

## **Term Paper**

The development of early bassoon in 17<sup>th</sup> century.

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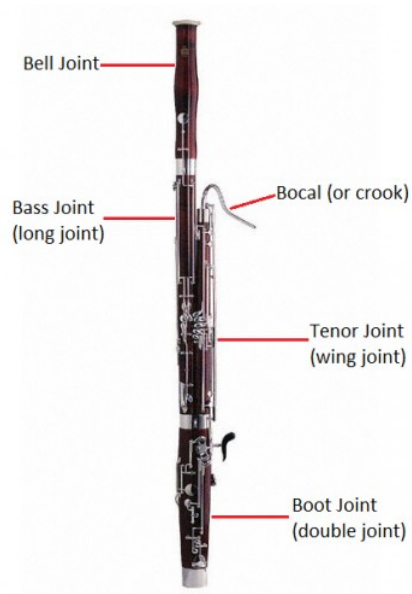
## Abstract

Bassoon is a double- reed woodwind instrument used widely as a solo or a bass in orchestra since Baroque period. Although the early development of it was obscure, the precursor of this instrument is believed to be *dulcian* and there seemed a huge modification in Renaissance to Baroque Period according to some pictorial sources. A relief carved in 1563 showed *dulcian* was made from one piece of wood but the famous painting by Harmen Hals in mid-17<sup>th</sup> Century showed a four-jointed baroque bassoon. This raised a question of how the one-piece *dulcian* modified into a four-jointed baroque bassoon between late 16<sup>th</sup> century to 17<sup>th</sup> century. Moreover, more composers such as *Biagio Marini* , *Bartolome de Selma e Salaverde*, *Philipp Boddecker* and *Giovanni Antonio Bertoli* in 17<sup>th</sup> century composed solo pieces for bassoon and started to specify it as the bass instrument in their manuscripts. The role of bassoon in early Baroque music seemed to become more and more important.

This paper emphasizes the development of bassoon in 17<sup>th</sup> century and discuss to what extent the modification of it made early bassoon that was normally a bass instrument in renaissance become a solo instrument in this period. The modification of early bassoon including the structural change and technological refinements of it, the growth of repertories for it will be discussed by using primary sources such as manuscripts, paintings and documentaries, and secondary sources such as transcriptions, journals and books published by scholars.

**Figure 1**

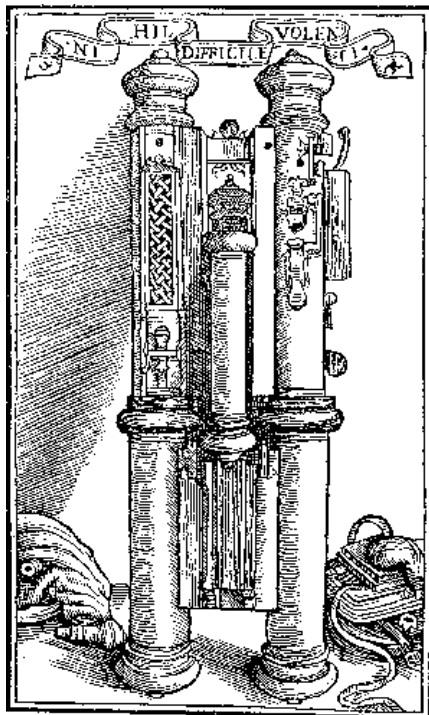
Modern Bassoon



<http://martiecoetser.hubpages.com/hub/The-Bassoon-and-the-Bassoon-Player-Bj-Rakow-aka-drbj>

**Figure 2**

Description of *Phagotum* by *Teseo Albonesi*



<http://www.bagpipeworld.co.uk/country/recon/phagotum.html>

**Figure 3**

The painting by *Harmen Hals* in mid-17<sup>th</sup> Century



**Figure 4**

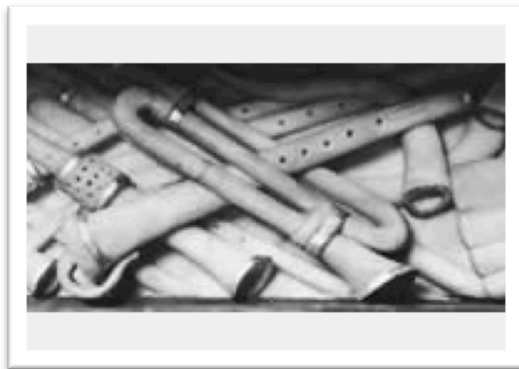
Surviving 17<sup>th</sup> century instrument by *Richard Haka*



2, 3 Bassoon, Richard Haka, Amsterdam, late 17th century; DDR- Sondershausen, staatliche Museen Mu5.

