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UKRAINIAN CARILLON ARRANGEMENTS AS AN INSTANCE OF THE CULTURAL TRANSMISSION AND ADAPTATION

The development of carillon art in Ukraine is studied. The distribution of carillons in Ukraine is considered. The issue of creating a national carillon repertoire is investigated. The interactions between the Western European instrument and the Ukrainian national music are analysed. Possibilities in reflecting the peculiarities of Ukrainian folk song by means of carillon texture are shown. Analogies are made between the texture of the carillon and the ways of playing typical instruments of Ukrainian folklore. Methods of combining Ukrainian and Western musical vocabulary, laid down by M. V. Lysenko, are used: a list of Ukrainian folk genres that can be compared with European genres included in the European musical lexicon is given. The structure of the Ukrainian national repertoire for the carillon is outlined and a plan of the corresponding manual is given. The significance of the development of Ukrainian carillon art for the world musical practice is analysed.

Key words: cultural transmission and adaptation; carillon arrangements; carillon education; arrangements of Ukrainian folk songs; national carillon repertoire; pedagogical carillon repertoire; carillon performing.

Carillon (Flemish-beiaard) is a keyboard-percussion instrument that consists of intoned bells and a manual-pedal keyboard. According to the standards of the World Carillon League, carillon should have at least 23 such bells, and their connection to the keyboard should make possible to reproduce sounds of different dynamics. Considering the weight of the
bells, which even in the lightest instruments amounts to several tons in total, the keys of the carillon look like sticks and are played with hands folded into fists. The pedals are pressed accordingly with brisk movements of the toes of the foot. Carillon originated from the signaling mechanisms of the tower clock. Since the XVIIth century, tower carillons have become an adornment of the squares of Western European cities, and since the second half of the XXth century they have spread to the North American continent.

From the beginning of the XXIst century, Ukraine became a leader of the carillon development in Eastern Europe (Dutchak & Riabchun, 2021: 10). In recent decades this historical bell instrument became significant part of the Ukrainian art space. The first Ukrainian carillonist (the author of this study) was graduated from the Royal Carillon School “Jef Denyn” in Mechelen, Belgium (2018), became a member of the International League of professional carillonists and from 2018 to 2021 studied carillon arrangements during the specialization course in the aforementioned school. In the defended diploma thesis “The bells in Ukrainian history and culture” (Riabchun, 2018) the Byzantine and the Roman roots of the Ukrainian bell casting investigated as well as the development of carillon art in modern Ukraine. Mentioned research into Ukrainian bell culture commenced in 2007, when the Ukrainian carillon art get started to develop intensively.

The main characteristics of carillon as a musical instrument and brief overview of the history of its formation is also already presented in the article “Carillon: the history and performing possibilities of the instrument” (Dutchak & Riabchun, 2021). The next research we are offering now is the third article about the carillon in Ukrainian music science. All mentioned works are based on the numerous investigations of the Ukrainian bells’ history by the native and foreign scientists, such as V. Bidnov (Біднов, 2016), P. Zholtovsky (Жолтовський, 1973), M. Karger (Каргер, 1958), K. Karpinsky (Карпинский, 1913), B. Kindratiuk (Кіндратюк, 2012), O. Subtelny (1981); also on the studies by A. Ivanitsky (Іваницький, 2014, August 13).

1 Details about the carillon: Dutchak & Riabchun (2021), see the References.
2 See, for example: Tatarli, F. (2014, August 13).
The main goal of this research is to study the relationship between carillon and Ukrainian music art and to outline the basic principles for creating the national performing and pedagogical repertoire for this instrument. The subject of the research is the features of carillon arrangements of the Ukrainian folk songs and possibilities for its creation.

The novelty of the study: for the first time in the world music science the features and regularities of the carillon dissemination in Ukraine are considered and the method of the arrangements of the Ukrainian folk songs for carillon is analyzed.

