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Bassoon Miscellany (Jun 2022)

There were various double reed instruments with double backed bores in use as the Baroque period dawned (such as the Curtal or Fagott and the Courtaut or Sordun/Sordone) but the Dulcian is considered to be the forerunner of the Bassoon. The Dulcian was made in various sizes from Soprano to Great Bass, although this was less to do with creating a consort and more to do with the limited number of keys the rather primitive instrument could play in. The prime role of a Dulcian was as the bass instrument in a wind ensemble.
The Bassoon originated in the 1650s and is believed to have been created partly or wholly by Martin Hotteterre. It was made in four sections which enabled the bore to be more accurately engineered than the bore of the Dulcian (the Dulcian was carved from one solid piece of wood) so the Bassoon had better intonation. The Bassoon gradually replaced the Dulcian and took on a similar role as a Bass instrument.

The Baroque and Classical Bassoon

The Baroque Bassoon was pitched in C and its lowest note was Bb1 (two octaves and a tone below middle C) so it had a greater compass than the Dulcian although the instrument was not chromatic because it was not capable of playing low B. The instrument was made in four sections with 6 finger-holes on the front, two thumb-holes on the back, and initially just three keys (Low F, Low D, and Low Bb) although a fourth key for G# was eventually added to create the 4 keyed Baroque Bassoon which became widely used and was scored for by Vivaldi, Bach, and Telemann among others. Over time more keys were added to the instrument and 6 keyed instruments became standard during the Classical period; by the 1800s the 8 keyed Bassoon was standard.

Although not intended for consort use (only one piece of music for a Bassoon consort has been found) Baroque and Classical Bassoons were sometimes manufactured in smaller and larger sizes. There existed Octave Bassoons (or Faggottini) playing an octave above the normal Bassoon compass, and Tenor Bassoons (sometimes called Tenoroons) pitched in Db, Eb, F, and G. The most common pitches for these Tenoroons were G - playing a 5^{th} above the normal Bassoon pitch, and F - playing a 4^{th} above the normal Bassoon pitch; the Tenoroons in G were sometimes referred to as (High or Tenor) Quint-Bassoons and those in F sometimes referred to as (High or Tenor) Quart-Bassoons. Octave and Tenor Bassoons are rarely mentioned in historical records, so it is believed they were mainly used for teaching purposes but these small Bassoons were occasionally used in performances.

There were also larger Bassoons – a few examples exist of 'half-contra' or 'semi-contra' Bassoons pitched a 4^{th} (in G) or 5^{th} (in F) below the normal Bassoon pitch and sometimes referred to as Bass Quart-Bassoons and Bass Quint-Bassoons. There also exist true Contra-Bassoons or 'Double' Bassoons pitched an Octave below the normal Bassoon pitch (the earliest example dating from 1714). These larger instruments were initially used in church music and by the end of the 1700s they were also being used in British Military bands.

The development of the Bassoon in the C19

During the 19^{th} century the development of the standard Bb Bassoon followed several different paths although only two became dominant.

The 'German' system Bassoon developed from Carl Almenrader's and Gottfreid Weber's re-designing of the Classical instrument to become a 17 keyed instrument with a chromatic compass of four octaves. This model of Bassoon was developed further and refined by the Heckel family who significantly improved the tone of the instrument, so much so that the German system Bassoon is often referred to as the 'Heckel' system Bassoon. In England and most other countries the German system Bassoon now dominates.

The 'French' system bassoon evolved by piecemeal development of the classical Bassoon, and in contrast to the German bassoon it has retained more of the fingering system and also more of the tone of the Classical Bassoon. The Buffet family were associated with the development and production of the French system Bassoon and so the French system Bassoon is sometimes referred to as the 'Buffet' system Bassoon. This system is still used in France.

The Register key (or 'Crook key', 'Whisper key', 'Piano key')

The register key on a (German system) Bassoon has its own particularly noteworthy history that still impacts on the modern player. Unlike other woodwind instruments that employ a register key (Oboe, Clarinet, Saxophone) the Bassoonist depresses the register key when playing the *lower* register notes (from Bottom Bb up nearly two octaves to half-holed Ab) and releases it to play *upper* register notes (above half-holed Ab). This is the exact opposite of how it is used on other woodwind instruments (where the player depresses the register key to play the higher notes).

