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A Short Summary of the History of the Flute

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1. Flute-History

A SHORT SUMMARY OF THE HISTORY
OF THE FLUTE

A Paper
Presented to
Mr. Ralph Rauch,
Special Studies Consultant

In Partial Fulfillment
of the Requirements of the Honors Program
of Ouachita Baptist University

by
Juanita Nicholson
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The birth of the woodwinds as we know them today came in the time of Lully with the invention of the oboe in France. The woodwinds developed mainly as a means of producing a variety of contrasting tone colors. The four main woodwinds-- flute, oboe, clarinet, bassoon--produce four very different sounds, yet blend perfectly well.

In the early days of the orchestra the woodwind section consisted of a pair of oboes, usually playing a melody in thirds. Sometimes the performers would lay down their oboes and play flutes or recorders. Later two bassoonists were added, mainly to provide an independent bass line.

With the generation of Handel and Bach, the section was expanded to include separate flute players. Next in the eighteenth century, the little woodwind choir was supported by the harmony of a pair of horns, and, to quote Baines, "the horn-players have ever since remained the woodwind's closest associates under the hand of the composer."¹

By about 1780 most important orchestras in Europe had a pair of clarinets, also. Of course, the modern full-sized orchestra has many more colors to draw from--the piccolo, the English horn (which can be described as a contralto oboe), the bass clarinet, the contrabassoon.

¹Anthony Baines, Woodwind Instruments and Their History (London: Faber and Faber Limited, 1957), p. 26.

Of all the woodwinds, the flute was the first in the order of ceremonies and was inherited from the ancient panpipe. Palaeolithic man noticed tens of thousands of years ago that a hollow bone, a dried-up fruit shell, or a piece of hollow cane might give a sound if blown upon in certain ways. This was the first attempt of man to produce "flute sounds"--a sound which proved, to some peoples, interesting enough to develop.

At first this phenomenon, which took place about twenty-thousand years ago, was attributed to magic and the tribal medicine man was soon deliberately fashioning flutes to aid in curing sickness, stopping rain, and communicating with spirits.

These early flutes were scarcely more than one-note whistles, but the variety in form that has been found is astonishing. Some were played vertically, others transversely; some had mouth-holes placed in the middle, others on one end, and some simply had an open end to blow across. There are differing opinions as to which type was actually first and in what order they developed.

Of course, those one-note whistles did not produce what would now be considered "music", but when two bamboo flutes giving different notes were blown alternately by two different performers, a type of music was produced.

One type of ceremonial music employed a set of several instruments, each tuned to sound one given note. The set was commonly tuned to a tetratonic scale.

The primitive flutes varied greatly in size from very small instruments to giant pipes, five or even seven feet in length, all having a vigorous, reedy tone, the deepest flutes sounding unbelievable like a bass clarinet.

One primitive flute-like instrument is called the panpipe and consists of several one-note flutes attached to each other in some manner. Some were a small row of vertical cane flutes fastened together, each stopped at the bottom by a knot in the cane. Sometimes a row of open-ended pipes was added on top, and others had a single row of open-ended pipes as in the old Chinese ceremonial panpipe. Some were tied in bundles instead of in a row.

The first primitive flutes, of course, had no finger holes, thus limiting their capabilities and necessitating the use of harmonics in producing different sounds. It is amazing how much primitive man learned about harmonics and to what extent he made use of this knowledge in creating elaborate tunes on the harmonics of one flute alone. It was inevitable, therefore, for man to discover that an extra hole or two considerably extended the scope of the harmonic flute.

A rather exotic and very interesting variant of the primitive flute, although much less common, were the various types of nose flutes. The end-blown type is associated with Malaya and Borneo and is blown by holding it sideways under the nose, one nostril being plugged with a rag or piece of tobacco. The tone is bright and clear. The most celebrated one, however,

is the side-blown nose flute which is the national wind-instrument of Polynesia.

The développements of the flute continued through the centuries until a fairly competent six-holed instrument was established. Early flute players experienced great difficulty in playing their instrument in tune. Such adjustments as cross-fingering, constantly changing embouchure, using extra joints of different lengths for playing in different keys--all had to be made use of. This led to the development of much additional key work for the flute. The problem was that of adopting a system of mechanism that would be certain, silent and light in its action; simple in its construction, and reasonably enduring; and finding just such an arrangement has been a great task for over two centuries.

