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**The historical development of the clarinet with
special reference to its musical repertoire**

by

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WXXYUC001

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of
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Declaration

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to and quotation in this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Date:

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Abstract

The dissertation investigates the mechanical development of the clarinet from the eighteenth century to the end of the nineteenth century. After the Introduction, Chapter Two discusses the ancestor of the clarinet, the chalumeau. Chapter Three focuses on the Baroque clarinet, while Chapter Four discusses the instrument during the Classical period. The final chapter concentrates on the further development of the instrument.

Discussion of a number of selected compositions for the chalumeau and the clarinet are included.

University of Cape Town

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Notes to the reader

1. In the dissertation the following general abbreviations are used:

Fig.: Figuration

fl.: flourished, was active.

IMSLP: International Music Score Library Project

n.d.: no date

No(s): Number(s)

Op.: Opus

P.: Page

2. Abbreviations for museums are as follows:

CH- Genève: Musée des Instruments anciens de Musique.

D-Leipzig: Musikinstrumenten-Museum der Karl-Marx-Universität.

F-Boayonne: Sallaberry Collection.

GB-Cambridge: Shackleton Collection (now in GB-Edinburgh).

GB-Oxford: Bate Collection of Musical Instruments.

GN-Nuremberg: Germanisches Nationalmuseum.

GB-Keighley: Cliff Castle Museum.

Munich, SM: Musikinstrumentenmuseum im Stadtmuseum.

NL-Den Haag: Haags Gemeentemuseum.

US-MA-Boston: Museum of Fine Arts.

Salzburg, MCA: Museum Carolino Augusteum.

Stockholm, MM: Statens musiksamlingar Musikuseet.

3. Fingerings are indicated thus:

L0 – Left hand thumb

L1 – Left hand index finger

L2 – Left hand middle finger

L3 – Left hand ring finger

L4 – Left hand little finger

R0 – Right hand thumb

R1 – Right hand index finger

R2 – Right hand middle finger

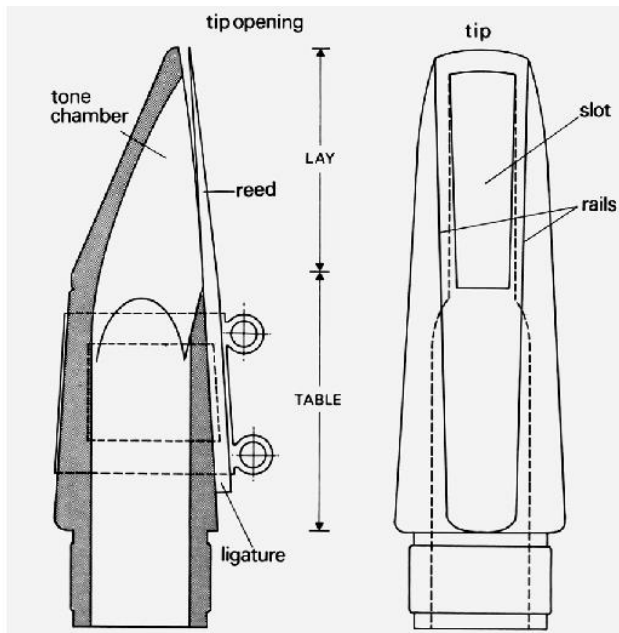
R3 – Right hand ring finger

R4 – Right hand little finger

4. The following conventions are used for the notation of pitch:



5. The following illustrates the structure of the mouthpiece of the clarinet:



Note: the term “slot” is equal to “window”.

6. The following terms are used for the different registers of the clarinet:

Chalumeau register: $e - g^1$

Throat register: $g^{\sharp 1} - b^{\flat 1}$

Clarinet/ Clarion/ Clarino register: $b^1 - c^3$

Extreme/ Acute register: $c^{\sharp 3} - c^4$

CHAPTER ONE

1.1 Introduction

This dissertation investigates the historical development of the clarinet with special reference to its musical repertoire. Since the clarinet became a familiar woodwind instrument, many books and journals have explored its history and analysed its repertoire separately. In this dissertation, there is a wider inquiry about the instrument and its music, in the broad period from the Baroque to the late nineteenth century, when the development of the instrument was settled. The lacunae in the existing literature interested me and this research hopes to extend the knowledge by investigating the relationship between the instrument and its repertoire. It also attempts to present a closer understanding of the development of the instrument.

The dissertation will examine the history of the clarinet, as well as how it increasingly became a prominent instrument in the standard repertoire and orchestral music. The research starts with a discussion of its predecessor, the chalumeau, and its music, and how the chalumeau developed into the clarinet. A brief section introduces the improvement of the materials for the clarinet and how these affected the sound of the instrument. The details of the mechanical development in each period from the early Baroque two-key clarinet to the present-day seventeen-key (Buffet) clarinet will be discussed. Attention is focused on the mouthpieces, barrels, ligatures, and especially the clarinet body, which was moving from boxwood to African blackwood. The development in the structure and the design of the clarinet, such as the key system, will be examined. The modern clarinet has different key systems in different countries, such as the Boehm in France and Oehler in Germany. Thus there are variations in the fingering and cross fingering. This has an impact on composers'

compositions and the way performers play. The mechanism of the keys and the order in which the craftsman added them will also be considered.

The function of the clarinet, its prominence, and its position in chamber music and the symphony orchestra, as well as solo music, rose due to its projection, timbre, and mechanical improvements. Changes in the way in which it was played will be evaluated, for example, how the composers and performers coped with the difficulties of the instrument, how long people took to adopt the changes and the acceptance levels at that time. Due to all the aforementioned considerations, more and more composers included virtuosic passages in the music composed for the instrument.

The dissertation also explores the repertoire of the clarinet. At each stage, there were different types of repertoire and musical styles, which were partly influenced by the instrument's structure and texture at that time. The combination of the aforementioned improvements resulted in the clarinet's repertoire growing stronger from the Baroque period until the twentieth century. The structure of the clarinet evolved from the chalumeau (six finger holes plus one thumb hole) to the three-key clarinet, to the standard five-key clarinet, and then to the modern clarinet currently being used. The repertoire will show how insufficient key work in the old clarinet challenged the performer. The evolution of the structure, the type of wood used, as well as the diameter of the bore influenced its timbre, projection, pitch, and the ability to play any technically difficult passages. The evolution from Mozart's five-key standard clarinet to Lefèvre's six-key (with key $c\#^1/g\#^2$ added) during the classical era, resulted in clarinet music having more chromatic passages. Gradually more composers wrote music for clarinet.

Literature review

Many books have contributed to the knowledge of the clarinet. Lawson (2000) focused on the early clarinet, particularly the musical style and the fingerings, such as the fingering methods by Klosé, Lefèvre, and Müller. Shackleton (1995) also wrote a chapter on the development of the clarinet, which includes the key-work in the nineteenth century, such as the French Boehm system and the German Oehler system, as well as the clarinet bore and the tone hole designed by different makers, countries, and periods. Rendall (1971) discussed the clarinet's structure, such as the bore, tone-holes, wood materials, reeds and mouth pieces, as well as radical reforms of the instrument. This information assists readers to understand how the design could make a significant difference to the tone quality and intonation. Brymer (1979) wrote about the history and the development (later improvements and the modern instrument) of the clarinet; moreover, he examined the early clarinet work, which were mostly for three to five-key clarinets. Rice, as a clarinetist playing on historic and modern clarinets, wrote many articles and books. Rice (1998) includes two chapters about the ancestor of the clarinet, the chalumeau, as well as the clarinet and its repertoire during the Baroque period. Rice (2008) also included the clarinet's development and its music during the Classical period. Hoeprich (2008) covered the whole history of the clarinet with some information about its repertoire and one chapter dealing specifically with Mozart's clarinet music.

For the clarinet's repertoire, Lawson (2000) provided, after a brief section about the origin and development of the clarinet in each period, a summary of the repertoire from early chalumeau music to the late nineteenth century clarinet compositions. Weston (1986) gave important information about the past clarinet virtuosi's

contributions to the clarinet itself and to its repertoire. For instance, in his fourth chapter, he mentioned how and why, after Mozart's time, the sixth key was invented by Lefèvre and added to the standard five-key clarinet. Lefèvre also contributed to the *Méthode de Clarinette* which was adopted by the Conservatoire and used as a teaching material for a period of time. He was the first to use the now standard range from *e* to *c*⁴ and trill fingering from *e* to *e*³, and the first tutor to play the clarinet with the mouthpiece upside down, reed against the upper lip. Weston (1982) included a list of past clarinet virtuosi in alphabetical order.

Some literature discusses various composers, while others focus on specific composers. Lawson (1998) mainly focused on Brahms's contribution to the clarinet. He provided important information on the development of the clarinet and its repertoire in the Romantic period, specifically focussing on Brahms's outputs. He also studied some contemporary clarinetists, such as Mühlfeld, their clarinets, performance issues, and musical tastes at that time.

The clarinet has a standard repertoire, although it is not as large as that of the piano. It has not existed as long as that of other woodwind instruments. This repertoire developed from the beginning of the eighteenth century only. As the clarinet became a more prominent instrument, the knowledge of the clarinet and its repertoire increased. Greater interest stimulated the exploration of the instrument and analyses of its music.

Many works have discussed the clarinet's history, its development, and repertoire section by section, but have never linked all these elements together, especially in the broad period from Baroque to the twentieth century. The gap in this knowledge

interested me and this research hopes to extend this knowledge by investigating the relationship between the instrument and its repertoire. It is a new exploration of the understanding of the development of the instrument and I hope would be of use to other clarinetists as well.

In my research, I studied the published materials from the University of Cape Town and the University of Stellenbosch libraries where there is a good collection of textbooks on the clarinet. I shall also found information from online journals, such as the International Clarinet Association (ICA) and from JSTOR, the online journal site.

Researching different periods and different nationalities of clarinet repertoire also forms part of this dissertation. A minimum of three different works in each period between the Baroque and late-Classical or early-Romantic period, which is the period during which the development of the instrument settled, will be compared and placed in the context of clarinet development.

The music analysis in the dissertation is not the typical music analysis of forms and structures. It is more focused on the range of notes, the registers, the dynamics, difficult passages, and the relationship between the accompanist and the clarinet, or the orchestra and the clarinet. The purpose of this analysis is to comprehend how the mechanical improvement of the clarinet has resulted in changes in the style of the composers' music, as well as how the performers dealt with the difficulties of playing the substandard clarinets.

CHAPTER TWO

2.1 History of the Chalumeau

According to F. Geoffery Rendall (1971:62), single-reed instruments “were in use in Egypt at least as early as the beginning of the third millennium; Egypt may in fact be the country of their origin”. There were many similar kinds of instruments throughout the Middle Ages and beyond into the seventeenth century, mostly with cylindrical bore, and they were invariably sounded with a double reed. These included, for example, the *sordoni*, *doppioni* and *cromornes*, which were made in different sizes and were popular in England (Rendall, 1971:62, 64). We cannot tell that they were really related to the chalumeau, because according to the definition from Sibyl Marcuse (1964:87), the term “chalumeau” does not necessarily refer to a reed instrument, it could refer to any one of the following: an organ stop of reed pipes with cylindrical resonators that occurred in Dijon in the thirteenth century; a double-reed chanter of a bagpipe; any reedpipe, and any simple musical tube; a single-reed cylindrical instrument with wide bore and seven fingerholes that range from f^1 to a^2 , or the improved one made of boxwood and having seven fingerholes, thumb hole and two brass keys; and the lower register of the clarinet (Marcuse, 1964:87). However, the name “chalumeau” discussed here is for a later use of the term, referring specifically to a single-reed instrument in the late seventeenth century. According to Colin Lawson (n.d.), the earliest reference to a chalumeau was found in an inventory of instruments in 1687 in the Hofkapelle of Duke Heinrich of Saxe-Römhild. The chalumeau has a similar appearance to the recorder, with a thumb-hole, seven finger-holes, and a foot joint, but the chalumeau has a louder volume of sound than the recorder. Two diametrically opposed keys were bolted

above the first finger-hole and the thumb-hole of the chalumeau, to extend the range to an eleventh (Lawson, n.d.).

The technique for the chalumeau is more complicated than that of the recorder, according to Joseph Friedrich Bernhard Caspar Majer. It is “very hard to blow because of its difficult mouthpiece” (Lawson, n.d.). There are different sizes of chalumeau; the range of the two-key soprano chalumeau is from f^1 to c^3 ; the alto or quart chalumeau is from c^1 to f^2 ; the tenor chalumeau is from f to $b^{\flat 1}$ and the bass chalumeau is from c to f^1 (Hoeprich, 2008: 45). Edgars Hunt referred to the four chalumeaux which Majer had mentioned in his *Museum musicum theoretico practicum* (1732),¹ as discant, quart or alto, tenor, and bass. Hunt speculated that these would have been built in C, G, F, and C respectively (Hunt, 1961b:42, 44). Lawson (n.d.) does not mention a chalumeau in G at all. Chalumeaux were also supplied to the Göttweig Benedictine abbey near Vienna in about 1720. There were different sizes of chalumeaux: *premier chalimou*, *secont chalimou* or *altchalimou*, and *chalimou basson* (Lawson, n.d.).

2.2 The repertoire for the Chalumeau

According to Lawson (2000:12), the chalumeau had been frequently used and became a favorite obbligato instrument in the early eighteenth century. The chalumeau was used for obbligato parts especially in Vienna at that time, and especially in the operas and oratorios of the Kapellmeister Johann Joseph Fux (1660-1741). His opera, *Julo*

¹ Majer wrote two musical instruction manuals, *Hodegus musicus* (1718) and *Museum musicum theoretico practicum* (1732). *Museum musicum* is an important work, which aims to introduce fundamental knowledge to students, including musical notations and the techniques of playing instruments such as recorders, chalumeaux, flutes, oboes, bassoons, cornetti, flageolets, clarinets, clarions, horns, trombones, various keyboard instruments, lutes, harps, timpani, violins and viols (Buelow, n.d.).

Ascanio (1708) is scored for two soprano chalumeaux and bassoon. In many Viennese opera scores the *chalimou basson*² was played as basso continuo, probably due to its pitch range (Lawson, n.d.). The soprano chalumeau was really popular in the first decades of the eighteenth century. In M. A. Ziani's *Chilonida* (1709), Emperor Joseph I contributed an aria in which he included an elaborate obbligato for the soprano chalumeau (Lawson, n.d.). The sweet sound of the soprano chalumeau became a favorite for love scenes or pastoral scenarios in operas and oratorios. However, the chalumeau was seldom played by itself, but often alternated with other instruments, such as the flute, recorder, viola d'amour and viola da gamba, which all have soft and delicate sounds. It was frequently played with the indication of *affetuoso* or *cantabile* (Hoeprich, 2008:52). Lawson (1999:8) points out that the chalumeau often appeared as an alternative to the oboe; sometimes paired with the flute or recorder. To him, this anticipates Mozart's treatment of the clarinet in his opera *Così fan tutte*.

In the early eighteenth century, the chalumeau became known through some published music, such as a set of duets for two chalumeaux (among other alternate instruments) by Jacques Philippe Dreux³ and published by Estienne Roger. According to Rudolf A. Rasch (n.d.), he was probably the first person who composed music especially for chalumeau and clarinet. In Roger's catalogue of 1706, he advertised the sale of chalumeaux in connection with Dreux's first book of fanfares for chalumeaux or trumpets (as well as flutes, violins and oboes) (Rasch, n.d.). In 1716, Roger published six volumes of duets for chalumeaux along with other instruments, and two

² This may be Majer's bass chalumeau.

³ Jacques Philippe Dreux was a Dutch composer and flautist (1670-1722) with French ancestry, who had moved to Amsterdam by 1690, perhaps as a consequence of his Huguenot faith. In 1697 he edited Carl Rosier's *Quatorze sonate* for Estienne Roger.

of these were by Dreux. The notations of these pieces show similar problems to the duos for clarinets; the key of D major is certainly not idiomatic for the chalumeau (neither for the early clarinet). Hoeprich feels this may not necessarily mean that clarinet players had to play with D major fingerings; the composer may have wanted the concert pitch to be D major, and if a clarinet player had a D clarinet, the performer could play C major fingerings to get the desired concert pitch (Hoeprich, 2008:31, 51-52). In addition, when the normal range of the chalumeau is extended to d^1 to a^2 , the D major triad basically predominates in the lower octave. The music in this range therefore could also be played by trumpets, horns, oboes or chalumeaux (Rasch, n.d.). Therefore the music could be alternated by any of these instruments when fingering problems appeared for the chalumeau to play in D major.

The reason why G, C, and F were easier keys for the chalumeau, but not D major; is that the early chalumeau had only two keys. This meant the chalumeau could not produce too many chromatic notes when the key signature had too many sharps or flats. Moreover, G, C, and F can be seen as primary scales; tonic, subdominant and dominant in the key of C, which were not difficult to play.

In writing for the chalumeau, as a transposing instrument, composers chose various ways of notation. Composers in Vienna generally notated parts at pitch. Graupner in Darmstadt, for instance, used the treble clef to notate the parts for soprano chalumeaux, the soprano clef was preferred for the alto chalumeau, and the bass clef, or occasionally the tenor clef, was used for the tenor and bass chalumeaux (Hoeprich, 2008:51, 52). Hoeprich (2008:52) indicated that Telemann was the only composer who treated the chalumeau as a transposing instrument, altering the written pitch so that, for example, the alto chalumeau in C and the tenor in F would be played with the

same fingerings.

As can be seen from the fingering chart (Fig. 2.1) below, accidental notes such as $f\sharp^1$, $c\sharp^2$, and $e\flat^2$ can be played by cross-fingerings. This fingering chart is from Joost Verschuere Rayvaan's *Musijkaal Kunst-Woordenboek*. The top half shows the fingering of the scale from f^1 to g^2 on the first stave, and d^1 to e^2 on the second stave; the lower half shows the fingering of the chromatic notes only.

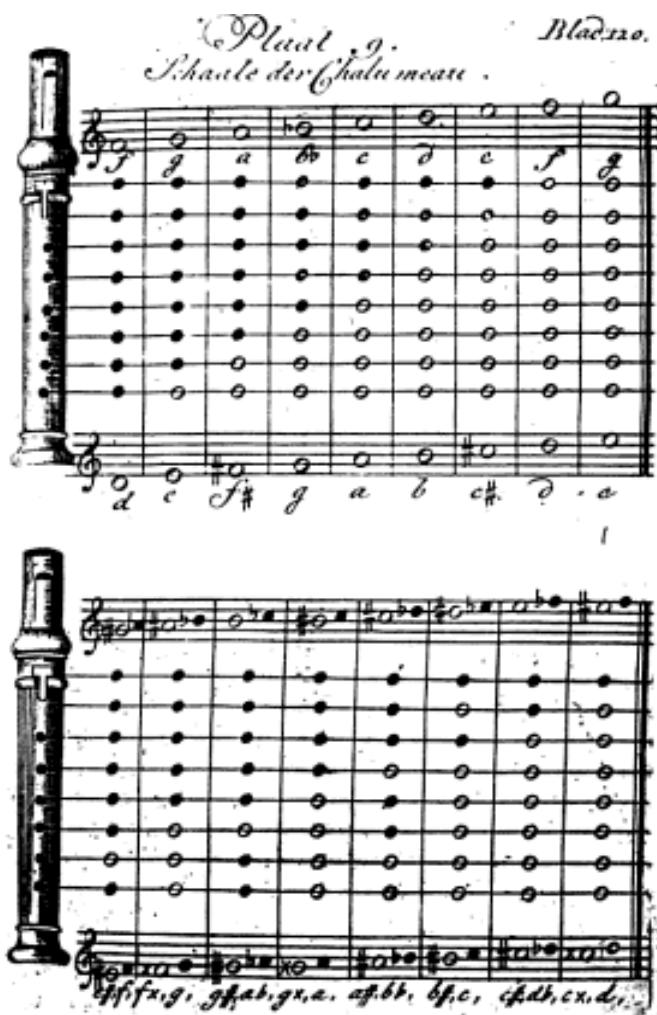


Fig. 2.1 The fingering charts for the chalumeau from Joost Verschuere Rayvaan's *Musijkaal Kunst-Woordenboek* (1795) (Hoeplich, 2008:62).

