

Zhang YE,

orcid.org/0009-0001-7997-9543

*Postgraduate student at the Department of Musicology and Culturology
Sumy State Pedagogical University named after A.S. Makarenko
(Sumy, Ukraine) yaremenko1969@ukr.net*

NATURAL AND CHROMATIC HORN IN THE ORCHESTRAL MUSIC OF THE 19TH CENTURY

The publication defines the features of the natural and chromatic horn in the orchestral music of the 19th century. It is emphasized that transformational changes in horn art are carried out in connection with evolutionary trends in the design of the horn and its organological parameters. Attention is focused on the main factors related to the development of horn art, which is characterized by various forms of instrumental practice, special stylistics and aesthetics of performance. It is emphasized that the use of the horn in the musical practice of different eras actualized it as one of the main orchestral and solo brass instruments. It is noted that the period from the second half of the 18th century to the first half of the 19th century was the heyday of virtuoso playing on the natural horn. It is emphasized that in this period a whole galaxy of famous performers appeared, whose creativity stimulated the further development of horn art. It was revealed that the 19th century was one of the most fruitful and at the same time fundamental in the development of the horn, because it was then that its role in the orchestral score was determined. Natural copper instruments of the classical period, which gradually began to be replaced by chromatic ones, which opened up new expressive possibilities, are analyzed. The process of improving copper wind instruments is substantiated. The peculiarities of chromatic instruments, which were able to enter the orchestra only when their capabilities began to correspond to the deep principles of musical thinking, are considered. It is emphasized that both supporters and opponents of the chromatic horn equally evaluated its timbre quality. It is summarized that the chromatic horn is not just an improved version of the natural one. After all, its appearance in orchestras meant a real revolution in orchestral thinking, which was not limited to the expansion of the range of sounds available for chromatic instruments. Therefore, the chromatic horn is characterized by a new intonation basis - a tempered system, which was the result of combining several natural scales within one instrument.

Key words: horn, horn art, natural and chromatic horns, orchestral music, brass instruments.

Чжан Є,

orcid.org/0009-0001-7997-9543

*аспірант кафедри музикознавства та культурології
Сумського державного педагогічного університету імені А.С. Макаренка
(Суми, Україна) yaremenko1969@ukr.net*

НАТУРАЛЬНА ТА ХРОМАТИЧНА ВАЛТОРНИ В ОРКЕСТРОВІЙ МУЗИЦІ ХІХ СТОЛІТТЯ

У публікації визначаються особливості натуральної та хроматичної валторни в оркестровій музиці ХІХ століття. Наголошується, що трансформаційні зміни у валторновому мистецтві здійснюються у взаємозв'язку з еволюційними тенденціями в конструкції валторни та її органологічних параметрах. Акцентовується увага на основних факторах, що пов'язані з розвитком валторнового мистецтва, яке характеризується різноманітними формами інструментальної практики, особливою стилістикою та естетикою виконання. Підкреслюється, що використання валторни в музичній практиці різних епох актуалізувало її як один із основних оркестрових, а також сольних мідних духових інструментів. Зазначено, що період з другої половини ХVІІІ століття – до першої половини ХІХ століття став часом розквіту віртуозної гри на натуральній валторні. Підкреслено, що в цей період з'являється ціла плеяда відомих виконавців, чия творчість стимулювала подальший розвиток валторнового мистецтва. Виявлено, що ХІХ століття було одним із найбільш плідних і водночас основних у розвитку валторни, адже саме тоді визначалася її роль в оркестровій партитурі. Аналізуються натуральні мідні інструменти класичного періоду, які поступово почали витіснятися хроматичними, що відкривали нові виразні можливості. Обґрунтовується процес удосконалення мідних духових інструментів. Розглядаються особливості хроматичних інструментів, які змогли увійти до складу оркестру лише тоді, коли їхні можливості почали відповідати глибинним принципам музичного мислення. Наголошується, що як прихильники, так і супротивники хроматичної валторни однаково оцінювали її темброву якість. Узагальнюється, що хроматична валторна є не просто вдосконаленою версією натуральної. Адже, її поява в оркестрах означала справжній переворот в оркестровому мисленні, що не обмежувався лише розширенням діапазону звуків, доступних для хроматичних інструментів. Відтак, хроматична валторна характеризується новою інтонаційною основою – темперованим строем, який став результатом об'єднання кількох натуральних звукорядів у межах одного інструменту.

