

SINGING AND TRUMPET AS CONCERT OPPOSITIONS OF THE BAROQUE AGE

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Abstract: The article compares in detail the related spheres of solo performance, which reached the highest degree of virtuosity in the Baroque era - the *bel canto* vocal style and the clarino style, which involved playing in the treble register of a natural baroque trumpet. An analysis of the specific features of each of the performance spheres was carried out. Examining the methodology of the old Italian school made it possible to reveal the characteristic features of the *bel canto* style, which was formed in the performing practice of castrato singers of the Baroque era: the specifics of sound delivery, timbre features, ornamentation. Accordingly, the historical timbral semantics of the natural trumpet, its main varieties, evolutionary changes that led to its status increase to an orchestral one, and later to a solo virtuoso instrument are considered. These spheres are considered as concerted oppositions that often function in a compatible ensemble. The purpose of the study was to identify common features in the vocal style of *bel canto* and solo playing on the natural concert trumpet solo. As a basic method of research, a comparative approach was used according to the following criteria: non-temperedness, features of sound production, timbre semantics, features of the functioning of the trumpet in a baroque orchestra. A comparison of the performance capabilities and specifics of solo singing and the clarino trumpet showed that these areas are phenomena of a similar nature, namely: they are untempered "instruments"; they have similarities in sound production techniques; they are timbrally related, not only by high tessitura, but also by timbral semantics; in a similar way, they use musical and rhetorical figures to embody affects. The commonalities found characterize the compared phenomena as real products of the Baroque era, which combine polar characteristics: naturalness and mechanicalness, instrumental and vocal principles.

Keywords: baroque; *bel canto*; clarino; concert; concertino; the Old Italian School of Singing.

1 Introduction

Numerous cultural studies of the Baroque era successfully confirm the accuracy of the name of this historical period: "the translation of the word baroque (barocco) from Italian as "strange", "chimeric" is well known. Let us recall its less common, but chronologically older etymological source – "wrong", which best reveals the essence of the phenomenon. This is what pearls, whose shape was strikingly different from the classic spherical and had the appearance of an ellipse, oval, tablet, pear, drop, etc., were called from a long time ago (such pearls are still called baroque pearls) [3, p. 203]. The Baroque era has quite a few "irregularities" and contradictions, successfully combining what would seem to be difficult or impossible to combine. The individual and natural exist in an organic symbiosis with the artificial, unnatural and mechanistic, which is reflected in the musical art of the time in a unique way.

The central musical event of this era – the creation of an opera, a spontaneous consequence of attempts to reconstruct an ancient Greek tragedy – is connected with the desire to convey the peculiarities of living human speech through musical means. These persistent attempts led to an unprecedented flourishing of solo singing, which had a corresponding effect on the field of instrumental performance: the process of separating independent parts for solo instruments began in the Baroque orchestra. The rapidly growing priority of the individual element was articulated by the principle of concert performance born in the Baroque era – the opposition of individual instruments or their groups to the sound of an entire orchestra. Today, the fact that similar solos were entrusted not only to the queen of the orchestra, the violin, seems to be a strong proof of the scale of this general trend. In the Baroque era, instruments whose solo, and even more so, virtuoso potential in professional music art had not been anticipated at all before began to perform in this new quality.

This article will focus on the comparison of two related musical elements, whose virtuoso concert possibilities opened up and reached their highest point precisely in the Baroque period: the human voice and the solo trumpet. The purpose of the research is

to identify common features in the vocal style of *bel canto* and solo playing on the natural concert trumpet.

2 Materials and Methods

Identifying the common features of the studied phenomena - solo baroque *bel canto* singing and virtuoso clarino performance style - required a separate consideration of their features in the context of the processes in musical art characteristic of the baroque era. The rich experience of modern researchers and stage implementers of the historical manner of singing became a useful methodological toolkit for us - the fundamental work of the Dutch opera singer Daniela Bloem-Hubatka "The Old Italian School of Singing. A Theoretical and Practical Guide" [2]; the experience of the soloist of the Warsaw Royal Opera Olga Pasichnyk ([1], [5], [7], [10], [12], [15]), as well as the British singer, interpreter of baroque singing Emma Kirkby [11]. The used sources made it possible to identify the characteristic features of the *bel canto* style, which was formed in the performing practice of castrato singers of the Baroque era in terms of the specifics of sound delivery, timbre features, and ornamentation.

A similar study was conducted in relation to the solo baroque trumpet - its historical timbral semantics, evolutionary transformations that led to the status of a solo virtuoso instrument. The materials of the research were the works of S. Cichor [4], N. Harnoncourt [8], the doctoral dissertation of Tomasz Ślusarczyk "Rozwój i znaczenie sztuki clarino na przełomie XVII i XVIII wieku w aspekcie historycznej praktyki wykonawczej na podacie wybranych arii z koncertującą trąbką" [16].

In the process of comparison of the researched areas of solo performance, the following comparison criteria were taken into account: untemperedness, peculiarities of sound production, timbral semantics, peculiarities of trumpet functioning in a baroque orchestra.

