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HARP AND BANDURA: MODIFICATION AND COMPARATIVE CHARACTERISTICS

The article represents the comparative characteristic of design features and technical capabilities of two plucked string instruments - harp and bandura. A brief history of the origin and development of these instruments is described. With the use of a table a comparative analysis of common and distinctive elements harp and bandura was done. The emphasis is on the practice of sound, the basic playing techniques and strokes, the analysis of technical possibilities of these instruments. Also the article substantiate the preconditions for the possibility of arrangement of harp works for the bandura.

Keywords: *plucked string instruments - harp, bandura, arrangement, sound production, design features.*

Questions of enriching educational concerts and pop repertoire is an urgent bandura performance problem. One way to solve this problem is transcriptions of music written for other instruments. The problem of arrangement and execution of works of different genres and their use in the educational process of many researchers were interesting. This is the work of J. Dmitruk “Genre of translation and its variants in modern bandura art”; M. David “Theoretical Foundations of arrangement of instrumental pieces for accordion”, “Arrangement”; V. Dutchak “Development of professional bases of bandura art 1970-1990 years”; V. Deinega “Arranged as a process of rethinking orchestral expression means” and so on. Harp and bandura, with all distinction (one - secular, the other - a folk instrument), have much in common.

They belong to the category of plucked string instruments with similar timbre means of sound and color. However, they have a lot of commonplaces specific features. Harp is much older than bandura and performance tradition is deep, and date back centuries. In scientific sources we find that harp is one of the oldest instruments (over 3,000 years), the history of its evolution stems from the culture of ancient civilizations.

Scientist O. Humen notes that the birthplace of the modern harp is Ancient Egypt. Harp-like instruments existed in Japan, China, India, Arabia, the peoples of Africa, the Americas, and the Slavs. In ancient times, the European harp was common in ancient Greece and Rome. Later appears in the Caucasus and in the Slavic peoples of the Balkan Peninsula and in areas adjacent to the Black Sea in Ukraine and Kyiv Rus settlements in areas of the ancient Greeks, the city-states of Northern Black Sea: Hersonissos, Olbia, Panticapaeum and others [3, p. 183-184].

V. Dulova believes that the birthplace of the harp is difficult to name in any particular country, it has been common in many countries and differed externally. For example, the art of ancient Sumerians gives the images an arc harp with strings that twisted or attached to a peg. This instrument was in shape something between angle harps. Despite the long history, harp design perfected slowly. According to V. Dulova, a major role in the evolution and improvement of the classical harp, played an instrument of the Celts.

Already in 1660 in Tyrol the first harp with invented with bolt mechanism. In 1720, the Bavarian artist G. Hohbrucker (1699 - 1763) built the first pedal harp. An important contribution to the development of a tool made French, Kuzino (father and son) and masters Naderman family. We also find that during the XVII - XVIII century composers did not any clear distinction between works written for organ, piano instruments, lute and harp. In 1810 - 1812 years the

famous Parisian piano and harp master Sebastian Erar (1752 - 1831) created a harp, “endowed with far greater possibilities of expression, a strong and full sound, and most importantly, the ability to play in all the keys majeure and minor. A new tool called “double-action harp.” It was so successful that its design basis is preserved in the modern harp” [3, p. 187].

Many scientific sources related to the origin and development of the Ukrainian people instrument - bandura “Startsivstvo: itinerant singers - musicians in Ukraine (XIX - beg. XX centuries). Of V. Kushpet [5]; "Musical Instruments of the Ukrainian people", “Bandura and its repertoire”, “Works for Kharkiv bandura” of G. Khotkevych [8-10] “Traditional singing” of K. Cheremysky [11] and especially “Kobzar textbook” of Z. Shtokalko [13]. Kobza is considered the Bandura forerunner. Famous bandura and specialist of instruments G. Khotkevych (1877 - 1938) analyzes the word of Kobza and checking all available sources, concludes that “Kobza is an ancient instrument that has its parallels in almost all the nations, beginning from the ancient Egyptians and Assyrians, ending the nations abandoned the islands of the Pacific Ocean. In Ukraine, the original instrument was prolonged body (resonator), a long and narrow handle multiple strings commissioned by the handle (often three strings) and ways can be found on the handle. The later evolution of kobza has made increasing the number of strings, distribution and shortening of neck, rounded body. At a later stage ways to handle lost, instead of 'is new, original new composition - prystrunka. Bandura name applied to kobza-like instrument in Ukraine meet for the first time in 1580 "[13, p. 3-7]. To the accompaniment of the bandura minstrels bandura or Duma players sang Ukrainian, various folk songs. Bandura as diatonic instrument existed until the mid XX century.