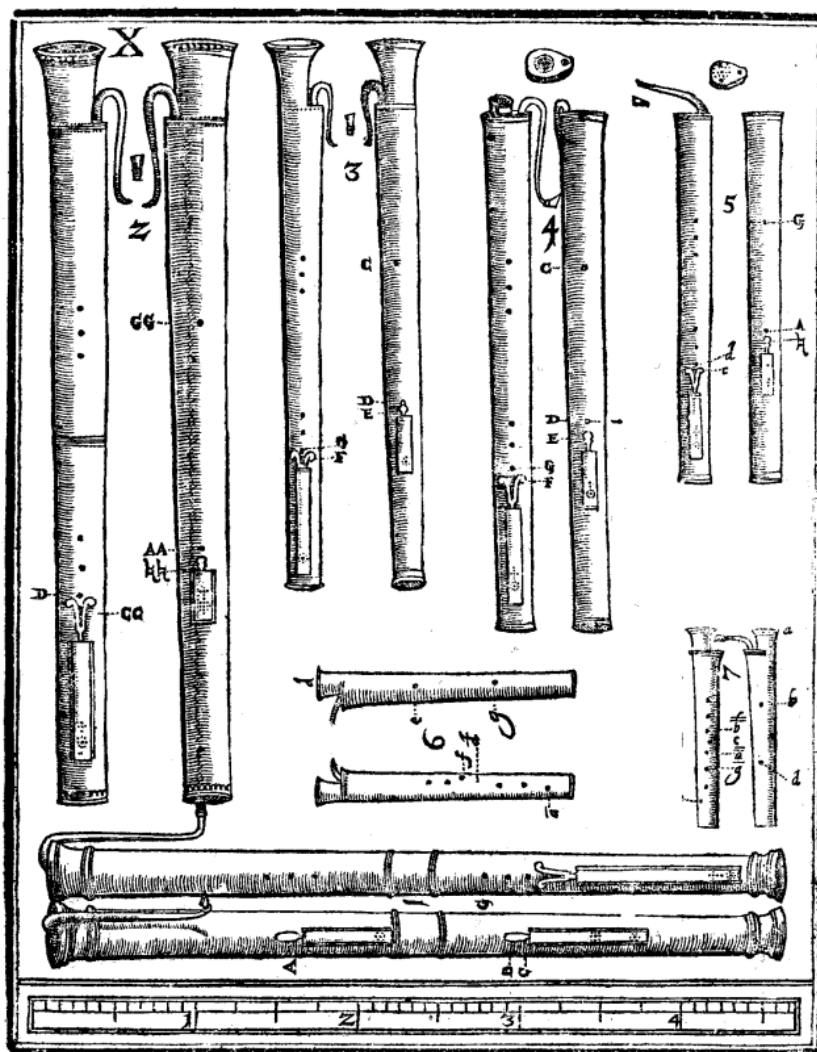
**Figure 5**

The relief carved in *Freiberg Cathedral* by *Anton van Zerroen* in 1563



**Figure 6**

Picture about dulcian in the treatise “*Syntagma Musicum*” by *Michael Praetorius*



**Figure 7**

Painting by *Denis van Alsloot* in 1616



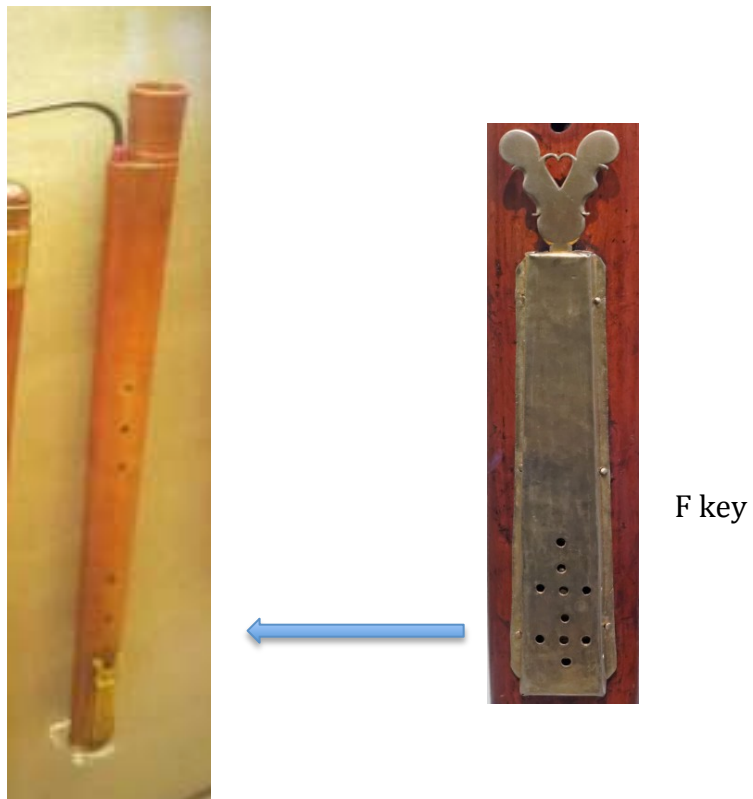
**Figure 8**

*“The pilgrimage of the Infanta Isabelle to Laken”* by *Nicolas van der Horst* in 1622



**Figure 9**

Surviving *dulcian* in a German Museum.



