THE DEVELOPMENT AND USE OF THE BASS CLARINET
IN THE SYMPHONY ORCHESTRA

THESIS

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By

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The purpose of this study is to trace the development of a comparatively young orchestral instrument, the bass clarinet, and its use in the symphony orchestra. The first chapter concerns the development of the bass clarinet from the earliest imperfect specimen to the modern-day instrument. The second chapter discusses physical characteristics that are peculiar to the bass clarinet. The third chapter deals with the particular methods of using the bass clarinet in orchestral literature by various composers, from its introduction into the orchestra by Meyerbeer through the present.
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CHAPTER I

HISTORY

The documented history of the bass clarinet begins with the instrument invented by Gilles Lot of Paris in 1772.¹ According to Goeffrey Rendall, "The undocumented history may well begin rather earlier with a primitive instrument by an unknown maker, constructed of plankwood covered with leather."² Rendall, the leading English authority on the family of the clarinet, writes in *Grove's Dictionary* on the subject:

Lot's instrument may well have been preceded by twenty years or more by a very primitive instrument made from a thick slab of wood with finger-holes bored slantwise through it as in the wing-jojnt of a bassoon, with separate crook and upturned bell.³

Two well-preserved specimens of these earlier instruments are in collections in Berlin and Brussels. A third instrument of this type is in a collection in the Museo Storico Civico at Lugano. These predecessors of Lot's instrument are impossible to date. Both the makers and the country are unknown, but they are judged to be not later than 1750.⁴

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³Rendall, "Clarinet," p. 327.
The difficulty which these early makers experienced in producing an instrument sounding an octave below the ordinary clarinet was chiefly in bringing the tone-holes of a long tube close enough together to be within reach of the fingers. It is obvious from descriptions of these instruments that the makers solved this problem by doubling the tube and drilling slanted tone holes on the principle of the bassoon. A detailed description of the instruments in collections is offered by Rendall:

The first, formerly in the Snoeck Collection, has apparently only one key, while the second, formerly owned by Adolphe Sax, has three....Both are in essentially identical design. The body, an inch in thickness is considerably wider at the bottom than at the top; it resembles in shape a narrow triangle with blunted apex. A long crook of graceful and surprisingly modern appearance is fitted at the top, and upturned widely-flared bell at the bottom. Both are of brass.

The instrument at Lugano is described as similar, but has a downward-pointing bell.

...The bore, approximately 18 mm. in diameter, is contrived at the back, the longer side, of the instrument. The left thumb-hole opens directly into it, while the seven finger-holes, grouped within convenient reach of the fingers on the upper surface, are bored obliquely through the full and increasing width of the wood to reach the bore at the back at more widely-spaced intervals....

Rendall believes that this instrument was intended to overblow

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7Ibid., p. 148.
and to have a clarinet register because of the key placement. The instrument has three keys, two of which are for the first finger and thumb of the left hand. The third, for low E, is mounted on the left side and played by the little finger of that hand.

Little is known of the "basse-tube" of Gilles Lot, since no specimen is known to exist. The invention of the instrument was first announced in the Paris newspaper, the Avantecoureur, on May 11, 1772. It describes the instrument as having several keys and a compass of three and a half octaves.

The next bass clarinet is that of Henrich Grenser of Dresden. Grenser was one of the chief instrument manufacturers of Germany and was especially noted for his excellent bassoons. Only one specimen of his bass clarinet remains. It is preserved in the Gross-Herzogliches Museum in Darmstadt, Germany. The building of bass clarinets was fostered at this period by the rise of military bands in Europe. The bass clarinet was looked upon as a replacement for the bassoon in the band. It was thought to possess a more robust

3 Ibid.
9 Ibid., p. 149.
Because of its use in the military band, a great many bass clarinets over the next thirty years doubled upon themselves in the manner of the bassoon. One of the chief reasons for this was that the instrument needed to be portable for its use in the band.\textsuperscript{13}

Little is known of the design of Grenser's Klarinetten-Bass. It was a bassoon-shaped instrument with nine keys.\textsuperscript{14} It had a four-octave range and descended to low $B'$.\textsuperscript{15} It was described as having a pleasant and powerful tone and could easily be played by any clarinetist or basset-hornist.\textsuperscript{16} It should be noted that during this period of use in the military band many of the bass clarinets were built with extended ranges. This was necessary in order that the bass clarinet be able to cover the compass of the bassoon it was replacing.\textsuperscript{17}

