THE BASS CLARINET: AN HISTORICAL SURVEY

APPROVED:

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In Memory

of

CARLOS E. CAMACHO

(b. June 4, 1886; d. May 13, 1965)

Grandfather and Teacher

THE BASS CLARINET: AN HISTORICAL SURVEY

by

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THESIS

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A B S T R A C T

This thesis included a chronological register of historical bass clarinets dating from c. 1750 to the twentieth century. Using this register as an outline, the early history of, and the development of the physiognomy of the bass clarinet were narrated. An effort was made to point out the discrepancies that exist between major sources which mention the bass clarinet. It was hoped that this thesis would serve as a starting place for future research concerning the bass clarinet. (Eighteen illustrations.)

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P A R T I

INTRODUCTION

CHAPTER I

STATEMENT OF THE PROBLEM

The most authoritative chronicle of the development of the bass clarinet to date has been by Francis Geoffrey Rendall in his book, The Clarinet, some Notes upon its History and Construction (2nd ed. rev.; New York: Philosophical Library, 1957), pp. 147-57. Outside of these eleven pages, there exist many scattered references to the bass clarinet, but such references are often perfunctory in nature and at times are grossly inaccurate. Although the bass clarinet is a relative newcomer to the symphony orchestra, the history of the instrument covers a span of over two hundred years. It no longer suffices to dismiss the instrument with an insouciant, or worse, an erroneous comment.

This thesis is not intended as a pandect on the bass clarinet. The study has instead been limited primarily to an account of the development of the physiognomy of the bass clarinet, with the narration woven around a register of historical bass clarinets.

This thesis serves as an initial attempt to gather into one place the information concerning the early history of the bass clarinet, and to provide the groundwork on which future research may be based.

Originally, the section dealing with the history of the bass clarinet was to comprise only a small part of this thesis, for it was thought that little or no information was available. To the contrary, however, there was a wealth of material to be uncovered; this in itself demonstrates the necessity for such a study.

The material presented in this thesis has been compiled from what appear to be the most important reference sources in the field of musical wind-instrument history, and from information regarding extant specimens of early bass clarinets themselves. Much of the data was communicated by museums in Europe and the United States, and the amount of information which was rendered varied with each museum.

The description given with each bass clarinet has been gathered from the writings of others who have discussed the bass clarinet, or has been contributed by the museum which owns a particular bass clarinet. The descriptions, which are as detailed as possible, include:

Date of the invention of the bass clarinet.

Maker (or other name found on the instrument).

Dates of the maker's life or work.

Place of invention, or of maker's establishment.

Present location of the bass clarinet.

Pitch of the bass clarinet.

Body design.

Material.

Component parts.

Number of keys.

Mounting of keys.

Names of keys.

Range of the bass clarinet, written pitches.

Measurements of the bass clarinet.

Maker's mark quoted.

(Other information is inserted as the need arises.)

It must be cautioned that the names stamped on early bass clarinets do not positively identify the makers, because at times the instruments were marked with the names of dealers or of owners. To further complicate matters, sometimes one specific mark was used by a wind-instrument manufacturing firm for several generations. It is almost impossible to accurately date certain bass clarinets because makers very seldom stamp the year of the construction on the instruments.

In this study, an effort has been made to identify, as accurately as possible, the maker of each of the bass clarinets discussed, and to approximate the year or period during which each of these bass clarinets was produced. Of immense help in this respect has been Lyndesay G. Langwill's An Index of Musical Wind-Instrument Makers (2nd and enlarged ed.; Edinburgh, Scotland: Lyndesay G. Langwill, 1962).

In writing this thesis, it has been necessary to present only the barest facts as communicated by those who have had an opportunity to examine historical bass clarinets. Considering the discrepancies and errors which infest many of the writings on the bass clarinet, it was believed that, though dry reading, a presentation of the facts would be valuable.

This study certainly does not purport to include every bass clarinet in existence. Adam Carse in the "Preface" to his book, Musical Wind Instruments: A history of the wind instruments used in European orchestras and wind-bands from the later Middle Ages up to the present time (London: Macmillan and Co., Limited, 1939), pp. v-x, discusses the problems confronting anyone who attempts to do research into wind-instrument history. He mentions the many gaps which still remain in the

field. This thesis is a proemial attempt at filling one of these gaps.

C H A P T E R I I

DEFINITION OF TERMS

Bass Clarinet:

The bass clarinet may be described as an aerophone (wind-instrument) with a cylindrical bore and a single beating reed: the bass clarinet is pitched one ocatve lower than the clarinet in B flat, A, or C.[1] The modern bass clarinet consists of five parts: mouthpiece, neck, upper (left hand) joint, lower (right hand) joint, and bell. The mouthpiece is usually made of ebonite (hard rubber), the two joints from wood, and the other parts of the instrument from metal.

Theoretically, all that can be said about the function of the component parts, and of the acoustical properties of the clarinet, can be said of the bass clarinet. The mouthpiece carries the reed; the neck is used nominally to adjust the pitch; the joints contain

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[1]Nicholas Bessaraboff, Ancient European Musical Instruments: An organological study of the musical instruments in the Leslie Lindsey Mason Collection at the Museum of Fine Arts, Boston (Boston: Harvard University Press, 1941), pp. 94-96.

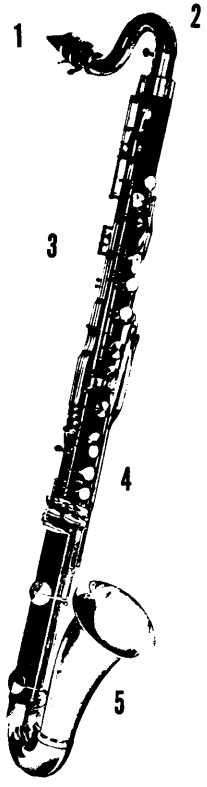

Figure I. Present day Boehm system bass clarinet made by G. Leblanc Cie., Paris.

1. Mouthpiece with metal ligature. 2. Adjustable neck. 3. Upper joint (note "half-tone hole"). 4. Lower joint. 5. Bell.

almost all of the tone holes (q.v.); and the bell serves to amplify the lower notes on the instrument and is also an essential part of the entire acoustical system.[2]

Acoustically, the bass clarinet acts as a stopped pipe (though the bore of the bass clarinet is not a perfect cylinder throughout), and the instrument thus sounds one octave lower than an open pipe of the same length. Overblowing (i.e. playing the harmonics) is facilitated by means of a small hole placed on the neck or uppermost part of the body, and covered by a speaker key.[3]

The bass clarinet in B flat is at the present time the standard instrument. Though efforts are being made to extend the range of the bass clarinet downward, for now the range of the instrument is considered as being from (sounding) Great Octave D flat to g^2. The register of the bass clarinet in B flat is divided into several sections:

Chalumeau register:
(sounding) Great Octave D flat - e

Throat tones:
f - a flat

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[2]Francis Geoffrey Rendall, The Clarinet, some Notes upon its History and Construction (qnd ed. rev.; New York: Philosophical Library, 1957), pp. 5-15.

[3]Bessaraboff, op. cit., pp. 94-96.

Clarion register:
a - b flat^{1}

Altissimo register:
b^{1} - g^{2}.

There are two systems of notation for the B flat bass clarinet. In the French Notation, the music is written in the treble clef a major ninth higher than sounding pitch. In German Notation the music is written in the bass and treble clefs, always a major second above sounding pitch. There is an illegitimate German Notation in which the music is transposed a major second above sounding pitch in the bass clef, and a major ninth in the treble clef. This notation is, however, entirely incorrect.

Bassoon Shape: A body design generally resembling the shape of the present-day bassoon.

Boot Joint (Butt or Double Joint): The lowest joint on a bassoon-shaped (q.v.) bass clarinet; the joint in which the bore (q.v.) doubles back on itself.

Boot Plate: A metal sheath (boot) covering the bottom of the boot joint. (q.v.)

Bore: The interior, partially cylindrical, opening which runs the length of the bass clarinet. The "bore" referred to in this thesis is usually restricted to that of the upper and lower joints of the body.

Ferrule: A band encircling a part of the bass clarinet in order to prevent splitting and wearing.

Finger Hole: A tone hole (q.v.) stopped directly by the finger.

Flap (Flat key): A key of a flat piece of metal with a piece of leather affixed to the underside to stop the tone hole. (q.v.)

Foot-plate: An oval plate to which the pillars (q.v.) are fastened. The "foot-plate" is sunk into the wood and fastened with screws.

Knob: Key mounting. A block of wood is left standing on the body of the bass clarinet, through which is cut a channel. The key lies in the channel, and pivots on a small rod (pins).

Length of Shaft: Length of entire bore from mouthpiece to the bell.

Neck: This term has been used throughout the study in order to avoid confusion with the bassoon "crook," and to circumvent the ambiguous "mouthpipe."

Pillar (Post): Key mounting. A small upright metal column with a round head. The key pivots between two pillars on a rod (pin). Pillars are mounted either with foot plates (q.v.) or are screwed directly into the wood.

Plateaux Key: A finger plate covering a finger hole when the latter is too large for the finger tip to cover.

Ring (Spectacle): A key surrounding, but not covering a finger hole. The "ring" automatically closes two or more tone holes (q.v.) in one finger action.[4]

Saddle: Key mounting. Consists of two thin walls of metal soldered to a bottom (or foot) plate, sunk into the wood, and fastened with screws. The key lies between the two walls and pivots on a rod (pin).

Tone Hole: A hole drilled through the wood into the bore (q.v.) for the production of a pitch.

Symbols and Abbreviations

Ø : Diameter.

cm. : Centimeter(s).

L.H.: Left hand.

mm. : Millimeter(s).

R.H.: Right hand.

Much of the information in this thesis was contributed by German museums and found in German texts.

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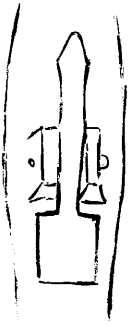
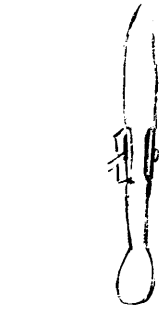
[4]Rendall, The Clarinet, p. 17.

"Swelling"

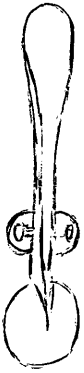


Knob

Saddle (side view)

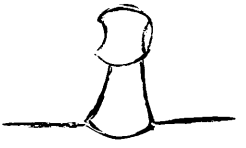


Saddle



Pillars with footplate

Pillars without footplate



Pillar (detail)

Figure II. Key Mountings.

Among the German terms idiomatic to this investigation of the bass clarinet are:

Becker: Bell.

Beschlägen: Ferrules.

Bock: Knobs, block.

Brillen: Rings (= spectacles).

Deckhebel-Mechanismus: Plateaux keys.

Dm. (Ø): Diameter.

Durchmesser (Ø): Diameter.

Gerades Schallstück: Bell pointing straight down.

Grifflöcher: Finger holes.

H.: Height.

Höhe: Height.

Hornrings: Horn ferrules.

In gerader einröhriger Form: In straight body design.

Kapseln (Kapsellagerung): Saddles.

Klappen: Keys.

Knie: Knee.

Kugeln: Pillar.

Kugeln auf Fussplatte: Pillar with footplate.

Kugeln ohne Fussplate: Pillar without footplate.

Mundstück: Mouthpiece.

S: Neck (crook).

S = Stück: Neck (crook).

Schallbecker: Bell.

Schallröhre: Literally a "sound tube." (Bore)

Schallstück: Bell.

Schalltrichter: Bell.

Schnabel: Mouthpiece.

Trillerklappe: Trill key.

Wulst: Literally a "swelling." There is no technical English term for this word. Wulst refers to a swelling on the outside of the body of a wood-wind instrument; a channel is cut through the swelling. A key lies in the channel and pivots on a small rod (pin).

For a more detailed discussion of the present-day bass clarinet, see the final chapter of this thesis.[5]

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[5]See also Adam von Ahn Carse, Musical Wind Instruments: A history of the wind instruments used in European orchestras and wind-bands from the later Middle Ages up to the present time (London: Macmillan and Co., Limited, 1939), pp. 46-61; Rendall, The Clarinet, pp. 16-28; and Curt Sachs, Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin (Berlin: Julius Bard, 1922), p. 251.

CHAPTER III

HISTORICAL BACKGROUND

With but one exception, by the end of the seventeenth century each type of wind instrument employed in the modern symphony orchestra had appeared in some form or other.[6]

Orchestras existed in other cultures before the first millenium B.C.,[7] but it was not until the late Middle Ages that similar ensembles arose in Europe.[8] From about 1400 A.D. wind instruments of all descriptions began to appear in European orchestral ensembles,[9] and by the latter part of the sixteenth century,

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[6]Adam von Ahn Carse, The History of Orchestration (2nd ed. rev.; New York: Dover Publications, Inc., 1964), p. 20.

[7]Curt Sachs, The Rise of Music in the Ancient World, East and West (New York: W. W. Norton and Company, Inc., 1943), p. 7.

[8]Nathan Broder, "The Beginnings of the Orchestra," Journal of the American Musicological Society, XIII (1960), Nos. 1-3, p. 171.

[9]Ibid., pp. 175-77.

aerophones[10] had become quite prevalent, though there was as yet no standard instrumentation.[11] However, near the beginning of the seventeenth century the orchestra came to be founded upon a body of string instruments.[12] There followed, a process of selectivity which only the fittest wind instruments, those having satisfactory range and dynamic flexibility, managed to survive.[13] Toward the end of the century an orchestral instrumentation, by no means permanent, had begun to crystalize.[14]

Knowledge concerning the use of wind instruments in European art music prior to 1700 has been gleaned from paintings, poetic and literary references, lexicons, organological music treatises, and specimens of the instruments themselves. In examining these sources, one fact is clear, that during this period of time all the wind instruments of the present-day symphony orchestra

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[10]Curt Sachs, The History of Musical Instruments (New York: W. W. Norton and Company, Inc., 1940), pp. 457-59.

[11]Broder, op. cit., p. 179.

[12]Ibid., pp. 179-80; and Sachs, The History of Musical Instruments, p. 352.

[13]Sachs, The History of Musical Instruments, p. 352.

[14]Broder, op. cit., p. 180.

were represented, in some form, except for cylindrical bore, single reed instruments: the clarinets.[15]

The instrument known today as the clarinet was said to have been invented by Johann Cristoph Denner (b. Nürnberg, 1655; d. Nürnberg, 1707) at the beginning of the eighteenth century. This is reported by J. G. Dopplemayer in the Historische Nachricht der Nürnbergischen Mathematicis und Kunstlern, 1730. Other than this, little is known about the inception of the instrument.[16] The date of Denner's first clarinet has been put at 1690 by, among others, F. J. Lipowsky in his Übersicht der deutschen Geschichte of 1794, but it is unexplained where Lipowsky found this information.[17]

The clarinet of Denner is certainly not the first cylindrical bore, single reed instrument known. The history of such instruments reaches back into antiquity, at least as far as the early Egyptian civilization.[18] However, there is no evidence that they were

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[15]Rendall, The Clarinet, p. 64.

[16]Carse, Musical Wind Instruments, p. 150; and Rendall, The Clarinet, pp. 66, 173.

[17]Rendall, The Clarinet, p. 66.

[18]Hans Hickmann, "Klarinette: Die aussereuropäischen und antiken Klarinetteinstrumente. Vor- und Fruhgeschichte," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopädie der Musik, VII (1958), pp. 993-1005.

used in Europe for anything other than folk music from the Middle Ages until the time of Denner's "invention."[19] Neither Praetorius[20] in the Syntagma musicum, 1618, nor F. Marin Mersenne in his comprehensive Harmonie Universelle, 1636, make reference to a cylindrical bore, single reed instrument;[21] and other early writers likewise seem to have possessed no knowledge of such an instrument.[22]

An instrument called the chalumeau was purported to have been in use in the seventeenth century, but the true relationship of this instrument to Denner's clarinet is a matter which has never been settled.[23] Furthermore, that the pre-Denner chalumeau was necessarily a single

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[19]Heinz Becker, "Klarinette: Die europäische Klarinette," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopadie der Musik, VII (1958), pp. 1005-1006.

[20]Rendall, The Clarinet, p. 65.

[21]F. Marin Mersenne, Harmonie Universelle, contenant la theorie et la pratique de la musique, ou il est traité de la nature des sons, et des mouvemens des consonances, des dissonances, des genres, des modes, de la composition, de la harmoniques, Paris, 1636 (facsimile ed.; Paris: Editions du Centre National de la Recherche Scientifique, 1963), III, pp. 225-308.

[22]Carse, Musical Wind Instruments, p. 151.

[23]Cf. Becker, Die Musik in Geschichte und Gegenwort, VII (1958), pp. 1005-10; Carse, Musical Wind Instruments, pp. 148-57; and Rendall, The Clarinet, pp. 62-81.

reed instrument, is not really known.[24] Illustrations and definitions of single reed chalumeaux occur in lexicons and encyclopedias only well after the time which Dopplemayr gives for the first clarinet of Denner.[25]

The wording of Dopplemayr's statement is not as lucid as might be hoped, and precisely what Denner accomplished is left uncertain. The most general interpretation is that Denner took the folk instrument chalumeau and through improvements on it produced his clarinet, but such an idea cannot be gained from a literal reading of the original statement.[26]

Dopplemayr writes that at the beginning of the eighteenth century, Denner invented the so-called "Clarinette," and that Denner produced chalumeaux in improved form.[27] Whether Dopplemayr meant to imply that Denner based the clarinet on the said chalumeaux

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[24]Carse, Musical Wind Instruments, p. 150; and Rendall, The Clarinet, pp. 62-68.

[25]Carse, Musical Wind Instruments, pp. 149-54, citing Diderot and D'Alembert, Encyclopédie, Paris, 1767, and Reynvaan, Muzijkaal Konst-Woordenboeck, Amsgerdam, 1789-1795.

[26]Carse, Musical Wind Instruments, pp. 151-52; and Rendall, The Clarinet, p. 66.

[27]Rendall, The Clarinet, p. 66.

remains no more than conjecture.[28] It must be noted that the term "chalumeau" does not appear in musical scores until after the time of Denner's first clarinet, and it is a matter of some debate as to whether the parts were intended for the early clarinets or for the similar, but distinct chalumeau.[29]

During the first half of the eighteenth century, the fate of the clarinet remained very much in doubt. Music for the instrument appeared from time to time, but in the main, the clarinet was snubbed, and this is readily understood.[30] The early clarinet was unsatisfactory in tonal quality and agility, and was woefully out of tune. Yet even with all of its shortcomings, the clarinet did possess one feature with which it surpassed all of the other woodwinds; the clarinet had a dynamic flexibility which none of the established woodwinds could approach. Through the influence of the

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[28]Carse, Musical Wind Instruments, pp. 151-52.

[29]Cf. Becker, Die Musik in Geschichte und Gegenwort, VII (1958), pp. 1005-10; Carse, Musical Wind Instruments, pp. 171-72; and Rendall, The Clarinet, pp. 62-68.

[30]See Rendall, The Clarinet, pp. 74-88.

famous ensemble in Mannheim, the clarinet was assured of a position in the orchestra. It is significant that the so-called Mannheim School was famous for its exploitation of dynamic nuance.[31]

The latter part of the eighteenth century saw the clarinet given increasingly more employment in orchestras and wind-bands, though the instrument was still not on an equal footing with the other woodwinds. It was during the first quarter of the nineteenth century that the clarinet was finally accepted as something more than a substitute for the oboe,[32] and by the time Beethoven had written the last of his symphonies (each calling for a pair of clarinets), the clarinet had become a full-fledged member of the symphony orchestra. There followed continual improvements by clarinet manufacturers, the growing demands of composers, and a rising development in the virtuosity among clarinetists, all of which have continued to the present day.

The bass clarinet, pitched one octave lower than the clarinet, appeared in the orchestra much later.

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[31] Ibid.

[32] Carse, The History of Orchestration, p. 180.

The earliest[33] known orchestral bass clarinet part is the solo for the instrument in the fifth act of Meyerbeer's Les Huguenots, 1836, though the bass clarinet apparently was used previously in military wind-bands. The bass clarinet entered the orchestra along with a small group of "extra" woodwinds (e.g., piccolo, English horn, contra-bassoon) which were called upon usually to extend the ranges of their respective families, but which on occasion were exploited for their distinctive tone colors.[34] It is true that many of the first composers to write for the bass clarinet used it as a solo voice. The common practice was for one of the two clarinetists in the orchestra to take the bass clarinet only to play a desired passage.

Among the early scores calling for a bass clarinet were: Meyerbeer, Les Huguenots, 1836; Berlioz, Benvenuto Cellini Overture, 1838; Donizetti, Dom Sebastian, 1843 (calling for two bass clarinets).[35] It was in the scores of Richard Wagner's operas, beginning

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[33]Adam von Ahn Carse, The Orchestra from Beethoven to Berlioz: A history of the orchestra in the first half of the nineteenth century, and of the development of orchestral baton-conducting (Cambridge, England: W. Heffer and Sons, Ltd., 1948), p. 31.

[34]Ibid., p. 29.

[35]Ibid., p. 31.

with Tannhauser in 1845, that the bass clarinet found steady employment as an independent member of the orchestra, though the instrument was by no means assured of a permanent position.

In the score of Le Prophète, in 1849, Meyerbeer made the following provision: "For those theaters which do not possess a bass clarinet, they will find, at the end of the score a supplement, wherein is given, how they can obtain the effect of those instruments in another way."[36]

In making preparations for the first production of the exiled Wagner's Lohengrin in 1850, Liszt found it necessary to purchase a bass clarinet.[37] Liszt himself wrote a solo for the bass clarinet in his Tasso, Lamento e Trionfo 1856, but cued the passage for three muted violoncelli, with the remark in the score: "In the absence of a bass clarinet, this motive is to be carried by 3 violoncelli."[38]

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[36]Letter from Heinz Becker, Musikwissenschaftliches Institut, Universität Hamburg, Hamburg, March 14, 1966.

[37]Gustave Kobbé, The Complete Opera Book, The stories of the operas, together with 400 of the leading airs and motives in musical notation (New York: G. P. Putman's Sons, 1950), p. 121.