<http://www.dulcians.org/dulmus.htm>

**Figure 10**

The baroque bassoon bought by the Chinese University of Hong Kong





Figure 11

*Duclian* with hole names.

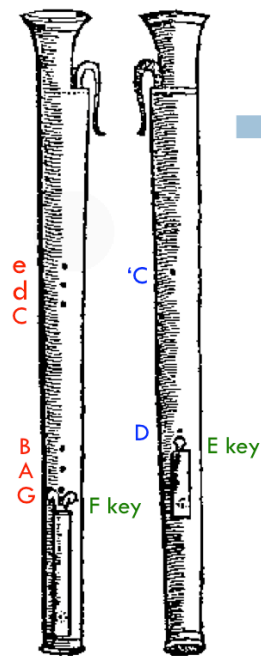
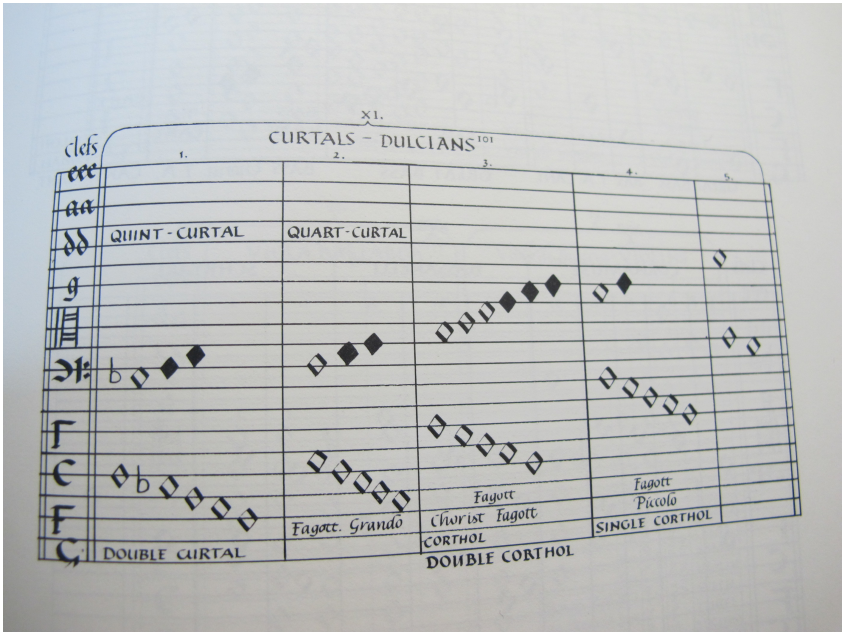


Figure 11

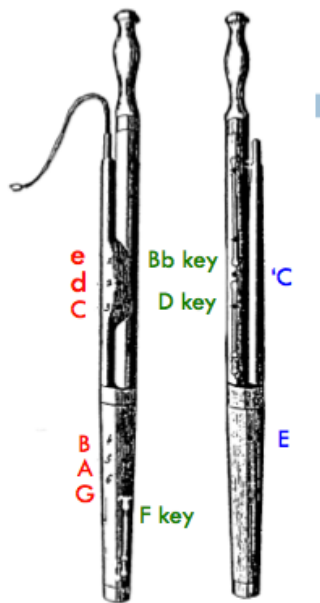
The chart by *Praetorius* in the treatise “*Syntagma Musicum*”





**Figure 13**

Jointed Bassoon with hole names



**Figure 14**

The perforated lid in dulcian



<http://www.dulcians.org/dulmus.htm>

## Bassoon and its origin

A modern bassoon is constructed with two tubes of conical bore connected in U-shape at the bottom and is consist of four joints including the bell joint, long joint, wing joint and boot joint with a crook and reed (Figure 1). The construction of this instrument is complicated because many additional keys are fixed into the joints so as to broaden its range from 'Bb to even G' in bass clef. In naming keys, there are operational and vent name. Operational name is the note sounded when the hole is closed while vent name is the note sounded when the hole is opened<sup>1</sup>. For example, the operational name of the first finger hole in left hand is E. When the first hole is closed, it produce E. When it is opened, F note is sounded. Therefore, the vent name of the first finger hole is F. For clear presentation, only operational name is used in this essay.

Although modern bassoon is four-jointed and wide- ranged, some suggested it was originated from an instrument called *Phagotum* invented early before 1521 by *Canon Afranio of Ferrara* (1480- 1565) because they shared the same mechanism of two channels connected in U-shape<sup>2</sup>. However, this statement is not authentic enough because there is actually a lot of difference between these two instruments. Showed in an illustrated description by *Teseo Albonesi*, a nephew of Afranio, *Phagotum* (Figure 2) got two U-tubes, cylindrical bore and played by single metal reeds but bassoon is a

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<sup>1</sup> Paul J. White, "Early Bassoon Fingering Charts," *The Galpin Society Journal* 43 (1990): 70.