All woodwind players achieve the second register (an octave up on Bassoon, Oboe, and Saxophone and a twelfth up on Clarinet) by 'over-blowing' the note - that is - increasing the pressure on the note so the column of air vibrating in the bore splits in two (to play an octave above) or into three (to play a twelfth above). This is easier to do if the column of air is already unstable – it can be made unstable by uncovering a small hole (a 'register' hole) high up in the bore. So the register key is used to cover or uncover this hole as required – covering the hole for the low register – uncovering the hole for the high register.

Partly due to the acoustic properties of the size of the instrument, and partly due to the haphazard nature of development over centuries, the register key on a Bassoon defaults to open (rather than shut as on other woodwinds) and has to be held shut by the player to play the lower register notes. The register key on a Bassoon is sometimes referred to as the crook key as it covers the small hole in the crook, it is also sometimes called the 'whisper' key or 'piano' key because, unless the small 'register' hole is covered (by operating the register key), the lower notes will come out Pianissimo (at a Whisper).

A further complication (although this is true of all larger woodwind instruments) is that one single 'register' hole will not suffice to help 'over-blow' all the notes. On the Bassoon the uncovered register hole in the crook is not adequate for the notes from half-holed F# up to the C above; for half-holed F#, G, and Ab, the half-hole itself is acting as the 'register' hole (and the register key is kept shut); for the notes A, Bb, B, and C, the high C key (or high A key) on the wing joint is opened to act as the 'register' hole (and the register key is again kept shut). Above high C the crook register hole is effective until the altissimo register is reached.

The development of the Contra-Bassoon

The Contra-Bassoon is the only other member of the Bassoon family used in performance these days. Contra-Bassoons are pitched an octave below the Bassoon and to achieve the required length of bore the instrument doubles back on itself 3 times (if fitted with an upwards pointing bell with the bottom note of the compass being C, Bb, or A) or 4 times (if fitted with a downwards pointing bell with the bottom note of the compass being Bb, A, or Ab). The instruments are sometimes supplied with more than one Bell so the player can select the required bell for the piece being played.

The Contra-Bassoon (historically often called the Double Bassoon) was scored for by Bach, Handel, Haydn, Mozart, and Beethoven but during the 19th century the Contra-Bass woodwind parts were more commonly played on the Contra-Bass Sarrusophone or the Reed Contra-Bass because the Double-Bassoon had a comparatively weak tone and poor intonation. Towards the end of the 19th century Heckel improved the design of the instrument and subsequently his Contra-Bassoon became the standard instrument for the Contra-Bass woodwind parts in Orchestras (the Tuba is favoured in Wind-bands). The use of Semi-Contra Bassoons seems to have died out altogether during the 19th century.

Instruments related to Bassoons and Contra-Bassoons

Contra-bass Sarrusophone: this instrument is a member of the Sarrusophone family (invented by Sarrus in 1856) - a family of double reed conical brass instruments designed to take the place of Bassoons in military bands (much like the envisaged role of Saxophones). The Sarrusophone family matches the system of Saxophones and its members are transposing instruments in Bb and Eb. Some orchestras substitute the Contra-bass Sarrusophone for the Contrabassoon and some composers deliberately scored for it. Its compass can extend as low as Ab and it is more powerful in the low and middle registers but poor in its top register.

Reed contra-bass: this instrument is also known as the *contrabass(e) à anche*,and was developed by the Belgian maker Mahillon in the 1860s based on a slightly earlier design by the Czech maker Cerveny. The instrument is played with a double reed and is typically of metal construction, with a conical and unusually wide bore; this width allows each note to be produced by opening only one tone hole, whereas, in other woodwind instruments, at least two tone holes must be opened to produce most notes (for this reason, all keys but that for the lowest note remain normally closed). This property greatly simplifies the fingering of the instrument, in that no alternative fingerings for individual notes or trill keys are needed, nor exist. The lowest note of the instrument' s compass is typically D1.