Since 1947, a significant role in improving the bandura a graduate of Kyiv Conservatory P. Ivanov played, adding to scale diatonic semitone string. In 1960 - 1965 years the master I. Sklar in collaboration with S. Bashtan, A. Omelchenko and P. Ivanov created a new type of Bandura, invented chromatic bandura with mechanical switching tones, of which appeared the possibility to play with left hand bass not only on, but also on prystrunka (Kharkiv way or “perekydka”). A fundamentally new model of modern concert bandura created a laureate of international competitions Roman Hrynkiv.

It is interesting, that the modern bandura has more in common with the harp Celtic nations (Ireland, Scotland, Wales): since ancient times in the Celtic nations (bards) tradition of oral poetry, performing folk songs and patriotic spirit were living (in Ukraine - minstrels); on the Celtic harp in order to change pitch strings affect not pedal, but levers (or “fork”), which increase the string semitone if they are in the raised position, or do not affect the change in sound if omitted (Bandura pitch is changed using switches that also increase string semitone); true Celtic or Irish harp, also known as European or *neo - Irish Harp* bronze strings and has therefore played her nails (Bandura is also played with nail because it has steel strings). In the current form the Celtic harp appeared in the late XVIII - early XIX century.

Compare in table common and distinctive elements harp and bandura. Analyzing the genesis tools, we turned to M. Rubin [7]; V. Dulova [5]; N. Shamyeyeva [12]; I. Pukhalsky [6]; S. Bashtan, A. Omelchenko [1].

	Harp	Pandora
Range of instrume	The modern harp has 45 strings from «d» contraoctaves to «f»	Modern bandura has 56-58 strings, its range of «c» big

nt	four. Sometimes some string attached below harps «c», and the top «g». Thus, the range of modern harp is more than six octaves.	octave to «a» and the third is four and a half octaves.
Location of strings relatively artist	The high register of harp is near the musician upper octave (high tessitura) – “First”, located further down the second, third, fourth, fifth, sixth and seventh.	In Bandura opposite placement: bottom to top are large, small, first, second and third (incomplete) octaves. All strings have different thickness and length.
Material of strings	Since music «f» or «g» to the first octave notes «a» fifth - string vein, and notes from «g» Metal fifth octave.	Starting from the notes «c» big octave to note «c» the first use metal strings, entwined copper wire (candle). From note «c» the first octave to «a» third - metal string without winding.
Array of instrument	The main array harp (free position string) - diatonic Ces dur. Strings are distinguished by their color - all «c» red, «f» - blue, others white.	The main array bandura - Chromatic. At switching in key chromatic scale prystrunkas are doubled in the third and seventh steps down.

<p>Changing of instrument arrays and alteration</p>	<p>In harp sounds the alteration occurs through the pedals, they are seven (the number of degrees of range). They are located at the base of the instrument: the right - four pedals (e, f, g, a); left - three (h, c, d). Each pedal has three notches. Average position corresponds Bekar, overhead - bemolle, bottom - diesis. This system makes it possible to play in all the keys majeure and minor.</p> <p>Preferred tone is the tone for harp with the most flat for strings remain in free position. Works with diesis tone is less convenient to perform, for switching affects the sound quality, it becomes deaf. Works with many sounds altered require from the performer certain professionalism.</p>	<p>Bandura changing device is through the mechanism of switching tones - switches. So you can almost four chromatic octaves prystrunkiv (except bass) to switch to fourteen tonalities. Accrued seven switches (by scale degrees). Each has two positions, a change which affects the pitch in all octaves.</p> <p>Preferred tones for bandura are those which comprise no more than three or four signs of alteration in the way. Many altered sounds in the product also affects the quality of his playing, as there are some difficulties in the game. The</p>

		interpretation of these works depends on the technical basis and professionalism of bandura player.
Timbre color of registers	The range of any instrument is divided into three registers. Upper harp differs with sharp and short sound, medium - is the most vivid, melodious and complete. Lower register is specific with some layers of sound, because the left hand often applies reception "jamming".	Upper bandura differs with sharp, it can be said piercing metallic sound and medium is characterized by greater fullness. Lower register (especially bass) has surround sound, it is also inherent layering of sound. Professional bandura also cover the strings when harmony changing.
Fingerings	The harp is played with only four fingers, fifth (pinky) - not involved in the process of sound. It should be free, not discharged in the direction of the fourth and not hide in palms, it can lead to tension the whole hand.	Bandura fingerings on the left and right hands somewhat different. Copyright mostly played without four fingers fifth (little finger). Although recently sometimes used and fifth finger movements for maximum economy, it must follow the liberty of movement. Left fingerings can play two types, depending on the

		reception of the game. In the bass four fingers without the first (large) are used; with “perekydka” four fingers are also used, but without fifth (little finger).
Strokes	In harp art, the following touches like <i>legato</i> , <i>non legato</i> , <i>staccato</i> (reception etuffe game), <i>marcato</i> .	The main bar bandura - <i>legato</i> . Also <i>non legato</i> , <i>staccato</i> (<i>palts ove, carpal</i>), <i>marcato</i> , <i>sforzando</i> .