[38]Franz Liszt, Tasso, Lamento e Trionfo (Leipzig: Breitkopf und Hartel, n.d.), p. 9.

Toward the end of the century the bass clarinet was employed more frequently, but even after Richard Strauss used it to great advantage in his tone poems, the bass clarinet was not a regular member of the orchestra. Only recently has the instrument managed to secure a permanent position in the symphony orchestra, and it has yet to be accepted as an equal with the clarinet.[39]

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[39]Cf. Rendall, The Clarinet, p. 154.

P A R T I I

EIGHTEENTH CENTURY TO NINETEENTH CENTURY

C H A P T E R I V

BASS CHALUMEAU - BASS CLARINET

The origin of the bass clarinet is obscure, but as with the clarinet, its lineage may possibly extend to the chalumeau family, specifically the elusive bass chalumeau. No specimens of any bass chalumeaux exist, and all that is known about these instruments must be inferred from mention of them in scores and lexicons.

Joseph Friedrich Bernhard Caspar Majer (b. 1689; d. 1720) was a cantor and organist at the church of Saint Catherine in Hall, Swabia. Among the books concerning music which he wrote was his general treatise on the learning of vocal and instrumental music, first published in 1732, entitled: Museum musicum theoretico-practicum.[40] In his Museum Musicum, Majer wrote:

> Man hat sonst Discant Alt-order Quart-Chalmeaux, wie auch Tenor- und Bass-Chalumeaux, theils mit

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[40]Francois Joseph Fétis, "Majer (Joseph-Frederic-Bernard-Gaspard)," Biographie Universelle des Musiciens et Bibliographie Générale de la Musique, 2nd ed. (1874-1877), V (1875), p. 410; and Georg Reichert, "Majer," Die Musik in Geschichte und Gegenwort, VIII (1960), pp. 1531-32.

dem Frantzosischen/ theils mit Teutschen Ton.[41] (One has moreover Discant, Alto-or Quart- Chalumeaux, as also Tenor- and Bass Chalumeaux, partly with French/ partly with the German tone.)

Majer is the first to mention bass chalumeaux,[42] but he is not at all explicit in defining chalumeaux as single reed instruments.[43] The different kinds of chalumeaux named by Majer extended the range of the family downward. One problem which had long faced composers, was that of strengthening the bass range, and the bass chalumeaux might have been intended to help correct this situation.[44] It is not impossible that bass chalumeaux were used either to double the parts with other instruments of the same range, or occasionally to replace certain instruments.[45] However, there is no proof for such speculation other than the fact that performance practices of that time were still free, and it was possible for instruments of the same range to be

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[41]Becker, Die Musik in Geschichte und Gegenwort, p. 1006.

[42]Ibid.

[43]Carse, Musical Wind Instruments, p. 149.

[44]Becker, Die Musik in Geschichte und Gegenwort, p. 1006; see also Adam von Ahn Carse, The Orchestra in the Eighteenth Century (2nd ed.; Cambridge: W. Heffer and Sons, Ltd., 1950), p. 122.

[45]Letter from Becker, March 14, 1966.

interchangeable without having this written down in a part.[46]

Music written for bass chalumeaux, notated in the bass clef, was written by Christopf Graupner, Georg Phillip Telemann, and Fasch, though the latter two called the instrument a "Chalcedon." Compositions in which Graupner used a bass chalumeau may be found in the Hessische Landes- und Hochschulbibliothek, Darmstadt (numbers: Mus 411/26, Concerto in C major; Mus 411/50, Concerto in F major; Mus 471/2.5, Trio in F major; Mus 471/2.6, Trio in C major).[47]

Reference to a bass chalumeau did not occur until well after the invention of Denner's clarinet. There are specimens of several instruments from about 1750 which have come to be regarded as early bass clarinets.[48] The prevailing ignorance of the physiognomy of the bass chalumeaux has led F. Geoffrey Rendall to conjecture that these early surviving instruments might

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[46] Ibid.; see also Carse, The Orchestra in the Eighteenth Century, p. 122.

[47] Letter from Becker, March 14, 1966.

[48] Carse, Musical Wind Instruments, p. 172; Rendall, The Clarinet, p. 148; Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299; and a letter from J. H. van der Meer, Oberkonservator, Germanisches Nationalmuseum, Nürnberg, February 21, 1966.

have been attempts at making bass chalumeaux,[49] but this assertion lacks supporting evidence. For example, the existing c. 1750 bass clarinets have a bell, however, the bass chalumeaux were said to have had a foot (Fuss) in place of a bell.[50] At present all that can truthfully be said is that the exact relationship between the bass clarinets of c. 1750 and the bass chalumeaux is unknown and will remain so until more specific information can be unearthed.

The extant specimens of bass clarinets which are thought to have been made in about 1750 are almost identical in their general design, and they may be described as follows:

No. 1

c. 1750 — Maker and place unknown. Reported[51] to have been in the Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Muzik zu Berlin, Berlin, number 2910. This collection is now under the auspices of the Staatlichen Institut für Musikforschung der Stiftung Preussischer Kulturbesitz, Berlin.[52]

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[49]Rendall, The Clarinet, p. 148.

[50]Letter from Becker, March 14, 1966.

[51]Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299.

[52]Letter from Alfred Berner, Staatliches Institut für Musikforschung der Stiftung Preussischer Kulturbesitz, Berlin, May 27, 1966.

> Wooden body, covered with black leather. Body is approximately an inch thick, much wider at the bottom than at the top, and with a triangular appearance. Cylindrical bore, about 1.4 cm., situated in back-along what would be the longest side of an obtuse triangle. Seven open finger holes along the upper edge of the instrument. Two brass keys, mounted in saddles: left thumb key opening directly into the bore, and a low E key mounted on the top and designed to give the lowest pitch. Brass neck, resembling that of a modern bass clarinet. Upturned brass bell, opening to a diameter of 15.5 cm. Height: 80 cm. The initials "V.F." etched into a shield. The instrument was not intended to overblow, i.e. produce the clarion register.[53]

This instrument was completely broken during World War II. Only the upper part of the body and the bell remain, and these are damaged.[54]

Rendall[55] estimates that the instrument was made before 1750. Carse[56] places it shortly before or after 1800, and Sachs[57] writes merely that it is from the eighteenth century.

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[53]Rendall, The Clarinet, p. 148; and Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299, and plate XXIX, no. 2910.

[54]Letter from Berner, May 27, 1966.

[55]Rendall, The Clarinet, p. 148.

[56]Carse, Musical Wind Instruments, p. 172.

[57]Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299.

No. 2

c. 1750 Maker and place unknown. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, number M. 939. This instrument is of the same general design as the preceding (Berlin) specimen. Pitched in A or flat B flat. Seven finger holes along the upper edge. Three brass keys mounted in saddles: left thumb key; and key for left hand ($L.H._1$) first finger; long low L.H. little finger.[58]

Unlike the Berlin specimen, the instrument in the Brussels collection is intended to overblow. The Brussels model has a floor peg in the shape of an arrowhead; there was no such attachment on the Berlin bass clarinet. The Brussels specimen lacks the decorations of the Berlin model, and the diameter of the neck of the Brussels instrument appears to be more narrow than that of Berlin.[59]

No. 3

c. 1750 Domenico della Mela. Italy. Reported to be in the Conservatorio G. B. Martini, Florence. Three keys. This instrument is of the same general design as the two preceding specimens.[60] A bass clarinet similar to these, but with a downward pointing bell, is reported to have been in the Museo Storico

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[58]Rendall, The Clarinet, p. 148, and plate VII.

[59]Cf. ibid.; and Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299, and plate XXIX, no. 2910.

[60]Letter from van der Meer, February 21, 1966.

Figure III. Bass clarinet from c. 1750. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number M. 939. Note the placement of the open tone holes along the upper edge of the bass clarinet.

Civico, Lugano.[61] However, that museum no longer has an instrument collection.[62]

The shape of these bass clarinets is distinctive. Early woodwind makers were faced with the interminable problem of how to accurately locate the open tone holes along the bore of the instruments, while keeping the holes within reach of the performer's fingers.[63] The difficulty became critical with the larger instruments, and the development of the bass clarinet was impeded until sufficient advances were made in key mechanization.

In approaching the problem each maker was left to his own ingenuity. This accounts for the diversification in the construction of bass clarinets made before the second quarter of the nineteenth century.

The forementioned c. 1750 bass clarinets were designed to take advantage of two acoustical facts. First, there is a relationship between the diameter of the tone holes (finger holes) in a pipe, and the diameter of the bore at the points where the tone holes are

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[61]Rendall, The Clarinet, p. 148.

[62]Letter from Galeazzi, Secretary, Musei Cittadini, Citta di Lugano, Lugano, April 6, 1966.

[63]Carse, Musical Wind Instruments, p. 171.

Figure IV. Side view of a bass clarinet from c. 1750. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number M. 939. (The body of the bass clarinet has been posed backward.)

situated.[64] Theoretically, the diameter of the tone holes should be the same as the diameter of the bore. This could not be done on the early bass clarinets because the resultant holes would have been too large for the fingertips to cover. Moreover, had the tone holes on these instruments been drilled at the acoustically correct positions, the holes would have been spread out of the reach of the players' hands.[65] A small hole offers great resistance to the escape of the sound waves from a tube. The sound waves tend to bypass the desired opening, and travel farther down the pipe. This tendency, combined with the greater resistance offered by a small hole, flattens the pitch.[66] The second fact considered was that the thickness of the pipe through which a tone hole is drilled determines pitch in so far as the added depth of a thick wall has the effect of lengthening the pipe. Such a lengthening also flattens the pitch.[67]

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[64]Arthur H. Benade, Horns, Strings, and Harmony (Garden City, New York: Doubleday and Company, Inc., 1960), p. 204.

[65]See Carse, Musical Wind Instruments, pp. 24-25.

[66]Donald W. Stauffer, Intonation Deficiencies of Wind Instruments in Ensemble--A Dissertation (Washington, D.C.: The Catholic University of America Press, 1954), p. 78.

[67]Benade, op. cit., p. 204.

Because of these acoustical problems it was possible for Domenico della Mela and the makers of the other c. 1750 bass clarinets to reduce the diameter of the tone holes and to move the holes farther up the instruments. The body of these bass clarinets is roughly in the shape of an obtuse triangle. A bore with a diameter of approximately 1.4-1.8 cm. is situated along what would be the longest side of the triangle. A thumb hole opens directly into the bore, and seven open finger holes are located within reach on the opposited, upper edge of the triangle. The finger holes have been drilled obliquely down through the wood in order to arrive on the bore at the correct, but much more widely spaced positions.[68] The depth of the finger holes and the smallness of the diameter, lower the pitch to the intended bass clarinet register.

The principles of construction noted above were, and still are, used in the construction of bassoons. Smaller finger holes not only lower the pitch, but also affect the characteristic tone color of the instrument. With the advancement of key mechanization it became possible to drill finger holes of correct diameter at the acoustically proper location on the bore. This was

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[68]Rendall, The Clarinet, p. 148.

Figure V. Tone hole boring of the c. 1750 bass clarinet in the Musikinstrumente-Museum, Stiftung Preussischer Kulturbesitz, Staatlichen Institut für Musikforschung, Berlin, catalogue number 2910. Diameter of each tone hole opening, left to righ, in millimeters:

Top (upper edge)								
12.2	9.8	12.1	12.3	12.3	?	9.2	9.1	8.9
Bottom (opening on bore)								
20.3	17.1	12.2	15.2	12.4	7.2	10.2	11.1	9.2

Musikinstrumenten-
Museum Berlin
Bassklarinette Kat.-Nr. 2910
Corpus-Oberteil
mit 6 Tonlöchern (wie Klappenloch
und ein zugesetztes Griffloch)

done with bass clarinets (the tone of the c. 1750 Brussels specimen was found to be unsatisfactory),[69] but bassoon manufacturers retained the old way in order to preserve the original timbre.[70]

It is not possible to give an exact date for the bass clarinets of Domenico della Mela, nor for the other similar bass clarinets. It would appear, however, that they were all made much earlier than 1800, and are, at present, believed to be the earliest surviving attempts at making true bass clarinets.[71]

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[69] Ibid.

[70] Anthony C. Baines, Woodwind Instruments and Their History (London: Faber and Faber Limited, 1957), plate XXIX, no. 5.

[71] Rendall, The Clarinet, p. 148.

CHAPTER V

EARLY BASS CLARINETS

No. 4

1772 Gilles Lot (Worked . . . 1752-1772 . . .). Paris. Basse-tube.

Because no specimen of the basse-tube survives, all that is known about the instrument comes from the Parisian newspaper L' Avant-Coureur of May 11, 1772:

> Mister G. Lot, manufacturer of wind instruments, living in the court of the monks of the Saint-Germain Abbey, opposite the fountain, has just made a musical instrument of a new invention, under the name of basse-tube (basso-tuba) or bass clarinet. One has not yet seen instruments of so considerable a range. It is capable of three and a half full octaves; it descends as low as the bassoon and rises as high as the flute. This instrument, which is of a quite peculiar shape, contains several keys for usage with semi-tones, all very artistically arranged and of a strong, ingenuous mechanism. The sounds which it produces are very agreeable and so perfectly resonant, that they imitate closely in the low tones, those of the pedal actions of the organ. This instrument, being played by a clever artist, should not be unable to produce a very good impression, and to have the approbation of the public, whether heard solo or in the orchestra.[72]

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[72]Translated from Rendall, The Clarinet, p. 147, quoting Constant Pierre, Les Facteurs d'Instruments de Musique (Paris, 1893), pp. 103, 104.

This advertisement of Lot's basse-tube is the earliest record of a Parisian instrument maker building any type of clarinet.[73]

It was not unusual for makers of the time to experiment with extending the ranges of certain instrument families. Lot's father, Thomas Lot, was one of at least five flute makers known to have been working in Paris in about 1752. A bass flute made by the elder Lot still survives.[74]

Gilles Lot himself assisted his father-in-law, the instrument maker Lecler (or Le Clercq).[75] By the time of Lecler's death in 1752, Lot had succeeded to the management of the business,[76] and in 1777 the Almanach Dauphin proclaimed Lot to be "renommé pour les clarinettes" (renowned for clarinets).[77]

Gilles Lot can no longer be considered the earliest maker of a bass clarinet, though he has been

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[73]Rendall, The Clarinet, p. 80.

[74]Lyndesay Graham Langwill, An Index of Musical Wind-Instrument Makers (2nd and enlarged ed.: Edinburgh, Scotland: Lyndesay G. Langwill, 1962), p. 72.

[75]Ibid., pp. 67, 71; and Rendall, The Clarinet, p. 79.

[76]Langwill, Index, p. 71.

[77]Rendall, The Clarinet, p. 80.

acknowledged such by several writers.[78] However, the basse-tube unquestionably antedates the 1793 Klarinetten-bass of Johann Heinrich Grenser.

No. 5

1793 Johann Heinrich Grenser (b. 1764, Dresden; d. 1813), Dresden. Klarinetten-bass.[79] The instrument was reported to have been in the Grossherzoglichen Privatsammlungen, Darmstadt.[80] However, the entire collection was destroyed in an air raid in September, 1944.[81] Bassoon shaped. Nine square-flapped keys working on knobs.[82] Four octave range descending to low B natural (i.e. below the bass clef).[83] Stamped: "A Grenser, Dresden."[84]

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[78]René Brancour, Histoire des Instruments de Musique (Paris: Henri Laurens, 1921), p. 124; Carse, Musical Wind Instruments, p. 171; Wilhelm Heinitz, "Instrumentenkunde," Handbuch der Musikwissenschaft, ed. Ernest Buchen (Potsdam: Akademische Verlagsgesellschaft Athenaion M.B.H., 1932), p. 58; Sachs, The History of Musical Instruments, p. 40; and Curt Sachs, Real-Lexikon der Musikinstrumente, zugleich ein Polyglossar für das gesamte Instrumentengebeit (Berlin: Julius Bard, 1913), p. 38 a.

[79]Adam von Ahn Carse, "Grenser, Johann Heinrich," Grove's Dictionary of Music and Musicians, 5th ed. (1954), III, pp. 790-91.

[80]Rendall, The Clarinet, p. 149.

[81]Letter from Ernst Hofman, Grossherzoglichen Privatsammlungen, Darmstadt, March 13, 1966.

[82]Cf. Kathleen Schlesinger, "Bass Clarinet," Encyclopaedia Britannica, 11th ed. (1910-1911), III (1910), p. 491.

[83]Rendall, The Clarinet, p. 149.

[84]Schlesinger, loc. cit.

> The surname of the maker has been misspelled "Gresner" by some writers.[85]

The Grenser's were a Thuringian family of instrument makers. Carl August Grenser (b. 1720, Wiehe, Thuringia; d. 1807 or 1810, Dresden)[86] was a pupil of J. Porschmann of Leipzig before settling in Dresden in 1739.[87] He established himself as an independent wind-instrument maker in 1744, and became a maker to the Court of Saxony in 1753.[88] Johann Heinrich Grenser, his nephew and later son-in-law, served him as an apprentice from 1779-1786. In 1796 Heinrich was given the management of the business. Carl August Grenser's son, also named Carl August (1758-1794), worked as an instrument maker independent of his father and cousin.

The Klarinetten-bass has been the cause of a good deal of confusion. The instrument is frequently,

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[85]See Ulric Daubeny, Orchestral Wind Instruments, Ancient and Modern; Being an account of the origin and evolution of wind instruments from the earliest to the most recent times (London: W. Reeves, 1940), p. 58; and Frederick Fennell, Time and the Winds; A Short history of the use of wind instruments in the orchestra, band, and the wind ensemble (Kenosha, Wisconsin: G. Leblanc Company, 1954), p. 23, n. 26.

[86]Adam von Ahn Carse, "Grenser, Carl August," p. 790.

[87]Langwill, Index, p. 43.

[88]Carse, "Grenser, Johann Heinrich," pp. 790-91.

though erroneously, named as the first bass clarinet. Having no knowledge of earlier attempts, nineteenth century authorities usually called the Klarinetten-bass the first bass clarinet; later writers used these sources of information and repeated the error.[89]

There are also some writers who do not recognize the Klarinetten-bass as a bass clarinet. Eric Halfpenny is of the belief that no bass clarinets existed before the nineteenth century except abortively, and that all such early attempts should be considered under the history of the basset horn.[90] In discussing the Grenser family in Die Musik in Geschicte und Gegenwort, Paul Rubardt states that the Klarinetten-bass is not to be confused with a bass clarinet.

Adam Carse, in The History of Orchestration, first published in 1925, credits Heinrich Grenser as having been the first to invent a bass clarinet.[91] In

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[89]See Francois Joseph Fétis, "Grenser (Henri)," Biographie Universelle des Musiciens et Bibliographie Generale de la Musique, 2nd ed. (1874-1877), IV (1874), p. 100; see also, Licht, Dict. Mus., 1839, i, 247, ad quoted by Rowland Wright, "Clarinette Basse," Dictionnaire des Instruments de Musique (London: Battley Brothers, Limited, 1941), p. 35.

[90]Letter from Eric Halfpenny, Galpin Society, Ilford and Barking, Essex, England, March 14, 1966.

[91]Carse, The History of Orchestration, p. 205, n. 2.

Musical Wind Instruments, 1939, Carse names Gilles Lot as the earliest producer of a bass clarinet.[92] Yet, in his article "Grenser, Johann Heinrich" in the Fifth Edition of Grove's Dictionary of Music and Musicians, 1954, to which he is a new contributor, Carse writes that Heinrich Grenser and his uncle, Carl August, were the first to make bass clarinets. It should be noted that no references are given to support the implication that the Grenser's ever made more than one bass clarinet.[93]

The same edition of Grove's Dictionary also contains F. G. Rendall's well-documented entry "Clarinet: Bass Clarinet," which mentions the basse-tube of Lot, the earlier c. 1750 bass clarinets, and the Klarinettenbass of 1793, here stated to be made by Heinrich Grenser.[94] Curiously, Rendall does not give a date for this instrument when it is discussed in The Clarinet (first published in 1954), though he acknowledges Heinrich Grenser alone as the maker.[95]

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[92]Carse, Musical Wind Instruments, p. 171.

[93]See Carse, "Grenser, Johann Heinrich," pp. 790-91.

[94]F. G. Rendall, "Clarinet: Bass Clarinet," Grove's Dictionary, II, p. 327.

[95]Rendall, The Clarinet, pp. 148-49.

Lyndesay G. Langwill, in An Index of Musical Wind-Instrument Makers, remarks that Carl August Grenser, the uncle of Heinrich, was credited with making early bass clarinets. (The use of the plural here may be traced to the Carse's article in Grove's Dictionary, Fifth Edition, which is the only one of the references cited by Langwill that uses the plural.)[96] In a letter to the writer of this thesis, Langwill states that Carl August, the uncle, designed the first bass clarinet.[97] Langwill further cites the Kathleen Schlesinger article "Bass Clarinet," Encyclopaedia Britannica, Eleventh Edition, 1910, as holding Heinrich responsible for the construction of the instrument. In stating that Heinrich Grenser was the originator of the bass clarinet, Schlesinger makes no mention of Carl August, though she does report that the Klarinetten-bass was marked "A. Grenser, Dresden."[98] She is of the opinion that the idea of making a bass clarinet was suggested to Grenser by the rise in popularity of the basset horn.

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[96]See Langwill, Index, p. 43, citing "Grenser, Johann Heinrich," loc. cit., see n. 78.

[97]Letter from Langwill, February 12, 1966.

[98]Schlesinger, loc. cit., citing Captain C. R. Day, Descriptive Catalogue (London, 1891), No. 266, p. 125.

The Klarinetten-bass is one of the earliest of a long series of attempts to perfect a bass clarinet in bassoon shape. There were several reasons for this. First, Grenser was especially noted as a bassoon maker, and this might well have influenced the shape of the Klarinetten-bass.[99] More important, this shape was a method of bringing the tone holes within the reach of the performer's fingers.[100] Further, it was a way of making the bass clarinet portable,[101] which becomes significant when one considers that most early bass clarinets were designed to serve in military wind-bands.

At the time of Jean-Baptiste Lully (b. 1632; d. 1689), wind-bands began to take on the semblance of the organizations with which we associate the name today.[102] During the eighteenth century, this medium steadily gained in importance. In 1763, Frederick II of Prussia, had the instrumentation of his army bands

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[99]See Schlesinger, loc. cit.