2.2.1 Marc'Antonio Ziani (1653-1715)

Ziani was an Italian composer but he was also active in Austria. He was a leading composer of opera in Venice in the late seventeenth century, and played an important role at the imperial court in Vienna in the early eighteenth century. Ziani had great resources at his disposal in Vienna, where he assembled a brilliant team of musicians and artists which included the Bononcinis, Fux and Ariosti as composers, the court poets Cupeda, Bernardoni and Stampiglia, the designers Burnacini and the Galli-Bibienas, and a group of singers and virtuoso instrumentalists. Many of Ziani's arias with difficult obbligato parts were composed for these virtuosi; included are parts for violin, cello, viola da gamba, bassoon, and trombone in his sacred works, the lute in the opera *L'Ercole vincitor dell'Invidia* (1706). Ziani was one of the first composers to use the chalumeau in his opera *Caio Popilio* (1704) (Antonicek & Brown, n.d.). According to Hoepfich (2008:52) the Bononcini brothers, Giovanni and Antonio Maria, were the first to include the chalumeau in their operas. An aria "È sempre inquieto quel core infelice" in Giovanni Bononcini's *Endimione* (1706) included "shalamaux" with a range of a^1 to b^{12} . But according to the year of the composition of *Caio Popilio*, Ziani's use of chalumeaux in his operas was earlier than that of the Bononcini brothers. In addition, after the oboe was included in the Viennese orchestra in 1702, the oboe regularly appeared in Ziani's scores (Antonicek & Brown, n.d.). This might be the reason that Ziana started to compose music for the chalumeau in his orchestra, such as in *Caio Popilio*, since the chalumeau part could also be played by the oboe player.

2.2.2 Giovanni Bononcini (1670-1747)

The Bononcini brothers were from an Italian family of composers and instrumentalists. Giovanni Bononcini was the eldest son of the violinist-composer from the Modena School, Giovanni Maria Bononcini (1642-1678). Giovanni was a composer and a cellist. In 1697 he was accepted into the service of Leopold I in Vienna. He was employed by Leopold's heir, Joseph I. During Joseph's reign (1705-11), Giovanni composed seven operas and short dramatic works (Bennett & Lindgren, n.d.). Some, such as *Eteacro* (1707), *Turno Aricino* (1707), *Il natale di Giunone* (1708), *Il Mario fuggitivo* (1708), *L'Abdolomino* (1709) and *Muzio Scevola* (1710) included chalumeaux in the scores, mostly for two chalumeaux or a chalumeau paired with a flute (Hoeprich, 2008:52-53).

2.2.3 Antonio Maria Bononcini (1677-1726)

A. M. Bononcini, the second son of Giovanni Maria Bononcini, was a composer and a cellist as well. Around 1700, he joined his brother in Vienna and was first commissioned to compose for the Viennese court in 1705, the year in which Joseph I became Emperor. During Joseph's reign, Antonio was appointed Kapellmeister to Joseph's brother and contributed 13 cantatas, six festive serenatas, four two-part oratorios and a three-act opera, *Tigrane, re d'Armenia* (Bennett & Lindgren, n.d.). Antonio first used chalumeau in the serenata, *La conquista della Spagne* (1707), in the aria "Scioglierai l'Ibero e il Tago dall' iniqua aspra catena". He uses two soprano chalumeaux, with the bass line being played by a low chalumeau. *Il trionfo della grazia* (1707) features two arias with chalumeau, flute and bassoon, and *La prese di Tebe* (1708) includes a soprano chalumeau (Hoeprich, 2008:52-53).

2.2.4 Johann Joseph Fux (1660-1741)

Fux, an Austrian court composer and music theorist, represented the late Austro-Italian Baroque in music. According to Harry White and Thomas Hochradner's article on Fux in Grove Music Online (n.d.), Fux's compositions reflect the imperial and Catholic preoccupations of the Habsburg monarchy. Some of his operas and oratorios include chalumeaux, either alone or in pairs, or with other wind instruments. He used chalumeaux in *Il mese di Marzo* (1709), *Gli ossequi delle notte* (1709), *La decima fatica d'Ercole* (1710), *Dafne in Lauro* (1741), *Orfeo ed Euridice* (1715), *Il fonte dalla salute aperto della grazia nel Calvario* (1716), *Diana placata* (1717), *Psyche* (1720) and *Giunone placate* (1725). Fux used the chalumeau in basically the same way as the Bononcini brothers; the solo part usually doubled the vocal line, occasionally ascending to c^3 . Most of the arias stick to the easier keys of G, C, F and B \flat (Hoeprich, 2008:53).

The use of the chalumeau became a more frequent occurrence in opera and oratorio, and spread quickly in Vienna after Fux and Bononcini. Italian composers living in Vienna, such as Antonio Caldara (1670-1736), Attilio Ariosti (1666-1729), Camilla di Rossi, Francesco Conti (1681-1732) and Giuseppe Bonno (1711-88), as well as the non-Italians von Reutter (1656-1738), Gluck and Gassmann (1729-74) also wrote for the chalumeau (Hoeprich, 2008:53).

2.2.5 Reinhard Keiser (1674-1739)

Keiser was a German composer, who was famous as an opera composer. Although he composed varied types of music, operas still formed the centre of his output. He composed at least 66 operas, some of which were revised in his last years at Hamburg. He was a master of orchestral colour, particular in the operas composed between 1705 and 1717. He played around with different and unusual sonorities, frequently writing three or more separate parts for oboes, recorders or bassoons (Robert, n.d.).

Keiser used three chalumeaux in the aria of *Croesus* (1711), Act 1 scene 10, “Meiner Seelen Lust und Wonne” (Hoeprich, 2008:54). From the score (Fig. 2.2.1) we can see that the three chalumeaux are doubling violins and viola, and that the pitch range is from b to a^2 in the written pitch, which is playable by chalumeaux. Keiser had thoughtfully written in the key in F major. Although it modulates to C major in the middle section, both keys are suitable to the fingering of the chalumeau in C. This aria is short, only 25 bars long in this original edition, but in the revised edition, published by Breitkopf & Härtel, it has been condensed to only 21 bars (Fig. 2.2.2). The key of the chalumeaux parts in the revised edition are written in the key of A major and then modulate to E major, which are difficult keys for the chalumeau, but by 1730 (the version by *Denkmäler Deutscher Tonkunst*) there could have been a chalumeau in the key of D, and the player could easily have used a D chalumeau and transposed the music into G major and D major, due to the difficulties of the fingerings F#s and C#s, as well as the poor intonation of some pitches.

(Akt 1, Sc.10, S.52 stand.)

Aria con 3 Hautbois (ausgestrichen und ersetzt durch: Istrom¹¹ diversi. Hautb. 1, 2, 3 über den Systemen ebenfalls ausgestrichen.)

(Hautb. 1) Chalumeau e Violino
affettuoso sordino 1

(Hautb. 2) Chalumeau e Violino sordino 2

(Hautb. 3) Chalumeau e Violino sordino 3

Elmira
Affettuoso

Mei-ner See - len

Viol.
 Viol.
 Viol.

Lust und Won - ne, was be - ne - belt dein Gesicht? Trau - re nicht, trau - re nicht, trau - re nicht,

trau - re nicht, daß mir glän - ze mei - ne Son - ne, deiner Au - gen Freu - den - licht. Trau - re

Fig. 2.2.1 Reinhard Keiser, *Croesus* (1711), aria “Meiner Seelen Lust und Wonne”, included three chalumeaux (Denkmäler Deutscher Tonkunst:24).

Scena 10^{ma}
Atis, Eloiuis, Vorige. [Attis zeigt sich traurig.]

Cantabile

(Chalumeau e Violino I con sordino)
(Chalumeau e Violino II con sordino)
(Chalumeau e Viola con sord.)

Elmira
(Fag., Violonc. con sord. Basso, Cemb.)

Cembalo

meiner See - len - Lust und Won - ne, was be - ne - belt dein Gesicht, trau - re nicht, trau - re nicht,

Fig. 2.2.2 Reinhard Keiser, *Croesus* (1711), aria “Meiner Seelen Lust und Wonne”, with three chalumeaux. (Breitkopf & Härtel)

2.2.6 Francesco Conti (1681-1732)

In about the same period, another Viennese court composer and lutenist, Francesco Conti, firstly used a chalumeau in his oratorio of 1710, *Il martirio di San Lorenzo*, and the next year in the opera *Il trionfo dell'amicizia e dell'amore*. He also composed five cantatas with obligato parts for soprano chalumeaux: *Con più luci*, *La beltà che il core*, *Lontananza dell'amato*, *Vaghi angelletti che d'amor* and *Fra queste umbrose piante* (with chalumeau and bass chalumeau). In his cantatas, the writing for the chalumeau is technically more challenging. Its use is more dramatic and its range is

from f^1 to c^3 . But in *Lontananza dell'amato*, Conti broke through the conventional range of the chalumeau; here he used $b^{\flat 1}$ and b^1 , which require proficient embouchure and unusual fingering (Hoeprich, 2008:54).

2.2.7 Antonio Vivaldi (1678-1741)

Vivaldi composed six works with chalumeau: an oratorio, *Juditha triumphans* (1716), three concertos (RV555, 558 and 579), a *Nisi Dominus* (RV803), and the Sonata RV 779 for violin, oboe and organ. This last piece has only an optional part for tenor chalumeau to play the bass line; the other works will be dealt with in more detail. *Juditha triumphans* was first performed in 1716 in Venice (Hoeprich, 2008:54). Michael Talbot thought this work was probably the most elaborate work that Vivaldi wrote for the Pietà⁴ (Talbot, n.d.). There are several obbligato instruments that play throughout this oratorio (including the soprano chalumeau), and a beautiful aria, “Veni, veni me sequere Abra amata”, uses *salmoè*.⁵ In this aria, concerning the lament of a turtle-dove, Vivaldi used the chalumeau to imitate its warbling, with a small range for this part of a^1 - $b^{\flat 2}$, the music is very effective (Hoeprich, 2008:54).

Vivaldi composed three concertos in which the chalumeau featured. In two of these (RV555 and 579) the tenor chalumeau is used as an accompaniment to the solo oboe, and also in unison with strings and/or bass. The instrumentation is richer in the concerto RV555. Here the work is scored for 3 violins, oboe, 2 viola all'inglese,

⁴ Pio Ospedale della Pietà, is one of four institutions in Venice which were devoted to caring for orphans and other destitute children. It specialised in musical training for girls who showed aptitude (Talbot, n.d.).

⁵ “Salmoè” is the transliterations of chalumeau, others are, “scialumò”, “schalamaux”, “shalamo” and “salmò” (Lawson, n.d.). It also refers to the Denner type of chalumeau in different sizes (van de Meer, et al. 1979:137). Hoeprich (2008:55) thought that Vivaldi’s indication “salmoè” might refer to the clarinet’s fundamental range or the tenor chalumeau.

chalumeau, 2 violoncello, 2 harpsichords, 2 trumpets, violini in Tromba Marina, and an extra 2 violone or violoncello in the third movement (Talbot, n.d.). The other concerto, RV558, has a stronger orchestration, the solo instruments include 2 recorders, 2 theorbos, 2 mandolins, 2 tenor chalumeaux, 2 violini in Tromba Marina and violoncello (Hoeprich, 2008: 55).

Vivaldi also wrote a sonata, RV779, for oboe, violin and organ obbligato, with chalumeau ad libitum. According to Everett⁶, this work is from 1706-1710. It is probably the oldest autograph manuscript by Vivaldi to survive. This sonata was written for the Pietà, where Vivaldi first became as *maestro di violin* from 1703. The inclusion of an organ obbligato was new in Vivaldi's orchestration.

Vivaldi brought life to the instrumental sounds; he manipulated many different instrumental combinations, and also portrayed pictures through the instruments, such as the warbling sound played by the chalumeau mentioned above. Vivaldi was one of a group of composers, including Handel, Molter and Telemann, who wrote for both clarinet and chalumeau. He continued to write for chalumeau after "discovering the full range of the clarinet" (Lawson, 1999:15). Thus it can be seen that the clarinet was not a substitute instrument for the chalumeau.

⁶ The work was published by Ricordi with a General Preface by Paul Everett. See Antonio Vivaldi, *Sonata per Oboe, Violino e organo obbligato, con chalumeau ad libitum*, RV779 (Milan: Ricordi 1992).

2.2.8 Georg Philipp Telemann (1681-1767)

Telemann was another composer who used the chalumeau in a variety of genres, especially during 1718-1760. He used only three of the four sizes identified by J. F. B. C. Majer. The bass chalumeau (the favorite instrument of Graupner) never appeared in his music and he almost ignored the soprano chalumeau (a popular instrument in Vienna). Nevertheless, he still gave a chance for the soprano chalumeau to appear in his opera *Sieg der Schönheit* that doubled with recorders and strings in the aria “Placidia, mein schönstes Kind” (Lawson, 1981:312). Telemann composed four cantatas that included the chalumeau. He preferred the middle range of the alto and tenor chalumeaux, usually in pairs as used in his cantata *Danket dem Herrn Zebaoth* (1718). He wrote for alto and tenor chalumeaux in the other three cantatas *Schicket euch in die Zeit* (1720), *Der feste Grund Gottes besteht* (1721) and *Mit Gott im Gnadenbunde stehen* (Hoeprich, 2008:56). All of these were composed in Frankfurt, but according to Lawson chalumeaux were no longer available in the following years, and under the direction of Johann Balthasar König, chalumeaux parts were replaced by flutes or oboes or oboes d’amore (Lawson, 1981:314). After Telemann succeeded G. C. Strattner at the Stadtkapelle in Frankfurt in 1712, König began to work for him as a copyist and probably also took lessons with him to learn his style (Schröder, n.d.). After copying so much original music, he was inspired to start composing himself. His cantata, *Auf der Lust, ihr frohen Töne*⁷ contains a brief part for alto and tenor chalumeaux (Hoeprich, 2008:56).

The alto and the tenor chalumeaux was the favorite combination of Telemann, this combination frequently appeared in his works after he first used the clarinet in *Wer*

⁷ According to Schröder (n.d.) the correct title is *Auf zur Lust, ihr frohen Thöne*.

mich liebet, der wird mein Wort halten (1721) (Rice, 1998:86). For example, in the oratorio, *Seliges Erwägen des bitteren Leidens und Sterbens Jesu Christi* (1728), there are two different ways in which he presents chalumeaux; one where the chalumeaux join with oboe and strings; another in the unusual combination of chalumeaux, muted horns, bassoons and muted strings at the beginning of the eighth meditation, “Es is vollbracht” (Hoeprich, 2008:56). In 1728, Telemann used a clarinet paired with a trumpet in *Serenata, zum Convivio der HH Burgercapitains* and in its aria “In meinem wohlverfassten Staate”, he also employed both alto and tenor chalumeaux. Many of his works included alto and tenor chalumeaux, such as the opera, *Sieg der Schönheit* (1722), the oratorio, *Die gekreuzigte Liebe, oder Tränen über das Leiden und Sterben unseres Heilandes* (1731) and the secular work *Singgedicht auf die Mutzenbecher* (1732) (Hoeprich, 2008:56).

There are two double concertos for chalumeaux; in D minor and C major. Telemann reduced the normal orchestration in the C major double concerto; it is scored for alto and tenor chalumeaux with two bassoons, violins and violas. The bassoon parts double the solo parts extensively (Hoeprich, 2008:56).

In the D minor double concerto, the two chalumeaux dominate the two slow movements and have remarkable solos in the second movement. The opening *Largo* has an extraordinary degree of chromatic unaccompanied passages, for instance, in bars 9, 11, 48, and 52. Chromaticism is also notable in the rest of the concerto, especially in parts of the second-movement *Allegro*, where, for instance, the Neapolitan appears a number of times in its root position and first inversion. In the third movement there are instances in the solo as well as in the orchestral parts. According to Dechant, “the chalumeaux and the clarinet were in parallel use during

the first half of the eighteenth century”. In Telemann’s score, he noted: “For clarinet or chalumeau”, indicating that he was aware of the interchangeability of both instruments (Dechant, 1971).

The score edited by Dechant (Fig. 2.3) is written for two clarinets in B \flat or for two chalumeaux. The transposition is required if the music is played by alto chalumeau in G and tenor chalumeau in F, and the tenor chalumeau was originally written an octave lower. Therefore both clarinet parts need to go down two semitones for concert pitch. In the score, Telemann did not specify the size of these two chalumeaux. However according to the range in concert pitch the music for the first chalumeau is from c^1 to f^2 ; one can thus assume that it was written for the alto chalumeau (c^1 to f^2). The range in concert pitch for the second chalumeau is f to $b\flat^1$, which is perfectly within the range of the tenor chalumeau. According to Hoeprich (2008:56) Telemann’s preferred the pairing of alto and tenor chalumeaux in these concertos. “The pairing of alto and tenor chalumeaux shows his clever strategy for appearing to extend the instruments’ range...” (Hoeprich, 2008:56). In Majer’s description, the key of the alto chalumeau is G, but according to the range in the score, the only possibility of the key is C and perfectly within that range. The first-movement *Largo*, where Telemann used chromatic passages the fingering becomes more difficult, especially when the passages include the written pitch $g\sharp^1$ and $c\sharp^2$ such as in bars 9, 11, 27-31, 41, 43, and 45-53. In the third movement, *Adagio*, the two chalumeaux start with fugue-like entries. There are chromatic passages in bars 9-11, and in the violins in bars 18-22. Generally, Telemann was quite thoughtful in choosing the keys in this concerto; modulations occur to the related keys of F major, C major, A minor and G minor, only the fingering for $g\sharp^1$ and $c\sharp^2$ is quite tricky.

Fig. 2.3 The first movement of Telemann's concerto for two chalumeaux (or two clarinets), strings and basso continuo in D minor TWV 52:d1 (Leipzig: Breitkopf & Härtel).

2.2.9 Johann Christoph Graupner (1683-1760)

The German composer, Johann Christoph Graupner (1683-1760), probably composed more music for the chalumeau than any other composer. He was Telemann's fellow student and friend. From 1709 he was employed by Ernst Ludwig, Landgrave of Hesse-Darmstadt. In 1722-3, after Telemann's withdrawal, Graupner successfully applied for the Thomaskirche cantorate in Leipzig. The Landgrave refused Graupner's resignation and after he consented to increase his salary and other emoluments, Graupner decided to remain in Darmstadt (McCredie, n.d.). Graupner contributed to many genres of music, but as Kapellmeister in the Darmstadt court from 1712 until the end of his life, most of his compositions were cantatas (Lawson, 1983:209). He composed around 1418 church cantatas, 24 secular cantatas, 113 symphonies, about 500 concertos, 86 overture-suites, and 36 instrumental sonatas

while he was in Darmstadt (McCredie, n.d.).