Let us practice sound production of harp and bandura. This is any instrument - a complex process that involves the possession of large arsenal of different techniques or skills. The main task of the musician is to achieve the highest quality sound and diverse tool for transferring content and artistic image of a musical work. Of course, the harp and bandura sound production depends on General Performing tasks: intonation, articulatory, dynamic, timbral, and more. But there is a specific string instruments played by factors gaming machine interaction and strings.

Analyzing observations of N. Broyako in “Theoretical aspects of performance engineering bandura player” we conclude that the effect of sound on four main factors gaming machine interaction and strings, namely the way of contact with the string; the pressure as a measure of the weight of influence on a string; release character string; place (dot) string excitation [2, p. 9-10]. The main method of the harp and bandura play - pinch, carried out by the articulation of fingers in the palm rest (bandura players must follow to finger remained on the

string and not hiding in palm rest). Important role in the game different intervals, chords, etuffe (harp reception), harmonics, glissando or a short wrist movement, which helps free up a hand.

At the sound of the harp uniformity achieved power and density of pressing a finger to a string. On the way to contact with bandura string is by pressing your finger to the string and release the tip of the nail. Pinch beams with nail must be accurate and dense, depending on the skill and discipline of the fingers, and the impact speed of sound character string release.

Quite common tricks such as glissando, flageolet, glide, trill and tremolo. In arfovomu performance to the techniques of the game include more etuffe, octave and others. In bandura practice this technique game are used as a challenge (playing left, performers enjoy only this technique). In Kharkiv way of Bandura players there is way to play “perekydka” (throwing left hand through the shell, playing prystrunka) .The quality of sound ready affect game movements that to save time and strength musician and promotes close contact with the string, density falling. This allows technically difficult repertoire.

One of the typical shortcomings of string instruments are lack of damper mechanism that leads to the deposition of one sound to another. The peculiar echo is caused by the vibration of the strings and soundboard resonance. Recall that one of the challenges harp and bandura performance is cantilena performance, “the ease with performers have to string stringed instruments, and that is the nature of the vocals, harp and bandura is rather conditional” [12, p. 5].

Regarding the technical capabilities of instruments: harp has great technical ability, which has a wider range and same sophistication of left and right hand. For example, playing transcriptions of works by other composers for harp can bring this work to the interpretation of the listener minimally resorting to

simplify its textured fabric. Proof of this can serve the works of the great composers of the Baroque as J.S. Bach and G. Handel, who wrote one and the same piece for organ or harp or harpsichord or harp. For example, “Concerto for Organ (or harp) and Orchestra” of G. Handel or “Partyta for clavier or harp” J.S. Bach. Technical capabilities of bandura are smaller than the harp, the limitations of its left hand, which mainly performs bass party in a range of one octave. Therefore, shifting compositions for bandura players is often simplifying party left hand, giving technically difficult places or harmonic function right, thus leaving only the bass line left work. Bandura players fluent Kharkiv way of playing (perekydka) may interpret translated works in the closest to the original form. One example of a successful party harp arrangement for bandura – “Concerto for Harp and String Orchestra B dur” of G. Handel made professor of folk instruments Kiev Conservatory, guitarist J.G. Pukhalsky where the original invoice barely managed to simplify. Sophisticated place where the melodic line carried out his left hand, was given the right; harmonious function of the left hand partially transferred to the right hand; Kharkiv way to play is often used.

Thus, based on the above, we can make following generalizations and conclusions. Harp and bandura, the large number of distinctions and have **common elements:** the origins of both instruments originates from the folk traditions; modern bandura has much in common with the harp Celtic peoples; classified plucked string instruments; timbre with similar characteristics; Bandura range roughly coincides with the range of the harp; shared playing techniques and strokes;

Excellent: historically harp ahead bandura, has a long tradition of performing, richer repertoire; audio series is directed at harp from high to low sounds, bandura contrary, from low to high; line-in diatonic harp in chromatic

bandura; register loudest in the middle harp, bandura at the top; Harp has metal strings, Bandura - steel. Due to its timbre harp color is softer, frosted; the harp is played with four fingers except the little finger with both hands, and the bandura with right hand - four fingers mostly without the little finger, left - four without the thumb.

Thus, comparative analysis and review of design features, sound character and sound production of bandura and harp has shown that instruments have much in common and this makes it possible to objectively conclude - harp arrangement works for the bandura significantly contributes bandura repertoire illustrating such works as “Concerto for Harp and String Orchestra B dur” G. Handel, transcription of N. Parfenov for harp and piano and arranged for bandura of J. Pukhalsky; “Playing Water” C. Salcedo arranged for bandura of L. Kohanska; “Variations on the theme V.A. Mozart” by M. Glinka arranged for bandura by S. Bashtan etc.

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