In 1807 appeared two important bass clarinets. The first was the basse-querrière of Dumas Sommieres, a goldsmith to Napoleon.\textsuperscript{18} Dumas was a clarinetist as well, and presented his bass clarinet to the Paris Conservatory for trial.\textsuperscript{19} It was accepted and praised and in 1810 was recommended to the

\begin{itemize}
\item \textsuperscript{12} Rendall, "Clarinet," p. 327.
\item \textsuperscript{13} Ibid.
\item \textsuperscript{14} Marcuse, \emph{op. cit.}
\item \textsuperscript{15} Ibid.
\item \textsuperscript{16} Rendall, \textit{The Clarinet}, p. 149.
\item \textsuperscript{17} Ibid.
\item \textsuperscript{18} H. W. Schwartz, \textit{The Story of Musical Instruments} (Elkhart, 1938), p. 127.
\item \textsuperscript{19} Rendall, \textit{The Clarinet}, p. 150.
\end{itemize}
Imperial Guard. Little is known of Dumas' instrument except that it has thirteen keys. It is very likely that the instrument has a range down to low C. Because of the thirteen keys, it is probable that the instrument did not go over well with the musicians of the Imperial Guard, as they were accustomed to the standard six-keyed clarinet and were loath to relearn their instrument.

The second bass clarinet to appear in 1807 is that of Desfontenelles of Lisieux. Desfontenelles' instrument was of very modern appearance. One specimen of this instrument survives in the Museum of the Paris Conservatory. Desfontenelles' bass clarinet is described as having "a straight body, bent, wooden crook and a bell brought well up in front." This instrument was provided with thirteen keys which were mounted in saddles between pillars. This instrument is remarkable because of the thirteen keys, in which it anticipates Iwan Muller's invention by some years. Because of its outward appearance, this instrument was long considered a predecessor of the saxophone until close examination showed the instrument to overblow in twelfths, as the clarinet, rather than in octaves like the saxophone.

Around 1810, a bass clarinet appeared which reverted back to the rather primitive form. This was the instrument of Nicola Papalini of Chiaravalle Milanese, near Pavia.\textsuperscript{29} Papalini's clarinet was flat, serpentine in shape, and had five keys.\textsuperscript{30} There are at least five of these instruments which survive in collections. This particular bass clarinet was pitched in C. The tube was formed by two pieces of wood joined together with brass rivets.\textsuperscript{31} A detailed description of Papalini's instrument is given by Rendall:

...Some of the holes, normally fitted with keys, are stopped by the underpart of the hand or finger. There are in all 16 tone-holes, of which five are closed with keys. The bell is turned upwards to the player's right, and a double-coiled crook, cleverly carved from wood, brings the mouthpiece conveniently to the lips. The undulating bore is excavated in two blocks of pearwood, which are glued together and secured by iron or wooden pegs along the scalloped edges. The instrument is not covered in leather. The compass is, as with so many early basses, extended to C. It is certainly a portable model, but tone and timbre have been sacrificed to compactness; a clever specimen of wood carving rather than a musical instrument.\textsuperscript{32}

On August 12, 1812, another bassoon-shaped bass clarinet appeared. This was the Basse-argue of Frederic Sautermeister of Lyons.\textsuperscript{33} Lyons was at this time second only to Paris as

\textsuperscript{30}Rendall, "Clarinet," p. 327.
\textsuperscript{31}Galpin, \textit{op. cit.}
\textsuperscript{32}Rendall, \textit{The Clarinet}, p. 150.
\textsuperscript{33}Marcuse, \textit{op. cit.}
Fig. 1—Early Bass Clarinets

a. German. Three keys. c. 1750. This is probably the instrument formerly owned by Sax, described by Rendall (p. 2).

b. Papalini, Chiaravalle. c. 1810. This is the serpentine model in C, described by Rendall (p. 6).

c. Catterini, Padua. c. 1838. This is the Glicibarifono, described by Rendall (p. 13).

34 Rendall, The Clarinet, Plate VII.
a center of instrument making. Little is known of this instrument except that it had a cylindrical bore and a range of more than three octaves. It is interesting to note that L. Muller of Lyons brought out a bass clarinet of similar appearance in 1846.35

"A substantial improvement, which one can almost call a new creation, is seen in the bass clarinet (about 1828) of G. Streitwolf, one of the most inventive masters of his time...."36 Gottlieb Streitwolf of Göttingen was a clever maker who had worked for Hermstedt.37 Among other things, Streitwolf changed the old serpent into the chromatic bass horn after the model of the ophicleide.38 Streitwolf's bass clarinet was a bent-up model of boxwood extended to low C or to B flat. They were in the two-columned form of the bassoon with some of the tone holes bored obliquely and uncovered.40 Altenberg says that they had a "basset-horn-like extension" for the four chromatic open keys, so they could reach down to contra B flat and be able to substitute for the bassoon.41

36 Altenberg, op. cit.
38 Altenberg, op. cit.
40 Ibid.
41 Altenberg, op. cit.
Streitwolf equipped his bass clarinets with seventeen, eighteen, or nineteen keys. The tone of these instruments was described as pure, full, "almost perfect." Streitwolf's bass clarinet, which could be obtained from Schott of Mainz, cost 225 francs, method book included.