3 Results and Discussion

A comparison of performance capabilities and specifics of solo singing and the clarino trumpet showed that these areas are phenomena of a similar nature, namely:

- They are untempered;
- They have similarities in sound production techniques;
- They are timbrally related, not only by high tessitura, but also by timbral semantics;
- Musical and rhetorical figures are used in a similar way to embody affects.

The commonalities found characterize the compared phenomena as real products of the Baroque era, which combine polar characteristics: naturalness and mechanicalness, instrumental and vocal principles.

Namely the specifics of the era that allow calling both of these performing units as *instruments*. The organic and typically baroque fusion of opposite principles – the highest degree of naturalness and the highest artificiality, putting the vividly individual on a pedestal and the functioning of mechanicalness as a basic interpretive method – can be traced in both researched spheres. Highlighting this aspect - one of many, in relation to such a complex and meaningful phenomenon as the Baroque - allows looking at the various facets of this mysterious era from a different angle.

The Baroque period gave the world a special way of singing. The basic principles of this art remain classic in solo vocal performance to this day. Since so far a lot has been written about opera and church singing and its flourishing in the Baroque era, let us touch in more detail on the factors that contributed to the formation of the voice as a concert instrument.

Italy, which played a decisive role in this case, also generated the corresponding commonly used term - *bel canto*. In parallel, alternative terms coexist. For example, the Dutch opera singer Daniela Bloem-Hubatka (lyric soprano), the author of a fundamental work on the method of setting the voice [2], emphasizes the terms “the old Italian school of singing” or “historical singing”, having significant reasons for this. The rich performing experience and the huge analytical work carried out allowed her to come to the conclusion that the 20th century (which is often compared and contrasted with the Baroque era in modern musicological studies) brought a tangible pluralistic disorder to the vocal performance discourse. As a result, today there are different, sometimes conflicting interpretations of both the term *bel canto* and ideas about which method of setting the voice exactly should be considered optimal and correct.

Namely in the Baroque era, in the 17th century, the foundations of the school of solo singing were laid, and the roots of this brilliant performance tradition, which is based on the most natural methods of using the anatomical features of the human body, have a paradoxically unnatural genesis: it is indicative and symbolic that the basic environment in which its actual foundations shaped, was the art of castrati singing.

The reward of the dangerous at the time, but church-sanctioned surgical operation was an unusual voice. In the churches of the 17th and 18th centuries, the singing of castrati often compensated for the lack of female voices, since women were forbidden to sing during liturgies. “By 1780, there were more than 200 castrato singers in Rome alone” [1]. Many of these masterful performers left behind works summarizing their performance experience. Among them, there are the memoirs and autobiography of Filippo Balatri (1682–1756)¹ methodical guidelines of Girolamo Crescentini (1762–1846)², etc.

Testimonies of contemporaries, as well as numerous existing examples of this amazing performing practice, which, thanks to modern technologies, we have the opportunity to hear today³, allow forming an idea about the characteristic features of castrato singing. Its most noticeable feature is an unusual – “non-human”, “superhuman” timbre. Sharpness, even shrillness and at the same time - flexibility, lightness, power and breadth of the range of this voice gave reason to contemporaries to call it the “cry of an angel”. A distant idea of the impression that this singing had on the listeners, especially on the female audience, who literally fell in love with both the voices and their carriers, can give the impression of an unnaturally high sounding voice artificially passed through a synthesizer (a similar effect was achieved by Oleksiy Rybnikov in the rock opera “Juno and Avos” created by him in 1980; the composer aimed to convey the unearthly, superhuman voice of the Mother of God). Daniela Bloem-Hubatka quotes the memories of Charles François Gounod, who in 1839 visited the Sistine Chapel and heard the castratos singing: “The severe, ascetic music, level and calm like an ocean horizon, serene even to monotony, anti-sensuous, and yet so intense on its fervor of religious contemplation as sometimes to rise to ecstasy, had a strange, almost a disagreeable effect on me at first. Whether it was the actual style of composition, then quite new to me – the distinctive sonority of those peculiar voices, now heard for the first time – or the firm, almost harsh attack, the strong accentuation which gives such a startling effect to the general execution of the score, by the way it marks the opening of each vocal part in the closely woven web of sound – I know not” [2, p. 30-31]⁴. It is significant that the described performance initially made an unpleasant impression on the composer, but this did not prevent him from coming and listening to this song again and again. The fact that Daniela herself emphasizes the same effect that the singing of Alessandro

Moreschi, the last of the castrati, who was called “the angel of Rome”⁵ had on her, is also significant.

The singing principles crystallized in the performing practice of castrati spread from Italy to other countries of Western Europe and became almost universally used during the Baroque era (with the exception of France, where the Italian manner was categorically not accepted). This technique was used in the famous old Italian “conservatories” - asylums for orphans, where the most talented of them could receive a brilliant musical education, learning singing and instrumental performance from such masters of music as A. Vivaldi, B. Marcello, N. Porpora.

Unlike the existing modern vocal techniques, which often harm not only the voice, but also the health of the singer in general, the correct vocal manner makes it possible to sing for a long time without fatigue and preserve the freshness and strength of the voice until old age.