<sup>2</sup> Christopher Bayley, "Reconstructions: The Phagotum," In *The World of Bagpipes*, <http://www.bagpipeworld.co.uk/country/recon/phagotum.html> (accessed 16 November 2014).

double-reed instrument with single U-tube and conical bore<sup>3</sup>. Besides that, some also suggested bassoon was the successor of bass shawm because it seemed to shorten the inconveniently long instrument by doubling the tube<sup>4</sup>. However, this statement is argued by the co-existence of these two instruments for a hundred years. The long 6- or 8 feet shawms were still made and developed after the bassoon appeared so it is hard to regard that bassoon is a continuation of the shawm type<sup>5</sup>.

After the above assumption, the precursor of bassoon is believed to be *duclian*, which was a one-piece bass instrument starting to use in renaissance because they share similar features such as sounding with double reed on a crook and constructing with two tubes of conical bore in a continuous pipe at the bottom.

### **The early history of bassoon**

Although the precursor of bassoon is believed to be *duclian*, the country of its origin is still uncertain<sup>6</sup>. It was widely used in Italy, Spain, Germany and England since the middle of 16<sup>th</sup> century. And the early development of bassoon was obscure, especially before 1700 because various names such as “fagott”, “curtal” and “dulcian” were used in manuscripts and documentaries<sup>7</sup>. Therefore, both documentary reference and pictorial sources are needed to analyze the development of it. Important

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<sup>3</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 8.

<sup>4</sup> Adam Carse, *Musical Wind Instruments* (New York: Da Capo Press, 1965), 183.

<sup>5</sup> *ibid.*

<sup>6</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 7.

<sup>7</sup> Stanley Sadie, ed., *The New Grove Dictionary of Musical Instruments: A-F*, 1 vols. (New York: Grove's Dictionaries of Music, 1984), 180.

documentary sources about dulcians in the 17<sup>th</sup> century were *Michael Praetorius* 's "*Syntagma Musicum*" published in 1619, *Marin Mersenne* 's "*Harmonie Universelle*" in 1636 including descriptions and drawing of dulcian , and *Daniel Speer* 's *Vierfaches Musicalisches Kleeblatt* in 1697 including a fingering chart. Besides them, there were still scholars such as *A. Kircher* (1601-80) and *Cerone* (1560-1625) mentioned dulcians in books but they only copied others and no new findings<sup>8</sup>. It is believed that four-jointed bassoon was appeared around mid-17<sup>th</sup> Century according to the famous painting (figure 3) by *Harmen Hals* in mid-17<sup>th</sup> Century. Around 1980, there is a discovery in Germany that a well-preserved 17<sup>th</sup> century instrument (figure 4) by *Richard Haka* who was a woodwind-instrument maker in Amsterdam from about 1660 to 1696<sup>9</sup>. This surviving bassoon gave us an idea of the bassoon in the late- 17<sup>th</sup> century.

### ***Dulcian***

It is not clear when the *dulcian* was invented but it was presumed to appear around the middle of the 16<sup>th</sup> century according to the earliest pictorial source which was a relief (Figure 5) carved in *Freiberg Cathedral* by *Anton van Zerreen* in 1563<sup>10</sup>. Showed in the relief, *dulcian* was made from one-piece of wood with a curved crook inserted at the top. It was a popular bass woodwind instrument with double reed in renaissance. According to the treatise "*Syntagma Musicum*" by *Michael Praetorius* published in 1619, *dulcian* was also made in five sizes including *Descant*, *Piccolo*,

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<sup>8</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 28.

<sup>9</sup> William Waterhouse, "A Newly Discovered 17<sup>th</sup> Century Bassoon by Haka," *Early Music* 16, no. 3 (1988): 407.

<sup>10</sup> Stanley Sadie, ed., *The New Grove Dictionary of Musical Instruments: A-F*, 1 vols. (New York: Grove's Dictionaries of Music, 1984), 181.

*Chorist*, *Quart-double* and *Quint-double*<sup>11</sup>. The one that corresponded in size and pitch with bassoon was the *chorist fagott*<sup>12</sup>. *Chorist fagott* was the most common and popular size of dulcian. Shown in the drawing (figure 6) in “*Syntagma Musicum*”, the instruments marked 3 and 4 are *chorist fagott*. Since the writer was not able to access a *dulcian* in person, here is the description of it by Stanley Sadie<sup>13</sup>:

*It (dulcian) consisted of a single shaft of wood, oval in section, nearly a metre tall, drilled with two bores connected at the bottom so as to form one continuous conical tube. At the top a curved brass crook was inserted into the narrow end of the bore, and the other end was slightly extended to form a flared bell.*

The *dulcian* was named according to a French word “*douçaine* “ meaning sweet and soft because its sweet, soft sound<sup>14</sup>. Now that bassoon and *dulcian* share similar features such as sounding with double reed on a crook and constructing with a long tube that doubles back on itself, it was presumed to be the precursor of bassoon.