Possibly the most important event in the history of the bass clarinet occurred on February 29, 1836. This was the first appearance of this instrument as an orchestral member. The music was the opera Les Huguenots by Giacomo Meyerbeer. Meyerbeer employed the bass clarinet in the trio of the fifth act.

![Meyerbeer, Act V, Les Huguenots](image)

In this first appearance, the bass clarinet was used as an unaccompanied solo instrument. The part covered the full

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43 Altenberg, *op. cit.*


range of the instrument.

Some authorities feel that the solo in Les Huguenots was played for the first time on an early model by Sax, but most information points to the bass clarinet designed by Dacosta (a well-known player) and Buffet in 1836. There is also some reason to believe that the first solo was played by Buteux on an instrument designed by X. Lefevre.

It is uncertain when Adolphe Sax, the noted inventor and craftsman, began work on a bass clarinet or when his first models appeared. Sax, a clarinetist of distinction, brought forth an improved model in 1839. Sax's bass clarinet at once outclassed the former models in use. Compared with Sax's instrument, the old bass clarinets were monstrosities. Sax's bass clarinet was praised by Berlioz for its "...perfect precision of intonation, an equalized temperament throughout the chromatic scale, and a greater intensity of tone." Altenberg thinks that Sax may have used Streitwolf's instrument as a model and also those of Lefevre and of Muller of Lyons.

46Carse, op. cit.
48Carse, op. cit.
49Ibid.
50Hector Berlioz, as cited in Schwartz, op. cit., p. 128.
51Altenberg, op. cit.
Fig. 3--Early form of Sax's bass clarinet, c. 1840

The specifications of Adolphe Sax's new bass clarinet are dated June 19, 1838. Rendall describes the features as being:

...the straight body, the accurately-placed tone-holes each covered by a padded cup, the properly proportioned bore, and, most important of all, the additional

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52 Anthony Baines, *Woodwind Instruments and Their History* (New York, 1957), Plate XXXI.

speaker key near the mouthpiece...Every hole was brought by mechanism comfortably under the fingers.  

According to Schwartz, Sax made his bass clarinet in B flat with twenty-two keys. It was in straight form, the bell reaching nearly to the floor, with the result that the sound was muffled. The player had to stand to play it. The muffled tone was remedied by placing a concave reflector directly beneath the bell which served to deflect the tone upward with a greater volume. Later Sax improved this model by providing an upturned bell, giving the instrument the same shape as our bass clarinets today. Rendall says that the curved, upturned bell extended the lower range of the instrument to low C, by adding four holes on the neck of the bell. One of the most important features of this instrument was the second speaker key which permitted the highest notes to be sounded with ease.

Sax's instrument was immediately successful in Brussels, but was at first opposed in Paris by the clarinetist Buteux and various makers. Its success was assured when it was adopted by E. Duprez and used by him in the solo in Les Huguenots.

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54 Ibid.
56 Carse, *op. cit.*
58 Ibid.
In 1838 another model of the bass clarinet was designed by Catterini of Padua and manufactured by P. Maino (present-day firm of Maino e Orsi) in Milan. Catterini's Glicibarifono has been described as:

...made from a single block of boxwood of oval section, some twenty-three inches in length. Two parallel bores are pierced in it in the manner of the butt-joint of a bassoon. A long brass crook carries the mouthpiece, while the other end of the bore terminates in a widely-flared upstanding bell of wood. Twenty-four cleverly contrived brass keys, mounted in saddles, cover correctly located tone-holes of adequate size. These, with a bigghish bore of modern dimensions, give a tone of no mean vigour and quality.

This instrument was intended for orchestral use and was played in the Opera at Modena in 1838. The Glicibarifono might have enjoyed more success had it not been for the appearance of Sax's instrument.

In England, the bass clarinet had appeared as early as 1833, when George Wood, a clever London instrument maker, produced one of his own inventions. Little is known of this instrument beyond the fact that it had eighteen keys, was extended to written B flat, and was pitched in C.