The key postulates of this manner of singing are the following:

- A hard attack of the voice, *coup de glotte* (the place “sung with”, located below the vocal cords, in the depth of the throat, where the arytenoid cartilages are located; actually they, closing, ensure the vibration of the vocal cords; the vocal cords themselves, like the larynx, do not strain at all); just such a firm attack by Moreschi often starts the tone with a grace note, common practice in the Old Italian School;
- The role of the chest resonator, on the basis of which even the upper notes are performed (in combination with methods according to which the voice is “directed” to the bridge of the nose - the “mask”, to the top of the head, to the front teeth, etc.);
- Strong strengthening of the voice with breathing, accompanied by a certain tension of the abdominal muscles (*appoggiare la voce*); it is interesting that during the baroque period, correct breathing of singers was greatly facilitated by corsets;
- Singing with focused breathing: air should not escape uncontrollably during singing (when practicing singing, the performers held a mirror in front of them, the glass of which should not fog up, or a candle, the flame of which should not tremble from the flow of air);
- A straight posture, which contributes to the expansion of the chest, and therefore to a strong singing support (“breath prop”).

So, the performing manner used by the castrato singers of the Baroque era (and, therefore, a phenomenon whose main characteristic is the emphasized artificiality of its origin!), paradoxically defined the methodology of the school of solo singing a century later as being based on the principle of the most effective use of human body anatomical features. The most outstanding vocalists of different times grew up on the basis of this school (Shalyapin, Nezhdanova, Lemeshev, Sobinov, Kozlovsky, Patti, Batistini, Tagliavini, Björling, Tauber, Tucker, Gobbi, Mancini, Tosi, Nathan, Andreas Herbst, Pier Francesco, Agricola). Its active preachers were Manuel Garcia and his followers, whose activities date back to the 1930s: Henry Wood, Blanche Marchesi (her mother was a student of Garcia), Blanche Arral, and others.

Performance of baroque opera parts requires considerable endurance. “You can sing a part of *Traviata* or *Carmen*, but sing eleven arias of *Semele*, or nine arias of *Cleopatra*! Plus kilometers of recitatives, duets, trios, etc. Baroque repertoire often puts people off when they see how much material there is, because it is not two arias, but, for example, eleven, and they are all different. Or, let us say, there are parts where you have to possess a strong dramatic voice and at the same time a very light coloratura in order to be technically able to sing”, O. Pasichnyk [12] notes. The peculiarity of the manner of singing of the old Italian baroque school is that the method of sound production

¹ Frutti del Mondo, sperimentati da F.b., nativo dell'Alfea in Toscana 1735

² Raccolta di Esercizi per il Canto, Recueils d'Exercices, Paris, 1811

³ Audio recording of castrato singer Alessandro Moreschi (1858–1921) singing at the age of 40: <https://youtu.be/KLjvfnqD0ws>

⁴ Quoted from: Charles Gounod. Mémoires d'un Artiste, Paris, 1896, pp. 99–100. English Edition. Autobiographical Reminiscences, London, 1896, pp. 69–70.

⁵ D. Bloem-Hubatka indicates the following source of exclusive recordings of the singer: The Last Castrato, Complete Vatican Recordings, Pearl Opal CD 9823

offered by it is as natural as possible. It is based on a common way of talking or shouting - skills that a person has from birth, without thinking about how it is done.

Attention should also be paid to D. Bloem-Hubatka's accented misconception⁶ that only Italian singers can really reproduce such a vocally correct manner of singing, and representatives of more northern nationalities are completely unsuitable for this.

"Baroque is characterized by a prolonged stay within one emotional state, a deeper, all-consuming penetration into the finest subtleties of human feelings, which is accordingly accompanied by a richer palette of voice timbre tones", A. Guzhva and N. Mykolaichuk note [7, p. 155]. The correct manner of singing preserves the individuality of the voice, its unique timbre.

Describing the singing of Alessandro Moreschi in a trio with bass and tenor, D. Bloem-Hubatka uses a characteristic metaphor, noting that the voices seemed to "bite each other", that is, they did not merge into a homogeneous sound mass, but rather differentiated, according to the requirements of polyphonic works of Palestrina's and Cappocci, which they performed [2]. The concept of individuality and timbre uniqueness of baroque vocals is largely confirmed by the rich experience of the soloist of the Polish Royal Opera Olga Pasichnyk, which she generously shared at the master classes she held in Kyiv (2018–2019)⁷. In particular, the master points out the need of "painting" with the voice, as if with paint, during the performance of the work: according to the content of the music, it should be "watercolor, oil paint, or gouache" [7, p. 160].