Research methodology focuses on the complex of the methods, including the historical, phenomenological, methods of didactics and musical analysis. Taking into account the fact that the carillon is a completely new musical instrument for Ukraine, we consider that it is correct to use the terms of cultural transmission and adaptation when studying the topic of its dissemination. These concepts were developed by the Italian scientist Luigi Luca Cavalli-Sforza (1922–2018) in a number of works, also written in collaboration with M. W. Feldman, B. S. Hewlett, C. R. Guglielmino, C. Viganotti (Cavalli-Sforza & Feldman, 1981, 1983; Hewlett & Cavalli-Sforza, 1986; Guglielmino and Viganotti and Hewlett, & Cavalli-Sforza, 1995) and some others. According to scientists, “Cultural transmission is a process of social reproduction, in which the culture’s technological knowledge, behaviour patterns, cosmological beliefs, etc. are communicated and acquired” (Hewlett & Cavalli-Sforza, 1986: 922).

The main study. The process of transmission of the carillon into Ukrainian musical culture consists of the following phases: making and installing instruments, organizing teaching to play the instrument, creating a national repertoire for carillon learning and performing. The unique in Ukraine carillonneurs Sergei and Leonid Botvinko created the number of instruments and practice keyboards: portable carillon using the Petite & Fritzen bells (Photo 1), Ascold Grave Church carillon (Kyiv), Hoshiv Monastery and Kolomyia carillon (Prykarpattia, Western Ukraine),
carillons based on Ukrainian bells – renovated Saint Michel Cathedral and Holy Theodos Monastery, electronic keyboard carillons in the music schools of Dolyna, Kalysh, Kolomyia and Ivano-Frankivsk.

Photo 1. Mobile carillon by Sergei and Leonid Botvinko
(50 bells, 2700 kg – Bell-foundry Petit & Fritsen, 2007)

The International bell and Carillon Festival was organized in Hoshive (2013–2019)\(^3\), Kyiv (2014), we also set up the circle of the mobile carillon performances in National Reserve “St. Sophia of Kyiv” during 2008–2016 (Riabchun, 2012, Oct. 11). Carillon music was performed at the various art festivals – in Lutsk, Lviv, Ivano-Frankivsk (TV and Radio Company “Tower”, 2016, May 11), Nadvirna (Temple holiday in Nadvirna to the sound of the carillon, 2020, March 8). Arrangements of the Ukrainian songs were performed in Gdansk (Poland), Mechelen, Lokeren, Grimbergen (Belgium), Rotterdam (Netherland) during 2015–2021. For the mentioned and other concert performances, special program of Ukrainian folk songs and dances was created; they were performed on the mentioned

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\(^3\) See in the References: Zhasminova, Ye. (June 25, 2016); In Sofia Kievskaya they will play a unique instrument (2016, 25 Aug.).
Instruments and on the local carillons. These programs included also the carillon compositions dedicated to the Ukrainian history. Among them: “Anna Kyiv Regine” (“Yaroslavna’s Dream”), “The Shot” (in memory to Vasyl Slipak), “Ukrainian prayer to Mother Mary”, original arrangements of the Ukrainian folk songs “Plyve Cacha” (“Duck swims”, known in the Europe as the “Healing bells”), “Schedryk” (known in the world as “Carol of the bells”), “Oi, vershe mii vershe” (“Oh, my high forest”), “Oi, chyi to kinj stoit” (“Whose horse is it worth”), ”Oi, u luzi chervona kalyna” (“Oh, red viburnum in the meadow”), national liberation marches and many other songs.

No less important was the presentation of new practice of electronic keyboards (construction of Botvinko brothers) in the music schools of the Precarpathian cities Kolomyia, Ivano-Frankivsk (Photo 2), Dolyna, Kalysh, where the carillon education has began from 2016.4

Recently carillon education became available also in the Kyiv Academy of Art (starting from 2020–2021 school year) and is planned for the opening in the Kiev Holy Theodos Monastery. All six schools mentioned above need to have a special national repertoire book supplied with the theoretical material of campanology for the effective educational process. It also raised the question of reconciliation of the Ukrainian song with the new for the national art music Western European instrument. This repertoire could be based on the historical research and carillon arrangements. Ukrainian songs from the different regions and sub-ethnic groups, including Volyn, Hutsul, Lemko, and Sloboda Ukraine songs have been already presented in carillon performances. Arrangements of the songs of various historically formed genres – dumas, slave, mercenary, and the ritual songs of different cycles – are possible to be made.