[100]Carse, Musical Wind Instruments, p. 172.

[101]Harold C. Hind, "Military Band," Grove's Dictionary, 5th ed. (1954), V, pp. 767-68.

[102]Lawrence J. Intravia, "Early Wind-Bands and Wind-Band Music: From earliest times to the eighteenth century," Part II, The School Musician, XXXVI, No. 2 (October, 1964), pp. 31-32.

set at two oboes, two clarinets, two bassoons, and two horns.[103] This combination, known as Harmoniemusik, became more or less the standard throughout Europe.[104]

The wind-band movement received an impetus from the French Revolution of 1789-1799. The French wind-gands frequently participated in patriotic festivals held in honor of the Revolution. Under Napoléon I the number of festivals declined, but military displays and parades, and the employment of wind-bands, continued.[105] During this period of growth, especially in the late eighteenth century, a desire to provide the wind-bands with a strong bass line,[106] led to further experimentation with bass clarinets.

Heinrich Grenser's Klarinetten-bass was probably intended to serve in military.[107] Its design made it portable enough to fit the demands of marching. Its

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[103]Hind, "Military Band," pp. 767-68.

[104]Intravia, "Early Wind-Bands and Wind-Band Music: From the earliest times to the end of the eighteenth century," pp. 31-32.

[105]Ibid.

[106]Lawrence J. Intravia, "Early Wind-Bands and Wind-Band Music: Scoring practices in marches for the wind-band from Lully through Beethoven," Part II, The School Musician, XXXVI, No. 4 (December, 1964), pp. 48-49.

[107]Rendall, The Clarinet, p. 148.

great sonority (it was said to have had a powerful but pleasant tone),[108] made it a logical choice to replace the bassoon in strengthening the bass line. To be an adequate substitute for the bassoon, the bass clarinet had to have a comparable range. The Klarinetten-bass did have an ample range of four octaves, descending to low B natural.

Many other bass clarinets were built with similar extended ranges in order to enhance their potential as substitutes for the basoon. The bassoon shape predominated in the construction of bass clarinets until after 1850. There are a number of early specimens which date from about the end of the eighteenth century or the beginning of the nineteenth century, and the following four bass clarinets, and a fifth instrument which might have been a bass clarinet, are typical of this period:

No. 6

c. 1800 Maker unknown. Possibly made in England. Now in the music instrument collection of the Division of Cultural History, Smithsonian Institution, United States National Museum, Washington, D.C., number 65.609. Probably in C. Bassoon shape, with ivory butt plate. Boxwood body. Wooden bell with

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[108] Ibid., p. 149, citing Gerber's Lexikon der Tonkunstler (1812).

a large "wedge" of wood missing. Three joint ferrules are of brass with ornate knurlings; three other joint ferrules are of ivory. Brass neck strap ring placed through the nose of a cast brass lion's head figure, attached to the upper ferrule on the butt joint.

Seven square, flat, brass keys mounted in brass saddles. Reading down from the register key, the keys are: register key, a' (low), g sharp (Left Hand little finger), f, e (Right Hand thumb), e flat (R.H. thumb), c (R.H. thumb).

Length of tube: 170.2 cm. (5 feet, 7 inches). Bore Ø (diameter): 1.8 cm. Bell Ø (diameter): 13.5 cm. (5 and 5/16 inches). On either side of the R.H. thumb hole are ornamented circular inlays made of ebony, with a smaller boxwood circle in the center of each. The inlay on the left (mouthpiece) side has an upper case "M" stamped in the center of the smaller boxwood circle. The inlay on the opposite side is missing, but was probably also stamped with an initial.[109]

This bass clarinet is currently unplayable. Its pitch can be determined only by taking measurements at certain points along the bore, and then relating these measurements to the fundamental tones which should occur on an open cylindrical pipe twice the length.[110] A 61 cm. (two foot) closed cylindrical pipe (e.g., a clarinet pipe) should produce the same pitch as a 122 cm. (4 foot) open pipe, viz. sounding small octave c.

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[109]Letter from Robert E. Sheldon, Museum Technician, Division of Cultural History, Smithsonian Institution, United States National Museum, Washington, D.C., June 3, 1966.

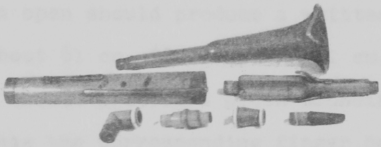
[110]Ibid.

Figure VI. Bass clarinet form about 1800, possibly made in England. Now in the music instrument collection, Division of Cultural History, Smithsonian Institution, United States National Museum, Washington, D.C., number 65.609.

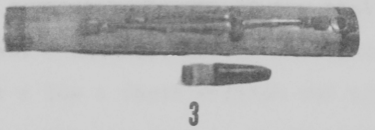
A. Front view. B. Disassembled. C. Detail of the rear of the boot joint, and of the mouthpiece. Note: boot plate (1); joint ferrule (2); extra long mouthpiece tenon, characteristically English (3). D. Disassembled another view. E. Rear view.

A

B



C



E

D

On this bass clarinet the bore distance from the tip of the mouthpiece to the edge of the right hand first finger hole (which when open should produce a written c in the bass clef) is about 61 cm. (2 feet). A 61 cm. (2 foot) clarinet pipe should produce a pitch sounding small octave c, and since the corresponding finger hole produces a written c, then the instrument is probably in C.

Unfortunately, what is true in theory, is not always true in practice, especially in woodwinds, and there is some slight chance that this bass clarinet is not actually in C. The total tube length of the instrument is 170.2 cm. (5 feet, 7 inches), and if the bottom note is supposed to emit a low c (both written and sounding), the bell appears too far too long to be realistic.[111]

The fingering system of this instrument is unique. A very long (low) g sharp key is employed so that it can be operated by the little finger of the left hand. Presumably this was done in order to relieve the right hand of a little responsibility. Another reason might have been to eliminate any stretch the right hand would have encountered in reaching for

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[111] Ibid.

the key.[112] The same reason might also account for the exclusion of a (low) f sharp key.

The tenon of the mouthpiece is quite long, and measures 3.5 cm. The barrel is designed without a step inside. When inserted all the way into the barrel, the tenon of the mouthpiece meets the tenon of the first joint. The great length of the mouthpiece, and the design of the barrel are in the English tradition. It is therefore most likely that this bass clarinet was made in England, or less likely in America but with an English design.[113]

No. 7

c. 1800 Unmarked. Reported to have been in the Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin, Berlin, number 2908. In serpent form. Light boxwood body. Brass joint ferrules. Five round keys in saddles. Length of shaft: 62 cm. Bore Ø: 1.6. Bell Ø: 6 cm.[114]

No. 8

c. 1800 Martin Lempp. (Worked . . . 1788-1822 . . .). Vienna.[115] Now in the Oberösterriechisches

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[112] Ibid. [113] Ibid.

[114] Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299.

[115] Langwill, Index, p. 68.

Landesmuseum, Linz, catalogue number 147. Bassoon shaped. Wood. Seven flapped keys. Curved brass neck. Ring for a supporting strap or cord. Height: 57.2 cm.[116]

Lempp was considered an excellent instrument builder. He was named a court instrument maker in 1800, along with Raymund Griesbacker.[117]

No. 9

c. 1800 Friedrick Hammig, Vienna. He was known to have stamped his instruments with an eagle. The instrument was recorded as having been sold at the auctions of Léon Savoye's collection in Paris either in 1882 or 1924.[118]

It is not possible to place an exact date on the instrument. Hammig worked in Vienna during the end of the eighteenth century and the beginning of the nineteenth century. He made all sorts of woodwind instruments, and from 1801 is known to also have produced Turkish cymbals, by virtue of a special privilege.[119]

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[116]Letter from Dr. Brigitte Heinzl, Oberösterreichisches Landmuseum, Linz, March 19, 1966.

[117]Langwill, Index, p. 68.

[118]Ibid., pp. 47, 138.

[119]Hermann Mendel (bearbeitet und herausgegeben), "Hammig," Musikalisches Conversations-Lexikon; Eine Encyklopadie der gessammten musikalischen Wissenschaften (1870-1879), IV (1874), p. 513.

No. 10

c. 1802 Franz Scholl, Vienna. His Shollbasso was apparently a type of bass clarinet.[120]

Scholl, who was quite active in the making of instruments,[121] sought an appointment as a court instrument maker in 1794 and again in 1799. He had hoped to fill the position left vacant by the death of Lotz (d. 1792), but the position was filled by Anton and Ignaz Kerner. In 1802 the Emperor Franz II granted Scholl the exclusive right to build and sell the Schollbasso. In April, 1803, Scholl placed an advertisement in the Viennese press, including a list of instruments which he claimed to have improved. Among these instruments were: bassoons, clarinets with extended ranges, and the Schollbasso. The instruments were sold from his home: Alte Wieden, Favoritengasse, im Grossen Neumannschen Haus, 537.

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[120]Letter from Langwill, February 12, 1966, citing Exner's Beitrage (Vienna, 1873), p. 103.

[121]Langwill, Index, pp. 106-107.

No. 11

There is an instrument in the private collection,[122] of Joe Privette, Florence, South Carolina, which may be another early bass clarinet. The instrument is bassoon shaped with a metal butt plate, and is made of a dark or a dark stained wood, including a wooden bell. Some of the joint ferrules are of metal, others of ivory. There are eight flat, heart-shaped keys mounted in saddles, but one of the keys is partially broken off. A long (low) g sharp key is positioned in a manner similar to that of the early bassoon shaped bass clarinet in the Smithsonian Institution, number 65.609 (supra).

The instrument owned by Privette could be a bass clarinet, but might also be a basset horn, or a tenor clarinet. Until a detailed examination is made, the exact genre of the instrument remains indefinite. Its shape, however, resembles the aggregate design of the early bassoon shaped bass clarinets.

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[122]Letter from Joe Privette, Privette Music Company, Florence, South Carolina, June 7, 1966.

Figure VII. Bass clarinet (?), now in the private collection of Joe Privette, Florence, South Carolina.

A. (Right) Front view. B. (Right) Rear view. (The neck and bell have been placed on the wrong joints.)

Also included in these photographs are two clarinets from the same collection. (Left, Center.)

P A R T I I I

FIRST HALF OF THE NINETEENTH CENTURY

CHAPTER VI

THE AVANT-GARDE

No. 12

c. 1807 Dumas de Sommières. (d. Paris, 1832, or Versailles, 1828). Paris. Basse guerrière. Bassoon shaped.[123] Thirteen keys.[124] No specimen survives, and little else is known about the instrument, though its name suggests that it was intended for use in military wind-bands.

There is some uncertainty about the year in which Dumas made the basse guerrière. Daubney in his Orchestral Wind Instruments, and Schwartz in The Story of Musical Instruments, both[125] give the date as 1805, but this year is found in none of the more authoritative works. The Soullier ". . . Dict. Mus. . . ." of 1855 states that the instrument was introduced into military

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[123]H. Lavoix, fils, Histoire de l'Instrumentation Depius le Seizeme Siècle (Paris: Librarie de Firmin-Didot et Cie., 1878), p. 124.

[124]Rendall, The Clarinet, pp. 150-51.

[125]Daubney, op. cit., p. 158; and H. W. Schwartz, The Story of Musical Instruments (New York: Doubleday, Doran and Co., Inc., 1939), p. 127.

music in 1811.[126] Fétis, in his Biographie Universelle, writes[127] that Dumas invented the basse guerrière in 1810, and in the same year submitted it to a commission for inspection at the Paris Conservatoire. According to Fétis, the instrument was approved and recommended for adoption by the Garde Imperiale, but was not used. Moreover, Fétis states that bass clarinets in general did not gain acceptance for almost twenty years afterwards. The Biographie Universelle gives the death of Dumas as being at Versailles in 1828. Rendall, in his article[128] on the bass clarinet in Grove's Dictionary, 1954, approximates the date of the basse guerrière at c. 1810. However, in The Clarinet, Rendall cites a story given by L. G. le Doulcet de la Pontecoulant in the Organographie, Paris, 1861. A similar story appears in the Lavoix Histoire de l'Instrumentation Depius le Seizième Siècle, Paris, 1878.

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[126]Rowland Wright, Dictionnaire des Instruments de Musique (London: Battlye Brothers, Limited, 1941), p. 15.

[127]Francois Joseph Fétis, "Dumas," Biographie Universelle des Musiciens et Bibliographie Générale de la Musique, 2nd ed. (1874-1877), III (1874), p. 77.

[128]Rendall, "Clarinet: Bass Clarinet," p. 327.

According to the Pontecoulant and Lavoix accounts,[129] Dumas was an elderly goldsmith to the Emperor Napoléon I, and also a clarinetist. Dumas invented a bass clarinet in 1807, and presented it for trial to the Conservatoire in Paris, where the instrument met with the approval of Méhul, Cherubini, Catel, and others. In 1810 the basse guerrière was recommended for use in the Garde Imperiale. The players at that time, however, were accustomed to the six keys of the ordinary clarinet, and because of its thirteen key mechanism, Dumas' bass clarinet fell into disfavor. The disappointed inventor, having suffered reverses with the fall of Napoléon in 1815, subsequently withdrew his instrument from further consideration. The story continues, that in 1832, as Dumas lay dying in a hospital, he entrusted the basse guerrière to the renowned Parisian clarinetist Isaac Franco Dacosta, who was at that time collaborating with Louis Auguste Buffet jeune (infra) in making a bass clarinet.[130]

In contrast to this account, the Archives des découvertes of 1811 reports that Dumas' basse guerrière

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[129]Rendall, The Clarinet, pp. 152-53; and Lavoix, op. cit., p. 124.

[130]Rendall, The Clarinet, p. 151.

was approved by Gretry, Leseur, Martini, and Gebaur, and then was adopted for use by the Garde.[131] It is possible that while such an adoption was intended in 1811, the instrument never gained practical acceptance.

Dumas invented a contre-basse guérrière, but the fate of this instrument is also not known.[132]

No. 13

1807 Defontenelles. Lisieux. Now in the Musée du Conservatoire de Paris, number 1136. In B flat. Straight body. Upturned bell. Bent wooden neck. Thirteen keys. Seven finger holes. Length of Shaft: 114 cm. Bore Ø: 3.5 cm. Stamped: "Defontenelles, Lisieux 1807."[133]

The shape of Defontenelles' instrument resembles that of a saxophone, and at one time this bass clarinet was mistaken to be a predecessor of the saxophone. The error was originally made by the French writer Constant Pierre in Les Facteur Instrumentale à l'Exposition Universelle de 1809, Paris, 1890. Pierre admitted his

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[131] Ibid., p. 150. [132] Ibid., p. 159.

[133] Ibid., p. 149; and letter from Madame H. de Chambure, Curator of the Musée Instrumental, Conservatoire National Supérieur de Musique, Paris, June 23, 1966, quoting the Catalogue descriptif et raisonne, Gustave Chouquet, Paris, 1884, and 1er supplément de 1884, Léon Pillaut, Paris, 1894.

blunder[134] in Les Facteurs d'Instruments de Musique, Paris, 1893, p. 50.

Victor Charles Mahillon, in his Catalogue descriptf et analytique de Musée Instrumental du Conservatoire Royal de Musique de Bruxelles, 2nd edition, Ghent, 1893-1922, called attention to the fact that the instrument of Defontenelles was of the clarinet family.[135] In his Das Saxophon, 1931, p. 185, Jaap Kool reports[136] that he actually played this instrument, and that it overblows a twelfth and therefore has a cylindrical bore. Defontenelles' instrument is thus a type of clarinet and not a saxophone, for the latter has a conoidal bell and overblows an octave.

Defontenelles' bass clarinet is unique for more than its shape. Defontenelles mounted the keys on his instrument in saddles and on pillars. Pillars were a French innovation, and Defontenelles was possibly the first to employ them on a clarinet type instrument.[137]

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[134]Rendall, The Clarinet, p. 149, n. 1.

[135]Nicholas Bessaraboff, Ancient European Musical Instruments: An organological study of the musical instruments in the Leslie Lindsey Mason Collection at the Museum of Fine Arts, Boston (Cambridge: The Harvard University Press, 1941), p. 395, n. 204.

[136]Ibid.

[137]Rendall, The Clarinet, p. 23.

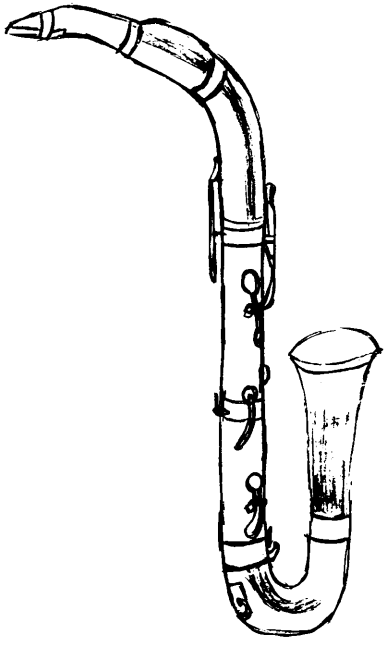

Figure VIII. Base clarinet made by Defontenelles in Lisieux, in 1807. Now in the Musée Instrumental, Conservatoire National Superieur de Musique, Paris, number C. 1136.

The use of thirteen keys was also a striking characteristic of this bass clarinet, but as with Dumas, the number of keys prevented Defontenelles' instrument from achieving widespread popularity.[138] In spite of this, it is to their great credit that Dumas and Defontenelles made bass clarinets with thirteen keys, but they were not alone in their efforts to develop more sophisticated mechanisms.

By the end of the eighteenth century the six key clarinet had become generally accepted, and even this rudimentary stage of development had taken almost a century.[139] Though the performers were reluctant to change from their familiar six key models, the makers were not at all satisfied with these instruments. As a result the first quarter of the nineteenth century was marked by a widespread movement to improve the clarinet mechanism, and consequently, the bass clarinet mechanism.

Of the innumerable attempts at altering the key mechanism of the clarinet, the work of one man, Iwan Müller, overshadowed that of almost all others. Iwan Müller (b. Reval, Estonia, 1786, d. 1854) was an itinerant

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[138] Ibid., p. 149.

[139] Ibid., pp. 62-88; and Carse, Musical Wind Instruments, pp. 148-57.

clarinetist. As early as 1808 he began attempts to improve the key mechanism of the clarinet. After working with a sixteen key basset horn of Grenser (supra), Müller designed a thirteen key clarinet which was constructed by the Viennese maker Marklien.[140]

In 1811 or 1812 Müller settled in Paris where he had another clarinet of his thirteen key design built, this time by Gentellet. An official commission in Paris examined Müller's creation and reported unfavorably. The committee (made up of Lefèvre, Duvernoy, Gossec, Sarrette, Cherubini, and Méhul) objected to Müller's exclusive use of an "omnitonic" B flat clarinet. It was feared that by only using a B flat clarinet, the characteristic tone color of the clarinets in A and C would be lost.[141] Gradually, despite both the adverse criticism of the Paris commission and the obstinacy of players to leave the six key clarinets, the basic thirteen key mechanism as devised by Müller, became widely adopted. There were almost as many variations as there were makers, but what came to be regarded as the "simple

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[140]Rendall, The Clarinet, pp. 26-27, 92-93.

[141]Ibid., pp. 93-94.

system" was based on Müller's thirteen key clarinets.[142]

This advance in the clarinet mechanism was coupled with the efforts to improve intonation by placing the tone holes at the correct positions on the bore.[143] The problem of bringing the tone holes within reach had been crucial in the larger instruments, but with the new developments, bass clarinets were slowly brought to a greater refinement.

No. 14

1812 Francois Sautermeister. (Established 1809; d. 1830) Lyons. Basse-orgue. Bassoon shaped. Body from metal. Bore remained cylindrical completely up to the bell. Bell could be replaced by a bulb, similar to that of a clarinet d'amour, or by a tube. Range: three octaves and a few notes.[144]

The basse-orgue has at times been mistaken for something other than a bass clarinet. Part of the difficulty may lie with the fact that some early references mention Sautermeister's instrument in rather vague terms.

On August 12, 1812, Sautermeister was granted a five-year patent for his basse-orgue. In giving this

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[142]Ibid., p. 95; Baines, Woodwind Instruments and their History, p. 136; and Carse, Musical Wind Instruments, p. 163.

[143]Rendall, The Clarinet, p. 94.

[144]Ibid., p. 151; Sachs, Real-Lexikon, p. 38a; and Wright, op. cit., p. 15.

information, the Brevets d'invention refers to the basse-orgue as a wind instrument. Another early source, the ". . . Raymound Dict. . . ." of 1832, mentions that the basse-orgue approximated an organ. Rowland Wright quotes these two sources and states that the basse-orgue was a type of bassoon.[145] Lavoix, as well as Pontecoulant, also errs in describing the basse-orgue. Lavoix, giving the date incorrectly, states:

> In about 1804, Frichot presented to the Conservatoire a bass serpent, called a basse-cor [bass horn], a complicated instrument which remained a serpent and a trumpet. In 1813 Sautermeister conceived an anlogous instrument called the basse-orgue.[146]

The basse-orgue was found to be a bass clarinet by the Constant Pierre.[147]

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[145]Wright, op. cit., p. 15.

[146]Translated from Lavoix, op. cit., p. 124.

[147]Rendall, The Clarinet, p. 151.

CHAPTER VII

OTHER ATTEMPTS

Five bass clarinets made by Nicola Paplini (b. Chiarville Milanese; worked . . . 1810-1820 . . .)[148] are known to survive. All are of the same serpentine design, and differ from one another only in small details. The bass clarinets of Papalini may be described as follows (the years given are approximations by museum catalogues or by wind-instrument historians):

No. 15

c. 1810-1820 Papalini. Now in the Musikinstrumenten-Museum der Karl-Marx-Universität, Leipzig, number 1538. Maple body. Horn joint ferrules. Five metal keys mounted on knobs: d, f sharp, g sharp, a^1, b^1. A curved metal bell has been lost. Range: e, f, g, a, b, c^1, d^1, e^1, f^1, g^1, a^1, b^1. Length: 108 cm. Cylindrical bore Ø in part: 1.9 cm.[149] The instrument was formerly reported to have been the Heyer Collection in Cologne.[150]

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[148] Bessaraboff, op. cit., p. 103.