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<sup>11</sup> Micheal Praetorius, *Syntagma Musicum II: De Organographia Part I and II*, trans. and ed. David Z. Crookes (Oxford: Clarendon Press, 1986), 29.

<sup>12</sup> Emily Clare Stone, “The Evolution of the Bassoon and its Impact upon Solo Repertoire and Performance” (Master thesis., The University of Adelaide, 2008).

<sup>13</sup> Stanley Sadie, ed., *The New Grove Dictionary of Musical Instruments: A-F*, 1 vols. (New York: Grove's Dictionaries of Music, 1984), 183.

<sup>14</sup> Roland John Jackson, *Performance Practice: A Dictionary-guide for musicians* (New York: Routledge, 2005), 132.

## **Purpose and Methodology**

This paper aims to find out the modification of early bassoon in 17<sup>th</sup> century, the growth of it in early baroque music and to what extent did the modification lead to the growth.

Primary sources such as manuscripts, paintings and documentaries published in 17<sup>th</sup> century, and secondary sources such as transcriptions, journals and books published by scholars will be used in this paper to find out the modifications of dulcian to four-jointed bassoon and the roles of early bassoon in 17<sup>th</sup> century.



## The growth of early bassoon in 17<sup>th</sup> century

In renaissance and early baroque, *dulcian* was usually served as a bass instrument in church music and consort music. Showed in the painting (figure 7) by *Denis van Alsloot* in 1616, *dulcian* was the bass in the six instruments included<sup>15</sup>. The role of *dulcian* were not very important because they were usually not specified in score by composers and they were just commonly picked up to play the bass part. Sometimes they were even just doubling others. As showed in the painting “*The pilgrimage of the Infanta Isabelle to Laken*” (figure 8) by *Nicolas van der Horst* in 1622, the *dulcian* player was performing the same part with singers because they are sharing the score<sup>16</sup>. In 17<sup>th</sup> century, the role of *dulcian* in music became more important because more composers specified it in accompaniment and composed solo pieces for it. Besides, the rise of the bassoon can be said to coincide with the rise of instrumental music in Baroque period. In the Renaissance, the output of vocal music was far more than that of instrumental music. However, when the modal vocal polyphony reached its climax in 16<sup>th</sup> century, composers started to compose more music for stringed, wind and keyboard instruments and this led to the formation of orchestra in Baroque Period<sup>17</sup>. The roles of early bassoon in 17<sup>th</sup> century will be discussed with examples below:

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<sup>15</sup> Beryl Kenyon de Pascual, “A Late Sixteenth- Century Protrayal of the Jointed Dulcian,” *Early Music* 25, no. 3 (1997): 412.

<sup>16</sup> Beryl Kenyon de Pascual, “A Late Sixteenth- Century Protrayal of the Jointed Dulcian,” *Early Music* 25, no. 3 (1997): 415.

<sup>17</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 72.

## 1. Accompaniment in vocal music

In 17<sup>th</sup> century, more composers specified *dulcian* as the accompaniment of their vocal works. Examples are *Giovanni Gabrieli* (1557-1612) 's *Symphoniae Sacrae* (around 1615), *Heinrich Schutz* 's *Symphoniae Sacrae* (1629) including bassoon as an independent part in accompaniment, *Vincenzo Albrici*'s *Te Deum* written for four voices accompanied by three trumpets, a bassoon and a violoncello<sup>18</sup>. Although early bassoon was used as accompaniment, they were not just accompanying the voices only. Typical example is inside *Heinrich Schutz* 's *Symphoniae Sacrae*. Three bassoons were used to accompany voices to the text *In Lectulo per noctes* (Appendix 1). They play the *sinfonie* in 3-part canon on their own. The range of the piece which is from g' to 'C suggested that the piece was written for *dulcian*.

## 2. A part in chamber music

After the output of vocal polyphony reach the climax in renaissance, more instrumental music was composed. Bassoon was accorded as a distinctive part in chamber music. For example, "Sonatas for One, Two, and Three Parts" by *Giovanni Battista Fontana* (? – 1630) published in 1641 included 3 sonatas for violin, bassoon and continuo and 5 sonatas for two violins, bassoon and continuo. Call and response passages between violin and bassoon part were commonly found in the sonatas. Example is showed in Appendix 2. The earliest use of

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<sup>18</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 73.

bassoon in chamber music was *Biagio Marini* 's Op.1 *Affetti musicali* (1617)<sup>19</sup>. This collection includes two sonatas for two solo violins, solo bassoon and continuo. They are "*La Foscarina*" and "*La Aguzzona*"(Appendix 3) which contains a solo passage for bassoon. More examples were the seventh sonata for two bassoons and violins in *Dario Castello*'s two books of *Sonate concertante in stilo modern* (1621-44), *Diedrich Becker* 's "*Musicalische Fruhlings-Fruchte*" (1668) including one piece for three stringed instruments, two cornetti and bassoon and "*Sonate a 2, 3, 4 e 5 stromenti da arco et altri*" including one for violin and bassoon<sup>20</sup>.