Bloem-Hubatka notes that, often as a result of incorrect voice setting, the timbre of singing differs from the timbre in which a person usually speaks. Hence, there is a certain tonal uniformity characteristic of opera performers. Instead, the timbres of the voices of singers of the Baroque era were characterized by diversity, which was a direct consequence of the principle of reproduction of individuality, the uniqueness of human speech by musical means. This idea was born in the midst of the Florentine intellectual elite (philosophers, writers, musicians), centered around the Italian aristocrats - Count Giovanni Bardi and Marquis Jacopo Corsi, in whose houses the meetings of the circle (Italian - *camerata*) took place. The activities of the members of the *camerata* (Giulio Caccini, Vincenzo Galileo (the father of the famous scientist), Jacopo Peri, and others) focused on the search for optimal musical means, with the help of which it would be possible to reconstruct the ancient Greek monody. Such a reconstructed monody became a *secco* recitative, sung to the accompaniment of *basso continuo*. "Caccini's colleague Galilei explained in detail how the modern composer should proceed. He should listen to how people of various social classes speak with each other in all kinds of real situations, listen to how conversations or discussions are carried out between those of high and those of low station, and note how such discussions sound! These exercises will reveal to the composer precisely what he should set to music. (This is by the way, exactly the way in which the original performance style of Greek drama was conceived). Significantly enough, this new style was not developed by composers with classical training, but by dilettantes and singers" [8, p. 130].

A. Guzhva and N. Mykolaichuk present an eloquent example of a comparison of the performance of Cleopatra's aria from H. F. Handel's opera "Julius Caesar" by American opera singer Joyce Di Donato and French opera singer Patricia Petibó. The convincing and bright singing of both performers differs in shades of interpretation: while Di Donato's singing is based on the "affect" of anger and desire for revenge, Petibó's performance emphasizes helplessness and despair [7, p. 156]. In

this way, one can see the multifacetedness and conceptual variability of baroque arias.

The theory of affects should also be considered from a slightly different angle and those aspects that clearly characterize it as a product of the Baroque era should be emphasized in it. The essential feature of this theory is surprisingly accurately revealed by Quantz's statement quoted by N. Harmoncourt: "Music is nothing other than an artificial language" [8, p. 118]. Widely used rhetorical figures, embodied in the fabric of musical works as musical figures, performed the function of peculiar words and expressions. "These figures are more or less fixed sequences of tones which were used in the 17th Century in recitative and solo singing for certain words and expressive content. Separated from their text, these motifs were then used as purely instrumental figures, but were able to evoke the original meaning or feeling in the listener by association" [8, p. 120]. The last statement will be of significant importance in the further context of our research. In this context, the reverse process looks quite natural: "Bach then took this body of instrumental figures and transposed it back again into song. This interesting reversal may provide the reason that many singers find Bach difficult to sing, saying that he writes so "instrumentally"" [8, p. 133]. The mentioned peculiarity of the theory of affects as a conceptual basis of the art of the Baroque era allows seeing more clearly the dichotomy of naturalness and artificiality of the old Italian school of singing. The voice sounded like an instrument, and the instruments sounded like a voice. There was an active interpenetration of the vocal and instrumental spheres.

The performance potential of an opera singer-soloist (prima donna, tenor, castrato singer) was fully revealed in the *da capo* aria. Its three-part structure provided for a reprise with a cadenza, where the performer could demonstrate the maximum of his ability to virtuosic improvisation. Namely this section of the aria poses a particularly difficult task for the modern music-historical reconstructor. "Much of what an authentic musician can bring to his interpretive version is often not contained in the original notes, but is implied in the performance of the piece - ornamentation (vocal and instrumental), dynamic nuances, strokes, random signs of alteration and the like", - O. Zhukova notes [18, p. 21]. "The loss of the continuity of performance traditions starting from the Renaissance and Baroque, in the vocal art, calls for close attention to the problems of understanding and correct reproduction of ancient musical and artistic texts by modern vocalists", I. Kodenko rightly notes [9, p. 100]. According to the recommendations of O. Pasichnyk, decorations in the vocal part should match the words and not distort the content of the text; the cadence at the end of the *da capo* aria should not be a pure exercise in virtuosity [7, p. 159]. An experienced performer also points to the need for a singer to have good knowledge not only of own part, but also of the entire score of the piece, in accordance with the need for an organic ensemble of independent parts [7, p. 158]. We note that today the reconstructors of authentic baroque performance rightly strive to achieve certain optimal, if not ideal, performance solutions in the process of interpreting the works of this era. However, one must realize that in the times of the baroque opera "boom", when the singing of famous prima donnas and tenors was accompanied by ovations, similar to the audience's delight at the performances of current pop stars, conceptually flawless performances did not always take place.

The idea of reviving ancient tragedy through the transmission of natural human speech via musical means had somewhat different consequences than those envisaged by the creators of the Florentine *camerata*. The opera performance quickly became "overgrown" with conventions, which, however, did not cause objections in Baroque times: for example, it was quite natural for men to play female roles and, as a result, the fact was that female characters were often a head taller than their scene partners. Deeper contradictions and paradoxes also took place. What was initially conceived as living and natural, rather quickly took on the features of a certain mechanicalness. The art of singing, which skillfully reproduced various emotions, reached such a high level that it was not a mistake to compare it with a perfectly

⁶ Such a position is presented, in particular, in the work: Husler and Rodd-Marling, Singen, Mainz, 1965.