[149] Letter from Rubardt Kustos, Musikinstrumenten-Museum der Karl-Marx-Universität, Leipzig, March 22, 1966.

[150] Rendall, The Clarinet, p. 150.

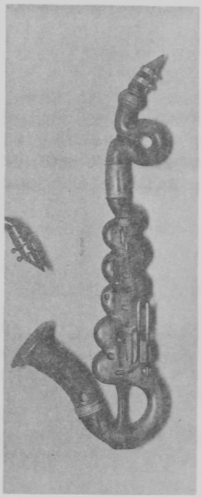

Figure IX. Bass clarinet made by Nicola Papalini about 1815. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 2545. (The neck has been posed incorrectly. Also, the mouthpiece and metal ligature are modern, and not original to the instrument.)

No. 16

c. 1810 Papalini. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles,[151] Bruxelles (= Brussels), number M. 940. This bass clarinet is illustrated in Rendall's The Clarinet, plate VII, b.

No. 17

c. 1810 Papalini. Now in the Musée du Conservatoire National Paris,[152] number 550. This bass clarinet is illustrated in a booklet[153] distributed by the wind instrument manufacturer Buffet-Crampon et. Cie., viz. Buffet-Crampon, Depius 1825.

No. 18

c. 1813 Papalini. Now in the Crosby Brown Collection in the Metropolitan Museum of Art, New York, number 2545. In C. Wooden body, neck, and bell. Eleven open finger holes. Three flapped brass keys on the front of the bass clarinet. Two flapped brass keys and two thumb holes on the back. Keys mounted on knobs. Length: 69.84 cm. (2 feet, 3.5 inches).[154]

No. 19

c. 1815 Papalini. Now in the Leslie Lindsey Mason Collection, Museum of Fine Arts, Boston,

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[151]Letter from R. Bragard, Curator, Musée-Instrumental, Conservatoire Royal de Musique de Bruxelles, Bruxelles, March 25, 1966.

[152]Rendall, The Clarinet, p. 150.

[153]Buffet-Crampon, Depius 1825 (Paris: Draeger Freres, 1962), plate II, p. 4.

[154]Catalogue of the Crosby Brown Collection of Musical Instruments (New York, 1904), I (Europe), p. 134, no. 2545, communicated by (Mrs.) Eleanor J. Clark, Music Department, The Metropolitan Museum of Art, New York, March 23, 1966.

number 119, accession number 17.1879. In C. Body from pearwood, stained dark brown. Horn tips. Five parts: mouthpiece, neck, barrel, body, bell. The bell has a vent hole which is a feature of all the specimens that have been illustrated. Nine finger holes in front, two thumb holes in back. Five brass keys: c, f, a^1 in front; speaker key (left thumb), d key in back (right thumb). Keys are mounted on knobs. Bore Ø: 2 cm. Bell Ø: 10 cm. This bass clarinet is illustrated in Nicholas Bessaraboff's catalogue of the collection.[155]

The illustrations of Papalini's bass clarinets appearing in: Rendall, The Clarinet; Buffet-Crampon, Depius 1825; Bessaraboff, Ancient European Musical Instruments; and Grove's Dictionary,[156] 1954, are all incorrect regarding the position of the neck and mouthpiece. The neck in each of these photographs is turned at an angle 90° to the left of where it should be for performance. Papalini designed these bass clarinets with a bell projecting to the right, therefore, the finger holes are located on the true front of each instrument.[157]

At a time when most instrument manufacturers were striving to refine the key mechanism, the Italian Nicola

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[155]Bessaraboff, op. cit., plate III, no. 119.

[156]Grove's Dictionary, 5th ed. (1954), II, plate 12, no. 1.

[157]Catalogue of the Crosby Brown Collection, p. 134, no. 2545.

Papalini created an almost primitive bass clarinet. Papalini's rather bizarre solution to the problem of bringing the tone holes within reach was to design an instrument in a serpentine or festooned shape. To do this the "inventore"[158] excavated the serpentine bore, and of course the body, in two separate slabs of pear-wood. He then glued the two halves together, thus forming a cylindrical bore with the desired shape.[159] The halves were reinforced with iron and wooden pins along the undulating edges;[160] these pins may be seen in the illustration in Grove's Dictionary of Music and Musicians, 1954, Plate 12, number 1.

In spite of the grotesque appearance of the instrument, Papalini was quite ingeneous in his positioning of the tone holes and keys. In the Boston specimen, for example, he used a total of sixteen tone holes. At the front of the bass clarinet there are three keys; in addition there are nine open finger holes, the second and eighth both being double holes. At the back of the

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[158]Langwill, Index, p. 86.

[159]Bessaraboff, op. cit., p. 103; Catalogue of the Crosby Brown Collection, p. 134, no. 2545; and Rendall, The Clarinet, pp. 136, 150.

[160]Rendall, The Clarinet, p. 150.

Figure X. (Right) Bass clarinet made by Nicola Papalini c. 1810-1820. Now in the Musée Instrumental, Conservatoire National Supérieur de Musique, Paris, number c. 550. Note the early method of tying the reed onto the mouthpiece. (The neck has been posed incorrectly.)

Also included in this photograph are a basset horn from 1775 (Left), and an eighteenth century ivory clarinet.

instrument there are two keys and two thumb holes.[161]

It would seem that Papalini built his bass clarinet with too many open finger holes, viz. eleven. However, he arranged them in such a way that on the front, the first hole is stopped by the middle joint of the left hand, and the fifth hole is stopped by the middle joint of the right hand. At the back the two thumb holes are closed with the right thumb. Thus the eleven open tone holes are covered with only nine fingers.[162] Though the five existing models are not identical, this is the general design that Papalini employed.

The fingering system itself differs from the ordinary clarinet and enables[163] the performer to reach low C. Papalini was able to bring the tone holes within reach because of the relative smallness of his bass clarinet. The instrument is only about 68 cm. (2 feet, 3 inches), yet due to the serpentine shape, the bore is of the proper length. The tone of Papalini's bass clarinet, however, leaves something to be desired. Rendall faults the compact size of the instrument, and

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[161]Bessaraboff, op. cit., p. 103.

[162]Ibid.

[163]Catalogue of the Crosby Brown Collection, p. 134, no. 2545; and Rendall, The Clarinet, p. 150.

commends Papalini more for the carpentry than for the musicianship involved.[164]

Johann Heinrich Gottlieb Streitwolf (b. 1779; d. 1837) was a wind-instrument maker in Göttingen. After first working for the instrument maker Hermstedt, Streitwolf later established himself independently, and made all sorts of wind-instruments, marking them with a maple leaf above his name.[115] The Revue de Musicologie, 1830, volume VIII, p. 329, reports that Streitwolf invented a bass clarinet in September, 1828, and a description is given, including the facts:

No. 20

September, 1828 — Streitwolf. In C. Body from boxwood. Seventeen keys. Played in the same manner as a clarinet, but descends to low B flat. In the shape of a basset horn.[166]

At least two bass clarinets made by Streitwolf are extant, and they may be described:

No. 21

c. 1830 — Streitwolf. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 447. In C, with an extension to low B flat. Bassoon shape. Nineteen keys.[167]

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[164]Rendall, The Clarinet, p. 150.

[165]Ibid., p. 151; and Langwill, Index, p. 115.

[166]Wright, op. cit., p. 35.

[167]Letter from van der Meer, February 21, 1966.

No. 22

c. 1830 Streitwolf. Now in the Musikinstrumenten-Museum der Karl-Marx-Universität, Leipzig, number 1539. In B flat. Two tube bassoon shape. Body from boxwood. Eighteen (nineteen) keys, mounted in knobs and on saddles. Length: 174.5 cm. Cylindrical bore Ø: approximately 2.6 cm.[168]

Rendall observes that not all of Streitwolf's bass clarinets were identical. They were built with seventeen, eighteen, or nineteen keys, and were pitched in C or later in B flat. On certain models, Streitwolf, drilled the open tone holes obliquely.[169] Streitwolf's bass clarinets appear to have been rather successful. The Revue Musicale, 1830, described the tone of one of the instruments as being similar to that of a basset horn, but richer and fuller. Both the tone and the intonation were praised by W. Altenburg Die Klarinette, 1904. The instruments were sold, complete with method book, by Schott of Mainz for 225 francs.[170]

Streitwolf was an imaginative instrument maker, and among other things, he built a contra-basset horn and a contra-alto clarinet.[171] These instruments have at times been mistaken for bass clarinets.

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[168]Letter from Kustos, March 22, 1966.

[169]Rendall, The Clarinet, pp. 151-52.

[170]Ibid., p. 152.

[171]Langwill, Index, p. 115.

Encouraged by the success of his bass clarinet, in September, 1829, Streitwolf produced a type of clarinet pitched in F, an octave below the basset horn.[172] This new instrument was bassoon shaped and had nineteen keys, including two thumb keys. It should be noted that two thumb keys were an indigenous feature of basset horns.[173]

Streitwolf's invention of 1829 was initially well received. It was lauded by both Fétis and Ludwig Spohr, and was adopted for use in military music by Cassel. The instrument was also employed in concerts. The Revue Musicale, 1830, claimed that it surpassed all other wind-instruments in force, nimbleness, and intensity. Still, after such an auspicious debut, its success waned.[174]

In the Real-Lexikon der Musikinstrumente, 1913, Sachs calls this instrument a "Kontrabassetthorn" (contrabasset horn),[175] and he also uses the term "contra-basset horn" in The History of Musical Instruments,[176] 1940.

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[172]Wright, op. cit., p. 35.

[173]Rendall, The Clarinet, p. 158.

[174]Ibid.; and Wright, op. cit., p. 330.

[175]Sachs, Real-Lexikon, p. 225a.

[176]Sachs, The History of Musical Instruments, p. 415.

Yet, in the catalogue of the instruments in the Staatlichen Hochschule für Musik in Berlin, 1922, Sachs lists a similar instrument in E flat, pitch an octave lower than an alto clarinet, as a bass clarinet.[177] Bessaraboff, in his Ancient European Musical Instruments incorrectly refers to this same Berlin specimen as a bass clarinet.[178] Several early writers inaccurately describe Streitwolf's invention of 1829 as a "contra-bass clarinet."[179]

The Allegemeine Musikalische Zeitung of March 19, 1834, reported that a "Bass Clarinette" of Streitwolf's had been in use for half a year by the Royal Prussian Twenty-eighth Infantry Regiment.[180] This particular instrument was bassoon shaped and had a range extending from Contra A flat to f. The instrument was used specifically to replace the contra-bassoon, and was obviously not a true bass clarinet, but a contra-basset horn or a contra-bass clarinet.

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[177]Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 299.

[178]Bessaraboff, op. cit., p. 103.

[179]See Wright, op. cit., p. 35.

[180]Allegemeine Musikalische Zeitung, XXXVI, No. 12 (19ten März, 1834), pp. 193-94.

The term "bass clarinet" refers only to those members of the clarinet family which are pitched one octave below the clarinets in C, B flat, and A. Evidence supports the fact that Streitwolf invented a bass clarinet in September, 1828, rather than in 1833 as Sachs and Bessaraboff suggest.[181] In September, 1829, Streitwolf produced an instrument pitched one octave below a basset horn. This instrument is a contra-basset horn, and is to be mistaken neither for a bass clarinet, nor for a contra-bass clarinet.[182]

There is a bass clarinet in the Metropolitan Museum of Art, New York. This instrument has been the object of some speculation, and has been linked with the name of Streitwolf.

No. 23

First Half of the Nineteenth century (? Late Eighteenth century)	Unmarked. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 1636. In C. Bassoon shape, from a light wood. Wooden bell. Curved brass crook. Twenty-six keys, some saddles, others on pillars. Tone holes covered by means of a patent

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[181]Cf. Bessaraboff, op. cit., p. 104; and Sachs, The History of Musical Wind Instruments, p. 114.

[182]See Carse, Musical Wind Instruments, p. 173; and Rendall, The Clarinet, p. 158.

Figure XI. Unmarked bass clarinet now in the Crosby Brown Collection of Musical Instruments, Metropolitcan Museum of Art, New York, number 1636. Note the patent lever key mechanism. (The neck has been posed incorrectly.)

> lever mechanism. The addition of extra keys on the bass joint has extended the range from low e down to c. Length: 170 cm. (5 feet, 6 inches).[183]

It has been suggested[184] that this instrument served as a model for Streitwolf when he invented his bass clarinet in 1828. However, upon close inspection no trace of a maker's name nor any other information pointing to a maker could be found.[185] The instrument appears to have been altered, for a large number of keys and other mechanisms seem to have been added.[186] It has been said that the bass clarinet was originally constructed in the eighteenth century by one Fornari of Venice. This might have been mentioned at the time of purchase about eighty or ninety years ago, but no documented evidence of this exists today.[187] Neither is there proof that this instrument was connected with Streitwolf.

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[183] Catalogue of the Crosby Brown Collection, p. 135, no. 1636.

[184] Ibid.

[185] Letter from Emanuel Winterniz, Curator of Musical Instruments, Metropolitan Museum of Art, New York, April 29, 1966.

[186] Catalogue of the Crosby Brown Collection, p. 135, no. 1636.

[187] Ibid.; and letter from Winternitz, April 29, 1966.

No. 24

First Half of the Nineteenth Century	Johann Georg Braun. (b. Wohlhausen, Vogtland, 1790; d. Mannheim, 1833.) Mannheim. Reported to have been in the collection of A. Krause, Florence, prior to 1908.

This bass clarinet was probably made between 1816 and 1833. Braun moved to Mannheim in 1816, and worked there until he died.[188]

No. 25

First Half of the Nineteenth Century	Thomas Key. (Worked . . . 1800-1840 . . .). London. Reported to be in the St. Annen Museum. Lübeck. Sixteen keys.[189]

Thomas Key is said to have established himself as a wind-instrument maker in 1800. He is known to have been located at 2 Pall Mall, London, in 1808, and in 1809 was "Music Instrument Maker to Their Royal Highnesses the Prince of Wales, Dukes of York, Kent, Cumberland and Cambridge." Key moved to 20 Charing Cross, London, about 1815, and was working from this address as late as 1840. He was succeeded by his son, Frederick Key.[190] Thomas Key was noted for his clarinets, and

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[188] Langwill, Index, pp. 12, 137, 143.

[189] Ibid., p. 153.

[190] Ibid., p. 60.

constructed an outstanding example of a basset horn in about 1825.[191] A date is not given for the Key bass clarinet in the St. Annen Museum, and it is uncertain whether Key built any other bass clarinets. The appearance of the bass clarinet from 1750 up until about 1830 was very sporadic. It may be, of course, that there were attempts by other makers to produce bass clarinets during this period, but these have yet to be discovered.

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[191]See Rendall, The Clarinet, pp. 26, 96, 114, 138, 139.

CHAPTER VIII

INCREASING INTEREST

Around the beginning of the nineteenth century, there was an increase of interest in the bass clarinet, which had been caused by the rise of the military bands plus the efforts to improve the woodwind instrument key mechanisms. A renewed interest in the bass clarinet developed in the 1830's.

No. 26

1833 George Wood. London. In C, with the range extended to low B flat. Eighteen keys.

No specimen of this instrument exists, and what information there is, has been deduced from a fingering chart. Because of the extended range, it has been guessed that this instrument was intended for use in military wind-bands as a substitute for the bassoon.[192] Wood's father, James Wood, had established[193] an instrument manufacturing

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[192] Ibid., p. 154.

[193] Langwill, Index, pp. 127-28.

firm in London in 1799. George succeeded his father, and in 1819 patented a clarinet mechanism, for the left hand little finger, which is quite modern in appearance.[194]

No. 27

c. 1834 (or ? 1838) — Catterini Catterino. Padua. Glicibarifono (Sweet-deep-sounder).[195] A Glicibarifono from the P.A.T. Bate Collection, London is illustrated in Rendall's The Clarinet, and may be described as follows: In C, with an extension to low C. Bassoon shape, from two parallel bores in a single block of oval section boxwood. Brass joint ferrules and boot plate. Long brass neck and upstanding wooden bell. Twenty-four brass keys mounted in saddles. Length: approximately 59 cm. (23 inches). Stamped: "Catterino Catterini in Padova" (= Padua).[196] One glicibarifono was said to have had a range of four octaves.[197]

Though the instrument in the Bate Collection is stamped "Padova," Catterini himself is described in A. Gandini's Cronistoria dei teatri di Mondena, 1837, as being "bolognese."[198] According to Fétis, Catterini was born in

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[194]Rendall, The Clarinet, plate II.

[195]Langwill, Index, p. 17.

[196]Rendall, The Clarinet, p. 152, and plate VII, C.

[197]Wright, op. cit., p. 75.

[198]Rendall, The Clarinet, p. 152, n. 2.

Monselice in the latter part of the eighteenth century.[199]

The exact year in which the glicibarifono was invented is not known. The Soullier ". . . Dict. Mus. . . ." of 1855 gives the date of the invention as about 1837.[200] Fétis, however, reports that Catterini traveled throughout Italy between the years of 1834-1839, trying to popularize the instrument.[201]

Catterini did perform on the glicibarifono, apparently with a measure of success,[202] at the Teatro Communale di Modena on February 12, 1838. Wright, in his Dictionnaire des Instruments de Musique, states that this event marked the first performance of the glicibarifono,[203] but such a comment is suspect.

The twenty-four brass keys on the glicibarifono are ingeneously mounted, for unlike most of the earlier bass clarinets, the tone holes of Catterini's bass clarinet are of the proper size and placement.[204]

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[199]Fétis, "Catterini," Biographie Universelle, 2nd ed., II (1875), p. 220.

[200]Wright, op. cit., p. 75.

[201]Ibid.; and Fétis, "Catterini," p. 220.

[202]Sachs, Real-Lexikon, p. 160 b.

[203]Wright, op. cit., p. 75.

[204]Rendall, The Clarinet, p. 152.

The bore was exceptionally large for the time, and compares favorably with modern specifications. The bore of the glicibarifono was, in part, responsible for a tone which has been described as having quality and vigor.[205] The instrument was also praised for its expressiveness and control.[206]

Such sentiments are not unanimous, and Fétis remarks that the glicibarifono had a pinched tone. Fétis also claims that after Catterini's travels, the glicibarifono was not heard from again,[207] but this is not certain.

The glicibarifono came to the attention of the famous Klosé, who communicated the details of the instrument to the eminent French composer and theoritician Jean Georges Kastner. If Klosé was accurate, the model which he saw was in B flat.[208] It will be remembered that the specimen in the Bate Collection was in C (supra).

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[205] Ibid.

[206] Wright, op. cit., p. 75.

[207] Fétis, "Catterini," p. 220.

[208] Rendall, The Clarinet, p. 152, citing Jean Georges Kastner, Traité general d'instrumentation, supplement, 1844.

A glicibarifono based on Catterini's "premiata invenzione," was constructed by Paolo del Maino of Milan (infra). Judging by the neatness of the key mountings, Maino's instrument was built sometime later than that of Catterini.[209]

The glicibarifono by Maino is in B flat, and is stamped: "No. 3 Premiata Invenzione di Catterino Catterini in Padova." The "No. 3" would suggest that this instrument followed the initial effort of Catterini, and that several models of this design were made.

No. 28

c. 1835 — Louis Auguste Buffet (Established, 1831). Paris. Now in the Bayerisches Nationalmuseum, Munich. Body from mahogany. Horn joint ferrules. Fifteen brass keys, with b' (natural) trill key. Length: 96.5 cm. Length of Mouthpiece: 7.8 cm. Mark: "Buffet/ A Paris" in an oval. Also an "L" with a cloverleaf, and "No 1."[210]

No. 29

c. 1835-1850 — Louis Auguste Buffet (jeune). Now in the Stearns Collection, University of Michigan, Ann Arbor, Michigan, number 635. In B flat. Bassoon shape. The smaller tube is cylindrical, the larger is slightly conical. Brass elbow in place of a bootplate.

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[209]Rendall, The Clarinet, p. 152.

[210]Letter from G. Himmelheber, Bayerisches Nationalmuseum, Munich, April 6, 1966.

> Brass bell carried by the longer tube, ebony mouthpiece is on shorter tube. Body from a dark wood. Twenty keys, mounted on pillars without foot-plates. No open holes. Length of shaft: 134 cm. Height of specimen: 68 cm. Stamped: "A. Buffet, Jne., a Paris."[211]

Louis Auguste Buffet is not to be confused with his older brother, Buffet-Auger, nor the latter's son, Buffet-Auger (fils). The last two ran their own instrument manufacturing business in Paris at about this same time, and in order to avoid confusion with them, Louis Auguste Buffet worked under the name "Buffet jeune."[212]

As previously mentioned, according to one story, in 1832 Dumas de Sommières entrusted his bass clarinet to the care of Isaac Franco Dacosta (b. Bordeaux, 1778; d. Bordeaux, 1866). Dacosta, one of the most celebrated clarinet virtuosi in Paris and principal clarinetist in l'Opera orchestra, was at that time collaborating with Buffet jeune in the making of a bass clarinet.[213]

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[211]Letter from Robert A. Warner, Professor of Music, and Curator, Stearns Collection of Musical Instruments, The University of Michigan, Ann Arbor, Michigan, May 31, 1966.

[212]Langwill, Index, p. 14.

[213]Carse, The Orchestra from Beethoven to Berlioz, pp. 69, 75, 89; and Rendall, The Clarinet, p. 151, n. 1.

Lavoix implies that the Dacosta-Buffet jeune instrument was modeled after the basse guerrière of Dumas,[214] but there is no proof of such an assumption. Lavoix writes that Dacosta took the bassoon shaped bass clarinet of Dumas and presented it to the public almost immediately.

Dacosta did give a recital on a bass clarinet at the Salle Saint-Jean de l'Hotel-de-Ville in 1834, but the instrument was made by Buffet jeune. It was reported that the artistry of Dacosta as well as the beauty of the instrument's tone were greatly appreciated. More important, is the description of the bass clarinet. Fétis, whose review of the performance appeared in the Revue Musicale, June 5, 1834, observed that the body of the was straight, and that a curved neck advantageously brought the mouthpiece to the player.[215]

What happened to Dumas' basse guerrière is open to conjecture. There is a bassoon shaped bass clarinet of Buffet jeune in the Stearns Collection, but it is not possible to determine what, if any, influence of Dumas is reflected in this instrument.