Ключові слова: валторна, валторнове мистецтво, натуральна та хроматична валторни, оркестрова музика, мідні духові інструменти.

Introduction. The study and awareness of the artistic essence of horn performance at the modern stage involves addressing the little-investigated issues of this type of instrumental culture, one of which remains today the problem of natural and chromatic horns and the study of the laws of the evolutionary development of horn art, transformational changes in which occur in close connection with the process of formation and evolution of the horn structure itself and its organological parameters. The above motivates and reinforces the relevance of the chosen issue.

Research analysis. Scientific and pedagogical activity of domestic (V. Antonov, V. Apatskyi, V. Bohdanov, V. Vdovichenko, P. Vovk, P. Krul, V. Kachmarchyk, V. Posvaliuk, F. Kryzhanivskyi et al.) teachers of wind instruments and scientists of the 20th – 21st centuries in musicology effectively influenced the study of various aspects of the theory and practice of playing wind instruments according to their specifics.

The analysis of primary sources proves that the problem of the genesis of brass instruments in the national musical culture of Ukraine is theoretically substantiated in P. Krul's scientific research (Krul, 2000). Scientific assets of V. Bohdanov opened a new way in the development of musicological opinion about spiritual art of Ukraine. It was V. Bohdanov who had the first experience of developing a systematic exposition of the historical trends of domestic wind art (Bohdanov, 2000). Attention is drawn to V. Posvaliuk's research, which examines trumpet performance in Ukraine for the first time, analyzes the performance characteristics of famous musicians and the creative succession of generations of the Kyiv school of trumpet performance (Posvaliuk, 2006). The formation of foreign brass schools, in particular, trombone performance, and their influence on the formation of Ukrainian art are revealed in the works of H. Martseniuk (Martseniuk, 2011). Of particular importance for our research are the scientific works of Ye. Churikov, in which the theoretical and practical foundations of performance technique in horn art are developed. The author emphasizes the need to develop a high level of performance skills of the horn player, taking into account modern cultural and historical requirements (Churikov, 2018: 226).

The purpose of the article is to consider the peculiarities of the sound of natural and chromatic horns in orchestral music of the 19th century.

Presentation of the main material. From the beginning of the 19th century, the process of development and improvement of the group of brass instruments of the orchestra began, in particular the French horn, which caused a gradual increase in the num-

ber of these instruments in the orchestra. If L. Beethoven's First Symphony used only two horns, then in the scores of composers such as H. Mahler and R. Strauss, their number reached eight. This period was also characterized by important qualitative changes: the natural instruments of the classical era were gradually replaced by chromatic ones, which, unlike their predecessors, not only allowed for the reproduction of a greater number of sounds, but also had new expressive possibilities. However, this process did not happen instantly or mechanically. Chromatic instruments were able to become full-fledged members of the orchestra only when their expanded capabilities began to correspond to the deeper foundations of musical thinking. It is reflected in the stylistic features of horn parts of the mid-19th century, when chromaticism was used for natural instruments, and quasi-natural elements were used for chromatic ones (Bodiak, 2017).

The increase in the number of parts of horns and other brass instruments in the works of composers of the 19th century was accompanied by no less qualitative changes: the natural brass instruments of the classical period were gradually replaced by chromatic ones, which had not only a greater range of sounds, but also significantly expanded expressive possibilities compared to their natural predecessors (Bohdanov, 2000). Chromatization of brass instruments made them full members of the orchestral structure and contributed to the emergence of new methods of organizing the orchestral vertical, in contrast to classical approaches.