The chalumeau appears in over 80 of Graupner's cantatas during 1734-53, 3 secular works and 18 instrumental works. Graupner engaged a chalumeau player, Johann Christian Klotsch, who was also a virtuoso bassoonist, for the orchestra at Darmstadt around 1734 (Hoeprich, 2008:57). Graupner introduced all four sizes of the chalumeau in his cantatas; although no more than three were ever used together (Lawson, 1999:10). This combination improves the overall range. Sometimes the overblown c^2 is required for the soprano, and its low range extends to e^1 and even d^1 . Graupner used every possible combination within the chalumeaux family in his cantatas. That he never used all four at once, was probably due to a lack of players (Hoeprich, 2008:58).

After Graupner became Kapellmeister in Darmstadt, he began to utilize expanded instrumentation in his works. The earliest cantatas' instrumentation included strings and continuo, occasionally with additional flutes, oboes, bassoons and solo violin. Trumpets, horns and drums were included for festive events. In 1713, Graupner introduced 3 trombones, a viola d'amore in 1714, and a third oboe in 1725 (Lawson, 1983:209). Generally Graupner preferred the bass chalumeaux, although there are obligato parts for all four sizes. He usually used the chalumeaux in pairs (Hoeprich, 2008:58). In 1734 the chalumeau was first featured in *Seid barmherzig*, in an obligato for the bass chalumeau. In the following month, the second chalumeau joined in the cantata *Gelobet sei Gott*, which included an aria for tenor and bass chalumeaux. Graupner experimented with the instrumental textures and harmonic effects over the following three years when he used only the tenor and the bass chalumeaux in his music. In 1737, the alto chalumeau joined, which was the first

time it was used in his orchestra. In 1738, he started combining those three chalumeaux (alto, tenor and bass) in his works. The soprano was used two years later, which was usually featured in solo obbligatos or in group with tenor and bass by Graupner. *Wie lange liegst du* (1739) is the only cantata which includes the soprano and alto instruments; in other works these two instruments were probably regarded as alternatives (Lawson, 1983:210). In 1737, Graupner composed a cantata, *Es begab sich, dass Jesus in eine Stadt mit Namen Nain ging*, which contains two bass chalumeaux in the aria “Ein Jüngling liegt”. Graupner did not give the bass chalumeaux a hard time, the aria is in F major, which is easy for the two-key chalumeau, and they do not have the central melody in this aria; the chalumeaux play 24 bars out of 47 bars.

Graupner’s instrumental music includes the chalumeau in five concertos, eleven suites (overtures) and two trios. The eleven suites that include chalumeaux can be classified into three groups according to the combination of the instruments. Two are for three unaccompanied chalumeaux (alto, tenor and bass), entitled *Ouverture à 3 Chalumeaux*; five for one to three chalumeaux with strings, and the rest of the suites are in varied combinations. Each suite starts with the French overture and then four to six dances usually named with titles such as “La speranza”, “Bergerie”, “Réjouissance”, “L’affanno” or “Contentamento” (Lawson, 1983:213). “La speranza” features an *ostinato* figure between the tenor and bass chalumeaux, and an “Eccho” features a series of loud and soft motives (Hoeplich, 2008:58). In the suite in F major for two chalumeaux and strings, as well as those in F, D and C minor for three chalumeaux and strings, the two groups of instruments are treated as in his concertos. Here the wind is taking the main part in the centres of the *da capo* movements, generally with violins in unison (Lawson, 1983:213-214).

Apart from cantatas, the suite in B \flat for soprano chalumeau and strings is the only work in which Graupner used the soprano chalumeau. Here the soprano chalumeau dominates some of the movements as in *Airs I* and *III* and the middle sections of *Air II*, and the final *Menuet*. It is absent from the overture, which is unusual (Lawson, 1983:214). Hoeprich (2008:58) sees this as belonging to the solo concerto genre. Graupner tried to break through the traditional pitch range of the soprano chalumeau; the range reaches overblown high c^2 and d^2 ,⁸ and extends to low e^1 (Hoeprich, 2008:58). The method of overblowing is the same as on the clarinet; by opening the key at the back of the instrument with L0 (the thumb hole must remain closed). When all the holes are closed and the thumb left open, the first note of the upper register will sound. “If this note is out of tune, it may be possible to be adjust it slightly by either reducing or enlarging the size of the hole under the key, or adjusting how far the keys open by bending them or gluing thin pieces of cork beneath the keys.” (Hoeprich, 2008:61). However, overblowing more than one note is seldom necessary in the repertoire. Graupner and other composers included the low e^1 , $e\flat^1$ and d^1 in writing for the soprano chalumeau (the lowest note is f^1). The low e^1 can be sounded by covering the lower end of the chalumeau against the knee to produce a semitone lower. Low $e\flat^1$ and d^1 are not possible on the instrument. The other way to solve this can be by rewriting the part, or by leaving the note out if it is doubled by another instrument. Extending the range to low e or $e\flat$ is possible on the chalumeau d’amore⁹ (Hoeprich, 2008:61).

⁸ This is according to Hoeprich, this should be c^3 and d^3 (2008:58).

⁹ There are about forty extant clarinettes d’amore, with from three to twelve keys, dating from c.1750 to c.1820. It significantly has a global or pear-shaped bell, and with a soft tone quality as the given name “d’amore” implies. Evidence can be found in catalogues of Brussels and Berlin, which show the instrument pitched in c^4 , a^3 , $a\flat^3$, g^3 and f^3 . These instruments have a bent metal crook or a curved wooden barrel for a more convenient placement of the mouthpiece. The ones in the lower pitches, such as those in a^3 or $a\flat^3$ have a different structure: a metal crook, with a normal clarinet bell, or a flared bell with a bulbous interior (Rice, 1986:97).

The two unaccompanied suites for three chalumeaux are in F and C major. Both keys are not difficult for the chalumeau. In the printed scores the range of the first chalumeau is from c^1 - f^2 , that of the second from f - b^1 , and of the third chalumeau from c - f^1 .¹⁰ We can firmly speculate that the works were written for the alto, tenor and bass chalumeaux. The keys of these three chalumeaux are C (alto chalumeau), F (tenor chalumeau) and C (bass chalumeau). Graupner did not use the quart or alto (in G) member of Majer's family. In the Suite in F major he did not exceed the ranges of the instruments, and most of the notes are available; only in bar 44 of the first movement Graupner wrote a $c\#^2$ for the alto chalumeau which would be difficult to play in tune. In the second suite, Graupner limited the range for the first chalumeau from c^1 to d^2 . The other two range from f - b^1 and c - f^1 , the same as in the first suite. The chalumeaux used in the Suite in C were alto (in C), tenor (in F) and bass (in C). There are not many technical difficulties, but in the *Ouverture*, $c\#^1$ and $c\#^2$ keys are required.

The remaining four suites are scored as follows: for bass chalumeau and bassoon (in C); flute, viola d'amore and tenor chalumeau (in F); flute, viola d'amore, tenor chalumeau and bass chalumeau and horn (in F), and for two horns, timpani, tenor chalumeau and bass chalumeau (in F) (Lawson, 1983:214).

In his concerto music with chalumeau, Graupner again experimented with new sonorities. Unusual scoring for tenor chalumeau, viola d'amore and oboe, or for flute, viola d'amore and chalumeau is found. There is a concerto for bass chalumeau with bassoon and cello (Hoeprich, 2008:58). The concertos in F and C for two chalumeaux have similar textures to his cantatas, clearly distinguishing between

¹⁰ See Christoph Graupner – First Suite, edited and arranged by Edgar Hunt, 1961a.

strings and wind instruments (Lawson, 1983:212).

2.2.10 Johann Friedrich Fasch

The German composer, Johann Friedrich Fasch (1688-1758) did not contribute much music for the chalumeau. He left an important solo concerto in B \flat for the soprano chalumeau. This concerto includes a difficult overblown c^2 and the trill $b\flat^2$ to c^2 (Hoeprich, 2008:59).

2.2.11 George Frideric Handel (1685-1759)

Handel did not compose much for the chalumeau, only one opera, *Riccardo primo, Re d'inghilterra* (1727), includes a pair of chalumeaux.¹¹ In the aria “Quando non vede”,¹² two obbligato chalumeaux are employed. This might have been inspired by two German clarinetists who had been in London for about two years but left before the premiere. Therefore, Handel replaced the chalumeaux parts by oboes (Lawson, 2000:14).

The range of the original chalumeaux parts are in concert pitch from d^1 to c^3 , and are probably written for soprano chalumeaux, according to Majer's classification. The key is F major, which is not a difficult key for the two-key chalumeau. Handel added some accidental notes ($e\flat^1$, $c\sharp^2$, $e\flat^2$ and $g\sharp^2$) to move to B \flat major, D minor and A minor. According to Raynvaan's chalumeau fingering chart above, the fingering

¹¹ Chatwin quotes Sachs as suggesting that the word “chaloumeaux” indicated in *Riccardo Primo* may have meant the clarinet. Sachs goes on to say, though, that Handel uses “clarinet” for other parts, and the ranges for them are distinct (1950:5), which implies that two different instruments are intended. Modern writers, such as Lawson (2000:14), believe the chalumeaux were the instruments that were used in *Riccardo Primo*.

¹² Lawson gives the title for the revised version. In the first version of 1727 the title of this aria was “Quell' innocente afflitto” (See Rendall, 1971:74). See also *Hallsche Händel-Ausgabe*, Series II, Volume 20, edited by Terrence Best and Wolfgang Ruf (2:20, 158-163).

of $c\sharp^2$ and $g\sharp^2$ required cross-fingerings. The instruments mostly play in unison.

In the second version, the two oboe parts are different compared to the first version. For instance, the range is in concert pitch from c^1 to c^3 for the first oboe; for the second oboe it is e^1 to $b\flat^2$. The first version (with chalumeaux) seems simpler; some stepwise semiquaver triplets in the first version become thirds as dotted semiquaver sixteenth notes and thirty-second notes in the second version, as in bar 14-17. The oboes are often silent in the second version where the chalumeaux played in unison in bars 20-32 of the first version. After bar 32, the music is considerably different between the first and the second versions.¹³

2.2.12 Christoph Willibald Gluck (1714-1787)

Music for the chalumeau almost disappeared from the Viennese stage for nearly two decades (Hoeprich, 2008:59). It was probably due to the emergence of the clarinet, which was replacing the chalumeau. However the instrument was adopted again by Gluck in his operas *Orfeo ed Euridice* (1762) and *Alceste* (1767).

There are two versions of *Orfeo* by Gluck, the original Italian version of 1762 in three acts with a libretto by Ranieri de' Calzabigi, and the 1774 revision of his Italian version for Paris with a libretto by Pierre Louis Moline after Calzabigi (Hayes, n.d.). There are many differences between the two versions, for example the character, Orpheus (tenor), was sung by a castrato, but this was impolitic in Paris, therefore most of the Orpheus parts were adapted. In addition, there is a significant increase of

¹³ Many years after Handel's death, in an 1830 revival by Lacy, the chalumeaux parts were replaced with clarinets (Chatwin, 1950:5).

dance movements to suit the French tradition. The scoring is also different; the trombone part, for instance, is reduced in the French version. The trombone plays an important part at the beginning of the first chorus in the Italian version, but in the French version the trombone part only appears for the echo phrase in the last eight bars (Howard, 1967:892).

Gluck also composed two versions for *Alceste*, the Italian version of 1767 with a libretto by Ranieri Calzabigi and the revised French version (1776) with a libretto translated by Marie François Louis Gand Leblanc Rouillet (Hayes, n.d.). The accompaniments are in the traditional mid-century Italian complement of strings, pairs of oboes and horn, with occasional individual parts for flutes, bassoons and trumpets. Gluck also used uncommon instruments such as the English horn and the chalumeau (Hansell, n.d.). However, in both *Orfeo* and *Alceste*, in the later versions of the operas for the Paris stage, Gluck either reduced or removed the chalumeau parts, or used clarinets instead. According to Hoeprich, people in France were probably not as familiar to the chalumeau as in Germany. The instrument was described as “greatly used in Germany” and that “it imitates the oboe and the recorder” in *Mercur de France* in early 1728, suggesting its un-commonness in Paris at that time (Hoeprich, 2008:59).

2.2.13 Other chalumeau repertoire

The repertoire of the chalumeau nearly ends after Gluck; the other German composers did not write much music for the chalumeau. J. M. Molter (1696-1765) experimented with various combinations of sonority in his works. He used new and unusual instruments, such as the clarinet, the chalumeau, the flauto d’amore, the

flauto cornetto and the harp. He called works for these combinations concertinos, and one of these is for two horns, two chalumeaux and bassoon (Häfner, n.d.). It is undated. Both Franz Aspelmayr (1728-86) and Joseph Starzer (1726/7-87) composed parts for chalumeaux in their ballets of the 1770s. Florian Gassmann (1729-1774) included a *Notturmo* for chalumeau solo with two violas, violoncello, two horns and bass, in his opera *I Rovinati* of 1772 (Hoeprich, 2008:59).

2.3 Development from chalumeau to clarinet

According to Rice (1998:29), there are eight extant chalumeaux in museums in Europe. Three are in the Stadtmuseum, Munich, four in the Statens musiksamlingar Musikmuseet, Stockholm, and one in the Museum Carolino Augusteum in Salzburg. They were represented by five known makers, including J. C. Denner, W. Kress, Liebau, Klenig, Muller, and two who remain anonymous.¹⁴

Denner's tenor chalumeau (Munich, SM, No.136) has three joints, two keys and includes six finger-holes, plus thumb hole and a double hole for the right hand little finger (Fig. 2.5.1). Liebau's chalumeau (Stockholm, MM, No.139) has the same structure, but is in alto, yet Ekkehard Nickel (1971:213) thought that Denner's instrument was the earliest based on its more primitive mouthpiece. Kress's chalumeau (Salzburg, MCA, No.8/1) was a bass one with four joints and five keys. Klenig's were two tenor chalumeaux (Stockholm, MM, Nos.141 and 142); both with three joints and two keys. His chalumeaux were similar to the early clarinet, "a head-joint formed from a mouthpiece, and a pear-shaped socket with the keys mounted on the middle joints. Their mouthpieces also have continuous grooves for

¹⁴ The first names of Liebau, Klenig, and Muller are unknown.

the string used in binding the reed to the mouthpieces.” (Rice, 1998:30-31). Rice stated that these were the evidences of the later date of manufacture than that of Liebau’s instruments (Rice, 1998: 31). Karp feels that the mouthpieces of Klenig’s two chalumeaux are unlikely to be original, although many writers already implied that Klenig’s instruments were manufactured later than Denner’s. However, Karp feels they were definitely made with the skills of the eighteenth century (Karp, 1986: 551, note 17).

Muller’s alto chalumeau (Stockholm, MM, No.140) has only two joints (it has no foot-joint). The lowest hole is a doubled finger-hole, similar to the recorders and some other chalumeaux according to the pictured photograph in Hoeprich (2008:49), for example, the alto chalumeau by Liebau (which has been mentioned above) and the soprano chalumeau by Stuehnwal (?) (which will be mentioned later). The former one has a double finger-hole at the bottom for the right-hand little finger, since it is placed towards the right; the latter one has a double finger-hole at the bottom, which is placed straight with the other finger-holes, so that the player could have his choice of hand placement. Placing the holes off to the right requires the right hand to be placed below the left hand.

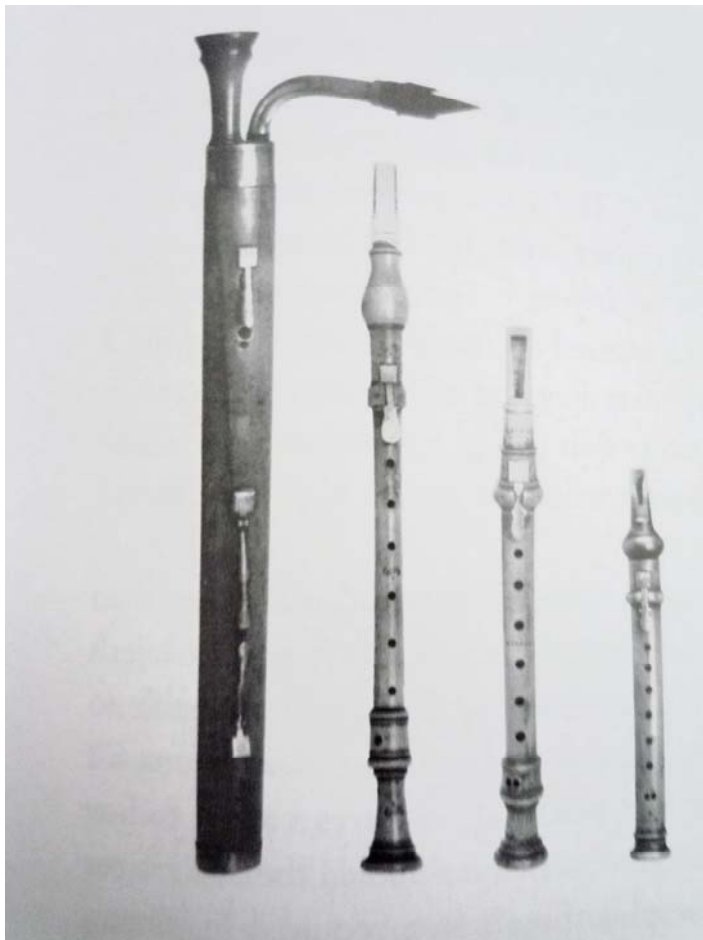
Muller’s chalumeau is quite different from the others in that it has seven keys (this is more than the others) and they are in unusual positions (Fig. 2.5.2). There is a third key at the back, played by R0. The other four keys are mounted vertically on either side of the finger-holes. According to Rice, the fingers from the middle joint cover the tone-holes, and the tips of the fingers manipulate the side keys. This chalumeau also had a metal tube in one of its highest keys, unlike the others (Rice, 1998:32). Karp (1986:547, Fig. 3) suggests that one cannot identify whether Muller’s instrument

is a chalumeau or a clarinet.

The other two anonymous chalumeaux (both in the Munich Stadtmuseum) are for soprano and alto d'amore. The soprano (previously attributed to Stuehnwal)¹⁵ is similar in design to Muller's alto chalumeau, which also has two joints, but the anonymous soprano has only two keys; the alto d'amore has three keys and three joints with a pear-shaped and incurved bell (Rice, 1998:29).

Of these eight extant instruments, four have a double hole for the little finger to produce the two lowest semitones. Three of these have the double holes on the right; only the tenor chalumeau by Denner has the double holes placed vertically with the other tone-holes. The chalumeaux by Klenig have single holes for the little finger, and the picture for one of these shows the single hole to be on the right (Hoepflich, 2008:49, Fig. 4.2). The anonymous three-key chalumeau has a single hole, which is duplicated; the player can choose which hand is on the bottom, but has to plug the extra hole to close it (Rice, 1998:31). The bass chalumeau by Kress has nine holes and five brass keys (two mounted at the front and three at the back) (Hoepflich, 2008:50), although the nine tone-holes cannot clearly be seen from the picture in Rice's *The Baroque Clarinet* (1998:33).

