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*Andriy Karpyak (Lviv-Kyiv, Ukraine)*

### **ENSEMBLE APPOINTMENT OF T. BOEHM'S WORK**

It has for a long time been accepted to consider that the invention of the cylindrical flute by the Munich master Theobald Boehm in 1847 was aimed at meeting new demands of the symphony orchestra. The latest research and addressing the sources of the idea and implementation of the genius master, the peculiarities of instrument implementation into the musical practice during the next one hundred years reveal other reasons for popularity and purpose of the modern model of the flute.

Not only did the invention of T. Boehm stop, but it rather stimulated further search of a new orchestral flute, provoked the invention of the following interesting and effective patterns of the instrument. On the edge of 19–20<sup>th</sup> centuries the outstanding composers, conductors and flautists were completely satisfied with the improvement of the traditional instruments and in some cases they criticized the instrument of Boehm severely. Johannes Brahms, Artur Nikisch, Charles Camille Saint-Saen, Paul Hindemith, Sigfrid Karg-Elert and Carl Reinecke praised the full-toned key of Maximilian Schwedler's instrument [10, p. 178]; Richard Wagner and Hermann Levi made Rudolf Tillmetz return to the usage of the conical flute [11, p. 191]; Petro Chaikovsky studied and cooperated with Cesare Ciardi, a populariser of the flute with many tone holes invented by Stefan Koch, and his musical and theoretical studies apprentice Oleksandr Khymychenko (1856–1942), a graduate of F. Buchner, another supporter of “the Viennese flute”, was the advisor of the composer in the usage of new flute performing methods [2, p. 41]. R. Strauss and G. Mahler, recognizing the achievements of the Munich master, used various types of instrument.

Even after a detailed, versatile, long professional acquaintance with Boehm flutes, it seems that many orchestra specialists make illogical decisions. Therefore, J. L. Tulou, having strongly justified his choice, absolutely rejects any attempts to protect the positive characteristics of Boehm instrument [8, p. 81].



J. L. Tulou's Flute

At first, having enthusiastically greeted the invention and having ordered T. Boehm a new flute (1848) G. Briccialdi eventually suggests his own patterns (conical flute, 1860, metal cylindrical flute, 1869). Having been praised a lot by T. Boehm for a highly professional performing, C. de Vroye remained the supporter of the conical flute of the Munich master [7, p. 216]. Taking into account the events which happened right after the invention of the cylindrical flute it is of the utmost importance to concentrate on two serious opponents of Boehm invention.



T. Boehm's conical flute (1832)

In 1853 the master from Hanover – Heinrich Friedrich Meyer (1814-1897) patented an extremely successful invention [12, p. 252]. As the artist stated, the creation of a new flute had been caused by the considerable increase in the number of stringed and brass instruments in a symphony orchestra and with no change in the number of woodwind instruments after 1830. Meyer forms new, opposite to T. Boehm type of the twelve-key flute with the expansion of the range to a low si, and addition of a head made of ivory or wood. A new flute receives more thorough placement and expanding of the key holes with the usage of the metal plain bearing, expanding of a mouth place. The changes favoured the increase of the performing loudness and simplified the obtaining of higher and lower registers in case of extreme sound conditions. The flute had been successfully used in the orchestras of Germany, Austria, Italy, Scandinavian countries, Russia and the USA until 1930s and even afterwards.



H.F. Meyer's Flute

In 45 years, in 1897 musicians greeted a new reformed “Schwedler-Kruspe” flute by Maximilian Schwedler (1853-1940) [9, p. 6]. M. Schwedler explained the reconstruction of the instrument by the need of a high-quality reproduction of the complicated flute parts in the works by J. Brahms, P. Chaikovskyi, G. Mahler, R. Strauss and other contemporary composers [5, p. 144]. The instruments of T. Boehm and H. F. Meyer had considerable difficulties in overcoming the defects of the system in a high register. M. Schwedler flute allowed the performers to be on really soft dynamic scale in a complicated high register, apart from that, it made it possible to sound louder in a low register of the instrument as compared with the cylindrical flute of T.Boehm [12, p. 57]. The instrument became a serious and long-lasting opponent of the Munich master creation: the last professional M. Schwedler's flute performer finished the orchestra practice in Dusseldorf in 1940, however, the episodic usage of the instrument could have been noticed even until 1960s. Professional performers could reach absolutely amazing sound playing the last conical flute, and they did not yield to Boehm flute performers in the loudness of the execution or the dynamic flexibility [4, 513p.]. Perhaps more complicated system of the model if compared with the cylindrical flute of T. Boehm (21 key holes were opposed to 14 key holes in T. Boehm's cylindrical pattern) and the problems of the instrument adjustment to the performance in a chamber ensemble became the main reasons for elimination from the musical practice of M. Schwedler's flute [6, P. 12, 29, 43].