The process of transformation of brass instruments, which began in the first decades of the 19th century and ended by its end, significantly changed the very structure of the orchestra. The first attempts to introduce improved brass instruments into orchestral practice, especially the chromatic (valve) horn, did not always find support among contemporaries and sometimes caused heated discussions. Some musicians and composers (K. Reisingen, H. Berlioz), discussing the introduction of chromatic horns to the orchestra, expressed indignation at the decline of the characteristic sound of hunting horns, which were replaced by noisy and monotonous instruments of a new type. In their opinion, the technical advantages of the new instruments cannot compensate for the loss of unique tonal qualities, and this new mobility does not correspond to the character of brass instruments. In the transformation of brass instruments, especially horns, the decline of the simplicity and naturalness of the sound of the horn can be seen (Churikov, 2021).

To date, the technical difficulties encountered by orchestrators writing for the natural horn are so significant that the question arises as to the feasibil-

ity of using already existing chromatic instruments, which provided more opportunities for the selection of sounds. S. Vidor, in turn, compares a quartet of natural horns with a children's game of "tip-top", where each performer only "shamelessly chases a note that sounds good". He believes that the chromatic instrument immediately brought order and gave composers complete freedom of creativity. However, in view of the high performance skills of natural horn playing in the 18th and 19th centuries, the difficulties the composer wrote about probably did not seem so serious to his contemporary, F. Mendelssohn. For them, such a technique was not overly complicated or irrational, and its disadvantages seemed insignificant compared to the advantages that, in their opinion, natural instruments possessed (Martseniuk, 2011).

Giving preference by many outstanding composers for the natural horn is often explained by the imperfection of the sound of the first valve instruments, which in terms of timbre qualities were significantly inferior to natural ones (Posvaliuk, 2010). However, such an explanation cannot be considered exhaustive. For example, in the notes to the orchestral composition of the opera "Tristan und Isolde", R. Wagner wrote that thanks to the valves, this instrument (the horn) undoubtedly gained an advantage, and it would be difficult to ignore such an improvement, even though the horn lost part of its timbre beauty and the ability to smoothly transition between sounds.

Taking into account such features, composers sought to preserve the natural sound by refraining from using a valve instrument. And especially, if the performer, who masterfully plays this instrument, cannot minimize its shortcomings. Thus, both supporters and opponents of the chromatic horn equally evaluated its timbre quality. R. Wagner, who was particularly sensitive to orchestral sound, could not help but notice the shortcomings of timbre in valve instruments and considered this a serious obstacle to their use. However, he still felt sympathy for these instruments, unlike H. Berlioz, who, while actively experimenting with orchestral brass, rejected them. R. Wagner, however, farsightedly predicted their gradual improvement and establishment in orchestral practice (Tsiuliupa, 2007).

In addition to the shortcomings of the first chromatic horns, another important reason was the conservatism of the musicians themselves, who did not seek to learn new instruments. However, the main reasons lie in much deeper aspects. The chromatic horn is not just an improved version of the natural horn. Its appearance in orchestras meant a real revolution in orchestral thinking, which was certainly not limited to expanding the range of sounds available

for chromatic instruments. Chromatic horns introduced a new intonation basis – a tempered tuning, which was the result of combining several natural scales within one instrument (Bodiak, 2017).

During the second half of the 19th century, the attitude towards the chromatic horn remained controversial. Already in 1890, the Belgian musicologist and composer F. Gewart noted that instrumental music had not yet fully adapted to the new instrument – the chromatic horn, which is capable of opening wide opportunities for creative explorations to symphonists. In studies of the history of musical instruments, the evolution of brass instruments, particularly French horns, in the 19th-century orchestras is usually seen as the replacement of instruments of one generation by instruments of another (Tsiuliupa, 2007). It is worth pointing out that chromatic instruments were able to become full-fledged instruments of the orchestra only when their capabilities began to meet the deep requirements of musical thinking. This process did not happen instantly, as evidenced by the stylistic features of the horn parts in scores of the 19th century. If we assume that the style of the part corresponded to the type of instrument (natural or chromatic), then we can talk about such a correspondence only at the beginning of the 19th century, when the natural style of writing for natural instruments prevailed, and at the end of the century, when the chromatic style for valve instruments appeared (Yudkin, 2019). However, in the middle of the century, another trend is observed: chromatic parts for natural instruments and quasi-natural writing for chromatic instruments. These two cases are extremely interesting, because the interpretation of the instrument's capabilities did not always coincide with its real capabilities.

