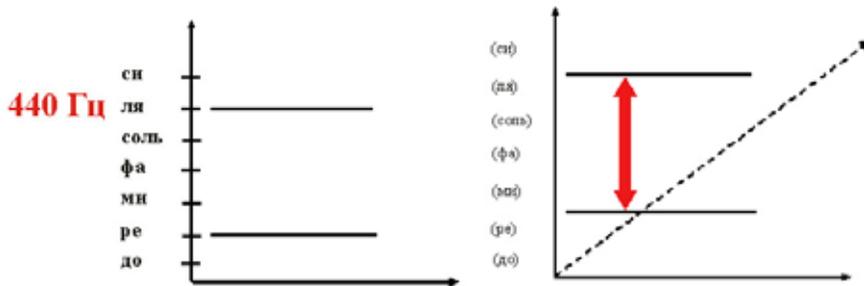


Fig. 3

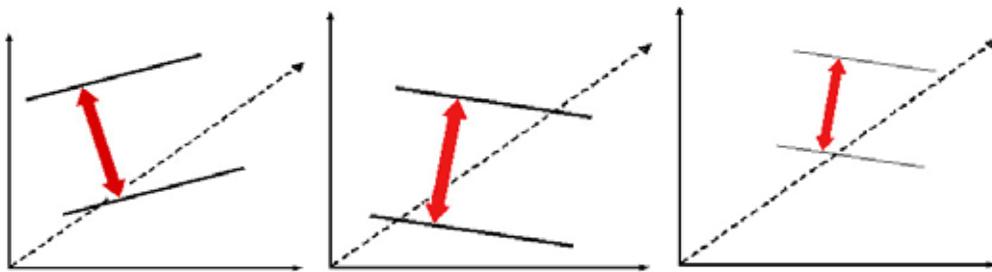


Fig. 4

for him and it was not just the sound of one open string. In traditional culture, the sound of one distinct open string has nothing to do with the notion of tuning of the instrument.

The Tuvan instrumental tradition does not have the notion of a *fixed pitch* of tuning (Suzukei, 2007). The two strings of the *igil* are tuned **only** relative one to another in order to achieve the perfect (natural) fifth within the boundaries of small octave. This fifth (sometimes the fourth or an octave) (interval, but not a pitch!) acts a *constant to which the ear of folk musicians is oriented*. The position of this fifth in the sonic space therefore can coincide such sounds of height scale as C-G or D-A. But this coincidence is purely accidental. In many instances this fifth will be somewhat lower or somewhat higher of the above heights. The quint itself will differ from Werckmeister *quint* of well-tempered system as already mentioned. The tuning of the two strings of the *igil* irrelatively one to another (i.e. first to tune one string and then the other) is meaningless as long as there is not a fixed pitch to which one

should tune one of the strings. Examples of tuning of different instruments can be shown in diagram form in the following way (Fig. 3)

The instrumental culture of Tuvans does not have a notion of pitch scale. The sounds are not thought as individual units organized in one height row. In drone-overtone thinking, sonic space is thought to be a volumetric-but not a two-dimensional-one. This is why the natural quint can be located freely – or more specifically, everywhere, as far as it is not related to anything – and, in so doing, it preserves *only* its quality of absolute consonance of the quint (Fig. 4).

Therefore, the statement that such-and-such a traditional Tuvan instrument is tuned to *A-E* or *G-D* will be in principle incorrect. The height level of an *igil* tuning as a whole is usually related only with a ‘zone of sounds’ (Garbuzov, 1948), located in small octave or at the boundary of small and the first octaves, depending on which tone the performer hears with his the aural comprehension. This tone is defined by the atmosphere and the mood of the

performer. That is why, according to performers themselves there are three levels typical for the *igil*'s tuning: *koshkak* (weak, i.e. low), *ortumak* (middle) and *danzyg* (strained, i.e. high). What is important for a folk performer while tuning the instrument is the sound of absolute consonance of the perfect fifth (sometimes the fourth or octave) in the boundary zone of the small and first octaves.

In addition to this, in the conditions of an absolute consonance of the perfect (natural) fifth, the partial tones of the first string merge into those of the second string in such a way that strings seem to be perceived as one being an extension of the other *rather than two individual strings* (the tongue of a *khomus* gradually narrowing to its end can be a visual illustration). **This unity** serves as a continuously-sounding (present) drone. This was one of the main reasons why the old performer refused to bow one string to show me the **tuning** of his instrument. The tuning of the instrument for a folk performer is a **unity** of the *complex* of overtones of both *horsehair* strings. For the same reason, when one plays the instrument, the strings *can be interchanged* with one another for drone-production.

Nevertheless, it should be noted that current transformations of traditional culture have already influenced instrumental practice. Young musicians tune their instruments according to equal temperament system. It can be easily explained. First, almost all of them graduate from Kyzyl music high school where they are taught to tune the instrument to accommodate the piano. Secondly, ensemble or orchestra forms of performance also require all instruments to be tuned to one fixed pitch.