M. Schwedler's flute

The issue of the sounding and flute dynamic adjustment to the conditions of an ensemble with the piano generates the contemplations about the reasons of elimination of the competitors' patterns and the approval of Boehm's creation in the performing practice. Despite the pursuits of the masters in XVIII-XIX centuries of a new flute for a symphony orchestra, the success of T. Boehm is connected with the creation of the instrument for the piano ensemble. For many decades

there had been disputes concerning the appropriateness of the usage of cylindrical flute in the orchestra, however, the time, when the creation of the professional ensemble flute repertoire started (first half of XX cent.), put an end to the discussions about the choice of the instrument.

Supporters of the traditional XIX century flutes, having doubts in the advantages of T. Boehm's instrument in the aspects of volume, originality and spirituality of sounding, quality of intonation, noticed the perfection of the operation, simplicity of sound production, unbelievable equality of the registers, "sharpness and artificial self-confidence, monotony and emotional coldness" [11, p. 190] of the instrument – perfect irreplaceable features for an ensemble with the piano. A. Schweitzer pays attention to the analogous features of a new key pattern which in XIX century influenced not only separate instruments but also an orchestral style – the increase of the power of piano sounding led to the loss of the colouring, brightness and transparency [3, p. 259].

Enthusiasm of T. Boehm for the rapid progress in the keyboard instruments' art, improvement of the acoustic characteristics and even active participation of the master in the improvement of the piano action elements indicate that the piano became the example for the flute. Volodymyr Kachmarchyk emphasizes the fact that in 1835 T. Boehm receives the patent for the improvement of separate elements of the piano's key action [1, p. 222].

Reaching of the homogeneous timbre within the whole range of flute, steely brightness and the distinctness of sounding in higher register, maximum simplification in the conducting of upper register and the performing in the tonality with a big number of the key signs, final deprivation of the flute ability to multiintonation, adjustment of the instrument to the tasks of a tempered system, taking care about little breathing consumption while performing – it is not a complete list of the ensemble characteristics of T. Boehm's instrument, that helped the disputed pattern win the battle for the most important genre of the chamber music performance together with the piano. Thus, regardless of the disputes of the artistic character, the history of the modern flute development was more benevolent to the improvement of the surface and dynamic characteristics of the instrument, paying much attention to the improvement of balance features and unification of registers, separate tones, simplification of the system of mastering<sup>1</sup>, and the very instrument became truly popular when a new repertoire for the flute and piano appeared.

Musicians of XIX century strictly distinguish the notions of power or full voice, sharpness or rough monotony of sounding of the instrument,

most probably interpreting the first meaning as having much more feeling of character and timbre uniqueness. In any case, nowadays, even on condition of the professional mastering of old instruments, it is complicated to understand what was the real meaning of the characteristics of the sound and dynamic and colouring features of flutes by the masters and the audience in XIX century, since it was closely connected with the aesthetic preferences and the mentality of the previous era. Unlike Theobald Boehm, the competing flute companies were not able to absolutely take into account the tendencies of development of the piano – the most important partner of the solo flute, thus the question of the failure of the Munich master's opponents' best inventions was only a matter of time.

Footnote<sup>1</sup>: We will revise here also bringing to practice of profanation of the system of T. Boehm which manifested itself in the implementation of the closed key Gis of L. Dorus and manipulations of B-H of G. Briccialdi.

**Keywords:** *Flute models of 19–20<sup>th</sup> centuries, technical quality of T. Boehm's invention.*

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