A style always highlights only a certain part of an instrument's capabilities, particularly that which most closely matches the era's ideas of ideal sound, while other capabilities often remain unused. For example, H. Berlioz criticized L. van Beethoven for excessive caution in using closed sounds of the horn. In the middle of the 19th century, the active and conscious use of technical methods of transforming natural sounds through different types of closed tones, as well as increasing their number due to the combination of instruments of different tunings, begins. The use of closed sounds on the horn had several features. They created a specific timbre-dynamic effect, similar to the sound of a mute, and were used in opera scores since the time of K. Glück.

However, at the beginning of the 19th century, the change of natural sounds was used, first of all, to expand the sound range. In the scores of L. Beethoven and his contemporaries, such as G. Spontini,

G. Rossini and others, a specific technique of melodization of horn parts was formed. A sudden change in pitch by a semitone or even by a whole tone was impossible when changing tuning on instruments with crowns, since it took a certain amount of time to install and remove the nozzle (Churikov, 2021). In addition, it led to intonation instability and uneven timbre and sound dynamics. Only a true virtuoso could overcome these shortcomings, but such skill was rare among musicians of that time and extremely highly valued by contemporaries.

In terms of the style of mid-nineteenth-century horn parts, one interesting feature can be observed: the natural instruments in the parts often sound as if they are already chromatic, while the chromatic instruments are sometimes perceived as still natural. In this context, the question remains ambiguous: for which instrument L. van Beethoven wrote the part of the fourth horn in the slow part of the Ninth Symphony. This part is puzzling for several reasons: 1) although it is solo, it is performed not by the first horn, but by the fourth horn; 2) it boldly combined registers, which at that time were usually clearly divided between the first and second voices; 3) this part, like no other in L. Beethoven's works, contains sounds that do not belong to the natural scale. There is an assumption that L. Beethoven wrote this part for a chromatic horn, which was already available to some Viennese horn players (Hromchenko, 2020).

Indeed, this part as a whole corresponds to the capabilities of the only known at the time of writing (1824) instrument with two valves, which was invented in 1820. However, there is one detail that raises doubts: on two-valve instruments, it is impossible to perform the lower sound G^1 , which, however, can be produced with the lip technique characteristic of playing a natural instrument. Without a doubt, musicians of Beethoven's era, who had already started playing chromatic instruments, possessed such a technique. It is obvious that even decades after chromatic horns were finally established in orchestras, elements of natural technique and natural instruments themselves were used from time to time, when necessary, because parts were written for them even in the last decades of the 19th century (Martseniuk, 2011).

A clear example is the slow part of the Fourth Symphony of J. Brahms, where the composer, working in the conditions of a complex musical language, successfully uses only a few closed sounds in the parts of the horns, leaving them essentially in the classical natural style, where these sounds sound most harmoniously.

Thus, the evolution of the French horn, like any other instrument, is basically a transition from one

established norm to another. However, the process of integrating the chromatic horn into the orchestra was not a simple replacement of an old instrument with a new, improved one. This transition can be described as dualism, when two norms existed at the same time: one was familiar (natural instruments), inherited from previous eras, and the other (chromatic instruments), which was just beginning to take shape. Another feature of this transitional period is its duration.

The process that began in the first decades of the 19th century with the formation of the chromatic technique of orchestral writing for the natural horn went through a period of coexistence of natural and chromatic instruments and continued until the last quarter of the century, when this process was not yet fully completed.

Conclusions. The horn art, like the instrument itself, has gone through a long path of evolution, which was characterized by various forms of instrumental practice, a special style and aesthetics of performance. The use of the horn in the musical practice of different eras established it as one of the main orchestral and solo instruments. The period from the second half of the 18th century to the first half of the 19th century was the heyday of virtuoso playing on the natural horn. It was during this period that a whole galaxy of great performers appeared, whose creativity stimulated the further development of horn art.