¹⁵ According to Rice, the information supplied by the Munich Stadtmuseum indicates that the maker's mark is almost unreadable (1998:29).



2.4 (From left to right) Bass chalumeau by Kress (Museo Carolino Augusteum, Salzburg), tenor chalumeau by Klenig and alto chalumeau by Liebau (Musikmuseet, Stockholm) and soprano chalumeau by Stuehnwal (?) (Bayerisches Nationalmuseum, Munich) (Hoeprich, 2008:49).



2.5.1 The two-key tenor chalumeau by J. C. Denner (Munich, SM, No. 136) (Lawson, 1999:5).

2.5.2 Muller's alto chalumeau with unusual positions of keys (Stockholm, MM, No. 140) (Karp, 1986:547).

2.4 Conclusion

The single-reed chalumeau of the late seventeenth century and eighteenth century came in many sizes and shapes, and with different numbers of keys or even none. The two-key extant chalumeaux of the eighteenth century look quite similar to the two-key clarinet. Some believed that the chalumeau is the ancestor of the clarinet, but there is no conclusive evidence. The clarinet is different from the chalumeau in its structure; for the new instrument improvement of the construction was required, such as the positions of keys, sizes of the tone-hole, and the width of the bore of the bell (Rice, 1998:38).

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CHAPTER THREE

3.1 The earliest clarinets

By the eighteenth century two single-reed instruments were being used in Europe: the clarinet and the chalumeau. Both of them belong to the Baroque period, across from the late seventeenth century to mid-eighteenth century. Nevertheless they can be distinguished from their diametrically opposing keys without a bell, and those with non-opposing keys and a flared bell. Due to clarinets having register keys and bells, one can assume that those with both features are clarinets, and those without either of these are chalumeaux (Karp, 1986:545). The earliest clarinet had the key covering the tone hole situated higher on the instrument and operated by the thumb, the so-called “speaker” or “register” key, which assisted in overblowing on the full range of the upper register, something not possible on the chalumeau (Hoeprich, 2008:20).

J. G. Doppelmayr from Nuremberg indicated in his *Historische Nachricht von den Nürnbergischen Mathematicis und Künstlern* (1730) that the clarinet had been invented by Johann Christopher Denner (1655-1707). Lawson (2000:11) and Rice (1998:40) questioned the reliability of Doppelmayr’s statements, as he tended to exaggerate the importance of the artisans in Nuremberg. According to Rendall (1971:66), Doppelmayr may have intended to imply “that Denner invented the *clarinet* by improving the *chalumeau*, i.e. by giving it a separate mouthpiece, by adding keys to it, by developing the bell, and by making available for the first time the third and fifth harmonics.”

Although J. C. Denner's chalumeau in the Bavarian National Museum is quite similar to the clarinets of his son, Jacob Denner, and that of other instrument makers' clarinets of the early eighteenth century, no one can prove that J. C. Denner invented the clarinet (Hoeprich, 1981:21). Moreover, Rice indicated that Nickel and Lawson believed that the invention of the clarinet should be credited to Jacob Denner and the improvement of the chalumeau to J. C. Denner (Rice, 1998:42).

The first reference in Germany to a clarinet was contained in a document of 1710. This was an order list of instruments by the Duke of Gronsfeld, which included two clarinets from the Denner workshop of Jacob Denner (Hoeprich, 2008:21). Rice pointed out that, although many writers mentioned clarinets made by J. C. Denner, some of these were probably misidentified instruments by Jacob Denner (Rice, 1998:42). According to Karp (1986:545), the instrument by J. C. Denner in Munich, previously regarded as the prototypical clarinet, was reclassified as a chalumeau. The instruments made by Jacob Denner were however regarded as proper clarinets of the type invented by his father J. C. Denner. A photograph of J. C. Denner's two-key clarinet, destroyed in World War II, suggests that he constructed clarinets before 1710. It is evident from all the evidence that the Denner family played an important role in the history of the clarinet and the chalumeau (Rice, 1998:42).

3.2 The design of the clarinet

J. C. Denner's development of the clarinet from the chalumeau included the two non-diametrical keys, heteroglot mouthpiece,¹⁶ and a wider bell. There were many other improvements which will be discussed below.

¹⁶ These are "separate single-reed mouthpieces to which the reed is attached" (Karp, 1986: 545).

3.2.1 Construction

For the Baroque clarinet from about 1700 to 1830, the simple keys were made of one of two metals, brass or silver, but brass was more commonly used (Rendall, 1971:20). Nicholas Shackleton stated that the pitches of the Baroque clarinets were mostly in C or D, although two-key clarinets pitched in F and G also survived (Lawson, 1999:17). Due to the lack of screws at that time, the method of attaching the keys was to leave raised wooden rings in the body of the clarinet, and to fix the key to a channel in the ring with a mounting pin (Fig. 3.1, p.39). The under-surface of each key had a leather pad, which functioned as a seal to the tone hole. A spring was required as well to make the key flip back after being pressed. It was made from hammered brass or steel, usually attached to the instrument body (Hoepflich, 2008:24). A key consisted of three parts: the cup, the shank, and the touch piece (or fingerplate) (Rendall, 1971:17). The cup for the early clarinet was usually in a square shape; some were round (Rice, 1998:48).

3.2.2 Mechanical movement of keys

The keys of the clarinet can be closed or open, but were mostly open (Rendall, 1971:17). An open key means the tone-hole is open when it is not touched; therefore the tone-hole will be closed only when the finger presses down the key (fingerplate) causing the cup down to seal the hole. An open key needs two levers to accomplish this action: each pivoting on its own axle, and placed end to end so one acts on the end of the other; therefore the fingerplate is up, the cup is up, and the hole is open; the fingerplate is down, the cup will be also down, and the hole is covered (Rice, 1998: 48). (Fig. 3.2, p.39)



Fig. 3.1 The upper-joint of the two-key clarinet in D by Johann Wilhelm Oberlender I (Rice, 1998:51).

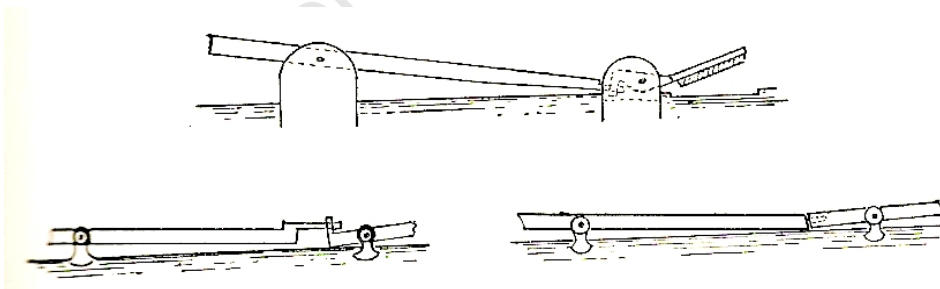


Fig. 3.2 The opened key with two levers and two pivots (Rendall, 1971:18).

A closed key means the tone-hole is sealed when the lever is not touched, and the hole will be open only when the fingerplate is pressed down. A closed key is more like the theory of a see-saw rocking on an axle, which needs one lever only; the

fingerplate is down, the cup raised and the hole is open, and vice versa. However, both open and closed keys are kept in their positions by brass springs, which are attached to the wood in early clarinets; in the later clarinet, it is fixed to the under-side of the keys (Rice, 1998:48-49).

3.2.3 The mouthpiece

The early mouthpiece (first decade of eighteenth century) was constructed with the mouthpiece and barrel in one joint. The earliest ones seem to have been large, and according to Hoeprich (1981:27), “[due] to the large size and shape of mouthpieces on clarinets of this period, the tuning is quite flexible.” Fig. 3.3.1, shows an early mouthpiece by Jacob Denner, with a wide window/slot, almost no table, and grooves for the string to affix the reed.

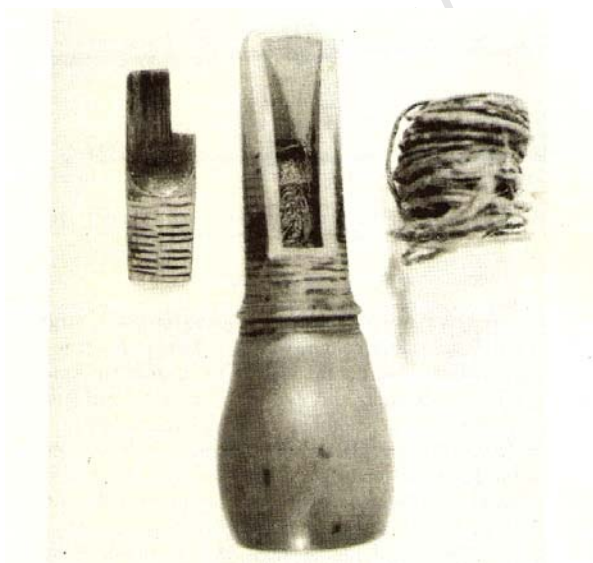


Fig 3.3.1 The reed, mouthpiece-barrel joint, and the strings from Jacob Denner’s clarinet in D (GN-Nuremberg, No.149) (Rice, 1998:46).

Many extant early clarinets are missing their original mouthpieces, but of those that exist, there are some differences that may show a lack of standardization. Rice cites two different window shapes; a window with a squared lower ends by Denner (see 1998:46, Fig 2.2), as opposed to an illustration of a mouthpiece with a V-shaped window (see Rice, 1998:45, Fig.2.1). Rice also cites varying angles of taper of the “beak” (Rice, 1998:47).

Rice also feels that over time, the window became gradually shorter and narrower and the table became more conspicuous, since all of the Denner mouthpieces use window-openings of between 40 and 50 mm, but by c.1750 the German instrument maker G. H. Scherer was making mouthpieces with a window of around 30 mm with a longer table for the reed to be placed more securely on it (Rice, 1998:47). This is also the conclusion of Hoepfich (2008:25), who illustrates the gradual evolution in design. (Fig. 3.3.2)

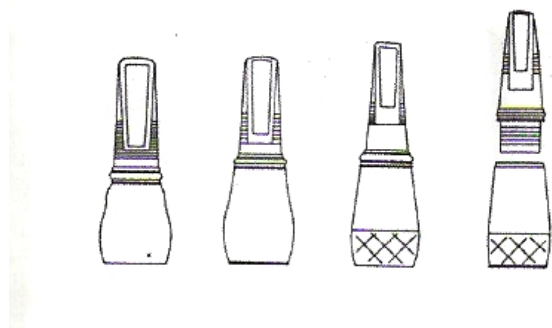


Fig. 3.3.2 (Left to right) The gradual evolution of Baroque mouthpieces (Hoepfich, 2008:25).

The evolution of the mouthpiece shows the tendency of narrower width of both mouthpiece and window, more equalised proportion in length of window and table, and separation of the mouthpiece and the barrel. All three occurred in the mid- to

late-Baroque period. Early mouthpieces that are separate from the barrel can be found on the clarinets of I. Scherer and J. G. Zencker, although one-piece mouthpieces were still used in the late eighteenth century. The material of the mouthpiece was improved in the late 1700s by using harder and more stable wood, such as ebony and granadilla (Hoeprich, 2008:25).

3.2.4 The body material

The quality of the body material affects the performing of the clarinet; the wood must be long-lasting and able to withstand shrinking, swelling or warping. It should be resonant, easy to work cleanly by drilling, light to carry, and with poor heat conduction (Rendall, 1971:11). The mouthpiece and the body of the clarinet are of different materials. As mentioned above, the material of the mouthpiece was from ebony or granadilla. The body of the baroque clarinet could be made from ivory, plum, ebony, and pear but most often was made from European boxwood (Rice, 1998:45). The ivory clarinet could be found in the early eighteenth century, such as those made by Scherer. This material did not work very well; it is heavy, expensive and delicate, and Rendall stated that the tone qualities are “bleak and disappointing” (1971:13), probably due to its poor resonance. Nevertheless, boxwood was considered the ideal material, conforming to the factors mentioned above, but sensitive to atmospheric change. However, boxwood had been used throughout eighteenth century and middle of the nineteenth century, and according to Rendall, the better qualities of boxwood came from Italy and Spain, and the best, the mottled Abassian boxwood came from the shores of the Black Sea (Rendall, 1971:11, 13).

The mouthpieces of the early clarinets were large and wide, which might have required a different embouchure and reed position. The French word “embouchure” is now commonly used for referring to the shape of the mouth and the position over the teeth when one plays a wind instrument. However, the word embouchure also referred to the mouthpiece during the eighteenth century (Rice, 1998:66). Both may influence the sound and its purity, but only the “embouchure” we refer to nowadays is controllable and changeable by players.

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3.3 New Compass of the early clarinet

Denner’s new design meant that the clarinet had a wider range than the chalumeau. The compass of Denner’s early chalumeau is a ninth; in the chalumeau in C, as in F major from f to g^1 . However Denner apparently found that he could extend this compass upward by combining a slightly altered mouthpiece with a split air column. The split air column is achieved by opening a small hole at the instrument’s upper end; the key that opens this hole is called the “speaker key”. The result is “overblowing”, which produces higher notes than are produced by using the same fingerings without opening the speaker key (Brymer, 1979:23). The higher notes are a twelfth above the fundamental.

The fact that the instrument overblows a twelfth causes a problem of missing notes, because there is a gap between the lower and upper register. Denner closed the gap by using the first finger key (that we would call the “A key”) for b^1 , and the speaker key alone was a^1 ; both together produced b^1 . The intonation at first was not accurate (Brymer, 1979:23-24). We still have two keys in a similar position on the upper joint today, except for the following differences: 1) The hand position of the left hand

above and the right hand below are fixed. 2) The note a^1 is now produced by the front key with L1. 3) The $b^{\flat 1}$ is produced by both frontal and the speaker keys. 4) The b^1 is not produced in this register at all, but rather in the second register.

The early clarinet has been made in many different pitches, such as C, D, E \flat , E, F, G, A, and A \flat . Out of those commonly used, D or C predominated. Basically, both the early two-key clarinet in C and D had the same structure, the only difference thing was that the clarinet in D was made in three pieces; the mouthpiece and barrel in one piece, the middle section with two keys and seven tone holes, and the bell with one tone hole. The clarinet in C was made in four pieces, with the middle section divided into two pieces (Hoeprich, 2008:25-26).

3.3.1 Additional keys

The next improvement was to add more keys; the first addition was the key e/b^1 . Most people have assumed that in the early eighteenth-century clarinets, the note b^1 was missing. Hoeprich (1981:28) stated that this is an assumption based on the two-key clarinet fingering charts by Majer and Johann Philip Eisel (which will be discussed below), but he also stated that these charts contained many errors. Rice (1998:71) thought the omission of b^1 in the charts was reasonable, because it was the most unstable note of any two-key clarinet. But he does not go so far as to say the instruments did not have the note at all.

Rice quotes Anthony Baines as suggesting that b^1 can be produced by pinching the lips from $b^{\flat 1}$, but others feel there were other ways of producing this note (Rice, 1998:71). Hoeprich (1981:28) has played on about fifteen two-key clarinets, and is

of the opinion that if all the tone-holes and both keys are opened b^1 results, not $b^{\flat 1}$ as indicated in both fingering charts. Rice cites Hoeprich's ability to produce b^1 and also cites another historical clarinetist, David Ross, who was also capable of playing chromatically with b^1 (Rice, 1998:71). So the b^1 was not missing at all.

Further, according to Brian Galpin, there were two checklists of instruments written by his grandfather, Canon Galpin, who catalogued his own collection. Under the First List, Class I, Section B, Reed instruments, Item 23, Galpin describes an entry for a clarinet that is now missing, but in the original catalogue there was handwriting in the margin that gave some history of the clarinet: "The Clarinet invented at Nuremberg about 1690 by Christopher Denner (Leipsic 1655 – Nuremberg 1707) – at first only 2 keys. A & B \flat (=B-natural together)" (Galpin, 1972:12-13). This adds to the evidence that B-natural did exist on these instruments.

If b^1 was already available on a two-key clarinet, the reason for the additional third key for e/b^1 can only be guessed; one might assume that the third key was probably added to improve the intonation of b^1 . Hoeprich (1981:29) thought that J. C. Denner had probably foreseen the key-work structure of the Classical clarinet, but just did not have the time to experiment before his death. The third key on the earliest clarinets was operated with the thumb of the lower hand, and it closed a hole midway down the bell. The key was mounted on a ring at the back of the bell-joint, and the player could choose to play either with R0 or L0. This placement indicates that at that point, there was no standardization as to which hand was on the top joint and which was on the bottom (See Figs. 3.4.1 and 3.4.2).

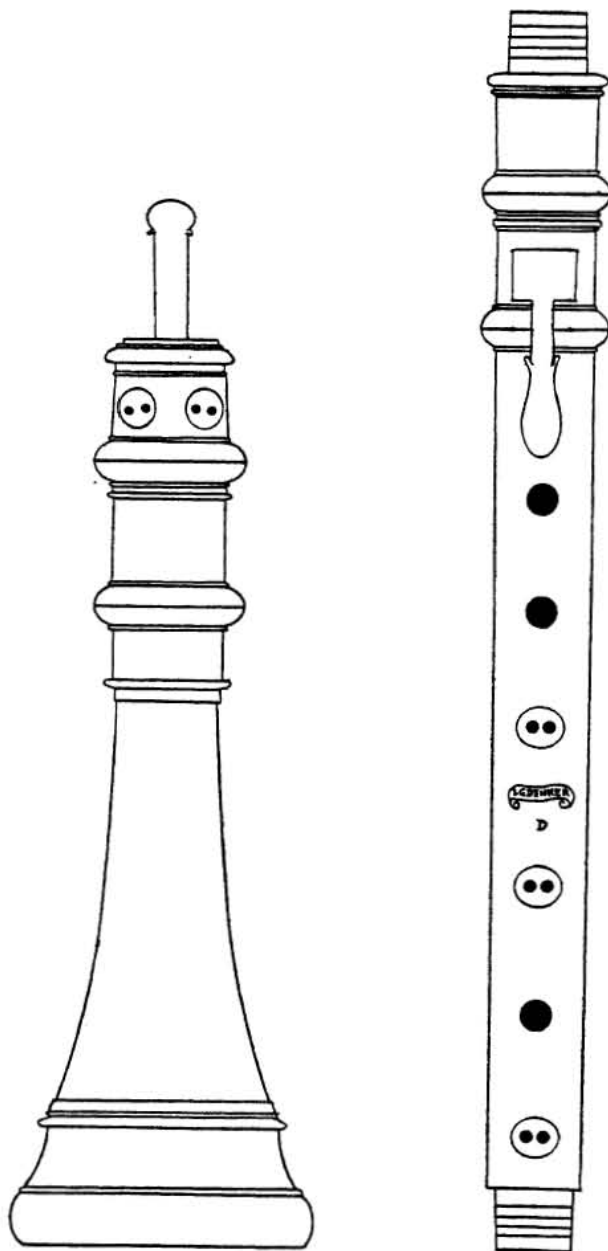


Fig. 3.4.1 The front view of J. C. Denner's three-key clarinet (Hoeprich, 1981:22).