Shortly after Meyerbeer's score was written, there appeared in England a setting of verses of Psalm 70 for "a

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59 Altenberg, op. cit.
60 Rendall, The Clarinet, p. 152.
counter-tenor-Lady's voice with the bass clarionet concerto. This composition was composed in February, 1836, by the Chevalier Neukomm, a pupil of Haydn. Neukomm composed the piece for Mrs. Alfred Shaw, a famous contralto, and Willman, the famous clarinetist. The bass clarinet obligato part is described as "...florid and showy, extending from written C to C." 

There has actually been little change in the bass clarinet since the model by Adolphe Sax set the precedent. The application of the Boehm fingering system to the bass clarinet and the present-day single register key have been the most important changes. Bass clarinets have been made in both metal and wood. In the early 1900's E. J. Albert, the famous Brussels maker, made extensive use of wood in his instruments, showing a great improvement in tone over the metal instruments. Today bass clarinets are manufactured out of wood, various forms of plastic, and other materials.

Since the introduction of the bass clarinet to the orchestra by Meyerbeer, it has been used extensively by composers of opera, symphonic music, and even chamber music. Wagner

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65 Ibid.  
67 Ibid.  
assured the bass clarinet an important place in the orchestra by his large use of it in many of his operas. Today the bass clarinet is accepted as a common instrument in almost all forms of musical expression.
CHAPTER II

CHARACTERISTICS OF THE BASS CLARINET

The present-day bass clarinet is pitched in B flat one octave below the soprano B flat clarinet. The most preferred instruments are made of wood with a metal bell turned up in front and a curved metal crook at the top. The mechanism is the same Boehm system as that of the soprano clarinet, with the addition of padded cups to cover the tone holes.

There are several automatic register key mechanisms available on the modern bass clarinet. All of these modern mechanisms have only one register key. On one instrument the register key has two vents, the first vent opening for third line B flat when the register key is pressed. The second vent opens automatically on third line B natural (the first vent closes automatically at this time) and operates for the rest of the upward range. Another instrument also has the single register key with two vents. The first vent opens on B flat and continues through fourth line D sharp. The second vent opens automatically on E natural (the first vent closes at this point) and operates for the rest of the range. There is a theory that the single register key mechanism interferes with the production of certain notes in the high register. Consequently, some orchestral clarinetists retain the older
instrument with the two independent register keys.\textsuperscript{1} On this instrument the first key opens for the notes from B flat to D sharp in the staff. The second register key is used for the notes above. Because each instrument has its own individual peculiarities, it is well to experiment with adding the second register key on D, D sharp, and even E to find which works best. There is also a modern German design having three register keys which change automatically. The purpose of this is to clear the notes from E natural in the staff to G sharp above the staff, which sometimes do not speak clearly with just the second speaker key.\textsuperscript{2}

Most modern bass clarinets are equipped with a plate, covering the first finger tone hole, similar to the plateau-system key on the first tone hole of the oboe. A small aperture is drilled in this plate to permit half-hole fingering. This is necessary for the easy production of the tones above high C (first C above the staff). This half-hole fingering acts as another register key, and, without it, the tones above C are virtually impossible with conventional soprano clarinet fingerings.

It is possible to produce the notes above high C by using combinations of the throat tone fingerings and the register key. Thornton gives a list of the fingerings used by Alfred

\begin{footnotes}
\item[2]\textit{Ibid.}, p. 128.
\end{footnotes}
Gallodoro, noted bass clarinetist:

High C sharp—throat tone F sharp plus the register key.
High D—throat tone G—plus the register key.
High D sharp—throat tone G sharp—no register key.
High E—throat tone A—plus the register key.
High F sharp—finger A above the staff plus the thumb and register key.
High G—finger B flat above the staff plus the thumb and register key.3

Other methods of using these throat tone fingerings for the notes above high C are shown in the fingering charts of the bass clarinet methods by Himie Voxman4 and Paul Mimart.5 The system of fingering used is determined by the intonation of each individual instrument and by the technical problems of the passage to be played.

Altenberg has stated that "the bass clarinet must be a strictly cyclindrical bore throughout its entire length...."6 If taken literally, this statement is inaccurate. The bass clarinet is only cyclindrical in bore when compared with the saxophone and other woodwind instruments. The bore of the bass clarinet has the same acoustical properties as those of the soprano clarinet. The bore of the upper joint should have a reversed cone which extends from the top of the joint to approximately the area of the register key. The bore is then

4 Himie Voxman, *Introducing the Alto or Bass Clarinet* (Chicago, 1952).
continued cyclindrically through the clarinet until a slight outward taper appears as the lower joint leads into the bell. The bell itself, which constitutes a considerable portion of the instrument, is widely flared. These conical portions of the bass clarinet will usually not vary more than one millimeter until the flare of the bell. These slight variances from a strictly cyclindrical bore are necessary in order to improve the intonation of the twelfths of the instrument.