An idea of the high performing proficiency of these musicians can be formed, in particular, through works dedicated to them, as well as their own compositions and memories of contemporaries. The period of the 19th century was one of the most fruitful and at the same time key for the development of the horn, because it was then that its role in the orchestral score was determined. The process of increasing the number of parts of horns and other brass instruments in the works of composers of this period was accompanied by significant qualitative changes. Natural copper instruments of the classical period gradually began to be replaced by chromatic ones, which not only had a greater range of sounds, but also opened up new expressive possibilities. This process, along with the improvement of tools, continued throughout the century. Chromatic instruments could become full-fledged members of the orchestra only when their capabilities began to correspond to the deep principles of musical thinking. However, this transition was gradual, as evidenced by the stylistic features of the horn parts in scores of the 19th century.

Promising directions in the context of the outlined problems can be seen in the characteristics of the features of the use of the horn repertoire in modern practice.

BIBLIOGRAPHY

1. Богданов В., Богданова Л. Історія духового музичного мистецтва України: від найдавніших часів до початка ХХ ст. Харків: Основа, 2013. 384 с.
2. Богданов В. Історія духового музичного мистецтва України: монографія. Харків: Основа, 2000. 336 с.
3. Бодак Я. Історія західноєвропейської музики від найдавніших часів до ХVІІ століття. Дрогобич : Коло, 2017. 280 с.
4. Громченко В. Духове соло в європейській академічній композиторській тавиконавській творчості ХХ – початку ХХІ ст. (тенденції розвитку, специфіка, систематика): монографія. Київ – Дніпро: ЛІРА, 2020. 304 с.
5. Круль П. Генезис духового та ударного інструментального виконавства України : автореф. дис. ... докт. мистецтвознавства: 17.00.01. Київ, 2000. 32 с.
6. Круль П. Духовий інструментарій в історії музичної культури України. Івано-Франківськ: ПНУ ім. В. Стефаника, 2013. 219 с.
7. Марценюк Г. Формування зарубіжних духових шкіл та їх вплив на становлення українського тромбонного виконавства. *Музично-театральне мистецтво*. 2011. № 3. С. 184–188.
8. Посвалюк В. Теорія і методика виконавства на трубі: навч. посіб. [для студ. вищ. навч. закл.]. Київ: НМАУ ім. П. І. Чайковського, 2010. 162 с.
9. Посвалюк В. Труба в епоху бароко. *Науковий вісник НМАУ ім. П.І. Чайковського*. 2009. Вип. 83. С. 12–20.
10. Цюлюпа С. Духові інструменти в історичних шляхах свого розвитку. *Історія становлення та перспективи розвитку духової музики в контексті національної культури України*. 2007. Вип. 2. С. 6–13.
11. Чуріков Є. Еволюція виконавської техніки в контексті розвитку валторнового мистецтва: дис. ... д-ра філософії: 025 Музичне мистецтво. Старобільськ, 2021. URL: http://old.odma.edu.ua/upload/files/disertatsiya_CHurikova_Ye.S..pdf
12. Чуріков Є. Феномен валторнового виконавства. *Київське музикознавство : зб. статей. Культурологія та мистецтвознавство*. 2018. Вип. 57. С. 225–231.
13. Юдкін І. Духове соло в європейському академічному композиторському та виконавському мистецтві (тенденції розвитку, специфіка, систематика). *Музикознавча думка Дніпропетровщини*. 2019. № 14. С. 157–160.