For the work on the folk sources, theoretical experience of researching of the Ukrainian and Flemish traditional music could be used, and also he national arrangements, which are present in the Western European carillon repertoire.

4 See the details: Carillon games have been taught at the Music School No. 1 in Kolomyia for two years now. (2019, July 20);
What is a carillon and where can it be heard in Kalush? Video. (2018, July 10);
In 2021 within the project “Ukrainian bell ringing: Carillon & Bandura” ensemble of the carillon with bandura quartet “Gerdan” performed Ukrainian music in Kyiv, Lviv, Ivano-Frankivsk, Kamianets-Podilsky, Zaporizhzhia, Chernihiv, Kolomyia, Dolya, Hoshiv. It is significant that four concerts of the project took place in the above-mentioned schools of the Carpathian region, which have electronic carillon keyboards. The main part of arrangements of Ukrainian music for the programs of this project were made by the leader of the quartet “Gerdan” Doctor of Music Sciences Violetta Dutchak. As a result of her work, arrangements for the unique, unknown in the history of the musical art quintet were created. Organic combination of the bandura and carillon sounds was tested during the performances of the project and appreciated by the audience.

Combination of the Ukrainian traditional music with carillon has been very successful because of its archaic mode system, presence of bourdon polyphony, and specific textures of the performing, comparable with the way of playing on the typical Ukrainian traditional instruments. Among them the performing of the tremolo by both hands alternately
on the instrument of Ukrainian folk ensemble – tsymbaly, the texture of arpeggiato, which is typical both for bandura and for carillon, high register of Ukrainian authentic woodwind instrument sopilka, comparable with the height of carillon small bells, and the sound of low bells, the power of which can resemble a trembita, could be mentioned. Also, “the singing quality” and dynamic possibilities of carillon bells’ sound might be mentioned, which is giving rich abilities to represent the melodic nature of Ukrainian song in various. Simultaneously the beating character of the sound making of the carillon is appropriate for the playing folk dances and the virtuoso instrumental music (like, for example – ensemble “Trinity of musicians” with violins, tambourine, and tsymbaly plays).

From 2008 for the carillon concerts, the special national Ukrainian program was created, which was performed on the mentioned instruments and on the carillons of Gdansk (Poland), Mechelen, Lokeren, Grimbergen (Belgium), Rotterdam (Netherland). This carillon works and arrangements, dedicated to Ukrainian history, also could become the basis of Ukrainian carillon repertoire, as the first works of this kind. In addition, they could be useful in pedagogical process and contribute to the promotion of Ukrainian song in the world.

**Repertoire for the beginners** is intended for the first year of studying the carillon. It should be noted that it is possible to start training the carillon both at a young and mature age. A prerequisite is the sufficient physical development of the child – his height, the size of his hands and the formation of muscles. A number of defenses will also might be given against improper carillon techniques that can lead to injury to the performer.

Repertoire for the beginners could include the short simple one voice songs (written on one line), based on the Ukrainian folklore. They will acquaint the student with the typical modes of Ukrainian folk music. Here, in the simplest form, the following Ukrainian songs are possible to be presented: “Oh, bursting the hoop”, “My grandfather, bagpiper”, lullaby “Oh, there is a dream, near the windows”, which once became a prototype for the famous “Summertime” from the opera “Porgy and Bess” by G. Gershwin. The simple monophonic melodies and the songs with minimal accompaniment can be performed at concerts, in particular
on carillons, which do not have a perfect harmony of bells (carillons in meantone temperament), as well as on instruments with a limited number of bells.