⁷ The opera artist became the curator of baroque opera productions in Ukraine by young enthusiastic domestic singers as part of the "Open Opera Ukraine" project. At first, opera "Dido and Aeneas" by Purcell (2018) was staged and performed, followed by "Acis and Galatea" by H. F. Handel (2019).

functioning musical instrument. The voice largely borrowed the techniques of the instrumental play: grace notes, mordents, trills, etc. At the same time, there was also a reverse influence: individual instruments begin to stand out from the orchestra, assigning them solo parts took place. In other words, the instrument begins to imitate the singing human voice. In fact, precisely thanks to the development of opera, its important components - arias *da capo*, ensembles, overtures, interludes, which are diverse in content and affect, - laid the foundation for the concept of concert performance in instrumental music, the central idea of which is opposition, the oppositional confrontation of *solo* or *concertino* and *tutti*. Voice and instrumental solos functioned as equal concert units in the Baroque period.

The English musicologist and composer Charles Burney (1726–1814) presents an eloquent illustration of the described phenomenon. The famous castrato singer Farinelli (1705–1782, real name – Carlo Broschi) in his youth performed during the 1721–1722 season at the Aliberti Theater, singing in operas by N. Porpora. According to C. Burney, "... during the performance of one opera, he competed every evening with a famous trumpet player in an aria, which he accompanied on this instrument; at first it seemed only a simple and friendly contest, until the spectators became interested in the dispute and divided into two parties; after many performances in which they both built up the same sound with all their might, showing the power of their lungs and trying to outdo each other in brilliance and power, they once filleted a sound with a trill in a tercio for such a long time that the audience began to look forward to the result, and both seemed extremely exhausted; and indeed the trumpeter, quite exhausted, stopped, supposing that his adversary was equally fatigued, and that the contest had ended in a draw; then Farinelli, smiling as a sign that he had hitherto only been joking with him, began in the same breath, with renewed vigor, not only to refine the sound in the trill, but also to perform the most difficult and rapid ornaments, until at last he was compelled to stop by the audience's ovation" [6]⁸. The given memories describe a completely natural phenomenon for the Baroque: the competition of concert oppositions, related in their ambivalence. The boundary between them is so uncertain that it would be quite fair to interpret both solos as phenomena of both vocal and instrumental nature. The described duel can be presented as a symbol of an era, the emblem of which is the mutual influence of the two specified musical elements that form a single whole in their dialectical opposition.

The first and most noticeable reason for such unity is the freedom of these performing areas from the problems of temperament, which significantly complicated the work of baroque instrumentalists.

The next aspect is related to the specifics of sound delivery. In her work, Bloem-Hubatka repeatedly compares the process of singing with a similar process of producing sound on a trumpet. Despite the fact that the human voice is undoubtedly a much finer and more refined mechanism, this juxtaposition still allows observing phenomena of a similar nature. In the production of sound on the trumpet, the same decisive importance is inherent in a "solid" sound attack with a strong breathing support - with the difference that the point of application of this attack is the trumpeter's embouchure (from the French *bouche* - mouth) - a special position of the tongue and lips, which the performer firmly presses to the instrument mouthpiece. By changing the tension of the lips, the pitch of the trumpet changes. Thus, the performer's lips play the role of vocal cords, and the aperture between them vibrates in a similar way, allowing the flow of air.

At this stage of our research, we consider it expedient to change the focus of attention and move on to consider the features of the functioning of the newly announced baroque phenomenon - an instrument whose performance capabilities also reached their limit at that time: after all, the historical period of the baroque is often called the "golden age of the natural trumpet".

Let us specify a notable feature: the baroque trumpet and the voice of castrato singers have points of intersection in the field of timbre semantics. The well-known historical function of the natural trumpet, the existence of which dates back to ancient times, is a signaling instrument. Its other but less emphasized semantic aspect is sacred one (ritual, magical), essential for the cultures of the peoples of Africa and the Mediterranean, which, in particular, is pointed out by Tomasz Ślusarczyk in his dissertation [16]. The author draws attention to biblical evidence in favor of the fact that in ancient times the timbre of the trumpet was interpreted as the voice of God (in turn, the analogy with the unearthly, "angelic" sound of the voices of castrato singers becomes surprisingly clear). The researcher emphasizes that namely this aspect related to historical symbolism is "the most important element that connects the trumpet used several thousand years ago with the baroque trumpet..." [16, p. 14]. The historical sacred symbolism of the trumpet acquires new shades in the Baroque era. N. Harnoncourt, emphasizing the important role of number for the Baroque era, notes that the natural overtone series of the trumpet was a literal, living embodiment of the theory of proportions. "Hence it could only be used to symbolize God or the highest royal personages. C or D major with trumpets was reserved for the greatest lords; a situation from which trumpeters profited as they were accorded a status far superior to that of other musicians" [8, p. 62]. The social status of trumpet musicians was high and well-paid (the "golden age of the trumpet" is directly synchronized with the duration of the monarchy). In addition, the ancient elitist mission of the trumpet as a court instrument (the voice of power, the voice of God) is complemented by a new function - a solo virtuoso instrument. Like opera prima donnas, tenors, and castrato singers, trumpet performers are very popular, portraits are painted of them, odes are composed in their honor.