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[214]Lavoix, op. cit., p. 124.

[215]Rendall, The Clarinet, p. 151.

A bass clarinet of Buffet jeune is said to have been used in the first performance of Giacomo Meyerbeer's Les Huguenots, on February 29, 1836. The bass clarinet part from this opera is the earliest extant piece of music for the instrument.[216]

Precisely how the bass clarinet had been employed during the preceding almost a hundred years, unfortunately is not known. It is true that some early eighteenth century scores call for the bass chalumeau, but the relationship of this instrument to the bass clarinet is indecisive. It has been established that many of the early bass clarinets were intended for use in the military bands. The principal functions of the bass clarinets in these instances were to strengthen the bass line and replace the bassoon. Indeed, there have even been method books which taught transposed bass clef fingerings, thus making it possible for the B flat bass clarinet player to read bassoon parts.[217]

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[216]Carse, The Orchestra from Beethoven to Berlioz, p. 75; and Felix Clement and Pierre Larousse, Dictionnaire Des Operas (Dictionnaire Lyrique): contenant l'analyse et la nomenclature des tous les operas, operas-comiques, operettes et drames lyriques representes en France et à l'étranger depius l'origine de ces genres d'ouvrages jusqu'a non jours (Paris: Librairie Larousse, n.d.), p. 564.

[217]See J. A. Kappey, Tutor for the Bass and Alto Clarinets, Designed with special reference to their uses as substitutes for the bassoon and the requirements of

It cannot be assumed that all early bass clarinet makers designed their instruments for military band use. The advertisement of Gilles Lot's basse-tube specifically mentions that the instrument was intended for orchestral or solo performance. The employment of the bass clarinet as a solo instrument, however, was attested to only in 1834, and its appearance in the orchestra as yet can be traced back no further than Les Huguenots of Meyerbeer in 1836.

Meyerbeer displayed considerable faith in the relatively unknown instrument. The solo cadenza which he wrote for the bass clarinet in the fifth act of Les Huguenots is extraordinary, covering a span of three octaves and a minor third.[218]

Just who first performed the solo, and on whose bass clarinet remains in doubt. The two clarinetists in the Paris Opera orchestra at the time were Dacosta and Buteux. Constant Pierre in Les Facteurs d'Instruments de Musique, writes that Dacosta was the first person to play the solo, and that the instrument used

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Military Bands; With scales and exercises in the bass and tenor clefs and numerous advanced studies (London: Boosey and Co., n.d.).

[218]Carse, The Orchestra from Beethoven to Berlioz, pp. 30-32.

was by Buffet jeune. Pillaut, in his Catalogue descriptif et raisonne, 1er supplement de 1884, claims that the passage was first played by Buteux on a bass clarinet of Lefévre.[219] Which opinion is correct has not been proven, but it is definitely known that Dacosta had previously performed on a bass clarinet, and that Buffet jeune had made at least one bass clarinet prior to 1836.

During the same month as the premier of Les Huguenots, February, 1836, the Austrian composer and pupil of Joseph Haydn, Sigismund (Chevalier von) Neukomm (b. Salzburg, 1778; d. Paris, 1858), wrote a setting for Psalm Seventy employing counter-tenor-Lady's voice with bass clarinet concertante. Neukomm composed the piece for Mrs. Alfred Shaw, a well-known contralto, and Thomas Lindsay Willman (b. about 1783; d. 1840), the renowned British clarinet virtuoso. The florid obbligato bass clarinet part was written in C, and ranged from c in the bass clef to d^3 above the treble clef.[220]

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[219]Carse, The Orchestra from Beethoven to Berlioz, p. 75; and letter from Madame H. de Chambure, Conservatoire National Supérieur de Musique, June 23, 1966, quoting Léon Pillaut, Catalogue descriptif et raisonne, 1er supplémente de 1884, Paris.

[220]Rendall, The Clarinet, pp. 53-54.

Willman gave several performances on the bass clarinet during 1836. He played it at a Philharmonic concert, at a concert of his own in the Hanover Square Rooms, and at a Manchester Musical Festival.[221] Of the bass clarinet on which Willman played, one contemporary wrote: "This newly invented instrument, on which Mr. Willman performed so admirably at the dinner of the Royal Society of Musicians, partakes of the corno-bassetto, the clarinet, and the bass-horn."[222] The maker of the bass clarinet used by Willman is not known. Willman himself experimented with instruments,[223] but there is no evidence that he took a hand in either the designing or the construction of a bass clarinet. The bass clarinet on which Willman played and referred to variously as a "clarono" or a "bass-clarone." The latter term is a pleonasm, because the Italian word "clarone" means bass clarinet.[224]

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[221]Carse, The Orchestra from Beethoven to Berlioz, p. 32.

[222]Ibid., quoting Mus. World, April 1, 1836, p. 47.

[223]Rendall, The Clarinet, p. 96.

[224]Ibid., p. 154.

No. 30

1837 J. Lebrun. Brussels. "Bass Clarone."

J. Lebrun sent a bass clarinet which he had made to the directors of the Philharmonic Society in London. Nothing else is known about the instrument.[225]

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[225]Carse, The Orchestra from Beethoven to Berlioz, p. 32.

CHAPTER IX

CULMINATION

The bass clarinets discussed up to this point were largely unsatisfactory in intonation, sonority, and mechanism. It was Antoine Joseph Sax (called Adolphe), who brought the bass clarinet to the state of refinement by which the instrument is known today.

Charles Joseph Sax, perè (b. Dinart, February 1, 1791; d. Paris, April 26, 1865), had been a cabinet builder and a mechanic in a sewing machine factory; he was also able to play the serpent. With these as his only qualifications, he set himself up as a wind-instrument maker in Brussels. He had served no apprenticeship, but he overcame this handicap and developed new methods of boring both woodwind and brass instruments. He was said to have had a special interest in the clarinet and bass clarinet.[226]

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[226]Gustave Chouquet, "Sax," Grove's Dictionary of Music and Musicians, 5th ed. (1954), VII, p. 425; and Jeannine Douillez, "Sax," Die Musik in Geschichte und Gegenwort, V (1963), p. 1450.

Adolphe Sax (b. Dinant, November 6, 1814; d. Paris, February 7, 1894) was reared in his father's shop, and as a child displayed a love for music as well as surprising manual dexterity. Adolphe studied both clarinet and flute at the Brussels Conservatory, and the renowned clarinet teacher Bender, considered young Sax an outstanding student.[227]

Like his father, Adolphe was concerned with improving the clarinet and the bass clarinet.[228] In the Brussels Exhibition of 1835 Adolphe showed a twenty-four key clarinet which he had designed.[229] Between the years of 1835 and 1837, he obtained a ten-year patent for the construction of a bass clarinet.[230]

The specifications of Adolphe Sax's new bass clarinet are dated June 19, 1838. The instrument was devoid of any contortions. The fingering mechanism was based on the simple system, but was improved by Sax in order to allow him to employ a straight body design.

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[227]Chouquet, Grove's Dictionary, 5th ed. (1954), VII, p. 425.

[228]Carse, The History of Orchestration, p. 205.

[229]Langwill, Index, p. 103.

[230]Fétis, "Sax (Antoine-Joseph)," Biographie Universelle, 2nd ed., VII (1875), p. 414.

He was thus able to locate the tone holes accurately, and the use of padded cups (i.e., a type of plateaux keys) allowed him to place tone holes of the correct size.[231]

Near the mouthpiece Sax drilled a pin-head size hole. This innovation helped give the bass clarinet a uniformity hitherto almost unknown, and also facilitated the production of a beautiful tone in the upper register.[232]

The instrument was in B flat and descended to written low e. The keys were longitudinally mounted on a simple lever mechanism. The body was of wood, and there was a metal neck.[233]

Sax's new bass clarinet also had a downward pointing bell. Berlioz, in his Treatise on Instrumentation, relates that the bell almost touched the floor when the player stood. In order to prevent the tone from being muffled, Sax outfitted the bass clarinet with a concave metal reflector positioned underneath the bell.

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[231]Rendall, The Clarinet, p. 153.

[232]Lavoix, op. cit., p. 124; and Fétis, "Sax (Antoine-Joseph)," Biographie Universelle, 2nd ed., VII (1875), p. 414.

[233]Rendall, The Clarinet, pp. 153, 155.

This reflector allowed the player to project sound in any direction, and it also, ostensibly, increased the sonority of the instrument.[234] As an alternative, Sax designed a curved bell with four extra tone holes thus extending the range to low c.[235] Bass clarinets by Sax were for sale in 1851 for 200-300 francs.[236]

There are several models of early bass clarinets by Sax extant:

No. 31

c. 1838-1842 Adolphe Sax. Brussels. Now in the Stearns Collection, University of Michigan, Ann Arbor, Michigan, number 637. In C. Dark wood. Two sections. Twenty brass keys. (Without open finger holes.) Brass mountings. Length of shaft: 128 cm. Height of specimen: 80 cm. Stamped: "Sax. a Bruxelles."[237]

The original bell has been replaced by a straight bell, stamped: "C. Roth, a Strasbourg."[238] Charles Roth

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[234]Hector Berlioz, A Treatise on Modern Instrumentation and Orchestration, trans. Mary Cowden Clarke, ed. Joseph Bennet (London: Novello and Company, Limited, 1904), p. 116.

[235]Rendall, The Clarinet, p. 153.

[236]Ibid., p. 102.

[237]Letter from Warner, May 31, 1966.

[238]Ibid.

Figure XII. Bass clarinet in a straight body design made by Adolphe Sax in Brussels about 1838. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number M.175.

was a wind-instrument maker in Strasbourg.[239]

No. 32

c. 1838 — Adolphe Sax. Brussels. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, number M.175. In B flat.[240]

No. 33

(n.d.) — Adolphe Sax et Cie. Paris. Reported to be in the Gemeente Museum, The Hague, number 691. Twenty keys.[241]

No. 34

Second half of the Nineteenth Century — Allegedly by Adolphe Sax. Reported to have been in the Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Music zu Berlin, Berlin, number 2901. In B flat. Straight body. Body from ebony. Straight bell. Nineteen keys. (Without open finger holes.) Height: 112 cm. Bore Ø: 2.9 cm. Bell Ø: 17 cm. Stamped: "Paris."[242]

The new bass clarinet of Sax was to meet with much success, and at least part of this must be attributed to the inventor's skill as a performer. Habeneck, a well-known French musician and impressario, visited

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[239]Langwill, Index, p. 99.

[240]Letter from Bragard, March 25, 1966.

[241]Langwill, Index, p. 103.

[242]Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, p. 302.

Brussels in 1839. He heard Sax play the bass clarinet and was gratified by the beauty of the instrument and the virtuosity of the maker. On returning to Paris, Habeneck insisted that, entrusted to his care, the new bass clarinet be adopted by l'Opéra orchestra in order to replace the instrument which had been in use since the premier of Les Huguenots.[243] In comparison to Sax's new bass clarinet Habeneck referred to the old instrument as a monstrosity.[244]

Within the next two years, Sax left Brussels and established himself in Paris. The precise date of his migration is uncertain.[245] Fétis included an entry on Sax in the Biographie Universelle during the inventor's lifetime.[246] According to this narrative, Sax arrived in Paris near the end of 1842 with practically no capital (he had only twenty francs). Sax knew

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[243]Fétis, "Sax (Antoine-Joseph)," Biographie Universelle, 2nd ed., VII (1875), p. 414.

[244]Rendall, The Clarinet, p. 153.

[245]Cf. Carse, Musical Wind Instruments, p. 172, and The Orchestra from Beethoven to Berlioz, p. 32; Chouquet, "Sax," Grove's Dictionary, 5th ed. (1954), VII, pp. 425-26; and Rendell, "Clarinet: Bass Clarinet," Grove's Dictionary, 5th ed. (1954), II, p. 328.

[246]Fétis, "Sax (Antoine-Joseph)," Biographie Universelle, 2nd ed., VII (1875), p. 414.

that he would have to enlist the support of influential men, and that he would have to rely solely on his talent to do so. Berlioz, Kastner, and Halèvy were the first to be won over. Three days after a visit by Sax, Berlioz brought the talents of the young instrument maker into public recognition through an article in the Journal des Debuts.[247]

Berlioz's enthusiasm for the new bass clarinet of Sax was reflected in the Treatiste on Instrumentation. Berlioz believed that the new instrument surpassed the older bass clarinets because of its pure intonation, its equal temperament throughout the entire chromatic scale, and its great sonority.[248] Fétis also recognized the superiority of Sax's bass clarinet. In the Revue et Gazette Musicale of March 13, 1834, Fétis had commended the Buffet jeune-Dacosta model. However, in the same periodical on January 10, 1841, he declared Sax's bass clarinet to have possessed a much greater sonority because of its larger bore.[249]

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[247] Ibid.

[248] Berlioz, op. cit., p. 116.

[249] Rendall, "Clarinet: Bass Clarinet," Grove's Dictionary, 5th ed. (1954), II, p. 328.

It was at a meeting in the Paris Conservatoire that Sax himself captured public opinion and accolades. He demonstrated most of his instruments before members of the school's staff, including Auber and Halèvy. Sax's feats were met with great applause, and elicited rewards of a more substantial nature.[250] Fétis relates that after Sax had been forced to fast for three days, an unknown admirer brought the inventor 2,500 francs with which to establish a wind-instrument business. In a short time other contibutions followed and Sax eventually received a total of 12,000 francs.[251]

Sax did not go unopposed. His most obstreperous rival was Wilhelm Friedrich Wieprecht (b. Ascherleben, 1802; d. 1872). Wiepricht, who was the music director of the combined corps of the Royal Guard in Prussia, in 1839, designed a type of contra-bass clarinet which he named a bathyphon.[252] Wieprecht actively opposed Sax,

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[250]Fétis, "Sax (Antoine-Joseph)," Biographie Universelle, 2nd ed., VII (1875), p. 414.

[251]Ibid.

[252]Fétis, "Wieprecht," Biographie Universelle, 2nd ed., VIII (1875), pp. 465-66; Langwill, Index, p. 125; Mendel, "Wieprecht," Musikalisches Conversations-Lexikon, XI (1879), pp. 348-49.

and the two met face to face at Coblence on October 1, 1845. Fétis gives a somewhat biased account of the incident, though he was not present due to a side trip which he had made on that day.[253] Fétis relates that Wieprecht was at the time on a tour of the southern German states in order to study the military music there. Wieprecht had alleged that Sax's bass clarinet was an imitation of the bathyphon. On hearing of the charge of plagarism, Sax personally carried a challenge to Wieprecht.

A meeting was arranged at the apartment of Franz Liszt. Fiorentino, Jules Janin and Arban were present. Sax's performance on the bass clarinet drew enthusiastic applause, and in order to save face, Wieprecht joined in the eulogies. Wieprecht hoped to redeem his honor through a demonstration of his brass instruments, but this was not very successful. Arban found the Prussian's brass instruments inferior, and it was the concensus that those of Sax were much better.

At Wieprecht's request, there was an assembly of the regimental musicians of the Coblence garrison in order to hear Sax and Arban perform on the instruments of Sax. During the demonstration, Wieprecht remarked how

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[253]Fétis, "Wieprecht," Biographie Universelle, 2nd ed., VIII (1875), pp. 465-66.

it was necessary to play with the perfection of Arban and Sax. The military musicians retorted that given such instruments, they too could play as well.[254] Wieprecht returned to Berlin, from where he renewed his attacks on Sax. Several polemical articles against Sax were published by Wieprecht in the Musikzeitung, and later in his autobiography, 1861, Wieprecht once more assailed Sax.[255]

Sax also met with antagonism from others, including the clarinetist Buteux. The success of Sax's bass clarinet was assured, however, when it was adopted by E. Duprez, who used it in a performance of Les Huguenots.[256] Meyerbeer himself had listened to Sax employ a range of four octaves in demonstrating the bass clarinet. After a bass clarinet by Sax was used in the premier of Le Prophète, Meyerbeer acknowledged the "tres utile concours" (very useful assistance) which was brought to the opera by the bass clarinet, and also by the Sax horns.[257]

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[254] Ibid.

[255] Ibid.; and Mendel, "Wieprecht," Musikalisches Conversations-Lexikon, XI (1879), p. 349.

[256] Rendall, The Clarinet, p. 153.

[257] Brancour, op. cit., p. 124; Carse, The Orchestra from Beethoven to Berlioz, p. 32; and Clement and Larousse, op. cit., p. 910.

No. 35

c. 1838-1848 Adolphe Sax. Clarinette basse recourbée à pavillon de cuivre. In B flat. Shortened body. Bell brought well up in front.

One of the purposes for the bassoon-shaped bass clarinets had been for portability. His bass clarinet of 1838 with its straight body was not at all suited to marching, and Sax realized this. He therefore constructed a somewhat altered bass clarinet specifically for military use. The instrument, the Clarinette basse recourbée à pavillon cuivre (Curved bass clarinet with a brass bell) was lauded by Kastner, who in 1848 wrote that it was perfectly in tune, had an even tone quality, and a "timbre manifique."[258]

While many of the inventions of Sax became permanent contributions to wind-instrument making, Sax himself did not fair so well. Due to an inability to manage financial affairs, he was bankrupted in 1852. Through the help of creditors, he re-established his business and went on to achieve more triumphs. In the Paris Exhibition of 1867, Sax was awarded the Grand Prix for a display of all the instruments invented or improved by him.

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[258]Carse, Musical Wind Instruments, p. 172, citing Kastner, Manuel Général de Musique Militaire (Paris, 1848), p. 232; and Rendall, The Clarinet, p. 153.

Yet, subsequently his patrons began to desert him, and Sax once again fell into financial straits. He was forced to give up his establishment, which had now grown to vast proportions. In December of 1877, Sax found it necessary to sell his collection of musical instruments, and on February 7, 1894, he died.[259]

The bass clarinet of Adolphe Sax completely surpassed the models of all his predecessors and contemporaries, and the modern bass clarinet is merely a refinement of his invention of 1838. Though Sax's key mechanism never became popular, [260] it did allow him to construct a bass clarinet with a straight body, and to place the tone holes for accuracy rather than for convenience. The straight body design is superior in intonation, sonority, and power when compared with the bassoon-shaped bass clarinets.[261] In addition, the mechanism required to place the tone holes on the bassoon-shaped bass clarinets with any semblance of accuracy

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[259]Chouquet, "Sax," Grove's Dictionary, 5th ed. (1954), VII, p. 425.

[260]Rendall, The Clarinet, p. 102.

[261]Letter from Jean Blondelet, Buffet-Crampon et Cie., Paris, May 24, 1966; letter from Léon Leblanc, G. Leblanc Cie., Paris, May 24, 1966; and letter from Claude Wampler, Dealer Service Manager, H. and A. Selmer, Inc., Elkhart, Indiana, May 24, 1966.

is exceedingly complicated.[262] Sax also covered all of the tone holes on his bass clarinet, and this allowed him to make the tone holes the correct size. Thus, the intonation and sonority of the instrument were enhanced.

It has been mentioned that the mechanism on Sax's bass clarinet never became popular. To find an explanation, one must again turn to the accomplishments of Buffet jeune.

In about 1839 Buffet jeune began an association with the renowned clarinetist Hyacinthe-Eléonor Klosé (b. Corfu, 1808; d. Paris, 1880). Seven years earlier, 1832, Theobald Boehm of Munich had developed a new system of fingering for the flute which had eclipsed all previous mechanisms for that instrument. Buffet jeune had worked with flutes and oboes using the new mechanism, and now he and Klosé hoped to adapt it to the clarinet.[263] For a preliminary model which he entered in the Paris Exhibition of 1839, Buffet jeune was awarded a medal, and by 1843, Klosé and Buffet jeune perfected their clarinette à anneaux mobiles (clarinet with movable rings). In 1844

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[262]Letter from Leblanc, May 24, 1966.

[263]Baines, Woodwind Instruments and their History, p. 321; Buffet-Crampon: Depius 1825, pp. 9-11; and Rendall, The Clarinet, p. 102.

they patented the instrument (brevet 9759). The name "Boehm system" was used only somehwat later, and in truth Klosé and Buffet jeune did not adopt Boehm's mechanism in its entirety. Only certain features were deemed necessary in controlling the twenty-four holes which Klosé specified for the new clarinet.[264]

The so-called "Boehm system" of Klosé and Buffet jeune spread rather quickly after encountering some initial resistance. Various wind-instrument makers followed with similar attempts at improving the clarinet mechanism, but it is the "Boehm system," as perfected by Klosé and Buffet jeune which has lasted up to the present day. After the middle of the nineteenth century, principally two fingering systems were employed in the construction of clarinets and bass clarinets, viz. the simple system (based upon Iwan Müller's thirteen key design), and the Boehm system (modeled on the mechanism of Klosé and Buffet jeune).

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[264]Carse, Musical Wind Instruments, pp. 163-64; and Rendall, The Clarinet, pp. 102-103.

P A R T I V

MID-NINETEENTH CENTURY TO MODERN

CHAPTER X

MID-NINETEENTH BASS CLARINETS

No. 36

c. 1840 — Buffet-Crampon. Paris. Now in the Germanisches Nationalmuseum, Nürnberg, number M IR 478. In B flat. Tobacco pipe shape. Nineteen keys.[265]

No. 37

(n.d.) — Buffet-Carmpon. Paris. Now in the Stearns Collection, University of Michigan, Ann Arbor, Michigan, number 639. In B flat. Body from dark wood. Body in two sections. Twenty keys. Two open finger holes. White metal mountings. Length: 132 cm. Stamped: "Buffet, Crampon, a Paris."[266]

No. 38

(n.d.) — Buffet-Crampon et Cie. Now in the Stearns Collection, University of Michigan, Ann Arbor, Michigan, number 638. In B flat. Body from dark wood. Body in two sections. Twenty keys, without open finger holes. Ebony mountings. Length of shaft: 138 cm. Height of specimen: 74.8 cm. Bell Ø = 16 cm. Stamped: "Buffet, Crampon et Cie., a Paris."[267]

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[265]Letter from van der Meer, February 21, 1966.

[266]Letter from Warner, May 31, 1966.