Here are some examples of such exercises for the song “Little woman” (“Zhenchik-brenchik”) (Musical example 1):

**Musical example 1.**

![Musical example 1](image)

Usually, in pedagogical practice, thematically neutral exercises are used, distanced from the live speech of a musical work. We offer another approach, namely “*thematic exercises*”, related intonationally to the song that the student learns. Among the exercises the simplest can be used for differentiation of the dynamics of sound production (Musical examples 2–4):

**Musical examples 2, 3, 4.**

![Musical examples 2, 3, 4](image)
With the help of the “thematic” exercises suggested for each song, the student will master the distances of various intervals, from a second to an octave and the ability to intonate a typical “figure of musical speech”:

**Musical example 5.**

The same exercises can be used to master the “key preparation” technique. In addition to helping in mastering the text of the work, they will help to master quickly the techniques of carillon playing and increase the musicality of the performance. The guidance might be given on hand positioning. They could be accompanied by photographs.

The next step in the creation of Ukrainian national repertoire is the selection of pieces addressed to the students of the **intermediate level** of studying. For this level of the arrangements of Ukrainian songs and popular music of the Ukrainian composers, carillon songs for two voices will approach, including playing of several notes on pedal keyboard and playing of double notes by “open hand”; technical etudes and exercises (preparation of the double notes, dynamic tremolo, arpeggiato) also will be timely for mastering during the “intermediate” level of studying. **“The thematic exercises”** could help to develop the
flexibility of the wrist, which is necessary for correct sound production on the carillon.

Continuing the tradition of Mykola Lysenko, started in his “Ukrainian Suite in the Form of Ancient Dances on the Theme of Ukrainian Folk Songs”, we find analogies in the metro-rhythmic formulas of Ukrainian songs with genre basis of typical European dances, which are common in classical music. There are samples of typical accompaniments of folk song and dance music: triple time dances like Sarabande – in the song “Blooms the thornbush” (“Tsvite teren”); the German Landler in the arranged for two hands with pedal early mentioned song “Little woman” (“Zhenchichok-brenchichok”), “Byla mene maty” («My mother beat me with a birch twig»); 2/4 time and a character of “noisy dance” (“shumka”), which is similar to the “Bohemian polka” dance – “Neighbour” (“Susidka”); quadruple time marches are presented, in particular, in marches of Sich Riflemen (“Hey, falcons”, “The archer went to war”).

The advanced performers could play the arrangements of the Ukrainian music pieces, written for manual and pedal using slurs on tremolo, long arpeggiato, using not only singular, but double pedal as well.

Mentioned repertoire could include pieces of the “middle forms”, in particular romantic genres – fantasies, ballades, equipped with virtuoso cadences. In such arrangements a variety of carillon texture could be applied, different registers, including extended pedal solos.

Complex rhythmic formulas of accompaniments, for example, the rhythm of tango can be presented in the arrangement of the popular song “Hutsulka Ksenia” (songwriter V. Barnych).

In the arrangements of the songs “The Cossack is being carried”, “Do you hear, my brother” the technique of the carillon tremolo texture could be developed, and the performance of crescendo and diminuendo when performing tremolo could be practiced with the help of special exercises. Exercises for these arrangements will also contribute to the development of intonation skills, mastery of dynamics, coordination of the movements of the arms and legs.

Ukrainian national carillon repertoire can feature works by Ukrainian classical and popular composers, which has a nationwide popularity – “Prayer for Ukraine” and “If I would have shoes” by M. Lysenko,

The presence of many carillons at the Ukrainian church towers allows the various transcriptions of spiritual chants and hymns intended for certain church holidays. The basic principles of the orthodox church bell ringing might be explained and examples (standards) should be given as well. Here could be also presented laconic transcriptions of Byzantine and Roman Catholic chants that do not violate the canons of their sound and the corresponding emotional palette. This collection could include the arrangements of choral concerts of other works by the Ukrainian composers D. Bortniansky, M. Berezovsky, A. Wedel, J. Yatsenevych.

The result of the study (conclusions). Cultural transmission and adaptation of the carillon into Ukrainian musical culture consist of the following phases: making and installing instruments, organization of the carillon education, creating a national repertoire for carillon learning and performing. At the same time, carillon education and national pedagogical repertoire are of particular importance. Ukrainian folk songs and dances have an inexhaustible potential for carillon arrangements. International experience in the formation of carillon art, as well as Ukrainian experience in working with folklore can be used to create a national performing and pedagogical repertoire in order to master the performing the unique, relatively new for Ukraine musical instrument – carillon.