Authentic instruments that have survived to this day, illustrations and other works of fine art from the Baroque period give us an idea of the variety of forms of ancient trumpets. The analysis of iconographic sources allows concluding that during the European Middle Ages, the length of the trumpet was approximately 50–80 cm [16, p. 24]. "At the beginning of the 15th century, thanks to the lengthening of the trumpet to 150 or even 210 cm, the sound was automatically lowered by an octave. Music-historical studies indicate the existence of various forms of trumpets - straight, S-shaped, spiral, twice curved oval, etc.: "some have their trumpets built like a post horn, others like a snake, all coiled up (Praetorius 1619)"⁹. In particular, a new method of bending brass sheets led to the appearance at the beginning of the 16th century of such types of instruments as the tower horn (German *Thurnerhorn*), the ordinary trumpet (German *Hochtrompete*, English *clarion*) and military or field trumpets (German *Feldtrompete*). However, the difference in shape did not mean a difference in performance opportunities, since "the shape of the bend of the main trumpet does not affect the extraction or formation of harmonic tones in the instrument. The main role in the formation and location of the air column inside the trumpet is played by its hardware¹⁰ and the shape of the bell" [16, p. 24].

The range of natural trumpet, which contained two or three sounds from the old times, is radically increasing. "By saving the proportionate types of natural trumpet, the possibility of 'extracting' of full three-octave overtone row on the same instrument was obtained" [16, p. 24]. Reconstructing this scale, researchers present its different variants, according to the features of the instrument's composition. Guided by the specific tasks of our intelligence, we present the most complete version of this scale:

$$c - g - c^1 - e^1 - g^1 - b^1 - c^2 - d^2 - e^2 - f^2 - fis^2 - g^2 - gis^2 - a^2 - b^2 - h - c^3 - d^3 - e^3 - f^3 - g^3$$

Not all sounds in this range were perfect. "Since the 11th partial f^2 , was too high and ... hovers between F and F-sharp, while

⁸ Quoted from: <https://jak.koshachek.com/articles/farinelli-farinelli.html>

⁹ Quoted from: [8, p. 115].

¹⁰ Hardware of the trumpet is the ratio of its length and cross section.

rendering neither of these purely, and could therefore be called a musical hermaphrodite (Altenburg, *Trompetenkunst*, 1795)... and the 13th, a^2 , was too low, attempts were made to compensate for these impurities either with the embouchure or by making a transposition hole to be closed by the thumb. This raised the whole instrument by a fourth; now f^2 and a^2 became the fourth and fifth partials and could therefore be played in tune" [8, p. 115]. In particular, J. S. Bach often used in his works both the above-mentioned traditional semantics of the tone of the trumpet, which involved the image of "divine or worldly rulers", and the specific, false sounding of tones B-Flat¹, F² and A² "to represent terror, the dreadful, the devil" [8, p. 87].

It is significant that namely in the Baroque era, this instrument was raised to an unprecedented height. Once again, we have the opportunity to observe the baroque synthesis of naturalness and artificiality - the naturalness of the untempered natural arrangement, which relates this instrument to a living voice, and the difficult way of extracting the highest notes in the treble register. The difficulty of this process is described, in particular, by Johann Ernst Altenburg (1736–1801). The illustrious German trumpeter and son of a trumpeter emphasizes that this art requires an excellent breathing apparatus, endurance, flexibility of the tongue and an impeccable embouchure. However, these difficulties did not really stop the virtuosos of that time.

The debut of the trumpet in the opera orchestra was the overture (introductory "Toccata") in Claudio Monteverdi's opera "Orpheus" (1608). For the first time, an independent orchestral part was written for the trumpet. However, the very act of introducing this instrument to the orchestral score was a continuation of the long-standing tradition of opening a theatrical performance with a fanfare. In opera and theater orchestras of Western European countries, trumpets were usually combined with timpani and had a traditional semantic load: the appearance of a royal person or his envoys on the stage, various kinds of celebrations, etc. "Compositions for festive occasions called for trumpets and kettle drums", N. Harnoncourt notes. – "These, too, are usually incorporated into a four-voice texture and are generally only added to the oboes and violins for additional timbre" [8, p. 114].

Trumpets, like wind instruments in general, are gaining increasingly more independence in the orchestra. At the beginning of the 17th century, the natural trumpet began to function as a concert instrument in the field of sacred and secular music not only in Italy, but also in Germany, Austria, and Switzerland. Contemporary for the time treatises written by composers and performers were devoted to the art of playing the trumpet: "Tutta l'arte della Trombetta" by C. Berdinelli (1614), "Grund-richtiger, kurz, leicht, und nothiger Unterricht der musikalischen Kunst" by D. Speer (1687), "Modo per imparare a suonare di tromba. Frankfurt" by G. Fantini (1638).

In the process of performance practice, the range of the instrument was spontaneously divided into three main registers:

1. The lowest - *field* (performed by field pipes) $g - c^2$;
2. *Principale*: $c^1 - g^2$ (often did not exceed c^2 , playing in this register was also called the signal-fanfare playing);
3. *Clarino*: from c^2 to f^3 [16, p. 25–26].

Playing in these registers was often carried out on different trumpets, since the transition from register to register is associated with a difficult adjustment of the embouchure. T. Ślusarczyk cites additional and alternative register gradations practiced during the Baroque era:

clarino: c^2 do c^3 ;
contrclarino: $g^1 - g^2$;
quinta (sonata aŕo principale): c^1, e^1, g^1, c^2 ;
alto e basso: c .