### 3. Solo

The earliest solo music for bassoon appears to be an exercise and variations for fagotto solo with basso continuo<sup>21</sup>. The piece entitled "Fantasia Basso solo" is composed by *Fray Bartolomé de Selmay Salaverde* who was a Spanish Baroque composer and published inside his set of works titled *Libro de Canzoni, Fantasie e Correnti* in 1638. *Bartolomé* himself was a virtuoso bassoonist in Austria and his work requires high technical proficiency<sup>22</sup>. In 1645, *Giovanni Antonio Bertoli* also published a set of nine sonatas for bassoon and basso continuo entitled "*Compositioni Musicali di Gio*". Bertoli states in his preface "*they demand a*

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<sup>19</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 74.

<sup>20</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 74-75.

<sup>21</sup> Paul Carroll, *Baroque Woodwind Instruments: A guide to their history, repertoire and basic technique* (Bodmin, Cornwall: MPG Books Ltd, 1999), 16.

<sup>22</sup> *ibid.*

*technical facility previously unexploited*<sup>23</sup>. Big leaps and running passages were commonly found in every sonata. Sonata 8 is showed in Appendix 4 as example. In 1651, *Philipp Boddecker* (1615-83) that was a bassoon player in Darmstadt orchestra wrote a difficult set of variations “Sonate Sopra La Monica” for solo bassoon and continuo and the range of the piece is in C to c’ which can be played well in dulcian<sup>24</sup>.

#### 4. A Bass in orchestra

Bassoon was first appeared in the French opera orchestra in *Robert Cambert* (1628-1677) ’s opera “*Pomone*” in 1671 and the bass part noted “*con fagotto*” which was believed to be played by bassoon<sup>25</sup>. Besides, Lully (1633-1687) also included it in his opera “*Psyché*” (1674) and “*la triomphe de l'amour*” (1681) included some three-part passage for two oboes and bassoon<sup>26</sup>. Although Adam Carse commented in his book “The History of Orchestration” that bassoons are given little prominence and no independence in the initial period of the orchestra in 17<sup>th</sup> century<sup>27</sup>, the examples still proved that bassoon is used as the bass part in orchestra. Their parts were just not distinctive enough.

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<sup>23</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 77.

<sup>24</sup> Paul Carroll, *Baroque Woodwind Instruments: A guide to their history, repertoire and basic technique* (Bodmin, Cornwall: MPG Books Ltd, 1999), 16.

<sup>25</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 75.

<sup>26</sup> *ibid.*

<sup>27</sup> Adam Carse, *The History of Orchestration* (New York: Dover Publications, 1964), 76.

## The modification of early bassoon

Both structural change and technological refinement of *dulcian* to four-jointed baroque bassoon in 17<sup>th</sup> century will be discussed.

### 1. Structure

*Dulcian* is made by one-piece, whereas the surviving bassoon by *Richard Haka* made in mid-17<sup>th</sup> century is four-jointed. The change entailed separation of the long-joint, tenor-joint, butt-joint and the bell-joint. The long-joint and tenor-joint are connected with the U-shaped butt-joint while the bell-joint are connected with long-joint<sup>28</sup>. This structure of baroque bassoon is the same with modern bassoon. Figure 10 showed a baroque bassoon bought by the Chinese University of Hong Kong. This construction makes the instrument adjustable in tuning, that is something not possible in the earlier one-piece models<sup>29</sup>.

### 2. Technological refinement (Range and Tuning)

Showed in the treatise “*Syntagma Musicum*” (figure 11), *dulcian* has 10 holes including 6 fingers holes (e, d, C, B, A, G) and 2 thumb holes (D, ‘C) and two brass keys (F, E). The two brass keys were encased in brass boxes for protection and the F key was of swallow-tail type which enabled the instrument to be played

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<sup>28</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 28.

<sup>29</sup> Roland John Jackson, *Performance Practice: A Dictionary-guide for musicians* (New York: Routledge, 2005), 466.

in left hand side or vice versa<sup>30</sup>. Figure 9 showed a surviving dulcian in a German museum. Besides playing a diatonic scale from C to c using the ten holes, intermediate semitones can be produced by cross fingering or half closing a note-hole and by compressing the reed, most of the octave-harmonics of primary scale were available<sup>31</sup>. Therefore, this instrument gave the range of two and a half octaves, from C to g'. The chart by *Praetorius* (figure 12) in “*Syntagma Musicum*” also showed its range.