Contra-Bassophone: this instrument was invented around 1847 by German Basson maker Heinrich Joseph Haseneier. It was intended as a substitute for the contrabassoon which at that time was an unsatisfactory instrument, with a muffled sound due to tone-holes that were too small and too close together. Haseneier's instrument incorporated Boehm's design principles in which keywork was developed based on tone-holes with acoustically optimum sizes and positions. The contra-bassophone's bore was about a third larger than that of the contra-bassoon and the result was an instrument with a powerful tone; indeed it was regarded as too loud for orchestral use though it was suitable for outdoor use in military bands.

Contraforte: (spelt *Kontraforte* in German) this is the brand name of a Contra-Bassoon currently produced by Benedikt eppelsheim and Guntram Wolf. The instrument has a slightly different key mechanism and a wider bore than a traditional Contra-Bassoon and the makers claim it has a distinct 'voluminous' tone, better intonation, and a better dynamic range.

Rothphone: this instrument was invented by Ferdinando Roth (1815-1898) and is a metal double reed instrument similar to the Sarrusophone. It is also known as the rothophone, rothaphone, or saxsarrusophone. The bore of this instrument is narrower than that of either the sarrusophone or saxophone.

The complete Bassoon Family

Octave Bassoons

In C - 6 fingers sounds G; lowest note referred to as Bb sounding Bb(2) a 9th below middle C and an Octave above the standard Bassoon. It was a Baroque and Classical era instrument also known as a Faggottini. Used for primarily for teaching but could be used in various ensembles

Tenor Bassoons (also known as Tenoroons)

In G - 6 fingers sounds D; lowest note referred to as Bb sounding F(2) (a 5th above the standard Bassoon). It was a Baroque and Classical era instrument also known as **(High) Quint-Bassoon**. Used primarily for teaching but could be used as Bass in various ensembles. Modern equivalent sold by Howarth called the mini-Bassoon.

In F - 6 fingers sounds C; lowest note referred to as Bb sounding Eb (2) (a 4th above the standard Bassoon). It was a Baroque and Classical era instrument also known as **(High) Quart-Bassoon**. Used primarily for teaching but could be used as Bass in various ensembles. Modern equivalent sold by Howarth called the Tenoroon.

In Eb - 6 fingers sounds Bb; lowest note referred to as Bb sounding Db (2) (a 3rd above the standard Bassoon). It was a Baroque and Classical era instrument believed to be used primarily for teaching but could be used as Bass in various ensembles as alternative to standard Bb instrument when playing in certain keys.

In Db - 6 fingers sounds Bb; lowest note referred to as Bb sounding Cb (1) (a 2nd above the standard Bassoon). It was a Baroque and Classical era instrument believed to be used primarily for teaching but could be used as Bass in various ensembles as alternative to standard Bb instrument when playing in certain keys.

(Standard size) Bassoon

In C - 6 fingers sounds G; lowest note referred to as Bb sounding Bb(1) two octaves and a tone below middle C. Sometimes has extension to Low A(1).

Semi-Contra Bassoons

In G - 6 fingers sounds D; lowest note referred to as Bb sounding F(1) (a 4th below the standard Bassoon). It was a Baroque and Classical era instrument also known as **(Bass) Quart-Bassoon**.

In F - 6 fingers sounds C; lowest note referred to as Bb sounding Eb (1) (a 5th below the standard Bassoon). It was a Baroque and Classical era instrument also known as **(Bass) Quint-Bassoon**.

Contra- Bassoons

Double-Bassoon
In C - 6 fingers sounds G; lowest note referred to as C sounding C(1) three octaves below middle C. This Baroque instrument was a scaled up version of the Bassoon and had a similar design similar design, it was used in the Baroque and Classical era but began to fall out of favour in the C19. This design of Contra-Bassoon was superseded by Heckel's design.

(Heckel) Contra-Bassoon
In C - 6 fingers sounds G; lowest note referred to as Bb sounding Bb(0) three octaves and a tone below middle C. Can extend to A or Ab(0). Heckel's design was inspired by Boehm's work on the flute so the instrument is not a scaled up version of a Bassoon, but does have a similar fingering pattern and sound.

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