The division of registers of the trumpet according to Edward Tarr looks as follows:

flatter - C; (rough)
basso grobstimme (rough bass) – c, g ;
vulgano (vulgar), *tenor* – g, c^1, e^1 ;
alto e basso – c^1, e^1, g^1, c^2 ;
principale (main), *quinta, sonata* – e^1, g^1, c^2, d^2, e^2 ;
clarinosecundae, contrclarino – $g^1, c^2, d^2, e^2, f^2, g^2$;
clarino, primarius – $c^2, d^2, e^2, f^2, g^2, a^2, h^2, c^3$ [16, p. 27].

The context of our research prompts us to focus on the highest of the listed registers – the *clarino*, in which the sounds were produced by "precedence" and which, in contrast to the strong and shrill sound of the *principale*, was characterized by a soft, velvety sound in the treble register. The Baroque era awarded the trumpet with a gentle, singing timbre, close to that of a flute. According to the German-English composer Gottfried Keller (died 1704)¹¹, the trumpet "learned to play softly" and create an ensemble with delicate flutes and weak human voices¹². The names of high instrumental registers containing the root "clar" or "cler" (high, clear) were used back in the 15th century in Germany, from where they came to Italy. Therefore, the term *clarino* should be understood not as an instrument with an appropriate range, but as playing in the high register, the style of such playing, etc. [13, p. 12].

Almost from the very beginning of the formation of the opera genre, the trumpet solo and singing began to actively interact in its environment. In opera arias, solo vocals are increasingly contrasted with trumpets. Opera arias with concert trumpets appear in the operas of Henry Purcell, Jean-Philippe Rameau, and Antonio Caldara. Alessandro Scarlatti actively uses the trumpet in the opera arias. The so-called trumpet arias move from opera to other major vocal-instrumental genres. Examples of such a transfer are the aria "The Trumpet Shall Sound" from H. F. Handel's oratorio "Messiah" and "Jauchzet Gott in allen Landen" – an aria from the cantata WWV51 by J. S. Bach.

Concerting of a solo trumpet (or two or three trumpets) is actively implemented in instrumental music as well. The principle of concerting a solo instrument or a group of instruments with voice and orchestra was vividly realized by Heinrich Schütz (1585–1672) in his "Spiritual Symphonies".

During the Baroque period, Western European composers of various countries created many works where the timbre of the trumpet is combined with strings and *basso continuo*. Among them, there are the opening and interlude sections of sacred works by Andreas Hammerschmidt (1611(12)–1675), Heinrich Schütz, trumpet sonatas and basso continuo by Girolamo Fantini (1600–1675), whose work became decisive for formation of the solo trumpet as a concert instrument. Alessandro Stradella (between 1639 and 1644–1682) and Carlo Pallavicino (around 1630–1688) made a major contribution to the development of the virtuoso *clarino* style.

The separation of solo instruments and *concertino*¹³ instrumental groups from the baroque orchestra led to the creation of new instrumental genres - the church sonata, which later developed into the classical sonata and concerto. A significant place in the samples of the mentioned genres was occupied by the trumpet, in particular, in the works of Maurizio Cazzati (1616–1678), Giovanni Paolo Colonna (around 1640–1695), Petronio Franceschini (around 1650–1680), Giovanni Battista Bononcini (1670–1747), Domenico Gabrielli (1651–1659).

The creators of the violin concerto - Antonio Lucio Vivaldi (1678–1741), Arcangelo Corelli (1653–1713), and Giuseppe Torelli (1658–1709) - greatly contributed to the flourishing of the trumpet as a concert instrument, creating complex pieces for the *clarino* trumpet. Vivaldi's works for the trumpet include his concertos for this instrument, concertos for two flutes, oboe,

¹¹ Gottfried Keller (or Godfrey Keller, died 1704) - harpsichordist and composer who lived and worked in Germany, and in the last years of his life - in England.

¹² Quoted from: [13, p. 17].

¹³ The baroque opposition of *solo i tutti* is reflected even in the construction of the harpsichord keyboard, where there is a division into different timbre registers. Another analogy is the registers of the organ, with which the instruments of the baroque orchestra were identified.

English horn, two trumpets, violin, two violas, string quartet and two harpsichords, as well as nine concertos for five trumpets and string orchestra, three concertos for violin, trumpet and string orchestra, two concertos for two trumpets with string orchestra and organ. In particular, in the works with the participation of the concert trumpet, a characteristic feature of Vivaldi's style is manifested - a variety of tempo and dynamics, which is evidenced by a significant number of relevant textual marks. This feature (innovative at the time) is an echo of the dynamic and tonal richness of baroque solo opera numbers.

“Without the birth of the *concerto grosso* genre in the works of A. Stradella and A. Corelli, the reduction of *concertino* to *solo* by one performer, carried out by J. Torelli, would hardly have been possible”, V. Rakochi notes [14, p. 65]. In Torelli's creations, we find works for both one and two solo trumpets. His 28 sonatas for one or two trumpets, strings and bass, as well as his Sonata No. 1 for trumpet, string orchestra and organ, concerto for trumpet and strings, symphony for two trumpets, strings and organ are known. Tomaso Giovanni Albinoni (1671–1751) made his contribution to the development of the concert trumpet. Two concertos for trumpet and string orchestra belong to the composer.