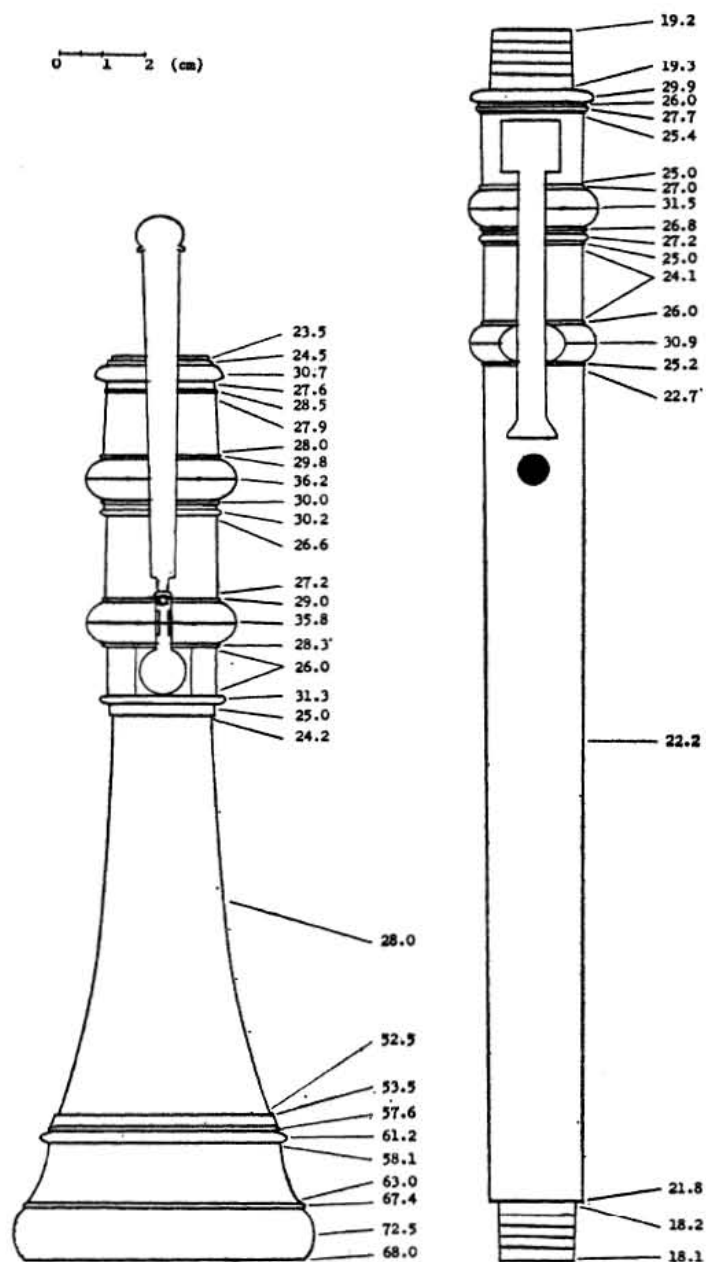


Fig. 3.4.2 The back view of J. C. Denner's three-key clarinet (Hoepflich, 1981:23).

Later, since the third was placed on the side and more keys were added to the clarinet, the position was fixed. Eisel even stated that the player must play with the left hand above and the right hand below, like the way we play today, in his *Musicus Autodidaktos* (Erfurt, 1738) (Hoeprich, 2008:26). As an example, Rice shows an illustration of a three-key clarinet by Georg Heinrich Scherer, dated c.1760 (Fig. 3.4.3) (Rice, 1998:56). Note that the bottom key is on the left-hand side.



Fig. 3.4.3 The three-key clarinet in D by Georg Heinrich Scherer, (c.1760) (Rice, 1998:56).

The identity of the inventor of the third key is controversial. It first appeared on Denner's clarinet, but there are some arguments about the maker's mark whether the clarinet was made by J. C. Denner or his son Jacob Denner, or even whether Jacob Denner borrowed the mark from his father. There is a three-key clarinet at the University of Berkeley (Berkeley, UC, No.19) with the stamp of J. C. Denner (Rice, 1998:59).

The Berkeley three-key clarinet only has two parts that are extant, a middle joint and a lower stock-bell;¹⁷ the joint that contains both the mouthpiece and barrel is missing. There's a stamp mark, I. C. Denner in a scroll, on the clarinet; however, this has become a controversial issue again. The scroll usually has "D" or "I D" beneath it,

¹⁷ The "stock" is a word not in use by modern clarinets. The stock is the part in between the 6th finger hole and the bell, and it contains either a hole for the little finger, or long keys or both. In some early clarinets this was in one piece with the bell, and researchers call this a stock-bell. The stock-bell is therefore longer than the modern bell.

and according to Rice (1998:59), the stamp is illegible, only the letter “D” beneath the scroll is visible (Fig. 3.5). The stamp causes many questions and these assumptions are being investigated. Horace Fitzpatrick, discussing two bass recorders sold to the Göttweig Abbey in 1720, describes the mark as 'I C Denner' in a scroll with the a subscript that appears to be 'D' over 'I'. He then says: “[t]he only help this gives toward solving the riddle of the Denner family's marks is that of proving that Johann Christoph's mark continued to be used by Jacob after his father's death. The subscript may well denote the eldest son.” (1968:86). However, John Henry van de Meer, objects to Fitzpatrick’s assumption: “There is no reason to believe that Jacob Denner used his father's stamp. He may have sold instruments after 1707 made by his father, and these are then, of course, marked 'I C Denner'.” (1970:118).

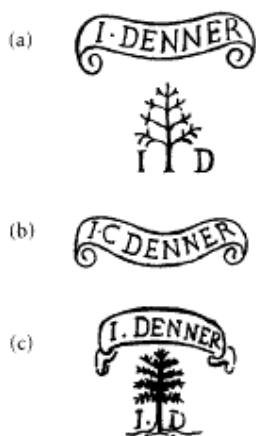


Fig. 3.5 (a) A stamp found on an ivory flute by Jacob Denner. (Nuremberg, Germanisches Nationalmuseum, MI 566). (b) J. C. Denner’s stamp. (c) Jacob Denner’s stamp on a flute, MI 566 (von Huene, 1995:103).

Back to Berkeley's three-key clarinet; Hoeprich (1981:24) thought it was made by J. C. Denner, and that the third key was definitely first added by him. All three keys are made of brass and mounted in wooden rings, which means it is the original part of the bell, not added later. Compared to other contemporary clarinets, from the bore size, tone-hole position and the length of the two pieces, the Berkeley clarinet is perfectly in the key of D. "The clarinet plays nicely in the key of D at A = 415 when fitted with a mouthpiece constructed through reference to clarinets made by Jacob Denner." (Hoeprich, 1981:21, 24). The other feature is the increase of the number of double holes on Berkeley's three-key clarinet. It has four sets¹⁸ of double holes, three sets in the middle joint and one in the lower joint. As there are more double holes, more chromatic passages can be played; moreover, Hoeprich thinks that this is more likely to be an original instrument by J. C. Denner: "...such duplication of the lowest fingerhole(s) of an instrument is common almost exclusively to instruments made prior to 1700, i.e. 17th-century recorders." (1981:24). There are eleven holes in total on this instrument (sets of two are counted as one, and the duplicated lower set are counted as one, since one set would be plugged); eight are finger-holes and three are key-holes (Figs. 3.4.1 and 3.4.2). The other feature that convinces Hoeprich the clarinet is an original by J. C. Denner is that the holes covered by keys are not drilled diametrically to each other, which is different from his chalumeaux (Hoeprich, 1981:25).

¹⁸ It looks like five sets. However, because the set on the lower joint was duplicated, so the player could play either with the right hand or the left hand; the unused set would most likely have been plugged with wax.

3.4 Reed position

Every clarinetist today plays with the reed against the lower lip, but in the eighteenth century, the clarinetist had two choices for the reed position – with the reed above or below. These are sometimes referred to as maxillary (reed above) or mandibular (reed below) embouchures (Rice, 1984:20).

3.4.1 Reed-above position

In Majer's *Museum musicum*, he described how the clarinet was played with the reed against the upper lip, and most of the traditions from the early eighteenth century continued to be used in the late eighteenth century (Hoeprich, 1984:49). Hoeprich suggested that “[a]ll clarinet tutors from before 1800 include illustrations and descriptions of playing with the reed against the upper lip” (2008:91), though we will look later at a tutor found by Rice dating from 1782 that advocates the reed-below position. Moreover, most of the mouthpieces on English and French five-key clarinets were with makers' stamps on the reed side (Hoeprich, 2008:91-92); this could probably be the evidence of reed-above performing at that time, especially since these clarinets had stamps on all the joints, and they would most likely be in line with each other.

Of the tutors that were written in the late eighteenth or early nineteenth centuries, the following presented the reed-above position: in Paris, those by Valentin Roeser¹⁹

¹⁹ Roeser (1735-1782) was a German composer and clarinetist, active in France. In 1764, he wrote the first of a series of eight educational treatises about instrumentation, *Essai d'instruction à l'usage de ceux qui composent pour la clarinette et le cor*, and he was also the first to describe the Classical four-key clarinet and to publish a fingering chart in his *Gamme de la clarinette* (1769) (Brook, n.d.).

(1764), Amand Vanderhagen²⁰ (1798), Frédéric Blasius (c.1800) and Xavier Lefèvre (1802), plus some of the anonymous English tutors²¹ (Hoeprich, 1984:49). Although Lefèvre's tutor only showed illustrations with the reed above, he did not specifically mention the reed position (Lawson, 2000:47).

There were two different ways of playing with the reed-above position; Vanderhagen advised to cover only the upper teeth with the upper lip (Hoeprich, 2008:91), and the pressure on the reed from the lip had to be changed according to the direction of the passage, increasing the pressure for ascending passages and decreasing the pressure for descending passages (Lawson, 2000:45). The other way of playing this position was to cover both the upper and lower teeth with the lips; this method was suggested by both Blasius and Lefèvre. It is the so-called "double-lip" embouchure of today (Hoeprich, 2008:91-92), though it can be used with both the reed-above and reed-below embouchure. Hoeprich also felt that the clarinetists before 1800 often played the clarinet with double-lip embouchure, because the mouthpieces showed "no wear from the teeth" (2008:91-92), and it seems reasonable, because some of the early clarinetists, in ensembles or orchestras, were doubling; they also played oboe and bassoon, which required double-lip embouchure (2008:350, note 136).

²⁰ Vanderhagen, the name sometimes has been spelt as "Van der Hagen" by E. Hoeprich and other writers. However, for this dissertation, the spelling used will be "Vanderhagen". Vanderhagen (1753-1822), was a Flemish clarinetist. He moved to Paris by 1785 and wrote the first tutor for the Classical clarinet, *Méthode nouvelle et raisonnée pour la clarinette* (1785), as well as the later *Nouvelle méthode de clarinette* (1796) (Rendall & Audéon, n.d.).

²¹ For example, a tutor for a five-key clarinet by an English written in 1780, *The Clarinet Instructor* (Rice, 2008:82).

Joseph Fröhlich²² was partly in agreement with Vanderhagen, but advocated both reed-above and reed-below positions in his *Vollständige theoretisch-praktische Musikschule* (1810-11). He remarked that the reed-below position could give easier tongued articulation, but the reed-above position was more suitable for chest articulation and was easier to alternate between the different registers of the clarinet (Lawson, 2000:45). However, Fröhlich was not a clarinetist himself.

In Germany, Austria, and Bohemia, the clarinets usually had no makers' stamps on their mouthpieces. This is also the case with the eight extant clarinets by Grenser. This could be evidence that there was no preference for the reed position, although there is one surviving B \flat clarinet by the Austro-Bohemian maker Theodor Lotz (1747-1792) that is stamped on all the joints including the mouthpiece. The mouthpiece stamp is on the opposite side of the reed facing (Hoeprich, 1984:51), which could suggest that the reed-below position was adopted, at least for the person for whom this instrument was made.

An example from the early 1800s of a person advocating both embouchures and who was himself a clarinetist, was Johann Georg Heinrich Backofen. His method, *Anweisung zur Klarinette nebst einer kurzen Abhandlung über das Bassethorn* (Leipzig, c.1802) showed an illustration of playing with the reed-above position, but Backofen actually suggested in his text that the clarinet could be played either way; he had no preference. Hoeprich translated the text: "whether it is better while playing to place the reed against the upper or lower lip – which clarinetists call on top or

²² Fröhlich (1780-1862) was a German teacher, musical organiser, critic, theorist, conductor and composer. Although his own instrument was the violin, "his *Musikschule* included performance instructions for all instruments available in his day." (Warrack & Deaville, n.d.). Moreover, he suggested that the five-key clarinet should have the separation of the stock and bell, in order to prevent the wood from cracking (Hoeprich, 2008:65).

underneath – I have no preference. I have heard good people play in both manners. Here, what one is used to is most important.” (Hoeprich, 1984:49).

3.4.2 Reed-below position

Other clarinetists advocated the use of only the reed-below position. According to Rice, the earliest evidence of the reed-below position was suggested by Lorents Nicolai Berg in his treatise *Den første Prøve for Begyndere udi Instrumental-Kunsten* (1782). He was a Norwegian bandmaster, who suggested that beginners use mandibular embouchure (reed below) on a three-key clarinet for a good tone quality, as well as making it easier to separate the notes by using the tongue (Rice, 1984:20).

Back in France, a few years after Lefèvre’s tutor, Iwan Müller’s fingering chart *Gamme de la Clarinette* (1812) illustrated the clarinet with the reed-below position (Rice, 2003:184). Fétis²³ recommended the reed-below position to French clarinetists. He admired the quality of German players which he regarded as superior to that of the French counterparts. “Fétis attributes this lack of quality to the powerful and voluminous tone production for the French and their use of the reed-above position. These criticisms must have prompted some French players to adopt the German reed-below position and tone production.” (Rice, 2008:87). (Fig. 3.6)

²³ François-Joseph Fétis (1784-1871) was a musicologist, critic, teacher and composer. He was among the most influential music figures in Europe almost throughout the nineteenth century (Wangermée, et al, n.d.).

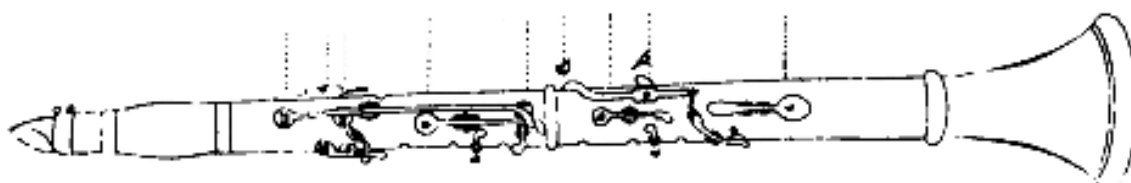


Fig. 3.6 The clarinet illustration in Müller's fingering chart *Gamme de la Clarinette* (1812) (Rice, 2003:184).

Later, in 1843, Hyacinthe Klosé stated that reed-below embouchure was more advisable; the tone was more pleasant, better articulation was achieved with the tongue under the reed, and this embouchure allowed for greater powers of execution with less effort. The appearance of the player was also more elegant (Lawson, 2000:46-47).

The examples by Müller and Klosé suggest a trend in France of gradually turning the mouthpiece upside down with the reed against the lower lip from the early nineteenth century.

Nevertheless, in Italy, the trend of changing from the reed-above to reed-below position was somewhat slower than in France and Germany. There was still strong support for the reed-above position in the nineteenth century even into the late-nineteenth century. Some Italian tutors, especially those by the Neapolitan clarinetists and teachers, including Ferdinando Sebastiani and Gaetano Labanchi advocated the reed-above position (Lawson, 2000:45).

Sebastiani wrote a method, *Metodo per clarinetto* (Naples, 1855), that included a portrait of himself playing the clarinet with the reed-above position; so did Labanchi, who also provided a portrait of himself playing with the same position in his method, *Metodo progressive per il Clarinetto* (Naples, 1868) (Hoeprich, 2008:201). Both of them advocated various advantages of playing with the reed-above position; Sebastiani indicated that playing with the reed-above embouchure would increase the colouring of articulation, and Labanchi stated this would create more a precise staccato (Lawson, 2000:45). Interesting to note is that Labanchi seems to be the only person who lists more precise staccato as being an advantage of the reed-above position. Müller and Klosé thought the exact opposite.

In conclusion; the reed position in the early 1800s in England, France, and Italy was mostly against the upper lip. However in Germany, Austria, and Bohemia, there is already evidence of the reed-below position. Nevertheless, there was no standardization of the reed position in the eighteenth and nineteenth centuries, it all depended on the player's preference or habit.

3.4.3 Types of articulation

Articulation with the reed-above position

The terms “articulation” and “tonguing” means the same for present-day clarinetists, and although there is a type of attack that is done with the breath only, it is not often used. However, at the time of playing with the reed-above embouchure, players could articulate with or without the tongue, though non-tongued articulation seems to have only been used with the reed-above position. The methods used to articulate without the tongue included the use of the throat or chest.

According to Rice (2003:83), Roeser's 1764 method advised that composers should be careful of writing repeated sixteenth notes, "since the lungs must substitute for the tongue stroke, due to the position of the reed under the roof of the mouth". This would be an example of articulating with the chest, and it suggests that playing with this articulation was not fast.

Much later, Fröhlich, in 1810-1811, also indicated that the non-tongued articulation for the reed-above players required the use of the chest. He described that the chest articulation with the reed-above embouchure can produce a singing-like tone quality and that it also facilitates playing rapid passage work and leaps of large intervals. Fröhlich discussed two different types of detached sounds: a) the note with a wedge above, produced by pronouncing the syllable "ha", gives a short hard note, and b) the normal staccato with a small dot above, or with a small line, produced by a soft striking of the notes, gives a softer staccato (Lawson, 2000:48-49). In both of these, there is the use of varying amounts of openness or closed-ness of the lips, with the short hard notes the most closed (Lawson, 2000:49).

Another method of doing non-tongued articulation had been discussed by, amongst others, Vanderhagen in his *Méthode* (1785). In phrases where he preferred less emphasis on the first note, Vanderhagen advocated the use of the throat instead of the tongue (Lawson, 2000:48). This is similar to a glottal stop.

For the reed-above tongued articulation, Vanderhagen pointed out four different methods. Firstly, for notes that had no articulation indication at that time (tongued articulation), Vanderhagen advised pronouncing the consonant "d" at the beginning of the note. He advocated the consonant "t" for notes with dots for detached sounds.

Thirdly, when the music is slurred in pairs, Vanderhagen suggested that the player emphasized the first note of each pair to make a clear “division”. The last one is the shortest articulation, the *piqué*, a wedge mark above the note, which needed a short tongue stroke (Lawson, 2000:49).

Lefèvre agreed with some of Vanderhagen’s methods, and even suggested that while using the tongue stroke, the pinching of the embouchure could also help for producing the short and more emphatic articulation (Lawson, 2000:49-50).

Articulation with the reed-below position

According to Lawson, both Backofen and Fröhlich preferred tongued-articulation for the reed-below position, and that Klosé’s instructions represent a consolidation of reed-below tongued articulation.” (2000:51). This method is basically the way that modern clarinetists do today.