The Ukrainian thousand-year experience in the development of bell art and modern carillon construction, as well as the organization of carillon education, could be interesting and useful for another countries, where the carillon is widespread, particularly in Belgium, in the Netherlands and in the United States. In order to these arrangements to be made in a modern style, it would be logical to take into account the works of leading carillon composers of our time: Geert D’hollander, who is the main carillonist of the Bok Tower (Florida, USA), known also due to his carillon training for Americans and foreigners, and David Cieri (The City College of New York), famous of his music for cinema and the World Carillon project. Also, arrangements of Ukrainian songs for the carillon could be a very
effective theme for the dialog between Ukrainian composers, teachers and students of the carillon programs at the music departments of the Oakland, Yell and Chicago Universities, and Ukrainian ethnology scientists of the Pittsburgh University.

**The perspectives of investigation:**

In addition, we can offer a *Ukrainian carillon textbook plan* which could be based on the previous investigations. It supposed to be divided to theoretical and practical parts:

I. The theoretical part (Campanology) could be devoted to the history of bells in Europe, in the United States and in Ukraine.

1. The first chapters could give the facts about the bell casting, evolution, and modern construction of the carillon.

2. The final chapter could be based on the aforementioned thesis about the history of Ukrainian bells and the development of carillon art. The characteristics of Ukrainian carillons may be of interest for Ukrainian and foreign performers. Among the illustrations, the Ukrainian, American and the World “carillon maps” will be included.

II. The repertoire book could be divided into three parts:

1. Short simple songs in one voice (one line), based on the Ukrainian folklore, and exercises (preparation of the key) for the beginners;

2. Arrangements of Ukrainian songs and popular music of the Ukrainian composers written for two voices (book with several pedal notes) including playing by “open hands”; technical etudes and exercises (preparation of double notes, dynamic tremolo, arpeggiato) for performers of the intermediate level of studying;

3. Arrangements of Ukrainian music written for manual and pedal; etudes and exercises (slurs on tremolo, long arpeggiato, singular, and double pedal).

“Campanology” might be presented in two languages – English and Ukrainian. In “Repertoire” it is advisable to give the titles of Ukrainian songs in the original, in Latin transliteration, and translated into English. This work will be useful for transmission and adaptation of cultural achievements between Ukraine and the Western world in the area, where the new national art form is emerging nowadays.


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УКРАЇНСЬКІ АРАНЖУВАННЯ ДЛЯ КАРИЛЬЙОНА
ЯК ПРИКЛАД КУЛЬТУРНОЇ ТРАНСМІСІЇ ТА АДАПТАЦІЇ

Досліджуються основні фази поширення карильйону в Україні і його
адаптації до українського музичного мистецтва: виготовлення та вста-
nовлення інструментів, організація навчання гри на інструменті, ство-
рення національного репертуару для навчання та виконання на карильйоні.
Аналізуються взаємодії між західноєвропейським інструментом і україн-
ською національною музикою. Показані можливості у відображення особи
тивостей української народної пісні засобами карильйонної фактури.
Проводяться аналогії між фактурою карильйону і способами гри на типо-
vих інструментах українського фольклору. Насліduється методи поєднання
української та західної музичної лексики, зазначений М. В. Лисенком: дається
перелік українських фольклорних жанрів, які можуть бути порівняні з жанр-
ами, що увійшли в європейський музичний лексikon. Накреслюється струк-
tура українського національного репертуару для карильйону і дається план
відповідного посібника. Робиться висновок про важливість педагогіки і пе-
dагогічного репертуару для адаптації карильйону в українському музичному
середовищі.

Ключові слова: культурна трансмісія та адаптація; аранжування
для карильйону; карильйонна освіта; обробки українських народних пісень;
національний карильйонний репертуар; педагогічний репертуар для карильйону;
карильйонне виконавство.
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