In addition to Italians, composers from other European countries also wrote for the solo trumpet. Thus, the sonatas and concertos of Johann Heinrich Schmelzer (about 1623–1680), Antonio Bertali (1605–1669), Johann Samuel Endler (1694–1762), Johann Friedrich Fasch (1688–1758 (the works of this composer were published only after his death)) have survived to our time. In the Habsburg Empire, there were orchestras and ensembles at the courts of the nobles, in which first-class Czech and Austrian musicians worked. These musical groups stimulated the appearance of numerous works for solo instruments and orchestra, including concert trumpet. In particular, such high-level ensemble was created at the court of the Prince Archbishop of Olmütz, Karl Count Liechtenstein-Kastelkorn, headed by the talented violinist and composer Heinrich Ignaz Franz von Biber (1644–1704). A considerable number of works were written by this musician for the team he managed. In particular, “he wrote a large number of quite important trumpet solos for the first trumpeter, Pavel Vejvanowsky, who later succeeded Biber as orchestra director” [8, p. 153]. In the middle of the 20th century, professional musical circles had the opportunity to familiarize themselves with the music of Pavel Josef Vejvanovsky, a Czech composer (about 1640–1693). Among his found works, there are a serenade and two sonatas with the participation of *clarino* trumpets. In one of the sonatas, the composer even uses the chromatic sounds of the upper range of the trumpet. Georg Phillip Telemann (1681–1767) also wrote for the trumpet. His concerto for trumpet, string orchestra and *basso continuo* in D major, which also uses super high sounds of the overtone series are used, is frequently performed nowadays. The sonata for trumpet and strings by H. Purcell is also known.

The pinnacle of the virtuoso *clarino* style is the second Brandenburg Concerto by Bach in F major, where the *concertino* group, in addition to the trumpet, includes flute, oboe, and violin. Bach introduces the last overtone of the natural trumpet range - g^3 , a sound that is almost impossible to perform, in the trumpet part. It is assumed that this part was performed not by one, but by several trumpeters. In the 19th century, a special, highly tuned trumpet was made for its performance [17, p. 39].

The final stage in the development of the trumpet concerto in the *clarino* style is the works of the mid–18th century German composer I. M. Voltaire.

The “golden age of the natural trumpet” lasted until the second half of the 18th century - the revolutionary times of the breakdown of the Western European social system. With the fall of the power of the monarchs, the need for its musical symbol - trumpets and fanfare - disappeared, and therefore this art had to undergo its decline. The last of the pedagogical treatises dedicated to playing the trumpet (“Versuch einer Anleitung zur heroisch-musikalischen Trompeter- und Paukerkunst”, 1795) was written by J. E. Altenburg with the aim “to help restore the

position and meaning of the trumpet. But it was not possible to achieve this. Altenburg's work reminded only of the lost art and traditions of the old order” [16, p. 17].

4 Conclusion

The examination and comparison of the features of solo singing and the natural trumpet as related concert instruments of the Baroque period made it possible to make sure that the compared spheres have a similar nature. Their functioning during the specified historical period has features of ‘kinship’ in various aspects.

In accordance with the dominant trend of the time – the active mutual influence and interpenetration of vocal and instrumental principles – *bel canto* solo singing and the *clarino* style during the Baroque period functioned as concert oppositions similar in their performance qualities. This often resulted in joint concerts.

Free from temperamental mensuralty, these spheres are based on a similar sound production apparatus: the embouchure of a natural trumpet is a peculiar (albeit comparatively more primitive) analogy of the gap between the vocal cords; in both situations, a hard sound attack (*coup de glotte*) is used.

The *bel canto* style and the *clarino* style are characterized by similar tonal semantics. The most obvious feature of their similarity is, of course, the use of high (and even super high) tessitura. In addition, sacred associations related to the timbre of the trumpet, historically rooted in the ancient cultures of various peoples, are correlated with similar associations regarding the timbre of the voice of castrato singers - the actual founders of the old Italian school of singing. The consequence of the functioning of this kind of semantics was the widespread singing of castrati in temples, as well as its metaphorical identification with the “cry of an angel”.

Another parallel appears in the process of considering the investigated phenomena through the prism of the theory of affects - the aesthetic basis of the processes and trends that took place in the musical art of the Baroque era. Affects produced in vocal performance practice were realized in specific musical figures in the *da capo* aria. These figures in their complex constituted a kind of mediated signal system - a kind of dictionary. “Lexemes” of this dictionary, in the process of active interaction of vocal and instrumental spheres, freely passed from opera arias into the musical fabric of instrumental works - sonatas and concertos, where they were recognized without the corresponding verbal text. Subsequently, an interesting reverse process of the transition of musical and rhetorical figures from instrumental music back to singing took place (in particular, in the music of J. S. Bach). The specified method of embodying various affects in music helps to see the essential common feature of the performance specifics of solo vocals and trumpet: an organic fusion of naturalness and artificiality, the “instrumentality” of the voice and the “vocality” of the trumpet, typical of the Baroque.

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