3.5 Early Fingering charts for clarinets

According to Rice (1998:64), Majer, in his *Museum Musicum*, had included some information about the clarinet as well as the earliest known fingering chart for the two-key instrument (Fig. 3.7.1). He indicated that the range of the clarinet extended from f to a^2 , and sometimes to c^3 (Rice, 1998:64). This applied to most of the clarinets at that time. J. G. Walther, in his *Musikalisches Lexicon*, stated that the highest note that could be reached by the clarinet was d^3 . In addition, Eisel, in his *Musicus Autodidaktos*, mentions c^3 , the same as Majer, but then claimed that some of the clarinet virtuosos could even produce notes a fifth or sixth higher (to g^3 or a^3) (Rice, 1998:64-65).

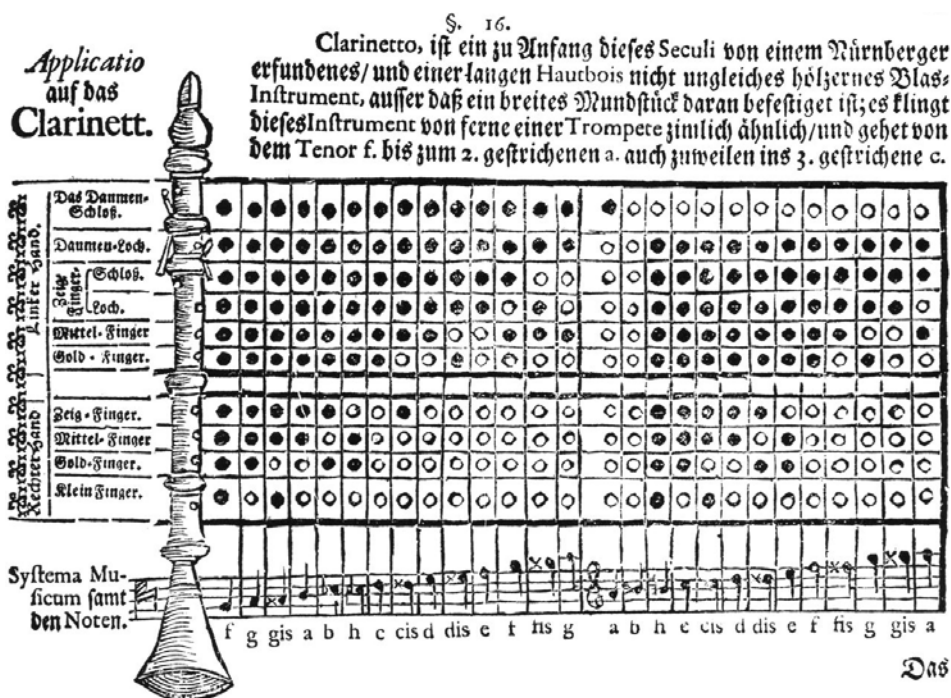


Fig. 3.7.1 The earliest fingering-chart for the two-key clarinet by Majer. The black dots mean the covered finger-holes and pressed keys; the empty dots mean opened finger-holes and untouched keys.

“Clarinetto, invented at the beginning of this century by a Nuremberger, is a wooden wind instrument not unlike a long oboe, except that a wide mouthpiece is attached to it; this instrument sounds from a distance rather similar to a trumpet, and goes from tenor f up to a double prime and sometimes up to c triple prime.” (Karp, 1986:549).

3.5.1 Two-key clarinet fingerings

Rice (1984:16) examined forty-two clarinet fingering-charts which appeared during the period 1732-1816. Since many of these reproduced information from some of the earlier charts, Rice concentrated on the charts which had appeared for the first time. The result shows 28 charts for five types of clarinets based on the number of keys: two charts for the two-key clarinet; two charts for the three-key clarinet; five charts for the four-key clarinet; eighteen charts for the five-key clarinet and one chart

for a seven-key clarinet.

Both Majer and Eisel provided fingering charts for the two-key clarinet. Eisel's went from f to c^3 (Fig. 3.7.2). Compared to Majer's chart, the fingering of Eisel's second register was closer to the fingering on all later types of eighteenth- and nineteenth-century clarinets. Even though Majer stated that the range sometimes went to c^3 , his chart only went from f to a^2 . Further, Rice stated that the fingerings did not always produce the stated pitches. Therefore, Rice concluded that Majer got the fingerings from a musician, but subsequently modified them and made mistakes in doing so (Rice, 1998:71). Eisel's chart came with a description of each fingering, plus some corrections of the fingerings for f^1 and $g^{\#2}$ and a likely mistake of a^1 (Rice, 1984:21-22). Interestingly, compared with Majer's chart, from b^1 to a^2 of the second register, Majer's fingerings produce pitches from one-half step to a minor third lower than Eisel's (Rice, 1998:70).

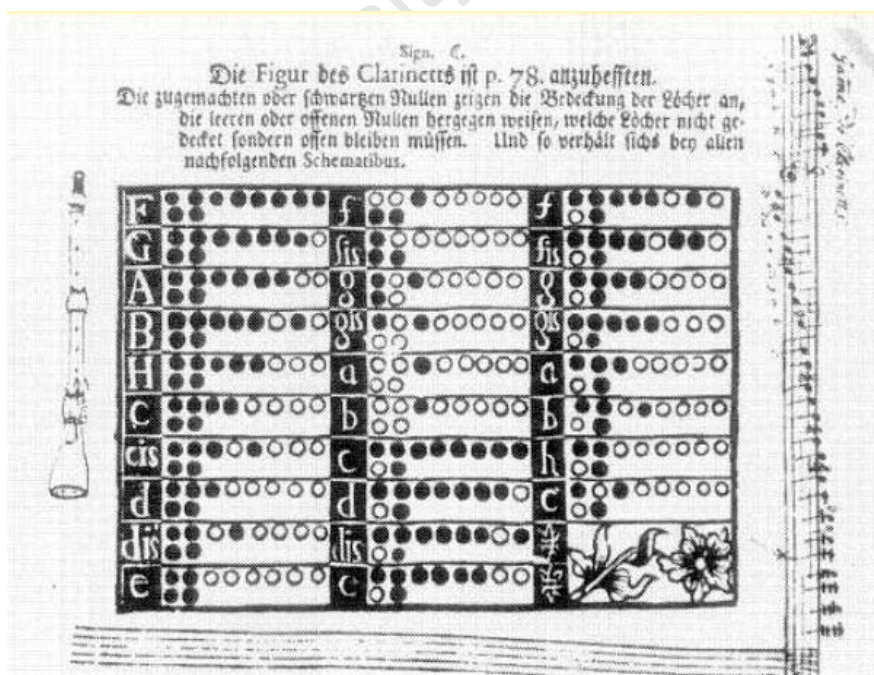


Fig. 3.7.2 The fingering chart (1738) of the two-key clarinet by Eisel (Rice, 1998:69).

3.5.2 Three-key clarinet fingerings

The two fingering charts of the three-key clarinet discussed by Rice (1984:16, 23) were compiled after 1780. The first (Fig. 3.8.1), by Berg, is found in his 1782 treatise *Den første Prøve for Begyndere udi Instrumental-Kunsten* (The First Training for Beginners in Instrumental Music), which was written in Norwegian. This treatise, apart from giving a three-key fingering-chart, also included a chapter on the clarinet, where he also described the five-key clarinet. The reason why Berg included the three-key fingering chart in his treatise was because he thought “it is less expensive and more appropriate for a beginner”, yet he also advocated the mandibular embouchure (Rice, 1998:72).

The range of the three-key clarinet, from e to e^3 , is greater than that of the two-key clarinet, and as Berg designed his chart for beginners, he excluded all the chromatic notes except for the B flats (Rice, 1984:23). From Berg’s chart, the sixth finger (the ring finger of the right hand) was used frequently. According to Rice (1998:73), this finger, called “buttress finger” or “Stutzfinger”, which operate as a supporting finger, was also used for the recorder, flute and oboe from the seventeenth century onward, and was part of the technique of playing the Baroque clarinet. Another function of the buttress finger is to improve the resonance and intonation (Rice, 1998:73).

De første Noder og Tall-Tabellen til Clarinetten.

	Bas-Oktav.	Secund-Oktav.	Discant-Oktav.	5te Oktav.
Venstre	0 0 0 0 0 0 0 0	0 0 0 0	0 0	0 0 0 0 0 0 0 0
	1 1 1 1 1 1 1 1	1 1 1 1	1 1	1 1 1 1 1 1 1 1
	2 2 2 2 2 2 2 2	2 2 2 2	2 2	2 2 2 2 2 2 2 2
	3 3 3 3 3 3 3 3	3 3 3 3	3 3	3 3 3 3 3 3 3 3
	4 4 4 4 4 4 4 4	4 4 4 4	4 4	4 4 4 4 4 4 4 4
Højre	5 5 5 5 5 5 5 5	5 5 5 5	5 5	5 5 5 5 5 5 5 5
	6 6 6 6 6 6 6 6	6 6 6 6	6 6	6 6 6 6 6 6 6 6
	7 7 7 7 7 7 7 7	7 7 7 7	7 7	7 7 7 7 7 7 7 7
	8 8 8 8 8 8 8 8	8 8 8 8	8 8	8 8 8 8 8 8 8 8
	9 9 9 9 9 9 9 9	9 9 9 9	9 9	9 9 9 9 9 9 9 9
	10 10 10 10 10 10 10 10	10 10 10 10	10 10	10 10 10 10 10 10 10 10
	c f g a b h	c d e f g a b h	c d e f g a b h	c d e

Fig. 3.8.1 The fingering chart (1782) of the three-key clarinet by Berg (Rice, 1998:72).

The other chart for the three-key clarinet is anonymous, and was found on a hand-written insert of a single page entitled “*Gamut for the Clarionet*” in a copy of *The Compleat Tutor for the German Flute* (c.1810). Rice feels this chart indicated that the third key, e/b^1 , was placed at the back of the instrument and played by the thumb (See Fig. 3.8.2), although his 1984 article stated right thumb (1984:23, note 3B), and his 1998 book indicated either thumb (See 1998:75, note to Fig.3.5). His reasoning for this placement is that the B key on the chart was placed below the A key and above the left hand.



Fig. 3.8.2 The fingering chart of the three-key clarinet from *The Compleat Tutor for the German Flute*, with the page entitled “*Gamut for the Clarionet*” (Rice, 1984:30).

The range indicated in this chart is from e to f^3 , a semitone higher than that given by Berg, and all chromatic notes were excluded. Rice thinks there might be an error in the fingering of f^2 , because it tends to produce a very sharp note, almost like an $f\#\#^2$ (1984:23). The interesting thing is that the fingering chart includes the note of g^3 and a^3 on the stave, but without fingerings. This probably implies that those two notes could be produced by the same fingering of f^3 , but by sharpening them by using the embouchure technique, such as pinching.

Beside these two fingering charts from the eighteenth and early nineteenth centuries, Hoeplich (1981:30-32) constructed a fingering chart for J. C. Denner’s three-key clarinet (Fig. 3.8.3, p.65). The instrument is pierced with eleven holes, eight

finger-holes plus three holes covered or opened by keys. The letter “S” stands for speaker-hole, “B” stands for the short key on the front of the instrument, “T” for thumb-hole, the finger-holes (1, 2, 3, 4, 5, 6, 7) with right hand in the lower position; and “TK” for the hole that is closed by the thumb-key.

3.6 Music for the early clarinet

The Baroque clarinet started to appear in scores around the second decade of the eighteenth century. The music written for the Baroque clarinet was mostly characterised by “repeated notes, incomplete arpeggios, fanfare motifs, a limited range, and restricted use of the low register.” (Rice, 1998:79). The music for two- and three-key clarinets, either as solo works or as orchestral parts, came mostly from around 1712 to 1756 (Rice, 1998:79). The Baroque clarinet was not as popular as other instruments at the beginning of the eighteenth century. Until the end of the eighteenth century and at the beginning of the nineteenth century, it was normally used by military musicians or amateurs, but most of this music was not published or preserved. The turning point of the music, from the Baroque to the Classical, occurred during the 1750s and 1760s. The music from France or England written from the 1760s onwards was mostly played by the “Classical” clarinet, which was the four-, five- or six-key clarinet (Rice, 1998:79).

	S	B \flat	T	1	2	3	4	5	6	7	TK
<i>e</i>	●	●	●	●	●	●	●	●	●	●	●
<i>f</i>	●	●	●	●	●	●	●	●	●	●	○
<i>f</i> \sharp	●	●	●	●	●	●	●	●	●	●	○
<i>g</i>	●	●	●	●	●	●	●	●	●	○	○
<i>g</i> \sharp	●	●	●	●	●	●	●	●	○	○	○
<i>a</i>	●	●	●	●	●	●	●	●	○	○	○
<i>b</i> \flat	●	●	●	●	●	●	○	○	○	○	○
<i>b</i>	●	●	●	●	●	●	○	○	○	○	○
<i>c</i>	●	●	●	●	●	●	○	○	○	○	○
<i>c</i> \sharp	●	●	●	●	●	○	○	○	○	○	○
<i>d</i>	●	●	●	●	●	○	○	○	○	○	○
<i>d</i> \flat	●	●	●	●	○	○	○	○	○	○	○
<i>e</i>	●	●	●	●	○	○	○	○	○	○	○
<i>f</i>	●	●	●	○	●	○	○	○	○	○	○
<i>f</i> \sharp	●	●	●	○	●	○	○	○	○	○	○
<i>g</i>	●	●	○	○	●	○	○	○	○	○	○
<i>g</i> \sharp	●	●	○	○	○	○	○	○	○	○	○
<i>a</i>	○	●	○	○	○	○	○	○	○	○	○
<i>b</i> \flat	●	○	○	○	○	○	○	○	○	○	○
<i>b</i>	○	○	○	○	○	○	○	○	○	○	○
<i>c</i>	○	●	●	●	●	●	●	●	●	●	○
<i>c</i> \sharp	○	●	●	●	●	●	●	●	●	●	○
<i>d</i>	○	●	●	●	●	●	●	●	○	○	○
<i>d</i> \flat	○	●	●	●	●	●	●	●	○	○	○
<i>e</i>	○	●	●	●	●	●	●	●	○	○	○
<i>f</i>	○	●	●	●	●	●	○	○	○	○	○
<i>f</i> \sharp	○	●	●	●	●	●	○	○	○	○	○
<i>g</i>	○	●	●	●	●	●	○	○	○	○	○
<i>g</i> \sharp	○	●	●	●	●	○	○	○	○	○	○
<i>a</i>	○	●	●	●	●	○	○	○	○	○	○
<i>b</i> \flat	○	●	●	●	○	○	○	○	○	○	○
<i>b</i>	○	●	●	●	○	○	○	○	○	○	○
<i>c</i>	○	●	●	○	●	○	○	○	○	○	○
<i>c</i> \sharp	○	●	●	○	○	○	○	○	○	○	○
<i>d</i>	○	●	●	○	●	○	○	○	○	○	○
<i>d</i> \flat	○	●	●	○	●	○	○	○	○	○	○
<i>e</i>	○	●	●	○	●	○	○	○	○	○	○
<i>f</i>	○	●	●	●	●	○	○	○	○	○	○
<i>f</i> \sharp	○	●	●	●	○	○	○	○	○	○	○
<i>g</i>	○	●	●	○	●	○	○	○	○	○	○
<i>g</i> \sharp	○	●	●	○	●	○	○	○	○	○	○
<i>a</i>	○	●	●	○	●	○	○	○	○	○	○

Fig. 3.8.3 Hoeprich's

fingering chart for J. C.

Denner's three-key clarinet

(1981:30-32).

3.6.1 The earliest extant example

The earliest published work for the clarinet is a set of anonymous duets, published by Estienne Roger in Amsterdam between 1712 and 1715. The two-volume set was entitled “*Airs à Deux Chalumeaux, deux Trompetes, deux Hauboïs, deux Violons, deux Flûtes, deux Clarinelles, ou Cors de Chasse*”, which indicated that the duets can be played by two chalumeaux, two trumpets, two oboes, two violins, two flutes, two clarinets or hunting horns.²⁴ The word “clarinelles” is a misspelling of “clarinettes” and the correct spelling occurs in Roger’s catalogue of 1716 (Hoeprich, 2008:31). The range of the airs is from c^1 to a^2 , and the diatonic melodies of the two clarinets feature passages played in thirds with some arpeggiated figures (Hoeprich, 2008:31). Rice (1998:80) indicated that the range used in these airs is diatonically from d^1 to b^2 without e^1 , and sometimes including $g\#^1$.

These anonymous airs were published twice; the first printing is missing but the second one, published between 1717 and 1722, and is preserved in Brussels (Hoeprich, 2008:31). The second printing has two volumes, named “premier dessus” and “second dessus”. The first one has thirty-four airs and the second one has forty-four. They are numbered from one to seventy-eight (Rice, 1998:80). The last two airs in the second volume (Nos. 77 and 78) are the only pieces that include bass parts. These figures use only the notes A and d , which Dart (1951:40) thought might originally have been written for timpani. (Fig. 3.9).

²⁴Roger had published quite a few works for the clarinet and the chalumeau, but some of them are not extant. Two examples are Jaques Philippe Dreux’s *Airs à 2 Clarinettes ou deux Chalumeaux* (advertised in Roger’s catalogue in 1716 but no extant copy exists), and *Fanfares pour deux Chalumeaux ou deux Trompettes*, which were edited by Dreux (published by Roger in 1703-4; advertised in Roger’s catalogue in 1706) (Rice, 1998:80).



Fig. 3.9 Anonymous duet, end of the Air No.78 of the second volume (Lawson: 1974:128).

All the airs are in D major, sometimes modulating to A major (Dart, 1951:40). Although many instruments are mentioned in the title, both Lawson (1974:127) and Rice (1998:80) felt that this was to increase sales, and that the clarinet was the instrument best suited to the whole set. Both Rice (1998:80) and Hoeprich (2008:31) felt that, though some of the pieces were suitable for some of the other instruments, key signatures, compasses, or other factors limited the ability for those instruments to play all 78.

Though trumpets and horns are mentioned in the title, Lawson (1974:127-128) thought that brass instruments could not manage to play all the airs; only those using notes exclusively from the harmonic series were suitable for these instruments. For example, in air No.78, the range of the two parts is wide, from a to a^2 . Only notes from the D major arpeggio are used, which suggest that this piece was written for a brass instrument. Lawson and Rice differ on the number of airs suitable for brass instruments; Lawson (1974:127) stated that about two-thirds of the duos are suitable for brass instruments, whereas Rice (1999:80) stated two-fifths.

Lawson (1974:127) considered that the airs could be played by two-key chalumeaux with the range from f^1 to b^2 . The appropriate chalumeaux for the ranges of these duets would be soprano and alto. However, the key signature presents a problem; chalumeaux were not built in D. As mentioned in Chapter Two, Hunt (1961:44) speculated that chalumeaux had been made in three keys: C, F, and G, although Lawson (n.d.) stated that only chalumeaux in C and F are extant.

Generally, it would be hard for the chalumeau built in F to play a piece written in concert D major; the transposition key becomes A major, a scale with cross-fingerings for the three sharp notes. It would also be difficult for the C chalumeau to play in concert D major; the transposed key becomes D major, still with cross-fingerings. The chalumeau in G would play concert D major in the transposed key of G, which is simpler. However, the chalumeau in G is a speculation on the part of Hunt; as stated in the previous paragraph, only chalumeaux in C and F are extant. For these instruments, with only two keys, the more cross-fingerings are needed, the more un-idiomatic the piece becomes; the two-key chalumeau is not suitable for music with many sharps or flats. However, Lawson cites an aria from Keiser's *Croesus*, including three chalumeaux, as an example of chalumeau writing in a sharp key, A major (1974:127).