There are two distinguishable models of bass clarinet built today. In France and England the instrument has a large bore, up to twenty-three millimeters. This produces a rather fuller tone, especially in the lower register. The German bass clarinets traditionally have a narrower bore, around twenty millimeters, and a smaller mouthpiece. The German tone is less powerful than the French, but no less effective. It has a more compact tone, less difference in intensity between the middle and low registers, and a brighter sound above the break.

There are two methods of notation in use in orchestral scores for the bass clarinet. One is the French method; the other is the German. There is a great deal of controversy over which is most desirable. The French method has the bass

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8Baines, op. cit.
9Ibid.
clarinet part written in treble clef, which means that the music will sound a major ninth lower than written. An example of this is a part of Meyerbeer's *Les Huguenots*:

![Fig. 4--French notation](image)

Fig. 4--French notation

The German method of notation has the bass clarinet part written in bass clef, which means that it sounds a major second below the written notes. For the highest notes, the treble clef is employed as an upwards continuation of the bass clef. The part still sounds a major second below the written notes. The same part from *Les Huguenots* will serve as an example of this:

![Fig. 5--Actual sound of French notation](image)
Although the French method is the most widely used, some musicians feel that the German method is the more correct. Stubbins states that "some composers and arrangers have recognized this fact that the German method is the more correct, and it is hoped that the change to the bass clef will eventually become standard practice, and the instrument will thus take its proper place in the score."\(^\text{10}\) This theory does not seem practical, however, as bass clarinet players are usually soprano clarinet performers who double on bass clarinet. These people are accustomed to reading treble clef and are not usually adept in the actual performance of music in the bass clef. Nevertheless, some bass clef parts are in the orchestral repertoire, and the players must be familiar with these.

The written compass of the B flat bass clarinet is not as great as that of the soprano clarinet. The soprano clarinet has a written compass of three octaves and a minor sixth as compared with the bass clarinet's three octaves and a minor third.

Bass clarinets were originally made in C, A, and B flat. The bass clarinet in C was obsolete by the middle of the nineteenth century, and, although there are still a number of orchestral parts for the bass clarinet in A, the B flat instrument is now used almost exclusively. There are a very few parts still in the repertoire for the bass clarinet in C. These are mainly from early scores using the bass clarinet, such as Liszt's Mazeppa. A few German opera houses still possess bass clarinets in A, but more than likely the player will perform the part on the B flat instrument. The most common orchestral parts that call for the bass clarinet in A are in the works of Wagner. As Wagner also wrote the bass clarinet part in the bass clef, these parts present a double problem for the player using a B flat instrument. An example of this
is a section of the bass clarinet part in Wagner's "Die Walküre":

Fig. 9—Wagner, "Die Walküre""11

For the player using a B flat instrument, the part should be transposed thus:

Fig. 10--Transposed for B flat bass clarinet

If the A clarinet part were written in treble clef, it would be thus:

Fig. 11--Written for A bass clarinet in treble clef

The player on the B flat instrument would read this part thus:

Fig. 12--B flat bass clarinet in treble clef
Because many of the orchestral bass clarinet parts extend below the normal Boehm clarinet fingering, it is necessary for the bass clarinetist to have an extended lower register on his instrument. This extended lower register is accomplished by adding extra keys and tone holes on an elongated lower joint and bell. The normal Boehm system clarinet extends downward to written low E natural. The minimum requirement for the bass clarinet is an added low E flat. This E flat key serves a double purpose. It is necessary in order to play the low concert C sharp which appears in some of the parts by Wagner for the bass clarinet in A.

Fig. 13—Wagner, Tristan, containing low concert C sharp.

The added tone hole also improves the resonance of the low E natural and the third line B natural. Both these notes will sound with more clarity and tone quality because of the added tone hole. This E flat key is manipulated by the little finger of the right hand on the Boehm system bass clarinet (See Fig. 14, p. 11).
Fig. 14--Diagram of the keys played by the little finger of the right hand with added E flat key.

In Germany bass clarinets have been built with an extended low register down to written low D, sounding C.\textsuperscript{12} It has been the custom in Eastern European countries to extend the bass clarinet down to its written low C.\textsuperscript{13} These added keys are not common to our standard American instrument, but are produced upon request of the manufacturer. Baines says that one method of producing low C on a Western instrument is to:

\ldots drop the mouthpiece cap into the bell and finger low E flat. This makes a rather stifled note, however, and a better way is to drop in a cardboard tube about four inches long. If D and E flat occur together, an accomplice is needed to insert or remove the tube in time with the music.\textsuperscript{14}

Most American orchestral players have found a more practical method by having extra keys added to their instruments, or by using a German or other European instrument with these keys.