REFERENCES

1. Bohdanov, V. & Bohdanova, L. (2013). *Istoriia dukhovoho muzychnoho mystetstva Ukrainy: vid naidavnishykh chasiv do pochatka XX st.* [The history of wind musical art of Ukraine: from the earliest times to the beginning of the 20th century]. Kharkiv: Osнова. 384 s. [in Ukrainian].
2. Bohdanov, V. (2000). *Istoriia dukhovoho muzychnoho mystetstva Ukrainy* [History of brass musical art of Ukraine]. Kharkiv: Osнова. 336 s. [in Ukrainian].
3. Bodak, Ya. (2017). *Istoriia zakhidnoievropeiskoi muzyky vid naidavnishykh chasiv do XVII stolittia* [The history of Western European music from the earliest times to the 17th century]. Drohobych: Kolo. 280 s. [in Ukrainian].
4. Hromchenko, V. (2020). *Dukhove solo v yevropeiskii akademichnii kompozitorskii ta vykonavskii tvorchosti XX – pochatku XXI st. (tendentsii rozvytku, spetsyfyka, systematyka)* [Wind solo in the European academic compositional and performing works of the 20th – early 21st centuries (development trends, specificity, systematics)]. Kyiv – Dnipro: LIRA. 304 s. [in Ukrainian].
5. Krul, P. (2000). *Henezys dukhovoho ta udarnoho instrumentalnogo vykonavstva Ukrainy* [The genesis of wind and percussion instrumental performance of Ukraine]: avtoref. dys. ... dokt. mystetstvoznnavstva: 17.00.01. Kyiv. 32 s. [in Ukrainian].
6. Krul, P. (2013). *Dukhovyi instrumentarii v istorii muzychnoi kultury Ukrainy* [Wind instruments in the history of musical culture of Ukraine]. Ivano-Frankivsk: PNU im. V. Stefanyka. 219 s. [in Ukrainian].
7. Martseniuk, H. (2011). *Formuvannia zarubizhnykh dukhovykh shkil ta yikh vplyv na stanovlennia ukrainskoho trombonovoho vykonavstva* [The formation of foreign brass schools and their influence on the formation of Ukrainian trombone performance]. *Muzychno-teatralne mystetstvo*. № 3. Pp. 184–188. [in Ukrainian].
8. Posvaliuk, V. (2010). *Teoriia i metodyka vykonavstva na trubi* [Theory and technique of performance on the trumpet]: navch. posib. [dlia stud. vyshch. navch. zakl.]. Kyiv: NMAU im. P. I. Chaikovskoho. 162 s. [in Ukrainian].
9. Posvaliuk, V. (2009). *Truba v epokhu baroko* [Trumpet in the Baroque era]. *Naukovyi visnyk NMAU im. P.I. Chaikovskoho*. Vyp. 83. Pp. 12–20. [in Ukrainian].
10. Tsiuliupa, S. (2007). *Dukhovi instrumenty v istorychnykh shliakhakh svoho rozvytku* [Wind instruments in the historical paths of their development]. *Istoriia stanovlennia ta perspektivy rozvytku dukhovoї muzyky v konteksti natsionalnoi kultury Ukrainy*. Vyp. 2. Pp. 6–13. [in Ukrainian].
11. Churikov, Ye. (2021). *Evolutsiia vykonavskoi tekhniki v konteksti rozvytku valtornovoho mystetstva* [The evolution of performing technique in the context of the development of horn art]: dys. ... d-ra filosofii: 025 Muzychne mystetstvo. Starobilsk. URL: http://old.odma.edu.ua/upload/files/disertatsiya_CHurikova_Ye.S..pdf [in Ukrainian].
12. Churikov, Ye. (2018). *Fenomen valtornovoho vykonavstva* [The phenomenon of horn performance]. *Kyivske muzykoznavstvo: zb. statei. Kulturolohiia ta mystetstvoznnavstvo*. Vyp. 57. Pp. 225–231. [in Ukrainian].
13. Iudkin, I. (2019). *Dukhove solo v yevropeiskomu akademichnomu kompozitorskomu ta vykonavskomu mystetstvi (tendentsii rozvytku, spetsyfyka, systematyka)* [Wind solo in European academic composition and performance art (development trends, specificity, systematics)]. *Muzykoznavcha dumka Dnipropetrovshchyny*. № 14. Pp. 157–160. [in Ukrainian].