Though Lawson felt that, with cross-fingering, the airs could be played on chalumeau, both Lawson (1974:127) and Rice (1998:80) mentioned yet another solution to the concert D major problem: an alto chalumeau pitched in *Chorton* (a high German pitch used in church music that was a whole tone higher than secular tone) would sound in D with a range starting from the lowest note d^1 upward, and could play all the duets, except Air No.78. The “soprano chalumeau with a doubled seventh finger-hole

could also be used for all but three” (Rice, 1998:80).²⁵

Lawson (1974:127) believed that the D clarinet was the most suitable instrument to perform these duets, because of its range from *a* to *b*²; all of the duets fit into this range. In addition, the D clarinet plays in C major when the concert key is D, which would make a simple scale with few cross-fingerings (Rice, 1998:80). According to Hoeprich (2008:31) the clarinet in D was the most common size in the early eighteenth century.

Hoeprich (2008:31) also discussed two different publishing traditions in the different countries for transposing instruments: 1) the Continental tradition, which transposed the music into the correct key for the transposing instrument, for example, C major for the clarinet in D; an example of this would be Bach and Telemann’s trumpet music, and 2) the English tradition, such as Handel used, which notated the music in the concert key and left it to the player to choose the right instrument so that the music sounded in the concert pitch. With this system, cross-fingerings or any other difficulty is irrelevant, since the player will choose an instrument that makes the key easier. This system makes it entirely possible that the duets were intended primarily for the D clarinet, since it would be an easy key within this publishing tradition.

Rice concluded that the *Airs* were not intended for the clarinet entirely, but that the two-key clarinet in D was the most appropriate instrument to play them, since there were fewer technical challenges and fewer fingering problems than that posed by the clarinet in C (1998:80).

²⁵ *Chorton* may have been used for Keiser's *Croesus*, in which case the aria for three chalumeaux would be fingered in G major.

3.7 Other early clarinet music

In Rice's *The Baroque Clarinet*, he listed a number of composers who composed works which include the Baroque clarinet: Antonio Caldara, Conti, Telemann, J. A. J. Faber, Rathgeber, Vivaldi, Paganelli, Kölbl, Handel, Molter, Rameau and Johann Stamitz. However, I will mainly focus on Antonio Vivaldi, George Philip Telemann, Jean-Adam-Joseph Faber, Johann Valentine Rathgeber, Jean-Philippe Rameau, George Frideric Handel, and Johann Melchior Molter.

3.7.1 Antonio Vivaldi (1678-1741)

Vivaldi, in addition to his works for chalumeau, included clarinets in a few works, though how many is subject to interpretation. The first is a part for "clarenì" in his 1716 oratorio *Juditha Triumphans*, RV644. It appeared in a chorus, "Plena nectare" in B flat major. A single part was written out and two "clarenì" played in unison. (Fig. 3.10, p.71) It is a short part, in two sections (bars 1-34 and 35-50), each of which is repeated. The word "clarenì" does not correspond to any specific instrument, but is similar to "clarino", a word that German composers at the time used for the trumpet, not clarinets, as well as a specific register of the trumpet.

Rice considered that Vivaldi might have intended this part for the trumpet, from the typical trumpet-like rhythm (triadic figure with two sixteenth-note plus quavers). However, the part was not playable on the trumpets of that time, but the range, an octave $b\flat^1$ to $b\flat^2$, is ideally suited to the clarinet (Rice, 1998:81-82). Talbot (1992:126) indicated that the two instruments must be in $B\flat$. If they had $B\flat$ clarinets in Venice, it would have been a better choice for a piece in $B\flat$ major than C

clarinets. But if the players were skilled in cross-fingering, the part in “Plena nectare” could have been played by clarinets pitched in C, since the earliest extant instruments are C and D clarinets (Rice, 1998:83).

The image shows a musical score for a clarinet part, labeled 'clareni' at the top. The score is written in treble clef with a key signature of one flat (B-flat) and a time signature of 3/8. It consists of seven staves of music. The first staff begins with a treble clef, a key signature of one flat, and a 3/8 time signature. The music features a series of eighth and sixteenth notes, with some trills (tr) and slurs. Measure numbers 8, 16, 24, 32, 40, and 48 are indicated above the staves. The score ends with a double bar line and repeat dots.

Fig. 3.10 Vivaldi's *Juditha Triumphans*, clareni part in chorus “Plena nectare” (Rice 1998:82).

After 1720, Vivaldi composed three concerti grossi, RV556, 559 and 560. In RV559 and 560, he used two of this new instrument, the clarinet, pitched in C, along with two oboes. The four solo instruments were accompanied by a string orchestra and continuo (Hoeplich, 2008:35). Rice (1998:96) stated the range of both clarinets in RV559 is from g to c^3 ; that of the first clarinet in RV560 is also from g to c^3 , but the second clarinet starts from two semi-tones lower, i.e f to c^3 .²⁶

²⁶ Hoeplich in *The Clarinet* (2008:35) mistakenly gave the range, f to d^3 , of the clarinets for Vivaldi's clarinet concertos RV559 and 560. The range goes only to c^3 .

In Concerto RV556 “per la Solennità di San Lorenzo”, the range of the first clarinet is extended to d^3 (Rice, 1998: 96-97). It was scored for a large ensemble: pairs of recorders, oboes, clarinets and one bassoon with string orchestra and two concertante violins (Hoeprich, 2008:35). Selfridge-Field (1978:337) thought that these parts could be a later addition of a performer, although the work is in autograph. The clarinets are silent for large parts of the score, but in the slow movement, Vivaldi indicates that the clarinets (*claren*) double the bass line with a violoncello, a second violoncello *pizzicato*, and a lute (Hoeprich, 2008:35-36).

Rice notes that Vivaldi used the bass clef when writing for the clarinet in the chalumeau register, meaning for the notes to sound an octave higher, rather than using the straightforward treble clef (Fig. 3.11). This practice was commonly followed in writing for the horn (Rice, 1998: 96).

The image displays a musical score for Vivaldi's Concerto RV560, first movement, bars 78-81. The score is in 3/4 time and marked 'Allegro'. It features five staves: two for clarinets (cl.1 and cl.2), two for oboes (ob.1 and ob.2), and one for the continuo (b.c.). The clarinet parts are written in bass clef, while the oboe parts are in treble clef. The continuo part is in bass clef. The score includes trills (tr) and 'a due' markings. A large watermark 'of Capetown' is visible across the score.

Fig. 3.11 Vivaldi's Concerto RV560 with clarinet, oboe and continuo parts in the first movement, bars 78-81, showing bass clef for the chalumeau register.

Rendall (1971:70) correctly states that Vivaldi included E^bs and F#s when writing for the clarinet, but mistakenly says that he avoids *b*¹, and he says nothing about other chromatic notes. However, in the score for *La Solennità*, in addition to the E^bs and F#s, there are two *a*^{b2}s, and two *b*¹s. (Fig. 3.12)

The image shows a musical score for two clarinets, labeled 'Do I' and 'Do II'. The music is in 3/4 time and consists of five measures. The notes are: G4, A4, B4, C5, B4, A4, G4, F4, E4, D4, C4. The B4 note in the second measure is marked with a natural sign and a flat (b¹), indicating a natural B-flat. The score is written on two staves with a brace on the left.

Fig. 3.12 Vivaldi's RV556, in *Allegro molto*, bars 139-143, showing *b*¹.

As discussed above on p.44, many erroneously believed that *b*¹ did not exist on the early clarinets. Rendall is one of these; he stated that “[a]n obvious fault of all 2-key clarinets was the lack of a hole to give a proper *b*¹ natural.” (Rendall, 1971:70).

Rendall was, however, correct when he said “there were of course no tone-holes for the semitones. These were obtained by cross-fingering, the normal practice on all woodwind instruments of this date.” (1971:69). However, Hoepfich does not feel the more difficult fingerings were such a limitation:

“In fact the limitations of Baroque clarinets were no greater than those of other Baroque woodwind instruments. Some cross-fingerings and half-holes produce a less clear sound than others, and in this respect the Classical clarinet may have constituted an improvement. Yet, as I have already pointed out, composers and players seem to have made a virtue of the shortcomings of their instruments and to have turned the variable quality of the sound to good effect.” (1983:62)

Vivaldi composed his clarinet music in two ways. The first one is playing in the upper register with simple diatonic melodies and occasional arpeggiated fanfares (Hoeprich, 1983:62-63), such as in the second movement of RV559. (See Fig. 3.13)

The image shows a musical score for Vivaldi's Concerto RV559, second movement, bars 4-7. The score is for C Clarinets I and II, and a keyboard accompaniment. The tempo is marked [Allegro]. The clarinet parts feature a fanfare-like melody in the upper register, while the keyboard accompaniment provides a rhythmic and harmonic foundation.

Fig. 3.13 Vivaldi's Concerto RV559, second movement bars 4-7, the fanfare and trumpet-like melody (Hoeprich, 1983:63).

In the second way Vivaldi demonstrates the clarinet's facility of quick changes from the lower register (or chalumeau register) to the upper register, or vice versa (See Fig. 3.12), and the contrast in the timbre between the upper and lower registers (Hoeprich, 1983:63).

Vivaldi was one of the first composers to deliberately exploit the distinctive timbres of the upper and lower registers of the clarinet (Rice 1998:96). For example in the opening Larghetto of RV559, Vivaldi exaggerated the contrast of the tone colour in the different registers by changing from C major in the upper register to C minor in the lower register (Fig. 3.14), thus enhancing the darkness and veiled tone colour of the lower register (Hoeprich, 1983:63).

The image shows a musical score for Vivaldi's Concerto, RV559, first movement, bars 1-11. The score is for C Clarinets I and II, and a string section. The tempo is marked 'Larghetto'. The clarinet parts show a timbre change at bar 11, indicated by a change in the key signature from one flat to two flats (B-flat). The string section consists of two staves, with the left hand playing a rhythmic pattern and the right hand playing a melodic line.

Fig. 3.14 Vivaldi's Concerto, RV559, first movement, bars 1-11, timbre change (also note the e^b).

In addition, Hoeprich stated that the sustained high note was also a typical musical device for the early clarinet (2008:35).

There are more than thirty Baroque clarinets in collections in Europe and America; only two C clarinets of the type used by Vivaldi in these concertos are extant. Both of these are from the collection of the Brussels Conservatoire: one was stamped as by Thomas Coenraet Boekhout (c.1665-1715), and the other clarinet as by Jacob Denner. According to Hoeprich, both of these are in good condition, but, due to various problems, it is difficult to perform the clarinet parts of Vivaldi's concertos on them (1983:61).

Comparing the construction, both Denner's and Boekhout's clarinets were made from boxwood, but Denner's one was stained black with thicker ivory mounts. Denner's clarinet has four joints plus a mouthpiece, although the mouthpiece has been a little damaged, and Boekhout's clarinet unfortunately has no mouthpiece, but the three joints are in good condition. The appearances of both clarinets are similar; both have two brass keys with similar shapes and the lengths and tone-hole positions are almost identical (Hoeprich, 1983:61-62).

Two problems with Denner's clarinet cause difficulties for the performance of Vivaldi's concertos. "The upper register and lower register have different tonal centres, the 12ths being about a semitone too small. Since Vivaldi wrote for the entire range of the instrument this internal inconsistency makes the Denner clarinet unacceptable" (Hoeprich, 1983:61). The other problem concerns the pitch of the instrument. The general pitch of the upper register is slightly flat of $a^1 = 440$, and the lower register is slightly higher of $a^1 = 440$. This seems strange since most of Denner's clarinets are pitched at $a^1 = 415$ or even lower (Hoeprich, 1983:61). "The Denner instrument must have been built to play at the old pitch, and it is clear from an examination of its dimensions that its bore has been enlarged in an effort to raise its pitch to the level required in the later 18th century." (Hoeprich, 1983:63-64).

Similar problems confront one with Boekhout's clarinet. Unstable intonation and a general pitch of $a^1 = 425$, as well as the lack of the note b^1 (which exists on Denner's clarinet) make this unsuitable for performance (Hoeprich, 1983:61-62).

3.7.2 Georg Philipp Telemann (1681-1767)

Another prolific composer who composed music for the chalumeau from 1718 onwards was also one of the first composers to write music for the clarinet (Rice, 1998:85). Lawson thought that the clarinet played a less important role during 1712-1721 when Telemann was in Frankfurt (1981:315), where he composed and directed the music for the Barfüsserkerche and Katharinenkerche, as well as writing music for various civic occasions (Zohn, n.d.). As stated in Chapter Two, Telemann seemed to prefer the chalumeau in his cantatas, oratorios, and serenatas. This was probably due to its delicate and more flexible sound in chromatic passages. Even

though he continued to use the chalumeau until late in his career (Lawson, 1979:351-352), some clarinet music was composed which is idiomatic for the two-key clarinet in C or in D (Hoeprich, 2008:33).

Telemann composed four cantatas that included clarinets: *Wer mich liebet, der wird mein Wort halten* (1721); *Christus ist um unsrer Missetat willen* (1721); *Jesu, wirst du bald erscheinen* (first performed in 1719); *Ein ungefärbt Gemüte* (first performed in 1722), and one serenata, *Serenata, zum Convivio der HH Burgercapitains* (1728).

Of these, the *Serenata* has one clarinet part that seems to be a substitute for an unavailable second trumpet; there is only one trumpet part, so the D clarinet is paired with a D trumpet; both parts of the music are similar, even sharing the same staff in several places in the score, not really distinguishing between the sounds of the two instruments. *Jesu, wirst du bald erscheinen* and *Ein ungefärbt Gemüte* have the clarinet parts in a different hand, probably added later, so they are possibly not by Telemann at all. That leaves two for which the clarinet parts would be a serious addition to early clarinet repertoire (Rice, 1998:86-91).

In the cantata, *Wer mich liebet, der wird mein Wort halten*, the clarinet part appears in the second aria. Due to the notation standards in Germany (see p.69), the clarinet parts are transposed into C major for the D clarinet. In the early orchestra, one wind player needed to play several instruments, as in this cantata, where the clarinet part appears with that of the horn, marked “Clarinetto et Corno da Caccia” (piccolo parts also exist in the oboe parts). The range of the clarinet part is from c^1 to a^2 . Compared to the horn part, the clarinet part is much simpler rhythmically and in range, though Rice feels that compared to other early clarinet parts it is still technically more

complex (Rice, 1998:86).

In the cantata, *Christus ist um unsrer Missetat willen*, Telemann used two D clarinets in the second and fourth arias and in a final choral section. The range of the first clarinet is from c^2 to c^3 ; the second clarinet is from c^1 to g^2 . Telemann entrusted the first clarinet with some technically difficult passages in the fourth aria, for example, sections in thirty-second notes, turns, trills and the $b^{\flat 2}$ note (Rice, 1998: 86). (Fig. 3.15) The two clarinets are mostly paired in thirds or fifths. According to Rice (1998:86), there were extra parts for C clarinets which have been crossed out, because the clarinet was not always available to Telemann during the 1720s. He provided alternative parts for two oboe obligatos, and included the indication “In Ermangelung der Clarinette” (in the absence of clarinets).

In all of the parts in Telemann’s hand, a D clarinet is used. In those three autograph parts, Telemann minimised the range to the interval of a thirteenth in each part. Telemann also avoided the note b^1 because it was an unstable note on some two-key clarinets (Rice, 1998:91).

The image shows a page of handwritten musical notation for a clarinet part. At the top, it is titled 'Clarinetto I.' and 'Tutti Largo'. The music is written on ten staves. The first staff has a treble clef and a 3/4 time signature. The notation includes various note values, rests, and dynamic markings. There are section markers for '31' and '12'. The score concludes with 'Recitativo' and 'Adagio' markings.

Fig. 3.15 The “Clarinetto I” part of Telemann’s *Christus ist um unsrer Missetat willen* (1721).

3.7.3 Jean-Adam-Joseph Faber

Faber (active around 1700) was a Belgian priest in Antwerp. He wrote two Masses that include the clarinet, “pour l’Assomption” and an unidentified Mass. According to the manuscript copy of 1726, the former one is scored for five voices and two violins, viola, two cellos, oboe, two flutes, clarinet, double bass, and harpsichord

(Rice, 1998:91). The unidentified Mass has a contralto solo “Qui tollis peccata mundi” (1720), which includes two flutes, harpsichord and a clarinet. Faber wrote it for the C clarinet with very wide range, from the lowest note of the two-key clarinet f to $b^{\flat 2}$. Moreover, Faber was probably the first composer to use arpeggios in the chalumeau register. He frequently uses wide leaps and even more so than Telemann (Rice, 1998:91, 93). For instance, a wide leap from f to a^2 comes in bar 14. These techniques in writing for the clarinet were not usual at that time.

3.7.4 Johann Valentin Rathgeber (1682-1750)

Rathgeber was a German composer, Benedictine choirmaster and priest at Banz, where he spent most of his life. Banz is close to Nuremberg, where the earliest clarinets were made (Hoeprich, 2008:34). Rathgeber was famous for his church music, and most of his works were published during his lifetime by the Augsburg firm of Lotter. During 1729 to 1738, he traveled throughout Germany, where he gained much knowledge of performance practice and liturgical customs in the Roman Catholic areas (Rice, 1998:93).

Rathgeber was probably the first composer to include the clarinet as a soloist in a concerto. His output includes three collections of secular instrumental music. The first of the three is *Chelys Sonora Excitans Spiritum Musicorum Digtis, Auribus, Ac Animis* (“The Sonorous Lute Stimulates the Musical Spirit of the Fingers, Hearing and Soul”), published in Augsburg in 1728. Rathgeber wrote it in a set of part-books, which contains twenty-four concertos divided into two parts: solo concertos and concerti grossi. While many use strings only, there are several for strings with two

“clarini vel Litu²⁷ obligatis” and, organ. There are a further two, Nos. 19 and 20, for two violins, “Clarineto vel Litu ex C obligato”, organ and cello (Rice, 1998:93-94).

Important here is that Rathgeber clearly distinguished between the “Clarineto” and the “Clarini”, although both parts are similar to each other (Hoeprich, 2008:34). Rathgeber probably used the clarinet as a substitute for the clarion (trumpet) or *lituo* in Nos. 19 and 20. Both of these are in three movements, but in the slow movement of No.19, the clarinet is silent, and in the slow movement of No.20, the clarinet plays repeated e^1 notes. Rathgeber employed the C clarinet, since both are in C major; the range of No.19 is c^1 to a^2 ; the range of No.20 is e^1 to c^3 (Rice, 1998:94).

Rathgeber treated the clarino in his concertos mostly in simple diatonic melodies, arpeggiated passages, triadic figuration, repeated notes, avoiding the note b^1 as did Telemann, and avoiding the notes below c^1 . Rathgeber must have known the clarinet and its technical difficulties; therefore most of his concertos are suitable for the two-key C clarinet (Rice, 2008:112; Rice, 1998:94). (Fig. 3.16)

²⁷ *lituo* has been identified variously as a cornetto, shawm, horn, and low trumpet.

CLARINETO yel LITUO Solo. Ex C. Obligato.