\textsuperscript{12}Baines, \textit{op. cit.}, p. 128.

\textsuperscript{13}Ibid.

\textsuperscript{14}Ibid., p. 129.
Rosario Mazzeo, veteran bass clarinetist of the Boston Symphony, describes his instrument in a letter to Harry Bettonney:

The instrument to which you refer is an improved bass clarinet having five additional semi-tones below the conventional instrument (lowest note is sounding A flat), and a greatly improved evenness of register.

I have been using this instrument for the last eight years in the Boston Symphony and, together with the various conductors in this period, have been completely satisfied with it. Some of today's outstanding composers have begun to introduce these low notes into their scores. The fingering for these extra notes is allotted to the thumbs of both hands (particularly the right), and the little finger of the left hand. The instrument is supported on a peg and has thirty-six keys. It is pitched in E flat.¹⁵

The instrument described by Mazzeo is obviously an E flat alto clarinet, pitched a fourth above the B flat instrument. The many additional keys on an elongated lower joint and bell will take the instrument down to concert A flat, an octave below the normal alto clarinet range.

The German bass clarinet built by Oehler has been used extensively by orchestral bass clarinetists. The Berlin Philharmonic uses a bass clarinet by Oehler built down to its low C.¹⁶ In another letter to Harry Bettonney, Jan Williams, noted New York clarinetist, speaks of the Oehler bass clarinet:

...I have seen the Bass Clarinet that was used by Eustace Strasser in the early days of the Boston Symphony Orchestra. It was made by Oehler, the old


¹⁶Baines, op. cit., p. 128.
with extensions to low C. Kruspe of Erfurt also made it with the single register key, from 1860 to 1900. A little later than 1860 Berthold of Speyer did likewise. Ottenstainer worked with Baermann about 1869, also... \textsuperscript{17}

Fig. 15--Oehler system bass clarinet, descending to low C.\textsuperscript{13}

\textsuperscript{17}Altenberg, \textit{op. cit.}

\textsuperscript{18}Baines, \textit{op. cit.}, Plate XIV.
Our present Boehm system B flat bass clarinets may be extended to low C, sounding B flat below the bass clef, by the addition of keys on the lower joint. These keys are operated by the little fingers of both hands and by the thumb of the right hand.

![Diagram of keys added for the extension of the bass clarinet down to low C.]

Right hand, little finger   Right thumb   Left hand, little finger

Fig. 16--Diagram of keys added for the extension of the bass clarinet down to low C.

Another version of this key set-up is also used on some bass clarinets. Notice the added G sharp key for the left hand (Fig. 17). This is an optional key that is very necessary for some music. Some of the bass clarinet parts in Wagner's music have written slurs from low E flat to A flat which cannot be played without this added key.
The D flat and C keys (operated by the right thumb) should be equipped with rollers, such as on the bassoon and saxophone, in order to facilitate better fingering. Rapid technical passages using these extra notes are not recommended because of the difficulty in fingering and the slower action caused by the necessary longer length of the rods.

The necessity for these added low tones is shown in much of the Russian music of the orchestral repertoire. The sixth and seventh symphonies of Shostakovich extend the bass clarinet to written low D and D flat. The Gayne Ballet Suite of Khachaturian has written low D flat and C.

The approach to playing the bass clarinet is similar in many ways to that of the soprano clarinet. The differences
appear when the larger size of the bass clarinet is taken into consideration. The mouthpiece, reed, and position of the fingers are all on a larger scale than the soprano clarinet.

The lower vibrations produced by the longer-tubed bass clarinet are much slower than those of the higher pitched soprano instrument. Consequently, the embouchure of the bass clarinet player should be more relaxed. The major fault of the soprano clarinet player, in changing to the bass clarinet, is that he usually wants to retain the tighter embouchure he is accustomed to using. Too much pressure on the reed will cause thinner tone quality, possible squeaking, and difficulty in producing the tones of the upper register. When ascending to the higher register, the embouchure should relax more, or at least not tighten, in order to produce a mellow and relaxed tone. This is the opposite of the usual approach on the soprano clarinet. The basic embouchure of the bass clarinet player should be more of a pucker and less of a smile than that of the soprano clarinet player.