[267]Ibid.

A Frenchman named Buffet-Auger established an instrument making firm on the Passage du Grand Cerf in Paris in 1825. The business, which specialized in the construction of clarinets, was passed on to his son, Buffet-Auger in 1830. The younger Buffet-Auger married a Miss Crampon in 1836, and added the name of his bride to his own, making "Buffet-Crampon." He worked under this name in order to avoid confusion with his uncle, Louis Auguste Buffet (Buffet jeune).[268]

When Buffet jeune and Klosé adapted Boehm's fingering system to the clarinet, Buffet-Crampon attempted to meet the challenge with his clarinet omnitonique of 1845. The instrument was basically a simple system, however, Buffet-Crampon borrowed certain keys and rings from the Buffet jeune-Klosé model. The clarinette-omnitonique proved unsuccessful and in 1850 Buffet-Crampon entered into a partnership with Buffet jeune and F. Tournier.[269] Five years later, 1855, Buffet jeune was replaced by P. Goumas. Upon the death of F. Tournier in 1859, a new partnership, "Buffet-Crampon et Cie.," was formed between Buffet-Crampon,

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[268]Buffet-Crampon: Depius, 1825, pp. 9-10.

[269]Ibid.; and Rendall, The Clarinet, p. 104.

P. Goumas, and the clarinetist Leroy (a pupil of Klosé).[270]

Buffet-Crampon died in 1865, and as a result of the ensuing disputes with Goumas, Leroy retired. Goumas continued the business, taking in his sons-in-law, Léon Legeay and Léon Crampon, in 1871. Goumas sold out to Paul Evette and Ernest Schaeffer in 1885. Management of the business was passed to Evette's son, Maurice in 1918. Evette fils retired in 1929, and in that year a joint-stock company was formed with Paul E. le Seigneur as chief executive. The company still flourishes as one of the most important producers of clarinets and bass clarinets.[271]

Since 1836 the firm has been known under the name of "Buffet-Crampon." This name alone has appeared on the company's instruments, except for the brief period between 1855 to 1859. A set of three clarinets (pitched in A, B flat, C) from this period is in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number 2298. The clarinets in this set are marked: "Buffet-Crampon à Paris, F. Tournier et P. Goumas, successeurs."[272]

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[270] Buffet-Crampon: Depius 1825, p. 11.

[271] Ibid.; and Langwill, Index, p. 14.

[272] Langwill, Index, p. 14.

Without a close examination of the instruments, it is not possible to date the bass clarinets made by Buffet-Crampon which are now in the Stearns Collection. Number 638 of this collection is marked: "Buffet-Crampon et Cie.," which might suggest that the instrument was made after 1855, but this is at best only a guess. The present Buffet-Crampon et Cie. traces its ancestry to the establishment of the business by Buffet-Auger in 1825, yet, the company has records of making bass clarinets which go back only to 1880 (In that year they made bass clarinets in A, B flat, and C.).[273]

No. 39

c. 1840 — Unmarked. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 338. Bassoon shape. Eighteen keys.[274]

The maker of this instrument is unknown, but judging from its construction it was made about 1840.

No. 40

c. 1845 — Edward Skorra. (Worked . . . 1839-1862 . . .) Berlin. Mark: an eagle.[275]

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[273]Letter from Jean Blondelet, Buffet-Crampon et Cie, Paris, February 16, 1966.

[274]Letter from van der Meer, February 21, 1966.

[275]Langwill, Index, pp. 110-11.

Now in the Musikinstrumenten-Museum der Karl-Marx-Universität, Leipzig, number 1542. In B flat. Straight body, from stained maple. Fourteen brass keys with a covered lever mechanism. Keys on knobs and pillars. Length: 121.2 cm. Bore Ø: 1.72 cm.[276]

Edward Skorra had made bathyphones (contra-bass clarinets) according to the design of Wilhelm Wieprecht (supra). This bass clarinet might have been of Skorra's own design because instrument has a straight body.

No. 41

1844 or 1846 Louis Muller. (Worked c. 1830-death in 1867.) Lyon. Bassoon shape. Descending to low c.[277]

Muller was the nephew of Francois Sautermeister (supra). Muller worked with his uncle and assumed management of the business when Sautermeister died in 1830.[278]

The bass clarinet of Muller resembled the basse orgue of his uncle. Lavoix, in his Histoire de l'Instrumentation, writes that Muller invented a bass clarinet in 1844, but the Pontecoulant Organographie sets 1846 as

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[276]Letter from Kustos, March 22, 1966.

[277]Langwill, Index, pp. 82, 103; and Rendall, The Clarinet, p. 151.

[278]Langwill, Index, p. 103.

the date.[279] Muller died in 1867, and his establishment was bought by Jean Léon Cousins.[280]

Many of the bass clarinets built during the middle of the nineteenth century present the same problem already seen with the two Buffet-Crampon instruments in the Stearns Collection (supra). The bass clarinets are usually stamped with the name of the maker, but almost never with the date. It is therefore possible to give only a rough estimate of the year in which the instruments were made. The longer the firm was established, the more difficult the problem becomes. In certain cases it is next to impossible to give a fair estimate unless one has the opportunity to examine the bass clarinet first hand. In other instances, some idea of the age of the bass clarinet can be obtained by determining when the maker worked.

No. 42

Mid-Nineteenth Century	Darche. (Worked . . . 1830-1855.) Paris, located on the rue de Rivoli. Reported to be in a Stockholm museum. Twenty-one keys.

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[279]Langwill, Index, p. 82, citing Pontecoulant, Organographie, Paris, 1861, II, p. 449; Lavoix, op. cit., p. 124; and Rendall, The Clarinet, p. 151.

[280]Langwill, Index, p. 82.

When the Parisian wind-instrument maker Hippolyte Collin died in 1830, his widow sold the firm to Darche. Darche made instruments until 1855, when he turned the business over to his nephews, Eugène Henri and Jules Martin.[281] Among the places where bass clarinets seem to have been used earliest were in the Paris theater orchestras.[282] It is interesting to note that Darche was a "fournisseur des Theatres."[283]

No. 43

Mid-Nineteenth Century	Unmarked, but possibly in Italy. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 1635. Bassoon shape, from dark wood. Twenty-five brass keys, mounted in saddles and on pillars with foot plates. With the exception of one hole, the finger holes are covered by a patent lever mechanism (similar to that on the bass clarinet in this collection, number, 1636). Total length: 185.4 cm. (6 feet, 1 inch).[284]

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[281] Ibid., p. 24.

[282] Carse, The Orchestra from Beethoven to Berlioz, p. 30.

[283] Langwill, Index, p. 24.

[284] Catalogue of the Crosby Brown Collection of Musical Instruments (New York, 1904), Vol. I (Europe), p. 136, no. 1635.

Figure XIII. Unmarked bass clarinet made in the mid-nineteenth century, possibly in Italy. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, number 1635. (The neck has been posed incorrectly.)

No. 44

Mid-Nineteenth Century

Widemann. (Worked 1837-1850.) Paris, located on the rue St. Denis 227, maison des bains Saint-Saveur.[285] Reported to have been in the Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin, Berlin, number 2902. Bassoon shape; without boot plate, the tubes being joined by a brass U-shape elbow. Body from wood. Neck, joint ferrules, and bell all from brass. Bell points straight up and flares out widely at brim. Twenty keys. Height: 68 cm. Bore Ø: 2.2 cm. Bell Ø: 15.5 cm. Marked: "Widemann/ à Paris." The bass clarinet is illustrated in the Sachs' catalogue of this collection.[286]

Widemann was described as a "fournisseur du Gymnase musical."[287]

A bass clarinet is now in the Horniman Museum in London. The instrument has no mark but is said to resemble the bass clarinet of Widemann in the Berlin collection, and may be described as follows:

No. 45

c. 1837-1850

Unmarked, but possibly made in Paris. Now in the Adam Carse Collection, number 301, in the Horniman Museum and Library, London. In B flat. Bassoon shape from

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[285] Ibid., p. 125.

[286] Sachs, Sammlung alter Musikinstrumente . . . zu Berlin, pp. 300-301, and plate XXIX, no. 2902.

[287] Langwill, Index, p. 125.

wood. Brass ends and joint ferrules. Twenty keys with two speaker keys. Simple system. Length of shaft: 137.6 cm. (54 inches). Height of specimen: 67.3 cm. (26.5 inches).[288]

No. 46

Mid-Nineteenth Century

Paolo del Maino. (Worked . . . 1830-1880 . . .). Milan. Glicibarifono. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, number M. 941. In B flat. In addition to the mark of Maino, it is stamped: "No. 3 Premiata Invenzione di Catterino Catterini in Padova."[289]

This glicibarifono is based on the instrument as designed by Catterino Catterini (supra). Though no year is known for the instrument, because of the neatness of the key mountings, Maino's glicibarifono appears to have been constructed at a latter date than Catterini's first attempt. The "No. 3" supports this.

Maino joined with Romero Orsi in 1880 and founded the Milanese firm of "Maino and Orsi." This firm is known to have existed in 1914, and produced bass clarinets with twenty-three keys and twenty-eight keys.[290]

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[288]Letter from Jean L. Jenkens, Musicologist, Horniman Museum and Library, Forest Hill, London, May 6, 1966.

[289]Letter from Bragard, March 25, 1966; Langwill, Index, p. 74; and Rendall, The Clarinet, p. 152.

[290]Langwill, Index, p. 74.

Figure XIV. Glicibarifono made by Paola del Maino in the mid-nineteenth century. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number 941. Patterned after the c. 1810-1820 Glicibarifono of Catterino Catterini.

No. 47

Mid-Nine-teenth Century	Pierre Paul Ghislain Joseph Dupré. (b. 1790; d. 1862). Tournai, Belgium. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number M. 2602. In B flat.

Dupré was a woodwind maker, noted chiefly for his Tuba-Dupré. He designed the instrument, a kind of discant wooden ophicleide, in 1824 and entered it in the 1825 Haarlem Exhibition.[291]

No. 48

Mid-Nine-teenth Century	Joseph Seidel. (Worked . . . 1820-1862 . . .). Mainz. Now in the Musikinstrumenten-Museum der Karl-Marx-Universität, number 1541. In B flat. Bassoon shape. Body from maple. Eighteen (nineteen) keys, mounted on pillars.

Seidel was a music instrument maker to the court of Hesse-Darmstadt, but he had an agent in London, viz. G. André Augener, 33 Goswell Road. Seidel displayed instruments in the 1862 London Exhibition.[292]

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[291]Letter from Bragard, March 25, 1966; Langwill, Index, p. 29; and Sachs, Real-Lexikon, p. 400a.

[292]Letter from Kustos, March 22, 1966; and Langwill, Index, p. 109, citing Le Comte Ad. de Pontecoulant, Douze jours à Londres, Paris, 1862, p. 244.

No. 49

Mid-Nineteenth Century	Franz Carl Kruspe. (b. Mühlausen, 1808; d. Erfurt, 1885.) Efurt. Now in the Stearns Collection of Musical Instruments, University of Michigan, Ann Arbor, Michigan, number 636. In B flat. Bassoon shape, with brass elbow in place of a boot plate. The shorter of the two tubes of the body carries the bell. Body from wood. Twenty-four keys. Three open finger holes. Brass mountings. Length of shaft: 168 cm. Bell Ø: 16,5 cm. Stamped: "C. Kruspe, Erfurt."[293]

The bass clarinet in the Stearns Collection is said to have been made by Franz Carl Kruspe, but the mark: "C. Kruspe, Erfurt" has a long history. The Kruspe family, of Thuringia, became well known as instrument makers. Franz Carl Kruspe established himself in Mülhausen in 1829, and moved to Erfurt in 1836. He was assisted for a time, by two sons, Johann Edward Kruspe (b. 1831; d. 1919), and Friedrich Wilhelm Kruspe (b. 1838; d. 1911).

Johann Edward later worked independently under the name "Ed. Kruspe," and devoted himself exclusively to manufacturing brass instruments. Friedrich Wilhelm succeeded the father in the original firm, and continued

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[293]Langwill, Index, p. 63; and letter from Warner, May 31, 1966.

to mark instruments with the father's name. The only exception was a conical cross flute which Friedrich Wilhelm built in collaboration with M. Schwedler, and which was marked: "Schwedler-Kruspe."

Two sons of Friedrich Wilhelm Kruspe, Carl junior (b. 1865) and Edward (b. 1871; d. 1919) continued as wind instrument makers. Edward succeeded the father and followed the practice of marking the instruments with: "C. Kruspe, Erfurt." Carl junior removed to Leipzig, where he apparently worked under the name: "C. Kruspe, Leipzig."[294]

No. 50

Mid-Nineteenth Century	F. Ludwig Martinka. (Worked: Mid-nineteenth century.) Prague. Reported[295] to be in the Nárdoní Museum V. Praze, Prague, number 135E.

The first time[296] a bass clarinet was employed in Czech music was by Smetana in the symphonic poem Hakon Jarl in 1860. Whether there is any connection between Martinka's bass clarinet and this event, however, cannot be inferred from the present information.

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[294]Langwill, Index, pp. 63-64.

[295]Ibid., p. 76.

[296]Letter from Jaroslav Vanický, Director, Department of Music, Nárdoní Museum V Praze, Prague, May 17, 1966.

No. 51

c. 1850 — Johann Adam Heckel. Biebrich am Rhein-Wiesbaden. In B flat. Straight body, with wooden bell pointing straight down. Bore Ø: 1.55 cm. Illustrated in Die Musik in Geschichte und Gegenwart, plate XLIV.[297]

No. 52

Second half of the Nineteenth Century — Heckel. Biebrich am Rhein-Wiesbaden. Now in the Museum für Hamburgische Geschichte, Hamburg, number 1928, 75, originally lent by one Gräse of Hamburg. Straight body, from grenadilla wood. Straight bell. Twenty-three keys and rings. (Without open finger holes.) Neck. All metal parts from German silver. Height of specimen: 110 cm. Bore Ø: 2.3 cm. Bell Ø: 9.8 cm. Stamped: "Heckel/Biebrich."[299]

No. 53

Beginning of the Twentieth Century — Heckel. Biebrich am Rhein-Wiesbaden. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 480. In B flat. Straight body. Twenty-two keys, with six finger plates. Extension to low E flat.[300]

Johann Adam Heckel, père (b. 1773; d. 1814), a merchant in Adorf, had two sons, Karl (b. 1808; d. 1866),

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[297]Letter from Wilhelm Heckel K. G., Holzblas-Musikinstrumenten-Fabrik, Biebrich am Rhein-Wiesbaden, Wiesbaden, March 8, 1966; and Die Musik in Geschichte und Gegenwart, VII (1958), plate XLIV.

[299]Hans Schroder, Verzeichnis der Sammlung alter Musikinstrumente (Hamburg: Alster=Verlag, 1930), p. 82, a catalogue of the Museum für Hamburgische Geschichte.

[300]Letter from van der Meer, February 21, 1966.

who became a brass instrument maker in Dresden, and Johann Adam (b. 1812; d. 1877).

Johann Adam Heckel, fils, established an instrument making firm in 1831. He was succeeded by his son Wilhelm Heckel (b. 1856; d. 1909); the latter was in turn succeeded by his son Wilhelm Hermann Heckel (b. 1879). The firm, renowned for its bassoons, is managed at present by Franz Groffy, son-in-law of Wilhelm Hermann Heckel.[301]

The Heckel bass clarinet of 1850 is comparatively short, and has a narrow bore only 1.55 cm. in diameter, thus employing a principal used in the construction of the bass clarinet by Domenico della Mela, c. 1750. There was a German tradition for narrow bass clarinet bores, however, the Heckel firm later departed from this practice, as can be seen with the bass clarinet in the Museum für Hamburgische Geschichte, Hamburg, number 1928,75. The maker felt that a larger bore gave the instrument a desirable increase in tonal weight.[302]

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[301]Langwill, Index, pp. 50, 151.

[302]Baines, Woodwind Instruments and their History, pp. 127-28.

No. 54

c. 1850 — Wilhelm Beck. Weimar. Now in the Musik-instrumenten-Museum der Karl-Marx-Universtät, Leipzig, number 1540, damaged. In B flat. Bassoon shape, from two parallel tubes. Body from boxwood. Eighteen keys on pillars. Length of shaft: 173.5 cm. Diameter of cylindrical bore: 2.5 cm.[303]

Beck was the court instrument maker to the Grand Duke of Saxony, and is known[304] to have displayed instruments in the Munich Exhibition of 1854.

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[303]Letter from Kustos, March 22, 1966.

[304]Langwill, Index, p. 7.

CHAPTER XI

SOME BASS CLARINETS AFTER 1850

The following entries most likely involved one person:

No. 55

1854 — Lausschmidt. Olmütz (= Olomouc). According to Pontecoulant in his Organographie, II, a maker by the name of Lausschmidt, constructed a bass clarinet in 1854. A bass clarinet descending a third lower than ordinary was entered by the same maker in the Paris Exhibition of 1855, where it won an Honorable Mention.[305]

No. 56

c. 1860 — Franz Losschmidt. Olmütz. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 481. In B flat. Bassoon shape. Body from brass. Twenty-three keys. Extension to low C.[306]

No. 57

c. 1860 — Franz Losschmidt. Olmütz. Now in the Deutches Museum, Munich, number 20506. Bassoon shape. Brass body, from two parallel brass tubes. Without bootplate, the

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[305]Letter from Langwill, February 12, 1966, citing Pontecoulant, Organographie, II, pp. 507, 539.

[306]Letter from van der Meer, February 21, 1966.

tubes being joined by a short U-shaped elbow. The longer tube terminates in a bell. Twenty-eight keys. Length: 75 cm. Stamped: "Franz Losschmidt/K.K. ausch. pr: Instrumenten-Fabrikant in Olmütz."[307]

No. 58

c. 1860 — Franz Losschmidt. Olmütz. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 2459. In B flat. Bassoon shape. Brass body from two parallel tubes. Larger tube terminates in a bell. Twenty-three white metal keys mounted on pillars, the holes being covered by patent mechanism. Four keys on the back of the larger tube extend the range from E down to written C, sounding B flat. (The lowest sounding note is incorrectly given as "G flat" in the catalogue of this collection.) Length: 188 cm. (6 feet, 1 inch). Stamped: "Franz Losschmidt/ K. K. ausch. pr: Instrumenten-Fabrikant in Olmütz," and additionally, "No. 8."[308]

No. 59

1867 — Lauss Schmidt. Olmütz. In the Historie de l'Instrumentation. Lavoix reports that a wind-instrument maker by this name showed a bass clarinet in 1867, presumably at the Paris Exhibition of that year.[309]

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[307] Letter from Deutsches Museum, Munich, March 23, 1966; and letter from Langwill, February 12, 1966.

[308] Catalogue of the Crosby Brown Collection of Musical Instruments, p. 136; and letter from Langwill, February 12, 1966.

[309] Langwill, Index, p. 66; and Lavoix, op. cit., p. 124.

Figure XV. Bass clarinets now in the Deutsches Museum, Munich, numbers 20506 (Left), and 14103 (Right). The bass clarinet on the left has a brass body and was made by Franz Losschmidt of Olmütz. The other bass clarinet has a wooden body and was made by Berthold of Speyer. (The neck of each of these bass clarinets has been posed incorrectly.)

The specimens from Nürnberg, Munich, and New York are clearly marked: "Losschmidt." Langwill believes that the names "Losschmidt" and Lausschmidt (with its permutation "Lauss Schmidt") refer to the same wind-instrument maker.[310]

Losschmidt called himself: "Kaiserlich Königlich ausschliesslich privilegium Instrumenten-Fabricant" (Imperial Royal exclusively privileged instrument-maker).[311] He apparently claimed to be the court instrument maker to the feebleminded emperor of Austria, Ferdinand I. The latter, who was reported to have been somewhat musical, had been forced to abdicate by Francis Joseph in 1848, and withdrew to a castle in Olmütz. Here Ferdinand remained emperor in name only.[312]

No. 60

1855 J. Chrétien Roth. (Worked . . . 1849-1867 . . .). Strasbourg.

In the Paris Exhibition of 1855 Roth entered a bass clarinet, flute d'amour, duplex cornet and bugle,

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[310]Letter from Langwill, February 12, 1966.

[311]Letter from Langwill, June 11, 1966.

[312]"Austria, Empire of," Encyclopaedia Britannica, 1963, II, pp. 836-38; and "Ferdinand I," ibid., IX, p. 165.

and was awarded a Second Class Medal and an Honorable Mention.[313]

Joseph Uhlmann of Vienna entered an instrument in the 1855 Munich Exhibition. The instrument had twenty-three keys, and a four octave range beginning with low B flat. It has been reported that the instrument was called a "bass basset horn," which raises a serious doubt about it truly being a bass clarinet.[314]

No. 61

c. 1860 — Stengel. Bayreuth. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 479. In C. Bassoon shape. Twenty-three keys. Extension to low C.[315]

No. 62

(n.d.) — Stengel. Bayreuth. Now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, number M. 943. In B flat.[316]

No. 63

(n.d.) — Stengel. Bayreuth. Reported to have been in the "Handelhaus, Halle, Salle,"

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[313]Langwill, Index, p. 79.

[314]Schlesinger, "Bass Clarinet," Encyclopaedia, 11th ed. (1910), III, pp. 491-92.

[315]Letter from van der Meer, February 21, 1966.

[316]Letter from Bragard, March 25, 1966.

number 404. Eighteen keys. Another bass clarinet by Stengel was reported to have been in Florence.[317]

Johann Samuel Stengel (d. 1825) established an instrument making business in about 1810; he marked his instruments with a crown. After Stengel's death, his son took over the firm in 1828. A relative, Johann Christopf Stengel also worked in the business. The firm survived well into the twentieth century.[318]

No. 64

c. 1860 — Maker unknown, but possibly in Italy. Now in the Germanisches Nationalmuseum, Nürnberg, number MIR 482. Bassoon shape. Twenty-one keys. Resembles the bass clarinet of Losschmidt (supra).[319]

No. 65

1862 — Heinrich Friedrich Meyer. (b. 1814; d. 1897). Hanover.

Before working independently, Meyer served under Heinrich Zetsche of Hanover. In Exhibit Number 380 at the International Exhibition in London, 1862, Meyer displayed a bass clarinet, a flute, an oboe, a clarinet, and bassoons.