Before 1660 all flutes were probably made of wood, the mouth-hole was round or nearly so, and they probably all had cylindrical bores. Although keys were common on other wind instruments, the flute probably just had no more than six finger holes, except for large flutes which required keys in order for the fingers to cover the holes.

The rude construction of the early flutes and their limited capabilities must have been compensated somewhat by the charm of their peculiar tone--added to this the fact that a skillful player could rectify many of the imperfect notes.

The first really great improvement in the flute was the addition of a new finger-hole, giving d#, which was covered

by a closed key governed by the little finger of the right hand. The name of the inventor and the exact date are not known, but it was around 1660.

At about the same time another improvement was made, namely the diminution of the finger-holes.

Around 1699 Louis Hotteterre, son of a Paris wind-instrument maker, published a book of excellent instructions in flute-playing, including tables of fingering, with rules for sounding each note of the scale in the manner best adapted for it.

About 1722 the flute was lengthened in order that c' and c'♯ might be produced.

For the next century and a half, improvements in the flute were tried by many different people. The first attempt to construct a flute on rational principles--or actually by any definite principles--was by a man named Tromlitz in 1800. Three years later other worthy attempts were made by Dr. Pottgiesser. Dr. Pottgiesser pointed out that his flute was not perfect but stated that it was his object "...to further the study of the construction of the flute; to give impetus to the spirit of invention with regard to this beautiful instrument, and to combat the opinion that the present flute with keys is capable of no further improvement."²

²Richard Shepherd Rockstro, A Treatise On the Flute (London: Musica Rara, 1928), p. 266.

Other interesting developments in the history of the flute are the construction of a metal flute by George Miller in 1810 and the re-enlargement of the finger holes by Charles Nicholson. Also, about this time, flute manufacturing companies began to be established such as C. Nicholson, Improved; Clementi and Company; and Rudall and Rose.

Captain William Gordon of one of the regiments of the Swiss Guards of Charles the Tenth became the next important name in flute history. He was a very distinguished amateur performer and diligently attempted to make improvements in the instrument around 1831. Gordon was the first to succeed in developing a complete and rational system of open holes, founded on the crude schemes of Tromlitz in 1800 and Pottgiesser in 1803, and in devising a mechanism by which that system was made practical.

The next and most significant name is that of Theobald Boehm. In his own words, "A desire for a better instrument grew in proportion to my progress in flute-playing."³ At first it seems Boehm copied the general design of his flute from Gordon's, but that he altered, and to some extent simplified, the mechanism.

Throughout the latter nineteenth century the flute continued to be experimented upon. Alterations in Boehm's flute were made by C^oche and Buffet. Other important names are Cornelius Ward, H.W. Carte, Abel Siccamo, John Clinton, Guilio Briccialdi, Richard S. Rockstro, Robert S. Pratten and William Lewis Barrett.

³Ibid., p. 321.

The general construction of the flute today includes a head joint with a mouth hole; a middle joint which contains the main keywork; and a foot joint which contains keys for the right little finger.

There are two types of flute bore. The conical flute is a heritage from the eighteenth century and has a cylindrical head with body and foot joints contracting conically towards the lower end. The conical bore is retained today mainly for piccolos and band flutes.

The cylindrical bore was introduced by Boehm in 1847 and is standard for the flute today. It is used everywhere with Boehm's basic system of mechanism and fingering except for certain alternative systems still found in England such as the Rudall Carte system of 1867 or the Radcliff system.

Today's flute is almost exclusively made of metal although wood is somewhat traditional in England, Germany and Eastern Europe. Flutes made of wood have a denser, more powerful sound than those of metal and require more forceful blowing and a tighter embouchure. Lightness and delicacy of control are obtained with skill and practice. Metal flutes yield a lighter, more limpid tone and respond well to lighter attacks and to a looser or more relaxed embouchure. The metal is normally silver, but various alloys and stainless steel are used for low-priced models. More costly dense metals such as platinum or gold are sometimes used, but silver is better, according to Baines.

Today's flute family includes the piccolo which sounds an octave higher than the flute but is fingered exactly the same; the alto flute, which is Boehm's "G Bass flute" pitched a fourth below the ordinary flute; and the rare but imposing bass flute which sounds a full octave lower than the regular flute.

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