Because of the larger mouthpiece, the player must take a larger portion than on the soprano instrument. The lower lip must be far enough along the mouthpiece to cover the point at which the reed begins to open away from the mouthpiece. The position of the embouchure on the top of the mouthpiece is similar to that of the soprano clarinet, considering the relationship of the size of the mouthpieces.
McCathren has stated that "the pressure on top of the mouthpiece must be greater than on the soprano clarinet to keep the mouthpiece from wobbling in the mouth."\(^{19}\) By putting added pressure on the top of the mouthpiece, the player may also be able to lessen the pressure on the reed by the bottom lip and teeth.

Most bass clarinet players agree that in blowing the instrument, the syllable "0000" or "HH00" will produce the best results. The larger size of the mouthpiece requires a larger air column, and the "0" syllable and the pucker type embouchure help produce this larger air column. Consistent breath support is a necessity in order to keep the air moving through the longer length of the instrument.

Tonguing is somewhat different on the bass clarinet because of the wider reed. A broader surface of the tongue must touch the reed than is used on the soprano clarinet. Stubbins says that "better results are obtained by anchoring the tip of the tongue behind the lower teeth and striking the reed with more of the central raised portion of the tongue."\(^ {20}\) This is the method used by many saxophone players because of the similar size of the mouthpieces.

The correct position of the bass clarinet is directly in front of the player with the instrument parallel to the

\(^{19}\)Don McCathren, \textit{Playing and Teaching the Clarinet Family} (San Antonio, Texas, 1959), p. 11.

\(^{20}\)Stubbins, \textit{op. cit.}
player's body, or with the bell inclining slightly toward the body. Most bass clarinet players prefer to have a peg attached to the lower joint of the instrument on which to rest it. This peg is a much more preferred method of supporting the bass clarinet than the use of a neckstrap, which puts undue strain on the neck and on the hands holding the instrument.

A weaker reed is recommended for the bass clarinet than for the soprano clarinet. These weaker reeds are necessary in order to produce the full, resonant tone of the instrument and because of the more relaxed embouchure used by the player.
CHAPTER III

THE USE OF THE BASS CLARINET IN ORCHESTRAL LITERATURE

Since its introduction into the orchestra by Meyerbeer, the bass clarinet has been used by composers as an important member of the woodwind section. Many of the foremost composers have taken advantage of its numerous possibilities as a solo instrument and as an added color to the woodwind section.

Throughout most of the nineteenth century the bass clarinet was used as a solo instrument in slow, legato passages, usually in the lower part of its range. Berlioz has stated that "the best notes are the lowest ones; but, owing to the slowness of the vibrations, they should not be made to follow each other too rapidly."¹ The instrument was felt to be particularly effective in serious, rather mournful passages. It was described by Gevaert as having "a dark, sombre timbre of a very penetrating nature."² These opinions were demonstrated in one of the early solos for the bass clarinet in


an orchestral composition, the first movement of the "Dante" symphony of Franz Liszt. Liszt used the bass clarinet in an expressive monologue, entirely unaccompanied.

Because of its own particular and very expressive tonal quality, the bass clarinet became a favorite with composers of opera. Its first use was as an accompaniment to the tragic situation of Raoul and Valentine in Meyerbeer's *Les Huguenots* (see Fig. 2, p. 9). Wagner quickly adopted the instrument and used it in much the same manner as Meyerbeer. This is shown in a very dramatic movement in Act II of *Tristan*. The part is written for bass clarinet in A and touches its lowest note, E natural, sounding C sharp (see Fig. 19).

Wagner again used the bass clarinet in the second act of *Lohengrin* in much the same manner. This time the bass clarinet is used doubling the solo line an octave below the English Horn (see Fig. 20).
Fig. 19—Wagner, Act II, Tristan

English Horn
Two clarinets in A
Bass clarinet in A
Two bassoons

Fig. 20—Wagner, *Lohengrin*

The bass clarinet was again used as an accompaniment for voices in the fourth act of *Aida* by Verdi:

Fig. 21—Verdi, Act IV, *Aida*

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Composers and performers have been in agreement on the wonderful dynamics possible with the bass clarinet, particularly in the low register. Piston states, "Its pianissimo in the low register can be very much softer than that of the bassoons, and is a valued resource."\(^5\) Forsyth describes its ppp as "almost a silence."\(^6\) Composers have made much use of this trait, as in the last two bars of the solo in the "Dante" symphony (Fig. 18). For this reason, the unaccompanied bassoon solo in the first movement of Tchaikowsky's sixth symphony

![Fig. 22--Tchaikowsky, Sixth Symphony, First Movement\(^7\)](image1)

is usually transferred to the bass clarinet:

![Clarinet in A Bassoon](image2)

![Fig. 23--Tchaikowsky, Sixth Symphony, First Movement\(^8\)](image3)

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\(^6\)Forsyth, *op. cit.*, p. 278.