The bell joint prolonged the jointed bassoon in early baroque by about a third of the length of the body so as to produce low Bb, which remains to this day the lowest note of bassoon<sup>32</sup>. Now that the length of the instrument is longer, the position of holes and keys on instrument must have to reposition. Below is the table comparing the holes and keys constructed on the instrument.

	<i>Dulcian</i>	Four-jointed bassoon
Finger holes	e, d, C, B, A, G	e, d, C, B, A, G
Thumb holes	D, 'C	E, 'C
Brass keys	E, F	E, F, Bb
Total Range	'C to g'	'Bb to g'

Comparing Figure 11 and 13, the low E key on *dulcian* changed to E hole on jointed bassoon and the low D hole in *dulcian* repositioned to a D key on the long-

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<sup>30</sup> Paul Carroll, *Baroque Woodwind Instruments: A guide to their history, repertoire and basic technique* (Bodmin, Cornwall: MPG Books Ltd, 1999), 16.

<sup>31</sup> Adam Carse, *Musical Wind Instruments* (New York: Da Capo Press, 1965), 185.

<sup>32</sup> Paul J. White, “Early Bassoon Fingering Charts,” *The Galpin Society Journal* 43 (1990): 72.



joint. Not only did the longer length and additional keys of bassoon enlarge the range, it also improved the tuning and stabilize the pitch. For example, the Bb key can apply to simple fingerings in the tenor and treble range, and helpful as a mute and in easy attack in quite passages<sup>33</sup>. The longer bore and lighter construction made the instrument more free and flexible in the upper register<sup>34</sup>.

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<sup>33</sup> Paul J. White, "Early Bassoon Fingering Charts," *The Galpin Society Journal* 43 (1990): 72.

<sup>34</sup> Stanley Sadie, ed., *The New Grove Dictionary of Musical Instruments: A-F*, 1 vols. (New York: Grove's Dictionaries of Music, 1984), 183.

## **To what extent did the modification of early bassoon lead to its growth in 17<sup>th</sup> century?**

The most significant modification of bassoon in 17<sup>th</sup> century were the jointed structure and additional bell with Bb key which prolonged the range to the low Bb. Although the range of bassoon did extend in 17<sup>th</sup> century, the range used in most of repertoires for bassoon were within ‘C to g’ that can be played so well in a *dulcian*. *Brain Klitz* also commented the ornateness of writing in *Giovanni Antonio Bertoli’s* “*Compositioni Musicali di Gio*” was obviously for a virtuoso on the two-keyed dulcian but not jointed bassoon<sup>35</sup>. Even for Vivaldi who wrote 39 solo bassoon concerti within 1700 to 1740, only 2 of them descend to the note Bb<sup>36</sup>. This raised the possibility that Vivaldi's bassoon concerti were actually written for *dulcian* but not jointed bassoon. Besides, jointed bassoon was appeared in mid-17<sup>th</sup> century but more solo repertoires were written in the first 17<sup>th</sup> century than the late 17<sup>th</sup> century. Then, what was the reason of its rise? More professional and virtuoso players appeared in 17<sup>th</sup> century was one of the reasons. There were professional players such as *Bartolomé* and *Philipp Boddecker* who was also composers. They composed solo pieces for bassoon and their work required high technical proficiency. These works showed the variety of bassoon as a solo instrument to other composers at that time. The most important reason for the rise of dulcian in 17<sup>th</sup> century was its unique quality of sound. *Michael Praetorius* mentioned it in *Syntagma Musicum*<sup>37</sup>:

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<sup>35</sup> Lyndesay G. Langwill, *The Bassoon and Contra-bassoon* (London: Ernest Benn Limited, 1975), 77.

<sup>36</sup> Emily Clare Stone, “The Evolution of the Bassoon and its Impact upon Solo Repertoire and Performance” (Master thesis., The University of Adelaide, 2008).

<sup>37</sup> Micheal Praetorius, *Syntagma Musicum II: De Organographia Part I and II*, trans. and ed. David Z. Crookes (Oxford: Clarendon Press, 1986), 48.

*In register and in tone-quality they (dulcians) resemble the basset shawm, although the sound of dulcians and curtails is softer than that of shawms...the sound-exist is at the top. Sometimes it is left completely open, sometimes it is covered with a perforated lid. A dulcian so covered sounds much more gentle and pleasant than otherwise.*

The perforated lid mentioned above can be showed in figure 14 and this feature of covered sound in dulcian was not kept in the jointed bassoon. Although this unique cover was not resulting its unique sound, the sound of dulcian was different from baroque bassoon. It was warmer and more buzzy. The one-piece structure facilitates a greater ease of attack and a more “free flowing” feel to the notes<sup>38</sup>. This helped to play fast passages. These unique features gave rise to the instrument in 17<sup>th</sup> century and made it not replaced by jointed bassoon immediately in early 18<sup>th</sup> century.