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[317]Langwill, Index, pp. 114, 165.

[318]Ibid.

[319]Letter from van der Meer, February 21, 1966.

Meyer's son, Heinrich Friedrich Meyer junior (b. 1853; d. 1914) was also a wind instrument maker.[320]

No. 66

Second Half of the Nineteenth Century

Carl Golde. (d. 1873.) Dresden. Now in the Museum für Hamburgische Geschichte, Hamburg, number 1926, 410. In B flat. Body from mottled maple. Bell bent forward at a right angle. Neck. Fifteen keys and rings. Four open finger holes. All metal parts from German silver. Height: 102.5. Bore Ø: 2 cm. Bell Ø: 11.5 cm.[321]

No. 67

Second Half of the Nineteenth Century

Carl Golde. Dresden. Now in the Museum für Hamburgische Geschichte, Hamburg, number 1928, 323; sent from the Hamburg Philharmonic Society. In a slightly bent form, with an ivory knee. Ivory joint ferrules. Body from reddish wood. Seventeen (eighteen) brass keys in saddles. Height of specimen: 108 cm. Bore Ø: 1.5 cm. Bell Ø: 9.4 cm. Stamped: "C. Golde/Dresden."[322]

No. 68

Second Half of the Nineteenth Century

Carl Golde. Dresden. Now in the Museum für Hamburgische Geschichte, Hamburg, number 1928, 324. In a slightly bent form, with an ivory knee. Eighteen brass keys. (This bass clarinet is of the same form and style as number 1928, 323 of this

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[320] Langwill, Index, pp. 78, 158.

[321] Ibid., p. 41; and Schröder, op. cit., p. 82.

[322] Schröder, op. cit., p. 82.

collection.) Height: 108 cm. Bore Ø: 1.5 cm. Bell Ø: 9.4 cm. Stamped: "C. Golde/Dresden."[323]

No. 69

Second Half of the Nineteenth Century	Carl Golde. Dresden. Now in the Museum für Hamburgische Geschichte, Hamburg, number 1928, 75; originally lent by one Gräse of Hamburg. In a bent form, with an ivory knee. Body from reddish wood. Eighteen German silver keys and rings on pillars. German silver joint ferrules. (Without neck.) Height: 108 cm. Bore Ø: 1.5 cm. Bell Ø: 9.4 cm. Stamped: "C. Golde/Dresden." The instrument has a case.[324]

Golde was noted for his oboes, and wrote an article: Über den Bau der Oboe (On the Building of the Oboe).[325] The small bore diameters of Golde's bass clarinets were characteristic of German makers.

No. 70

Second Half of the Nineteenth Century	George Jacob von Berthold. (b. 1853; d. 1904). Speyer am Rhein. Now in the Deutches Museum, Munich, number 14103. Bassoon shape, with a bootplate. Body from wood. Bell, slightly tilted forward, is carried by shorter joint. Neck. Twenty keys. Three open finger holes. Height of specimen: 71 cm.[326]

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[323] Ibid., p. 83. [324] Ibid.

[325] Langwill, Index, p. 41.

[326] Letter from Deutches Museum, Munich, March 23, 1966; and Langwill, Index, p. 8.

Berthold founded his instrument making business in 1849. In about 1854 he took his son into partnership, and the firm continued until about 1892 under the name "George Berthold und Söhne. The address was 12 Wormerstrasse, Speyer am Rhein.[327]

No. 71

Second Hlaf of the Nineteenth Century	Douglas. Glasgow. Formerly in the collection of F. G. Rendall. In the shape of an Alto-fagatto. Stamped: "Douglas, Glasgow."[328]

The exact identity of the name on this instrument is uncertain.[329] The name "Hugh D. Douglas" appeared as a wind-instrument maker from the year 1860-1861. The firm "Hugh D. Douglas and Son" (later "Ltd.") continued until at least 1875. In that year the owners were described as "Music Instrument Makers to the Army, Navy, and Volunteers," though they seem to have been chiefly repairers and dealers. The name "Hugh Douglas senior" also appeared from the year 1870-1871 until 1884.

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[327] Langwill, Index, p. 8.

[328] Ibid., p. 28.

[329] Ibid.

No. 72

Second Half of the Nineteenth Century

Unmarked. Reported to have been in the Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin, Berlin, number 1051. In B flat. Straight body, resembling the bass clarinet made by Adolphe Sax. Body from ebony. Bell is almost straight down, but slightly tilted forward. Twenty keys and rings. Two open finger holes. All metal parts from German silver. Height: 99.5 cm. Bore Ø: 2 cm. Bell Ø: 9.5 cm.[330] Illustrated in Sachs' catalogue of this collection, but incorrectly numbered as "1057."

No. 73

Second Half of the Nineteenth Century

Maker unknown, but possibly in Italy. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 1389. In C. Straight body, from wood. Very long upturned brass bell. Neck with wooden mouthpiece. Twenty brass keys mounted on pillars. Finger holes covered by a plateau mechanism. Range descending to low E. Length: 127 cm. (4 feet, 2 inches).[331]

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[330]Sachs, Sammlung alter Musikinstrument . . . zu Berlin, p. 301, and plate XXIX, no. 1057.

[331]Catalogue of the Crosby Brown Collection of Musical Instruments, p. 135, no. 1389.

Figure XVI. Unmarked bass clarinet made in the late nineteenth century, possibly in Italy. Now in the Crosby Brown Collection of Musical Instruments, Metropolitan Museum of Art, New York, number 1389.

No. 74

Second Half of the Nineteenth Century

Maker unknown, but possibly in England. Reported to be in the Leslie Lyndsey Mason Collection, Museum of Fine Arts, Boston, number 17.1880. In B flat. Semi-bassoon shape, from boxwood stained dark brown. Left hand joint. Butt joint, having two tubes of unequal length; a bell is carried by the shorter of these two tubes. German silver bell is turned upward and outward in front of the instrument. Nickel-silver neck. Mouthpiece.

Twenty keys of circular pad type with forged levers. Some mounted on pillars, some on hinge tubes. Keys mounted on the rear of the butt joint and operated by right thumb are: C, C sharp, D, E flat. Other keys are: E, F, F sharp, G sharp, B flat, B natural (in duplicate), g sharp, a, a trill key, speaker key. Four finger holes in front of instrument. Thumb hole in rear. Height: 84.5 cm. Length of air column: approximately 155 cm. Bore Ø: 2.1 cm. Bell Ø: 12 cm.

Because the bell is brought up from the floor, and protrudes toward the audience, it has been determined that this bass clarinet was intended for pit use in opera or theater orchestras.[332]

No. 75

1871

A. Maldura. (Worked . . . 1871-1914 . . .). Milan. Now in the Musikinstrumenten-Museum der Karl-Marx-Universität, Leipzig, number 1543. In B flat. Straight body, from box-

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[332]Bessaraboff, op. cit., p. 103.

wood. Upturned bell. Eighteen brass keys on pillars. Middle part of this bass clarinet is missing.

Maldura specialized in woodwind instruments. His address in 1914 was: viz Torino 8, Milan.[333]

No. 76

1873 Karl Stecher, Senior. (b. Flöau, Sudetenland, 1820; d. Vienna, 1904.) Vienna. Clairophone, a kind of metal bass clarinet displayed in the Vienna Exhibition of 1873.

After serving an apprenticeship, Stecher played flute in the Army, and also made instruments while in the Army. He worked in Graslitz, Markneukirchen, Munich, and other cities before establishing his first workshop in Cernowitz. Stecher migrated to Vienna where he opened a factory in 1865 on Tigergasse. He was at this address when he built the Clairophone. Stecher was also a court instrument maker.[334] In about 1875, Stecher moved onto Mariahelferstrasse. The firm was continued from various addresses on this street by first his son Joseph Stecher, senior (b. 1874; d. 1932), and then the latter's son Joseph Stecher, junior (b. 1914). The business was still extant in 1960.[335]

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[333]Letter from Kustos, March 22, 1966; and Langwill, Index, p. 74.

[334]Langwill, Index, p. 74.

[335]Ibid., p. 113.

No. 77

Second Half of the Nineteenth Century	Franz Walsch. Prossnitz. Klariphon, a kind of metal bass clarinet. Reported to have been in the music instrument collection of the Gesellschaft der Musikfeunde in Wein, Vienna, number 145. This collection was on ninety-nine year loan and has now been returned to the Austrian government; it is kept in the Sammlung alter Musikinstrumente in the Wiener Hofburg.[336]

No. 78

Second Half of the Nineteenth Century	A. Nechwalsky. Klariphon, a type of metal bass clarinet with all holes are covered. Reported to have been in the music instrument collection of the Gesellschaft der Musikfreunde in Wien, Vienna, number 144, now in the Sammlung alter Musikinstrumente in the Wiener Hofburg, Vienna.[337]

Curt Sachs, in the Real-Lexikon der Musikinstrumente, describes the Klariphon as a metal bass clarinet used little by orchestras, but played in Spanish marine music.[338] "Clairophon" seems to be an Anglicized version of Klariphon. If this is so, it would appear that the Klariphon's of Walsh and Nechwalsky might have been made about the same time as the Clairophone of Stecher.

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[336] Ibid., p. 123; and letter from Hedwig Mitringer, Gesellschaft der Musikfreunde in Wien, Vienna, April 18, 1966.

[337] Langwill, Index, p. 83; and letter from Mitringer, April 18, 1966.

[338] Sachs, Real-Lexikon, p. 216.

It is not definitely known whether Walsch and Nechwalsky were makers or dealers. Another bass clarinet with the name of Nechwalsky is extant.

No. 79

Second Half of the Nineteenth Century

Nechwalsky, Vienna. Now[339] in the music instrument collection of the Division of Cultural History, Smithsonian Institution, United States National Museum, Washington, D.C., number 65.613, on indefinite loan from the University of Pennsylvania. Probably in B flat. Straight body, from stained (brown) maple. Neck, keys, joint ferrules, lower bow, bell are all of brass. Lower bow has a nickel silver protective patch on the bottom. Bell has a nickel silver garland.

Keys are cupped (similar to modern design), and are mounted in long brass saddles, the two exceptions being the cross keys being b flat and e flat' which are of the pillar and axle variety. Simple system fingering. Reading down from the register key, the keys (written pitch-fundamentals) are: register key a' trill (Right Hand first finger), a', g sharp', f sharp' (vent, Left Hand little finger), f' (R.H. first finger), e flat' (two levers; viz. L.H. third finger and R.H. first finger), c sharp'; all of these keys are on the upper joint. On the lower joint are: b natural (vent-R.H. little or third finger), b flat, g sharp, f sharp, f, e, d (R.H. thumb), c (R.H. thumb).

Height of specimen: 160.65 cm. (5 feet, 2.5 inches). Bore out of round in places, but approximate diameter: 2.1 cm. Bell Ø: 9.4 cm. (3.81 inches).

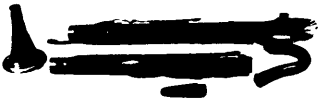
339Letter from Sheldon, June 3, 1966.

Figure XVII. Bass clarinet marked with the name "Nechwalsky," probably made in the late nineteenth century. Now in the music instrument collection, Division of Cultural History, Smithsonian Institution, United States National Museum, Washington, D.C., number 65.613.

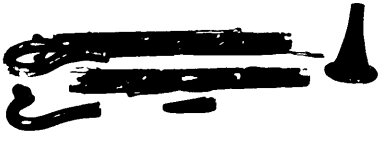
A. Front view. B. Disassembled. C. Disassembled, another view. D. Rear view.

A

B



C



D

The instrument is currently unplayable. Its pitch can be determined only by measuring the distance of the finger holes from the mouthpiece, and then relating these measurements to the fundamentals which should occur on a cylindrical open pipe twice the length. On the Nechwalsky bass clarinet the distance from the tip of the mouthpiece to the edge of the left hand third finger hole (which when open should produce a written d in the bass clef) is about 61 cm. (two feet). A 61 cm. (two foot) closed pipe should produce a pitch sounding small octave c. This bass clarinet is therefore most likely in B flat, though there is chance that it might be in A.[340]

The mouthpiece that was found with this bass clarinet is marked: "Leschke/Leipzig." G. Leschke was known to have been at Schachstrasse, 10 Leipzig, in about 1914. The German style mouthpiece is unique in that it has a number of holes drilled into its sides. Some are drilled in only a short distance and do not pierce the chamber. Other holes actually run through to the opposite side underneath the chamber. Why this was done is a mystery.[341]

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[340] Ibid.

[341] Ibid.; and Langwill, Index, p. 69.

No. 80

1888 P. Riva e Gherardi. Ferrara. The bass clarinet was displayed at the International Music Exhibition, Bologna, 1888.

In the entry on P. Riva e Gherardi in Langwill's An Index of Musical Wind-Instrument Makers, the term "brass [sic] clarinet" appears.[342] This, however, is a misspelling for bass clarinet.[343]

No. 81

1890 Fountaine Besson. London. Bass Clarinet, British Patent Number 16357, October 14, 1890.

Besson migrated to London from Paris in 1862. In 1873 he founded Besson and Company, Limited. The firm still exists.[344]

No. 82

1890 Rudall, Carte and Company. (c. 1878-1955). London. Bass clarinets exhibited at the Royal Military Exhibition, London, 1890 numbers 276 and 277.

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[342]Langwill, Index, p. 97.

[343]Letter from Lyndesay G. Langwill, Edinburgh, Scotland, June 11, 1966.

[344]Langwill, Index, p. 8.

Rudall, Carte and Company was the last of a series of partnerships in which the name of George Rudall (b. 1781; d. 1871) was involved. In 1955 the company sold out to Boosey and Hawkes, Limited.[345]

No. 83

c. 1900 — C. W. Moritz. Berlin. Now in the Stiftung Preussischer Kulturbesitz, Staatlichen Institut für Musikforschung, Berlin, number 4438. In A. Straight body, from tanned maple. In five parts. Mouthpiece. Neck from German silver plated on brass. Twenty-one German silver keys. Round, cup-shaped (plateaux) keys over finger holes. All keys mounted on pillars and either screwed in or stuck in. Needle springs and flat springs (from steel and German silver). Height of the specimen: 108 cm. Length of the shaft without mouthpiece: 129 cm. Cylindrical bore Ø: 2.28 cm. Pitched; sounding A=435 Hz. Marked: "C. W. Moritz/Berlin."[346]

No. 84

c. 1900 — C. W. Moritz. Berlin. Now in the Stiftung Preussischer Kulturbesitz, Staatlichen Institut für Musikforschung, Berlin, number 4438. In B flat. This bass clarinet is identical with the preceding specimen in A marked by C. W. Moritz. The measurements of the B flat instrument are: Height of specimen: 102.5 cm. Length of shaft without mouthpiece: 121.8 cm.

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[345] Ibid., p. 101.

[346] Communicated by Alfred Berner, Stiftung Preussischer Kulturbesitz Staatlichen Institut für Musikforschung, Berlin, May 27, 1966.

Cylindrical bore Ø: 2.23 cm. Pitched: sounding A=435 Hz. Marked: "C. W. Moritz/Berlin."[347]

Johann Gottfried Moritz (b. 1777; d. 1840) was an important brass wind-instrument maker in Berlin, who was named as Königlicher Hofinstrumentenmacher (Royal Court Instrument Maker). His son Carl Wilhelm Moritz (b. 1811; d. 1855) also became a wind-instrument maker in Berlin, and who was also appointed Königlicher Hofinstrumentenmacher. An instrument manufacturing firm operating under the name of "C. W. Moritz" continued in Berlin into the twentieth century.

C. W. Moritz had two sons who were instrument makers: Wilhelm Moritz (b. 1837; d. 1897) and Johann Carl Albert Moritz (b. 1839; d. 1897).[348]

No. 85

1906 Henri Selmer et Cie. (Founded c. 1890.) Paris. In B flat.

This company made its first bass clarinet in 1906. H. Selmer et Cie. is one of the most important manufacturers of woodwind instruments today. The American

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[347] Ibid.

[348] Langwill, Index, pp. 81, 158.

subsidiary of this firm is H. and A. Selmer, Incorporated, Elkhart, Indiana.[349]

No. 86

Ante-1910 Simone Carino. Bass clarinet by this maker sold in the auction of items of Baron de Lévy. The auction was held in Paris on June 14-16, 1910.

There is no other trace of this maker.[350]

No. 87

1923 Louis Musical Instrument Company, Limited. London.

This company was established in 1923 under the directorship of the clarinetist Charles Draper. At that time it claimed to produce: Clarinets, Alto and Bass Clarinets, Oboes, Oboe d'amoure, Cors Anglais, Bassoons, Flutes, and Piccolos in all systems. Some time later this firm merged with Rudall, Carte and Company, Ltd.[351]

No. 88

c. 1924 Hawkes and Sons, Ltd. London. In B flat. Simple system. Two independent

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[349]Langwill, Index, p. 109; and letter from Selmer, February 17, 1966.

[350]Langwill, Index, pp. 16, 137.

[351]Ibid., p. 72.

register keys.[352]

The first bass clarinet by Hawkes and Son, Ltd., was made about 1924. William Henry Hawkes established an instrument making business in London in 1860. He formed a partnership with Jules Prudence Rivière in 1876 under the name Rivière and Hawkes. This partnership was dissolved in 1884. Hawkes' only son Oliver eventually joined with the father, and the firm was continued as Hawkes and Son until 1930. On September 30, 1930, Hawkes and Son merged with Boosey and Company to form "Boosey and Hawkes, Ltd."

Boosey and Company had been founded by Thomas Boosey in 1816. Ownership of the firm passed through several descendants of Boosey until the merger in 1930. Boosey and Company made bass clarinets prior to 1924.[353] Boosey and Hawkes, Ltd., is a leading wind-instrument manufacturer, but its bass clarinets are favored principally in Britain.

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[352]Letter from Brian Manton-Myatt, Enbury Park, Bournemouth, Great Britain, to Eric A. McGavin, Boosey and Hawkes, Ltd., Sonorous Works, Edgware, Middlesex, Great Britain, April 11, 1966.

[353]Ibid.; and Langwill, Index, p. 49.

CHAPTER XII

CONCLUSION: THE PRESENT DAY BASS CLARINET

There are many questions concerning the development of the bass clarinet which will be answered only by additional research. As far as can be determined, this thesis is the most thorough compilation of material pertaining to the history of the bass clarinet, yet written. Though the history of the bass clarinet covers a span of over two hundred years, during much of that time the instrument was neglected. The bass clarinet today, however, is being employed by composers with an increasing frequence, and the sale of bass clarinets by wind-instrument manufacturers has risen markedly for the past several years.[354] A survey of the history of the bass clarinet would, therefore, be incomplete without mention of the present day bass clarinet.

Bass clarinets have undergone only slight modification within the last thirty years or so. To the

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[354]Letter from Smith, December 8, 1965.

performer the most noticeable difference is the more convenient placement of the keys on the newest bass clarinets, and the inclusion of a single "automatic" register key. This chapter presents a description of the present day bass clarinet.

Pitch

In reviewing the bass clarinets made over the course of the last two hundred years, a paucity of bass clarinets pitched in A will be noted. Until the latter part of the nineteenth century, the bass clarinet appears to have been used primarily in military wind-bands, often as a substitute for the bassoon. Wind-band music tended to be written in flat keys, and this may account for the overwhelming predominance of early bass clarinets in B flat and C. The bass clarinet in A seems to have been made only as the instrument found its way into the orchestra.

The rise in popularity of the B flat clarinet has been complemented in the B flat bass clarinet. The bass clarinet in C is defunct, and that in A is now little more than a theoretical instrument. Bass clarinet parts today are almost always played on the B flat instrument, even though an occasional part is written for the bass clarinet in A.

Figure XVIII. Present day Boehm system bass clarinet made by H. Selmer Cie., Paris. Notice the differences between this instrument and the bass clarinet of G. Leblanc Cie. (Figure I).

Bass clarinets in A and C may still be ordered from some manufacturers, but it has been estimated that a request for one of these models is received not more than once every five or six years.[355]

Shape

For reasons previously discussed, the straight body design has now been adopted in the construction of bass clarinets. The superiority of intonation and sonority which this design affords, would seem to preclude a return to the bassoon shape within the foreseeable future. There are, of course, minor differences between manufacturers, but the straight body design is now standard.

Component Parts

The modern bass clarinet has the following parts: mouthpiece, neck, body divided into an upper joint and a lower joint, and bell.

Mouthpiece.--The mouthpiece is usually made of ebonite (hard rubber), and the reed is attached to the mouthpiece by means of a metal ligature.

In Germany, the ligature is often dispensed with, and a silken cord or waxed thread is wound around the

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[355]Letter from Blondelet, February 16, 1966.

mouthpiece to secure the reed.[356] To hold the cord in place, the outside of the mouthpiece is fluted.

The measurements of the mouthpiece vary, but as a general rule German bass clarinet mouthpieces tend to be more narrow than those of French, American, or Italian design.[357]

Neck.--The shape of the neck used on the bass clarinet has changed little since the time of Domenico della Mela. The one improvement has been the modern use of an adjustable neck, which facilitates tuning the instrument in performance. The adjustable neck is made in two pieces which can be made to slide in and out. Once the tuning pitch has been matched, a screw locks the neck at the desired position.

Body.--The body of the bass clarinet is most often made in two sections, viz. an upper (left hand) joint and a lower (right hand) joint. At times the body is constructed in one piece, but this is most often done with student model bass clarinets of extruded plastic, or in the case of all metal bass clarinets.

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[356]Baines, Woodwind Instruments and their History, p. 122; and Rendall, The Clarinet, p. 8.

[357]Rendall, The Clarinet, p. 155.

Bell.--The upturned metal bell is employed by most bass clarinet manufacturers. Heckel K. G. still makes bass clarinets with a wooden bell pointing downward, but will supply an upturned wooden or metal bell on request.[358]

Materials

Bass clarinets are now usually made from wood: grenadilla, Mozambique ebony, African blackwood (Dalbergia Melanoxylon), and also maple and rosewood. Ebonite (hard rubber) is used on occasion, as is extruded plastic. Bass clarinets have also been made entirely from metal as recently as the 1930's, but have never gained any popularity.