One further result of incorrect introduction of European musical terminology in the period of 'professionalization' of traditional culture is that with time, folk instrument-makers and performers began saying things such as «The tonality of this

jew's harp is F-sharp». What strikes me is how certified (professional) musicians, in the most serious of airs will approvingly nod their heads and remain absolutely calm without responding to what was said. To my surprised look, they ask: «And what are you so surprised at?». When I say: «It would never enter your mind to say, for example, 'the tonality of a violin' or the 'tonality of a piano', right?» Only then, as though agreeing with me, they say something like: «Yes, sure» and nod their heads. One musician even remarked that «To correct a folk musician, you'll have to deliver him a whole lecture--and more than one-on elementary music theory! It's not possible to explain the quint circle, tonality system in a few words, is it?»

**Range.** The range of European instruments is defined by the extreme high and low sounds which are possible to produce on these instruments. There also exists the concept of general range and effective range for one concrete instrument. In relation to their register position, there exist groups of instruments which include such varieties as prima, alt, tenor, bass, and contrabass. As for the string instruments group, these are violin, alt, cello, and contrabass. Each of these instruments covers a succession of sounds that can be produced on an instrument within the limits of concrete octaves. It seems to be impossible to apply the concept of 'range' to traditional instruments. The term 'range' represents a specific quantity of 'row-organized' sounds of concrete pitch according to the equal temperament scale. In a drone-overtone system of sound relationship, music-making is developed at the expense of the inner resources of one fundamental tone (drone) which makes it possible to open sound space simultaneously embracing (covering) a large-sounding volume (Fig. 5).

One of the serious scientific works in the field of functional anatomy and physiological

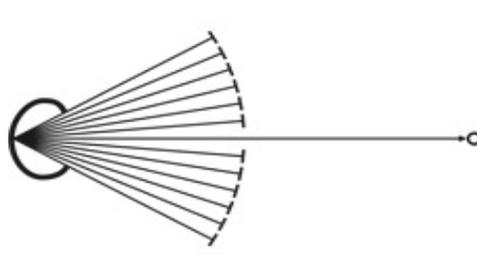


Fig. 5

acoustics is the work *The Mystery of Tuvan 'Duet' or Capacity of Human Larynx to Form the Mechanism of Aerodynamic Whistle* by L.B. Dmitriev, B.P. Chernov and V.T. Maslov. While studying Tuvan *khoomer* they discovered that human vocal apparatus can generate high-frequency sound with initial tone in the region of 2,000-4,000 Hz over 5 (and higher) octaves against the simultaneous emission of the basic sound (Dmitriev et al., 1992). The authors note that they also: «carried out an acoustic analysis of a complex acoustic process in human larynx – phonation through two obstacles, in which both high-frequency and low-frequency sounds are formed *simultaneously*» (Dmitriev et al., 1992).

The data supporting the fact that infralow partials are contained in the sounds of humans voice (Morozov et al., 1992) allow us to suppose that the frequency range of throat singing, for instance, also contain both ultrahigh (as in *sygyt* style) and infralow (as in *kargyraa* style) partials which give a pronounced relief and stereophonic dimension to the sound in all of

its styles. Consequently, it can be assumed that instrumental drone-overtone music, functioning in the same system of sound coordinates, simultaneously uses a large area of sonic space involving ultrahigh and infralow frequencies. Therefore, the term *range* as used in relation to European musical instruments is not applicable to Tuvan instruments.

Local, ethnically determined shifts in social development in particular regions as recorded by science can actually be indicators of the realization of significant occurrences and phenomena. Thus, for the ethnic regions of Russia, the globalization, consolidation, and integration of the sphere of humanities and social sciences must first in turn represent – as justly noted by M. Ulakov – *not a transformation of ethnically-specific knowledge for universal standardization and leveling of the methods and models of scientific research*, as it used to be under soviet power, – but, rather quite the reverse, – an advance and development in the scientific-informational environment of the analytical systems based on the uniqueness of the material under study.

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## **XX век и тувинская музыка**

**В.Ю. Сузукей**

*Тувинский государственный университет*

*667000 Россия, Республика Тыва, г. Кызыл, ул. Ленина, 36*

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*XX век с его революционными преобразованиями впервые за всю многовековую историю народа внес в его жизнь кардинальные изменения. были внесены существенные изменения, в традиционную музыкальную культуру тувинцев также имевшие как позитивные, так и негативные последствия. В статье рассматриваются некоторые базовые параметры тувинской музыкальной культуры, которые, несмотря на социальные и политические преобразования, сохраняют своеобразную конфигурационную устойчивость, что само по себе является новым и актуальным.*

*Ключевые слова: Тыва, музыкальная культура тувинцев, традиционные музыкальные инструменты, хоомей (горловое пение), бурдонно-обертонная музыка.*

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