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<sup>38</sup> Emily Clare Stone, “The Evolution of the Bassoon and its Impact upon Solo Repertoire and Performance” (Master thesis., The University of Adelaide, 2008).

## Conclusion

The rise of bassoon in 17<sup>th</sup> century is proved by the growth of repertoires for it. More composers specified bassoon in their compositions and not only did it serve as a distinctive part in vocal and chamber music, it was also treated as a solo instrument. The three reasons of its rise mentioned before were the modification of early bassoon, more virtuoso players and the unique quality of *dulcian*. Although the modification of early bassoon extended the range and improved the tuning of the instrument in 17<sup>th</sup> century, it was not the most important reason because more solo repertoires for bassoon were written in early 17<sup>th</sup> century which the modification was not yet took place and it seems that the repertoires were written for dulcain but not jointed bassoon because they were in the range of dulcian and can be played so well in it. Although the modification was not an important reason for its rise in 17<sup>th</sup> century, it was important for the continuation of using it as a solo in later periods. Later composers required more and more in music, for example, the range, stability of pitch and dynamics. Therefore, if the instruments are not improved to fit the composers' need, they will be abandoned and replaced by others soon.

## Bibliography

Baines, Anthony. *Woodwind Instruments and their History*. 2<sup>nd</sup> ed. Faber and Faber Limited, 1962.

Bayley, Christopher. "Reconstructions: The Phagotum." In *The World of Bagpipes*, <http://www.bagpipeworld.co.uk/country/recon/phagotum.html> (accessed 16 November 2014).

Bertoli, Giovanni Antonio. *Compositioni Musicali*. Transcribed by Alessandro Bares. Italy: Musedita, 2001.

———. String Sonatas from Opus 1 and Opus 8. Transcribed by Thomas D.Dunn. Madison: A-R Editions, Inc, 1981.

———. Sonatas for one, two, and three parts with basso continuo. Edited by Thomas D. Dunn. Madison: A-R Editions, Inc, 2000.

Carroll, Paul. *Baroque Woodwind Instruments: A guide to their history, repertoire and basic technique*. Bodmin, Cornwall: MPG Books Ltd, 1999.

Carse, Adam. *Musical Wind Instruments*. New York: Da Capo Press, 1965.

———. *The History of Orchestration*. New York: Dover Publications, 1964.

Castello, Dario. *Sonate Concertate : Canto primo*. Firenze: Studio per Edizioni Scelte, 1979.

Daubeny, Ulric. *Orchestral Wind Instruments: Ancient and Modern*. New York: Books for Libraries Press, 1920.

Hans Mons. "The Dulcian." In *The Dulcian*, <http://www.dulcians.org/#overview> (accessed 16 November 2014).

Jackson, Roland John. *Performance Practice: A Dictionary-guide for musicians*. New York: Routledge, 2005.

Klitz, Brian. "Some 17<sup>th</sup> Century Sonatas for Bassoon." *Journal of the American Musicological Society* 15, no. 2 (1962): 199-205.

Lange, Hansjurg, and J.M. Thomson. "The Baroque Bassoon." *Early Music* 7, no.3 (1979): 346-350.

Langwill, Lyndesay G. *The Bassoon and Contra-bassoon*. London: Ernest Benn Limited, 1975.

Marcuse, Sibyl. *Musical Instruments: A Comprehensive Dictionary*. London: Country Life Limited, 1966.

Pascual, Beryl Kenyon de. "A Late Sixteenth- Century Protrayal of the Jointed



Dulcian.” *The Galpin Society Journal* 43 (1990): 150-153.

———. “Two Contributions to Dulcian Iconography.” *Early Music* 25, no. 3 (1997): 412-426.

Praetorius, Michael. *Syntagma Musicum II: De Organographia Part I and II*.

Translated and edited by David Z. Crookes. Oxford: Clarendon Press, 1986.

Sadie, Stanley, ed. *The New Grove Dictionary of Musical Instruments: A-F*. 1 vols.

New York: Grove's Dictionaries of Music, 1984.

Schutz, Heinrich. *Symphoniae Sacrae II Opus 10*. Transcribed by Konrad Küster.

Stuttgart : Carus-Verlag, 2012.

Stone, Emily Clare. “The Evolution of the Bassoon and its Impact upon Solo

Repertoire and Performance.” Master thesis., The University of Adelaide, 2008.

Spencer, William. *The Art of Bassoon Playing*. Revised by Frederick A. Mueller.

United States: Summy- Birchard Company, 1969.

Waterhouse, William. “A Newly Discovered 17<sup>th</sup> Century Bassoon by Haka.” *Early*

*Music* 16, no. 3 (1988): 407-410.

White, Paul J. “Early Bassoon Fingering Charts.” *The Galpin Society Journal* 43

(1990): 68-111.