Allegro. 6. 5.

Concerto 19.

Adagio. 18.

Fig. 3.16 First (Allegro) and second movements (Adagio) of Concerto No.19 by Rathgeber (1728).

3.7.5 Jean-Philippe Rameau (1683-1764)

Rameau included clarinets in three of his works.²⁸ According to Rice, the first use of the clarinet in France may have been in Rameau's opera, *Zoroastre, tragédie en musique*, first performed on 5 December 1749. Two German clarinetists, Jean Schieffer and François Raiffer are listed as performers (1998:114). However, there are no clarinet parts in the score, in either of the two versions dated 1749 and 1756. Therefore, we can assume that the clarinetists also played other wind instruments in

²⁸ There is a potential fourth; Adolphe Adam (1859:181) stated that Rameau also included the clarinet in his opéra-ballet *Le temple de la Gloire* (1745), but this has never been proved (Rice, 1998:115).

the orchestra, and only played the clarinet when instructed to do so.

The same applies to his last opera, the lyric tragedy *Abaris, ou Les Boréades* (1764), where no proper clarinet parts appear in the score, but Rameau indicates in the score that the clarinet part could replace some oboe parts, and sometimes play together with the oboes (Hoepflich, 2008:38). For instance, in the Overture, there are a few indications such as “clarinettes ou hautbois”, “hautbois et clarinettes”, “h.b. et cl”, and “sans h.b. ni clar”. The clarinets and/or oboes usually doubled the violin parts (Rice, 1998:114).

The clarinet was the new tone colour in the Opéra orchestra (Sadler, 1981-1982:60), and in one work at least, Rameau did use it in a more individualistic role; his heroic pastorale *Acante et Céphise* (1751). Adolphe Adam stated that the actual first use of the clarinet in the orchestra was in this work, and if *Zoroastre* is discounted on account of the fact that there are no actual clarinet parts, this could well be true (Rice 1998:115).

In this work, Rameau made the clarinet weightier in the orchestra; a pair of clarinets appears in thirteen movements. Frequently they are combined with two horns (Rice, 2008:112). Particularly when Rameau uses A clarinets, they are given solo roles that are accompanied by horns (Rice, 1998:123). On one occasion, (“Annonce”, Act II, Scene VI), the clarinets and horns even share one line. (Fig. 3.17.1)

Fig. 3.17.1 Rameau's *Acante et Céphise* (1751), Act II, Scene VI, "Annonce".

For those movements that use A clarinets, the three-key clarinet was probably not necessary. There are a few difficult trills in the "Entrée" and "Rigaudon" movements, such as trills on $b^{\flat 1}$ and $b^{\flat 2}$ and e^3 . However these trills did not occur too many times. In the "Entrée" movement, there is only one $b^{\flat 1}$ trill for the second clarinet, and this trill is difficult on both two- and three-key clarinets; in the "Rigaudon" movement, there are only two $b^{\flat 2}$ trills for the first clarinet; the fingerings are virtually the same for two- and three-key clarinets. The four trills on e^3 exceed the normal range of the two-key clarinet, but according to Eisel, it is still playable by some virtuosos (Rice, 1998:65).

Apart from A clarinets, Rameau also uses C and D clarinets, such as in the "Entrée", "Un Chasseur", "Menuet", "Entr' Acte", and "Contre Dance" movements. These sections are in simple keys without many chromatic notes. Though some movements contain trills that might cause difficulties or cross-fingerings on the

two-key clarinet, such as trills on b^1 , this would be solved by playing on the three-key clarinet. There are trills, however, on b^2 and e^2 that require cross-fingerings on both two- and three-key clarinets, and the trill on a^1 is easy on the two-key clarinet but according to the fingering charts available, not on the three-key clarinet, unless a virtuoso player found extra fingerings. Therefore, if the trills a^1 and b^1 do not occur in the same part, each performer could choose to play on whichever instrument made the finger work easier. However, if both a^1 and b^1 trills occurred in the same part, the three-key clarinet would be required. For example, the second clarinet part in both “Feu d’Artifice” and “Vive la race de nos Rois” movements contain both a^1 and b^1 trills, therefore the second clarinet required a three-key clarinet in C.

The only other consideration is the range; with a top note of d^3 , this exceeds the normal range of a two-key clarinet as given in the two extant fingering charts. However, as mentioned above (p.58), Eisel stated that the two-key clarinet could actually reach notes a fifth or sixth above c^3 , so range is not a problem, and either a two- or three-key clarinet can handle the range of these movements.

Rice stated that Rameau treated the clarinet in a similar style to Telemann’s clarinet music, using diatonic melodies, arpeggiated and triadic figures, and trumpet-style music, resembling a pre-Classical style (2008:112). Examples of this type of writing would be in the Overture, Fanfare, Act II “Entrée” and “Entr’Acte”. Hoepflich states that both C and D clarinets are required in this opera (2008:38), but both the “Entrée” and “Entr’Acte” from Act II would also require an A clarinet.

In the “Feu d’artifice” section of the overture, Rameau used two C clarinets with a trumpet-like fanfare rhythm and arpeggiated figures starting in the third bar. There

are some technical challenges: though there is no tempo marking, there are passages using sixteenth- and thirty-second-note figurations; the second clarinet in bars 16 to 17 has to play a sixteenth-note figure on a^1 - b^1 - a^1 - b^1 (Fig. 3.17.2). The range of the music is wide, g to e^3 , with many accidental notes, g^\sharp^1 , c^\sharp^2 , f^\sharp^2 , g^\sharp^2 , and c^\sharp^3 (Fig. 3.17.3).

The image shows a page of musical notation for Rameau's *Acante et Céphise* (1751), specifically the "Feu d'artifice" section, bars 13-18. The score is written for a full orchestra and includes a second clarinet part. The fourth staff, which is the second clarinet part, shows a sixteenth-note figure on the notes a^1 , b^1 , a^1 , b^1 . The score includes various dynamics such as "Touss", "Seul", "Touss", "Pro", and "d.".

Fig. 3.17.2 Rameau's *Acante et Céphise* (1751), "Feu d'artifice", bar 13-18; the clarinet parts are on the fourth stave.

Fig. 3.17.3 Rameau's *Acante et Céphise* (1751), "Feu d'artifice", bar 27-33; the clarinet parts are on the fourth stave.

Generally, Rameau did not try to avoid the note b^1 , and even wrote trills on b^1 to c^2 , for example, in "Feu d'artifice", bars 16-17, and in "Vive la race de nos Rois" bars 10 and 28. With the ability to play b^1 having been proved (see p.44), the a^1 - b^1 - a^1 - b^1 could have been done on a two-key clarinet without going over the break. However, the trills on b^1 - c^2 are problematic. This looks like an easy trill according to Majer's fingering chart, but as stated previously (Rice, 1998:71), Majer's second register fingerings do not produce the pitches they are supposed to. It is possible that, at least for this movement, a three-key clarinet was necessary.

In the Act II “Entrée” (Fig. 3.17.4), the two clarinets²⁹ play a solo part, accompanied by two horns, strings, and basso continuo, in the range c^1 to d^3 . There is nothing in this movement that specifically requires a three-key clarinet, so this could have been played on either a two- or three- key instrument.

Fig. 3.17.4 Rameau (1751), *Acante et Céphise*, act II, “Entrée”

The next section, “Rigaudon”, follows straight after the “Entrée” section. This dance movement is scored for two A clarinets and two horns in D for the first half, with strings and bass completing the second half, after which the first section is repeated. The range of the clarinet parts is from a^1 to f^3 . The instruments mostly play in the upper register, with the melody primarily in scale figures. This section included six f^3 s, not counting the repeats. Two-key clarinet fingering charts do not have the actual fingering; c^3 is the highest note in these charts, although Eisel stated that “it is not impossible for some virtuosos to play a fifth or a sixth higher” (Rice,

²⁹ Rameau used two A clarinets here, and he used two clefs for the clarinet parts in the score; a treble clef in F major, and a soprano clef in D major. This notational device was firstly used in France by him, and the purpose of the two clefs is that the first clef is for the player to read, and the second clef is the pitch actually heard (Rice, 1998:118, 121).

1998:65). If played on a three-key clarinet, the only known fingering, from “Gamut for the Clarionet”, is very sharp (Rice, 1998:76), but could be adjusted with embouchure, by dropping the jaw, or covering finger holes slightly to flatten the pitch. Both two- or three-key clarinets could get this note; therefore one cannot tell whether this was played on a two- or three-key clarinet.

The following aria “Un chasseur” (A hunter) is a bass aria, “L’amour est heureux” (Love is happy). Rameau again used the pairing of clarinets and horns in D to portrait a huntsman. This combination for a hunting theme was popular during that time, and even became a trend followed by many composers later in eighteenth century opera, concertos, and wind music (Hoeprich, 2008:38; Rice, 2008:112). According to Rice, Rameau was the first composer to use clarinets and horns for hunting-call music (Rice, 2008:112).

At the end of “Air vif” of Act II, Scene VI, the first clarinet leaps from c^3 to f^3 twice; the same intonation problems and possible solutions apply here as for the “Rigaudon”. The next section that included clarinets is the “Entr’acte” between Act II and Act III. Again, it is for two A clarinets and two horns in D. This time the clarinets are playing simple rhythms and trumpet-like music with the range c^1 to c^3 , and with some octave leaps.

In Act III, Scene III, two clarinets in D are paired with two violins, two oboes, and bass in the “Contre-danse” with a fanfare-like melody and scale passages. The last section that included clarinets is in “Vive la race de nos Rois”, which used two D clarinets with two violins, two oboes, and bass. This section uses simple rhythms, and Rameau did not include many accidental notes; he only used $g\#^1$, $f\#^2$, and $g\#^2$.

These notes were possible on a two-key clarinet, but Rameau included many trills, such as on $g\#^1$, a^1 , b^1 , c^2 , d^2 , e^2 , f^2 , $f\#^2$, g^2 , a^2 , and b^2 , as well as a mordent on c^3 . This section contains more trills for the clarinets than other sections; the three-key clarinet would make these easier to play, particularly the b^1 trill.

3.7.6 George Frideric Handel (1685-1759)

Handel did not write many works that included the clarinet. Clarinets only appear in one opera, *Tamerlano* (first version in 1724), but were only added for the second version (1731), and there are questions surrounding it. *Riccardo Primo* (first version in 1727) included chalumeaux, not clarinets, though as stated in Chapter Two (p.27, footnote) the clarinet was used in the 1830 revival by Lacy. A more definite use of clarinets is in the four-movement Overture, HWV 424 (Hoeprich, 2008:36).

Tamerlano was first produced in 1724. The aria in question is “Par che mi nasca in seno”. There are six editions mentioned by Terence Best in the preface to the *Hallische Händel-Ausgabe*. Two of these indicate the obbligato instrument as “Cornetti”, and a further two indicate clarinets. A fifth has no indication, and Best does not say what the sixth indicates, if anything. “It is unlikely that Handel meant cornetti here; there were clarinet players in London in the 1720’s [sic] . . .” (1996:299). Of the cornetti, Dean and Knapp stated that “no such instruments are known to have been available in London, nor did Handel write for them elsewhere”, and are of the opinion that Handel might have been confused about the name of the new instrument, correcting the name in the Hamburg copy (1987:552).³⁰

³⁰ When used with cornetti/clarinetti, the voice type is alto. However, this aria has another version for Irene as a soprano. This version used flutes instead of cornetti/clarinetti. This version was not used in the 1724-1725 performance (Best, 1996:XXVI).

In the *Hallsche Händel-Ausgabe* edition of “Par che mi nasca in seno” (1996:88), the two clarinet parts are doubling the two violin parts at first. It is a short aria in C major; in the A section the clarinet rests for only a few bars. The aria is in 12/8, moving mostly in three-quaver groups, and Handel used quite a few figures consisting of dotted sixteenth-notes followed by thirty-second notes. The range of the clarinet part is from c^1 to c^3 , and there are not many fingering difficulties besides some accidental notes, $f\#^1$, $f\#^2$, and $b\flat^1$. None of these notes are difficult on a two-key clarinet.

Handel used two clarinets and one horn in the Overture, HWV 424. This is a four-movement chamber work, of which the original manuscript is preserved in the Fitzwilliam Museum in Cambridge (Hoeprich, 2008:36). At one time it was thought that parts for strings, now missing, could have existed for this Overture. An examination of the score proves that, harmonically and structurally, it is a complete work and that it was unlikely to have included other parts (Rice, 1998:106).

The clarinet part, like a fanfare, has a trumpet-like character, as in the second section of the first movement, *Allegro ma non troppo*. The written range (which is also the concert pitch) of the first clarinet is $c\#^1$ to d^3 , and a to d^3 for the second clarinet. The Overture is written in D major, and the clarinet parts are not transposed (Hoeprich, 2008:36). According to the publishing tradition in England (see p.69), the performer could choose which instrument made the part easier to play.

The fingerings are complicated if the clarinetist uses a C clarinet and plays in D major; however, for concert D major, a D clarinet will play in C major, which solves some of the fingering difficulties (Chatwin, 1950:7). Chatwin considered that if a C clarinet

was intended, a three-key clarinet was probably needed; the third key helped with producing the note b^1 and could be used to produce the $c^{\#2}$ by using it to flatten a d^2 fingering (1950:7). Rice stated that “[i]ndeed, on the basis of our working knowledge of clarinet fingerings, it is also apparent that these parts were playable on certain two-key clarinets in c' and three-key clarinet in d' .” (1998:109).

So while it is unclear what this was intended for, we can also look at intonation to see what it would sound better on. On a C clarinet, besides the F#s and C#s in the key signature, $a^{\#1}$ (5), $g^{\#1}$ (37), $d^{\#2}$ (7), and $g^{\#2}$ (8) are needed; according to Rice these last three cause poor intonation (Rice, 1998:109). However, if played on a two-key clarinet in D (fingering C major), these notes transpose to: $g^{\#1}$, $f^{\#1}$, $c^{\#2}$, and $f^{\#2}$, in addition to a b^b1 that results from transposing C-natural down a tone. Of the $g^{\#1}$ in the score that Rice feels has bad intonation, there are 37. These become $f^{\#1}$ on a D clarinet. New $g^{\#1}$ s that are caused by transposing the $a^{\#1}$ in the score are only 5. Therefore, on a C clarinet there will be 32 more out of tune $g^{\#1}$ s than on the D clarinet. The intonation would be generally improved by using the two-key clarinet in D, since the number of $g^{\#1}$ s has been reduced to five; no more $a^{\#1}$; and the number of $c^{\#2}$ s has been reduced as well.

3.7.7 Johann Melchior Molter (1696-1765)

Molter was a German composer, who became a court musician in Durlach (near Karlsruhe) in 1717. He returned to Durlach in 1723 after two years study in Italy, and became a court conductor and composer to the Margrave of Baden (O'Loughlin, 1966:110). As mentioned in Chapter One above, it is known that Molter liked to write music for unusual instruments, including the clarinet. For this instrument, he

wrote six concertos, probably composed in the 1740s or 1750s.³¹ There is some disagreement about the numbered order, but there are manuscript numbers, which Hannsdieter Wohlfahrt (1990) has matched to MWV³² numbers: Clarinet Concerto in A major, MWV VI/41 (MS 304), Clarinet Concerto in D major, MWV VI/38 (MS 334), Clarinet Concerto in G major, MWV VI/40 (MS 302), Clarinet Concerto in D major MWV VI/39 (MS 337), Clarinet Concerto in D major, MWV VI/36 (MS 328), and Clarinet Concerto in D major, MWV VI/37 (MS 332). Four of the clarinet concertos were edited by Heinz Becker in the series *Das Erbe Deutscher Musik* (vol.xli, 1957) (O'Loughlin, 1988:28; Rice, 1998:109). Four of the concertos were published by Breitkopf & Härtel: the A major MWVVI/41, the G major MWV VI/40, and two of the D major concertos (MWV VI/38 and MWV VI/39).³³

According to O'Loughlin, Molter's clarinet concertos were among the earliest existing concertos for the instrument (1966:111). Concertos MWV VI/41 and MWV VI/40 give no indication, neither "Clarinetto" nor "Clarinetto concertante". Basil Tschaikow stated that they could be seen as trumpet concertos (Lawson, 1999:44); though from the range and the style of writing, both could be more reasonably identified as solo parts for the clarinet concertos (Rice, 1998:109). The following gives the range of each concerto: MWV VI/41 (c^2 to g^3), MWV VI/ 38 (c^1 to $f\#^3$),³⁴ MWV VI/40 (c^1 to g^3), MWV VI/39 (g^1 to g^3), MWV VI/36 (g to f^3), and MWV VI/37 (d^1 to g^3). Molter often went into the range of the two-key clarinet that Eisel regarded as for virtuosos (Rice, 1998:65), often employing pitches between c^3 to g^3 . Notes below c^2 were used mainly in simple triadic melodies (Rice, 1998:109).

³¹ Lawson (1999: 214, note 1) gives the date as 1740s; Wohlfahrt (1990) indicates 1747-1750.

³² MWV refers to the *Molter- Werke-Verzeichnis*, the catalogue of Molter's works by Klaus Häfner. The manuscript numbers are of those preserved in the Badische Landesbibliothek in Karlsruhe.

³³ Since these are also edited by Becker, they are probably the same four concertos.

³⁴ Rice (1988:112) gives c^2 . Heinz Becker's edition (Wiesbaden; Breitkopf & Härtel, 1986) gives c^1 in bar 68 in the first movement.

Molter treated the clarinet as a proper solo instrument, no longer as a substitute instrument. Referring to his clarinet concertos, Hoeprich said that “the clarinet soars out over the string orchestra with almost super-human effect”, using “expressive devices such as repeated notes, sequences, leaps greater than an octave, and the highly florid writing expected in a late-Baroque concerto.” (2008:37-38).

All six concertos employ chromatic notes, for example, $c\sharp^2$, $d\sharp^2$, $e\sharp^2$, $f\sharp^2$, $g\sharp^2$, $b\flat^2$, $c\sharp^3$ and $f\sharp^3$ (Rice, 1998:113). Molter did not try to avoid the fingering difficulties as other composers did, although b^1 (the note that many composers tried to avoid for the two-key clarinet) only appears once in the first movement of MS 332, and $b\flat^1$ is never used (Hoeprich, 2008:38). Although Rice (1998:109) stated that Molter’s concertos were written for the two-key clarinet, Hoeprich thought “a relatively advanced clarinet with three-keys would have been needed . . .” and he cites three-key clarinets produced in Germany at that time by Kenigsperger, Zencker, Scherer and Walch (Hoeprich, 2008:38).

3.8 Conclusion

By the middle of eighteenth century, the clarinet was used more frequently in many genres of music (Rice, 1998:161). For example, it was used more often in opera music, military music, and solo music. It also became more prominent in many orchestras, such as the Paris Opéra and Molter’s Baden court orchestra. At this stage, though, the instrument had reached a limit in its design. It now had to respond to new challenges posed by composers of the day. The Baroque clarinet would continue to be used in the military band during the late eighteenth century and the early nineteenth century throughout Europe. However, in other types of music, such

as orchestral and opera music, the Baroque clarinet was gradually replaced by the Classical clarinet at the end of the eighteenth century and early nineteenth century, and the new clarinet spread widely throughout Europe, and even extended to America (Rice, 1998:161).

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