\(^7\)Ibid.

\(^8\)Ibid.
The bass clarinet can handle this type of passage more easily, and with better results, than can the bassoon.

Some of the most effective solos in the orchestral repertoire are in Tchaikovsky's *Nutcracker Suite*. The bass clarinet is very effective in short, fast scale passages, as in the "Dance of the Sugar Plum Fairy."

Fig. 24--Tchaikovsky, *Nutcracker Suite*, "Dance of the Sugar Plum Fairy."

Forsyth terms this type of effect "goblinesque." Tchaikovsky again uses the bass clarinet effectively in the "Arab Dance" of the same composition. This time it alternates with the English Horn.

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9Forsyth, op. cit.
Fig. 25--Tchaikowsky, Nutcracker Suite, "Arab Dance"

Another instance of the effectiveness of the bass clarinet in short, technical passages is illustrated by Richard Strauss in the tone poem Don Quixote:

Bass clar.  
B flat

Fig. 26--Strauss, Don Quixote

Composers have continually made use of the bass clarinet to repeat or continue a phrase played by the soprano clarinet. Wagner repeatedly used this device in his operas. One of the more famous bass clarinet solos of this type is in "Siegfried's Rhine Journey" from Götterdämmerung.

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The bass clarinet has often been used by composers for rather ludicrous and comical effects. Dukas gave the instrument this type of role in his Sorcerer's Apprentice. The bass clarinet is used in conjunction with the contra-bassoon and the horns, all performing in their low registers.

During the twentieth century, composers have made more use of the bass clarinet's technical capabilities. Richard Strauss was one of the first to realize these possibilities.
In his *Sinfonia Domestica*, the bass clarinet is assigned a long line of continuous sixteenth notes.

Fig. 29—Strauss, *Sinfonia Domestica*¹¹

Strauss also explored the range of the bass clarinet in his *Ein Heldenleben*.

Fig. 30—Strauss, *Ein Heldenleben*¹²

In his *The Rite of Spring*, Stravinsky has even used two bass clarinets in the woodwind section and has given them an exceptional and, as generally felt, uncharacteristic part.


Staccato is very effective in the lower register of the bass clarinet. Grofe makes good use of this quality in his Grand Canyon Suite. Notice that the bass clarinet is used as a continuation of the descending oboe line. This is a very difficult passage for the bass clarinet. Written in a difficult key and at a brisk tempo, the performer will have trouble producing a crisp, clean staccato in the range of the opening measures. The latter measures of the solo fit the brilliant low register of the instrument perfectly (see Fig. 32).

The Russian composer Shostakovich has used the bass clarinet in much the same way as the nineteenth century composers, emphasizing its effectiveness in the lower register. An example of this is in his seventh symphony. The bass clarinet is in the extreme low register at a piano dynamic level (see Fig. 33).

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Fig. 32--Grofe, Grand Canyon Suite, "On the Trail"

Fig. 33--Shostakovich, Seventh Symphony

Milhaud has given the bass clarinet some extremely fast technical passages, even using trills on some of the tones. An example of this is in his second symphony.

14Piston, op. cit., p. 179.
That the bass clarinet has achieved a prominent position in the symphony orchestra is readily evidenced by its use by the great composers since its inception. From the time of the early, limited instrument, the bass clarinet has developed to such an extent that the main limitations in performance are those of the player himself. Although the low register of the instrument has always been its most admired feature, today's composers are exploring the full range and technical ability of the bass clarinet. In contrast to the slow, legato passages of the nineteenth century, the bass clarinet now has parts comparable in agility to those of the soprano clarinet. For this reason, the bass clarinet performer can no longer be merely a soprano clarinet player changing to the larger instrument, in order to perform a solo part. A specialist, with studied, competent facility on the instrument, is now required. The composer expects this type of performer and justifiably so. The bass clarinet is no longer a seldom-

\[\text{Fig. 34--Milhaud, Second Symphony}^{15}\]

\[\text{\textsuperscript{15}Ibid., p. 180.}\]
used instrument, but has taken its place as an invaluable member of the woodwind section, its outstanding qualities as a solo instrument and a supporting member having been thoroughly proven.
BIBLIOGRAPHY

Books


Bessaraboff, Nicholas, Ancient European Musical Instruments, Boston, Harvard University Press, 1941.


Articles


Voxman, Hymie, "Introducing the Alto or Bass Clarinet," School Musician, LXVIII (February, 1950), 49.


Music


Verdi, Guiseppi, Aida, Milano, G. Ricordi and Co., MCMXIII.


Encyclopedia Articles