The bell, neck, keys, joint ferrules, and pillars are now made from steel plated with nickel, silver, or lustrium. The rods, screws, and springs are from steel.[359]

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[358]Communicated by the Heckel K. G., March 9, 1966.

[359]Letter from Blondelet, February 16, 1966; Musical Instruments: Buffet-Crampon, catalogue of Buffet-Crampon et Cie.; passim; letter from Heckel K. G., March 8, 1966; letter from Leblanc, March 3, 1966; letter from Manton-Myatt to McGavin, April 26, 1966; and Selmer Clarinets (Elkhart, Indiana: H. and A. Selmer, Inc., 1964), passim.

Mechanism

In France, America, and Italy, the Boehm system mechanism is employed almost exclusively. The Boehm system is heavily favored in England, but in Germany manufacturers persist in constructing bass clarinets with a variety of fingering systems, all fundamentally derived from the simple system.[360] Variations of the Boehm system also appear from time to time, and at present the Mazzeo System, devised by Rosario Mazzeo, is bidding for recognition.[361]

There is no standard number of keys used on the bass clarinet; each maker offers several models, hoping to meet individual preferences.

Most manufacturers find it necessary to employ two speaker holes (for the production of harmonics) in building bass clarinets. One speaker hole is placed on the upper joint and is used for the notes from written (French notation) b flat^2 to e natural^2. A second speaker hole is located higher, sometimes on the neck, and is employed for notes above e^2.

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[360]Baines, Woodwind Instruments and their History, pp. 131-36.

[361]Selmer Clarinets, op. cit., pp. 4-5.

Formerly two independent register (speaker) keys were used on bass clarinets and were operated by the left thumb. The use of two independent register keys has ostensibly been rendered unnecessary by the so-called "automatic register key." The automatic register key mechanism enables the player to manipulate the two speaker holes, while using but a single register key. This arrangement is the most popular, because it allows the bass clarinet mechanism to exactly duplicate that of the clarinet. Purportedly, this makes doubling (switching from one instrument to the other) easier.

Despite the claims of bass clarinet manufacturers, the automatic register key is notorious for being mechanically unreliable, and moreover causes certain notes in the clarion register to be deficient in sonority. (To help correct the last situation, a German manufacturer designed a bass clarinet with three speaker holes controlled by an automatic mechanism.)[362]

A recent development has been the elimination of one of the original two speaker holes. The lone remaining speaker hole is placed on the body of the bass clarinet and is used to produce all of the harmonics.[363] Some

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[362]Cf. Baines, Woodwind Instruments and their History, p. 128.

[363]Letter from Leblanc, March 3, 1966.

makers, however, retain two speaker holes but with an automatic key mechanism, and others continue to make bass clarinets with two independent register keys.[364]

To aid the performer in playing in the altissimo register on the bass clarinet, some manufacturers use a half-tone hole (operated by the left hand little finger.)[365]

The majority of the bass clarinets in professional use in the United States have a Boehm system key mechanism with eighteen or nineteen keys and seven plateaux (covered) finger hole keys.[366] The keys on a nineteen key Boehm system bass clarinet, reading down from the register key (written pitch fundamentals) are:

Upper joint

Register Key	Left Hand thumb
a^1	L.H. index finger
a flat^1	" " " "
e flat^1	L.H. third finger
d flat^1	L.H. fourth finger
a^1-b^1 trill	Right Hand index finger

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[364]Letter from Heckel K. G., March 18, 1966.

[365]Letter from Leblanc, March 3, 1966.

[366]Cf. Selmer Clarinets, op. cit., p. 10.

a^1-b $flat^1$ trill	Right Hand index finger
g $flat^1$ (alternate)	" " " "
e $flat^1$ (alternate)	" " " "

Lower joint

a flat (alternate)	L.H. little finger
g flat	" " " "
f (alternate)	" " " "
e	" " " "
b (alternate)	R.H. third finger
a flat	R.H. little finger
g flat (alternate)	" " " "
f	" " " "
e (alternate)	" " " "
e flat	" " " "

Range

The range of the modern bass clarinet is from written, French Notation, Small Octave e flat to a^3. (In order to avoid confusion the pitches mentioned here refer to written notes, in French Notation. This is not meant to be an endorsement of French Notation, but is rather an expediency.)

Bass clarinets with extended low ranges have, of course, been made since the eighteenth century.

Grenser's Klarinetten-bass, for example, descended to low B natural. In the twentieth century, bass clarinets with extended low ranges have been used chiefly in Germany (to low d), and Eastern Europe (to low c).[367] Low d's and c's appear not infrequently in German and Russian scores. Bass clarinets descending to low c are fast gaining popularity in the United States, and Rosario Mazzeo, formerly of the Boston Symphony Orchestra, has even experimented[368] with a model reaching down to low B flat. One side effect of the extended range has been an improvement in the intonation of the entire instrument.[369]

The placement of the extra keys needed to extend the range down to low c is not the same with every maker. One manufacturer has offered a foot joint attachment which could lower the range of the bass clarinet to d or c natural.[370]

Measurements

The measurements of the modern bass clarinet vary according to maker and country. The dimensions[371] of the

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[367]Baines, Woodwind Instruments and their History, p. 128.

[368]Walter Piston, Orchestration (New York: W. W. Norton and Company, Inc., 1955), p. 178.

[369]Letter from Smith, December 8, 1966.

[370]Communicated by Heckel K. G., March 8, 1966.

[371]Letter from Selmer, February 17, 1966.

B flat bass clarinet as used in the United States, France, Italy, and Great Britain may be approximated as follows:

	Mouthpiece length	8 cm.
	Neck "	23 cm.
	Bell (upturned) "	32 cm.
Length of two joints	(Bass clarinet descending to written low e flat	82.3 cm.
	(Bass clarinet descending to low c	103.2 cm.
	Total length of shaft	
	Model descending to low e flat	145.3 cm.
	Model descending to low c	166.2 cm.

Theoretically, the bass clarinet is a cylindrical bore instrument, and acoustically it behaves as such. As with the rest of the clarinet family, however, the bore of the bass clarinet is not a perfect cylinder throughout.[372] The measurement of that section of the bore which is cylindrical differs with each manufacturer, but

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[372]Carse, Musical Wind Instruments, p. 40; and Selmer Clarinets, op. cit., p. 2.

is in general:[373]

bore ø: 2.35-2.6 cm.

There are some German firms which prefer to use a narrow bore with a diameter of 2 cm.; these manufacturers object to a larger bore because they feel the large bore makes the tone of the bass clarinet too hollow and vigorous for orchestral use.[374]

The height of a B flat bass clarinet with an upturned bell is about:

96 cm.

Support

The modern bass clarinet is usually supported by a neck strap or by an adjustable floor peg. Neither device is new. The bass clarinet from about 1750, which is now in the Musée Instrumental, Conservatoire Royal de Musique de Bruxelles, Brussels, has a floor peg; the early bass clarinet now in the collection of musical instruments in the Smithsonian Institution, Washington, D.C. has a ring for a neck strap.

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[373]Letter from Leblanc, March 3, 1966; and letter from Smith, December 8, 1966.

[374]Rendall, The Clarinet, p. 155.

In performance, most bass clarinet players employ either a neck strap or a floor peg, though a few individuals shun both.

* * *

As with all musical wind-instruments, improvements are constantly being sought for the bass clarinet, but changes in wind-instruments come about as a result of trial and error. It is, therefore, not possible to predict just what the next development in bass clarinet construction will be, nor when it will occur, however, as the bass clarinet becomes more firmly established in the orchestra, improvements will continue to be made.[375]

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[375]Letter from Smith, December 8, 1966.

In Lyndesay G. Langwill's An Index of Musical Wind-Instrument Makers, the term "brass [sic] clarinet" appears several times. In the entries on Franz Losschmidt (p. 71) and P. Riva e Gherardi (p. 97), "brass clarinet" is a misspelling for bass clarinet. However, in the following entries, "brass clarinet" refers to a soprano or sopranino clarinet made of brass:[1]

C. G. Herold, Klingenthal (p. 51).

Schemmel, Vienna (p. 104).

Johann Christoff Selboe, Copenhagen (p. 109).

E. A. Sulz, Copenhagen (p. 116).

F. Tabard, Lyons (p. 117).

Also in the Index, Langwill writes that a "bass clarinet" bell was made by "G. Froelich," and that the bell was marked: "Coburg 1791."[2]

The bell is now in the Germanisches Nationalmuseum, Nürnberg. Jan van der Meer, curator of that museum, has informed the writer of this thesis that the bell only

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[1]Lyndesay Graham Langwill, An Index of Musical Wind-Instrument Makers (2nd and enlarged ed.; Edinburgh, Scotland: Lyndesay G. Langwill, 1962); and letter from Lyndesay G. Langwill, Edinburgh, Scotland, June 11, 1966.

[2]Langwill, Index, p. 36.

entered the museum along with a five key clarinet d'amour; this instrument was marked: "S. Froelich, Dettelbach." The bell, marked: "gemacht in Coburg 1791," may not belong to the clarinet d'amour by Froelich, but to a basset horn or (less likely) a bass clarinet.

It is possible that the brass bell was used as an experiment in brightening the tone of the clarinet d'amour, but this is unproven.[3]

These corrections are not meant as a deprecation of An Index of Musical Wind-Instrument Makers. The value of Langwill's work is above question, and without the Index much of the information included in this thesis could not have been found.

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[3]Letter from Jan van der Meer, Oberkonservator, Germanisches Nationalmuseum, Nürnberg, February 21, 1966.

APPENDIX II

Several of the institutions contacted by the writer of this thesis reported that they did not possess a bass clarinet in their music instrument collection, or that they had no such collection. This information was communicated in the following correspondence:

Letter from Robert Conant, Curator
Collection of Musical Instruments,
Yale University, New Haven,
Connecticut, April 1, 1966.

Letter from Dr. Armin Conradt,
Museum für Kunst und Gewerbe,
Hamburg, March 14, 1966.

Letter from Ministere d'Etat Affaires Culturelles,
Musée de Cluny, Paris, March 14, 1966.

Letter from Dr. Ruth Gronwoldt,
Landesgewerbeamt Baden-Wurttemberg,
Stuttgart, April 13, 1966.

Letter from Kurt Haselhorst,
Musikinstrumentensammlung,
Munchen Stadtmuseum,
Munich, April 6, 1966.

Letter from Stadtisches Museum,
Braunschweig, Brunswick,
April 4, 1966.

Letter from Richard Townsend,
Royal College of Music, London,
March 22, 1966.

BIBLIOGRAPHY

Books and Encyclopedia Articles

"Austria, Empire of," Encyclopedia Britannica, 1963, II, pp. 836-38.

Baines, Anthony C. Woodwind Instruments and their History. London: Faber and Faber, Limited, 1957.

Becker, Heinz. "Klarinette: Die europäische Klarinette," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopädie der Musik, VII (1958), pp. 1005-1006.

Benade, Arthur H. Horns, Strings, and Harmony. Garden City, New York: Doubleday and Company, Inc., 1960.

Brancour, René. Histoire des Instruments de Musique. Paris: Henri Laurens, 1921.

Berlioz, Hector. A Treatise on Modern Instrumentation and Orchestration. Translated by Mary Cowden Clarke. Edited by Joseph Bennet. London: Novello and Company, Limited, 1904.

Buffet-Crampon: Depuis 1825. Paris: Draeger Freres, 1962.

Carse, Adam von Ahn. "Grenser, Johann Heinrich," Grove's Dictionary of Music and Musicians, 5th ed. (1954), III, pp. 790-91.

_____. "Grenser, Carl August," Grove's Dictionary of Music and Musicians, 5th ed. (1954), III, p. 790.

_____. The History of Orchestration. 2nd ed. rev. New York: Dover Publications, Inc., 1964.

_____. Musical Wind Instruments: A History of the wind instruments used in European orchestras and wind-bands from the later Middle Ages up to the present time. London: Macmillan and Co., Limited, 1939.

_____. The Orchestra from Beethoven to Berlioz: A history of the orchestra in the first half of the nineteenth century, and of the development of orchestral baton-conducting. Cambridge, England: W. Heffer and Sons, Ltd., 1948.

_____. The Orchestra in the Eighteenth Century. 2nd ed. Cambridge, England: W. Heffer and Sons, Ltd., 1950.

Chouquet, Gustave. "Sax," Grove's Dictionary of Music and Musicians, 5th ed. (1954), VII, pp. 425-26.

Clement, Felix and Larousse, Pierre. Dictionnaire Des Opéras (Dictionnaire Lyrique): contenant l'analyse et la nomenclature des tous les opéras, opéras-comiques, operettes et drames lyriques répresentes en France et a jusqu'a nous jours. Paris: Librarie Larousse (n.d.).

Daubney, Ulric. Orchestral Wind Instruments, Ancient and Modern: Being an account of the origin and evolution of wind instruments from the earliest to the most recent times. London: W. Reeves, 1940.

Douillez, Jeannine. "Sax," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopädie der Musik, V (1963), pp. 1449-52.

Fennell, Frederick. Time and the Winds; A short history of the use of wind instruments in the orchestra, band and the wind ensemble. Kenosha, Wisconsin: G. Leblanc Company, 1954.

"Ferdinand I," Encyclopaedia Britannica, 1963, IX, p. 165.

Fétis, Francois Joseph. Biographie Universelle des Musiciens et Bibliographie Générale de la Musique. 2nd ed. 8 vols. Paris, 1874-1877.

Heinitz, Wilhelm. "Instrumentenkunde," Handbuch des Musikwissenschaft. Edited by Ernst Buchen. Potsdam: Akademische Verlagsgesellschaft Anthenaion M.B.H., 1932, pp. 1-160.

Hickmann, Hans. "Klarinette: Die aussereuropäischen und antiken Klarinetteinstrumente. Vor- und Fruhgeschichte," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopädie der Musik, VII (1958), pp. 993-1005.

Hind, Harold C. "Military Band," Grove's Dictionary of Music and Musicians, 5th ed. (1954), V, pp. 766-73.

Kobbé, Gustave. The Complete Opera Book, The stories of the operas, together with 400 of the leading airs and motives in musical notation. New York: G. P. Putman's Sons, 1950.

Langwill, Lyndesay Graham. An Index of Musical Wind-Instrument Makers. 2nd and enlarged ed.; Edinburgh, Scotland: Lyndesay G. Langwill, 1962.

Lavoix, H. fils. Histoire de L'Instrumentation Depuis le Seizième Siècle. Paris: Librarie de Firman-Didot et Cie., 1878.

Mendel, Hermann (ed.). Musikalisches Conversations-Lexikon; Eine Encyklopädie der gesammten musikalischen Wissenschaften. 10 vols. Berlin, 1870-1879.

Mersenne, F. Marin. Harmonie Universelle, contenant la théorie et la pratique de la musique, où il est traité de la nature des sons, et des mouvements des consances, des dissonances, des genres, des modes, de la composition, de la harmonique, Paris, 1636. Facsimile ed. Paris: Editions du Centre National de la Recherche Scientifique, 1963.

Piston, Walter. Orchestration. New York: W. W. Norton Company, Inc., 1955.

Reichert, Georg. "Majer," Die Musik in Geschichte und Gegenwort: Allegemeine Enzyklopädie der Musik, VIII (1960), pp. 1531-32.

Rendall, Francis Geoffrey. "Clarinet," Grove's Dictionary of Music and Musicians, 5th ed. (1954), II, pp. 315-29.

_____. The Clarinet, some Notes upon its History and Construction. 2nd ed. rev. New York: Philosophical Library, 1957.

Sachs, Curt. The History of Musical Instruments. New York: W. W. Norton and Company, Inc., 1940.

_____. Real-Lexikon der Musikinstrumente, zugleich ein Polyglossar für das gesamte Instrumentengebeit. Berlin: Julius Bard, 1913.

_____. The Rise of the Music in the Ancient World, East and West. New York: W. W. Norton and Company, Inc., 1943.

Schlesinger, Kathleen. "Bass Clarinet," Encyclopaedia Britannica, 11th ed. (1910-1911), III (1910), pp. 491-92.

Schwartz, H. W. The Story of Musical Instruments. New York: Doubleday, Doran and Co., Inc., 1939.

Stauffer, Donald W. Intonation Deficiencies of Wind Instruments in Ensemble--A Dissertation. Washington, D.C.: The Catholic University of America Press, 1964.

Wright, Rowland. Dictionnaire des Instruments de Musique. London: Battley Brothers Limited, 1941.

Periodicals

Allegemeine Musikalische Zeitung, XXXVI, No. 12 (19ten März, 1834), p. 193.

Broder, Nathan. "The Beginnings of the Orchestra," Journal of the American Musicological Society, XIII (1960), Nos. 1-3, pp. 174-80.

Intravia, Lawrence J. "Early Wind-Bands and Wind-Band Music: From earliest times to the end of the eighteenth century," Part II, The School Musician, XXXVI, No. 2 (October, 1964), pp. 31-32.

_____. "Early Wind-Bands and Wind-Band Music; Scoring practices in marches for the wind-bands from Lully through Beethoven," Part IV, The School Musician, XXXVI, No. 4 (December, 1964), pp. 48-49.

Museum Catalogues

Bessaraboff, Nicholas. Ancient European Musical Instruments: An organological study of the musical instruments in the Leslie Lyndsey Mason Collection at the Museum of Fine Arts, Boston. Cambridge: The Harvard University Press, 1941.

Catalogue of the Crosby Brown Collection of Musical Instruments. New York, 1904. Vol. I (Europe).

Sachs, Curt. Sammlung alter Musikinstrumente bei der Staatlichen Hochschule für Musik zu Berlin, Beschreibner Katalog. Berlin: Julius Bard, 1922.

Schröder, Hans. Museum für Hamburgische Geschichte Verzeichnis der Sammlung alter Musikinstrumente. Hamburg: Alter=Verlag, 1930.

Music Instrument Catalogues

Buffet-Crampon et Cie. Musical Instruments. Paris (n.d.).

H. and A. Selmer, Inc. Selmer Clarinets. Elkhart, Indiana: H. and A. Selmer, Inc., 1964.

Wilhelm Heckel, K. G. Holzblas Musikinstrumenten Fabrik. Catalogue. Biebrich am Rhein-Wiesbaden [1931].

Personal Letters

Becker, Heinz. Musikwissenschaftliches Institut, Universität Hamburg. Hamburg, March 14, 1966.

Berner, Alfred. Stiftung Preussischer Kulturbesitz, Staatlichen Institut für Musikforschung. Berlin, May 27, 1966.

Blondelet, Jean. Buffet-Crampon et Cie. Paris, February 16, 1966.

_____. Buffet-Crampon et Cie. Paris, May 24, 1966.

Bragard, R. Curator, Musée Instrumental. Conservatoire Royal de Musique de Bruxelles. Brussels, March 25, 1966.

Brook, Barry S. Department of Music, Queens College of the City of New York. Flushing, New York, April 18, 1966.

Chambure, H. de. Curator, Musée Instrumental, Conservatoire National Supérieru de Musique. Paris, June 23, 1966.

Clark, Eleanor J. Music Department, The Metropolitan Museum of Art. New York, March 23, 1966.

Deutsches Museum von Meisterwerken der Naturwissenschaft und Technik. Munich, March 23, 1966.

Galleazzi. Secretary, Musei Cittadini. Lugano, April 6, 1966.

Halfpenny, Eric. Ilford and Barking. Essex, England, March 14, 1966.

Heinzl, Brigitte. Oberösterreichisch Landesmuseum. Linz, March 19, 1966.

Himmelheber, G. Bayerisches Nationalmuseum. Munich, April 6, 1966.

Hofmann, Ernst. Leitung der Grossherzoglichen Privatsammlungen. Darmstadt, March 13, 1966.

Jenkins, Jean L. Musicologist, Hornimann Museum and Library. London, May 6, 1966.

Kustos, Rubardt. Musikinstrumenten-Museum, Karl-Marx-Universität. Leipzig, March 22, 1966.

Langwill, Lyndesay G. Edinburgh, Scotland, February 12, 1966.

_____. Edinburgh, Scotland, June 11, 1966.

La Rue, Jan. New York University. New York, March 25, 1966.

Leblanc, Léon. G. Leblanc Cie. Paris, March 3, 1966.

_____. G. Leblanc Cie. Paris, May 24, 1966.

Meer, Jan van der. Oberkonservator, Germanisches Nationalmuseum. Nürnberg, February 21, 1966.

Mitringer, Hedwig. Gesellschaft der Musikfreunde in Wien. Vienna, April 18, 1966.

Privette, Joe. Privette Music Company, Florence, South Carolina, June 7, 1966.

Selmer, Jean. Henri Selmer Cie, Instruments de Musique. Paris, February 17, 1966.

Sheldon, Robert E. Museum Technician, Division of Cultural History, Smithsonian Institution, United States National Museum. Washington, D.C., June 3, 1966.

Smith, Carl H. and A. Selmer, Inc. Elkhart, Indiana, December 8, 1965.

Vanický, Jaroslav. Director, Department of Music. Nardoní Museum v Praze. Prague, May 17, 1966.

Wampler, Claude. Dealer Service Manager, H. and A. Selmer, Inc. Elkhart, Indiana, May 24, 1966.

Warner, Robert A. Professor Music and Curator, Stearns Collection of Musical Instruments. University of Michigan. Ann Arbor, Michigan, May 31, 1966.

Wilhelm Heckel, K. G. Holzblas Musikinstrumenten Fabrik. Biebrich am Rhein-Wiesbaden, March 8, 1966.

Winternitz, Emanuel. Curator of Musical Instruments, The Metropolitan Museum of Art. New York, April 29, 1966.

Other Letter

Manton-Myatt, Brian, Ensbury Park, Bournemouth, Hant, England, letter to Eric A. McGavin, Boosey and Hawkes, Ltd., Sonorous Works, Deansbrook Road, Edgware, Middlesex, England, April 11, 1966.

Music Method Book

Kappey, J. A. Tutor for the Bass and Alto Clarinets, Designed with special reference to their uses as substitutes for the bassoon and the requirements of Military Bands; With scales and exercises in the bass and tenor clefs and numerous studies. London: Boosey and Co. (n.d.).

Music

Liszt, Franz. Tasso, Lamento e Trionfo. Leipzig: Breitkopf und Härtel (n.d.).

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