

## A Comparative study of the Traverse Flutes of the Haupt and Silva Families

Gabrielle de SOUSA da SILVA<sup>1</sup>, Monika STREITOVÁ<sup>2</sup>

**Abstract:** *The 18th and 19th centuries saw the greatest development in the construction of woodwind instruments in Europe. In Portugal, this was due to the Haupt and Silva families of builders. In order to understand the interpretation of the time, through the characteristics of the instruments themselves, as well as all the cultural involvement, data was analysed to understand the difference between the constructions of the Haupt and Silva families, the main builders of the traverse flutes of the time. Historical research was carried out and important data was also collected by interviewing flautist and traverse flute teacher Olavo Barros, who owns one of the original Silva flutes (the Haupt flute belongs to flautist and transverse flute teacher Manuel Cochofel). The sound quality results were obtained from the recordings made by Teacher Olavo Barros of all the notes produced on each flute and were compared and analysed, represented in graphs, using the Spectrogram no. 16 by Richard Horne software.*

Key-words: *Traverse flutes, Haupt, Silva, 18th and 19th century music.*

### 1. Introduction

An in-depth knowledge of period instruments is indispensable nowadays in order to base a historically informed interpretation. In addition to these other skills, it is crucial to have an understanding of the evolution of the constructions, interconnected with the historical context of the country, as well as knowledge of the circulation of the instruments in the various contexts and their use in the repertoires preserved to this day. This article is based on an investigation that aims to demonstrate the evolutionary path of the traverse flute in the 18th and 19th centuries. To do this, it became essential to present the birth of the first two woodwind instrument workshops in Portugal in a historical and musical context. In order to be able to make comparisons between the constructions of the two families,

---

<sup>1</sup> Évora University – Portugal, [flute.gabrielle@gmail.com](mailto:flute.gabrielle@gmail.com)

<sup>2</sup> Évora University – Portugal, [streitova@uevora.pt](mailto:streitova@uevora.pt)

a qualitative face-to-face interview was conducted with Teacher Olavo Barros and video recordings were subsequently made with him, with the Haupt and Silva flutes respectively, which were the basis for analyzing the harmonic structure of the sounds produced in each flute, through the sound spectrum, represented in the form of graphs, resulting from the software *Spectrogram nº 16* by Richard Horne.

### 1.1. Historical Context

In the second half of the 18th century, new spaces for secular sociability began to develop, an example of which was the inauguration of the S. Carlos Theatre in 1793 (Albuquerque 2006).

Regarding the Portuguese music scene in the 18th century, before the royal family left for Brazil in 1807 following the French Invasions, the music departments, with their tripartite structure (made up of the Royal and Patriarchal Chapel, the Royal Chamber Orchestra and the Royal Stables Band) remained the fundamental pillars of the Portuguese music scene. This was a period marked by profound social and cultural transformations, motivated by the influence of Enlightenment trends. The musical models established by the monarchy were intertwined with other dynamics of musical life resulting from private initiative.

This late development in Portugal contrasted with the European reality, such as the paid concerts in European capitals like London, Paris and Vienna. However, we can say that in addition to this late development, the conditions offered to high-level foreign musicians hired by the Royal House allowed them to stay in Portugal and succeed in various areas of music, such as organising concerts, selling scores and instruments, teaching and publishing.

There is no record of any exclusively instrumental concerts taking place in the residences of the Portuguese royal family in the second half of the 18th century or at the beginning of the following century, which would have been normal at the time, given that this was the case in most of the major European centres. In the 1780s, opera excerpts, cantatas and symphonies filled the majority of concerts.

The main function of the Lisbon Royal Chamber Orchestra was to support dramatic music, the great sacred works associated with the monarchy's ephemeris and liturgical festivals of particular devotion to the royal family in churches and convents under the patronage of the Crown; however, it also performed chamber music concerts in the halls of the court (Silva and Fernandes 2014, 77-80)<sup>3</sup>

---

<sup>3</sup> Fernandes, C. (2014). From Court Culture to the Challenges of the Public Sphere: Instrumentalists and Instrumental Repertoires in Transit between the Royal Chamber and Public Concerts (1755-1807). In Vanda de Sá Martins da Silva & Cristina Fernandes (Coords.), *Instrumental music at the end of the Old Regime: contexts, circulation and repertoires* (77-80). Lisbon: Edições Colibri.

With regard to the traverse flute, it was in the Middle Ages that these instruments appeared in the instrumental music of the Iberian Peninsula. This musical practice was not only limited to séances, monasteries, royal chapels and convents, but also developed in profane environments, inside and outside the courts, in the residences of the nobility and the upper bourgeoisie and even at the level of municipal representation.

The presence of the flute in Portugal has been documented from a very early age, through accounts that show the use of the instrument in musical practice in monasteries, churches and cathedrals, with the Monastery of Santa Cruz de Coimbra being extremely important in the development and use of the flute.

This monastery had its own workshop that built all the instruments needed for the monastery's musical activity. However, we would have to wait until the middle of the 18th century to discover the first workshop to build woodwind instruments.

This was a century for the entire national instrument industry, largely due to the political, economic and social situation of the time.

After the conquest of peace with Spain (1715), the Portuguese crown wanted to reach artistic heights in order to leave a mark on Europe. Until around 1730, the traverse flute didn't feature prominently in Italian production; only a few works adapted for flute have been found, mostly by amateur and professional flutists.

When Johann Quantz (1697-1773) visited Italy, he was surprised at how little importance was given to the recorder. It was after several concerts he gave there that Scarlatti (1660-1725) and A. Vivaldi (1678-1741) were motivated to write for the instrument. Given these facts and given that Portugal was governed by Italian ideals; the first woodwind instrument factory was born with the arrival of the Haupt family in Lisbon.

It was after the arrival of the Haupt family in Portugal that the traverse flute was introduced to the national music scene.

The excellence of the materials used by the Hautps, as well as their rigorous construction, meant that this family was a pioneer in the excellent construction of wind instruments and a school for the next generation of builders.

An example of this is the factory of Manoel Antonio da Silva, a possible apprentice of Haupt, who most likely followed in his mentor's footsteps and opened his own business at the beginning of the 19th century. This business was also based on the excellence of its construction, although with special emphasis on the traverse flutes, which elevated the instrumental creation of the time in Portugal (Andrade 2005).

## 2. State of the Art

There are several books and dissertations on this subject. Therefore, this topic will be based on different books and dissertations on the History of Portuguese Instrumental Music, as well as on the presence of the flute and its main builders in Portugal in the 18th and 19th centuries.

Andrade (2005) states that *"In terms of music, we know that as early as 1751, the Portuguese embassy in Italy made every effort to hire the greatest opera singers of the time, as well as one of the best architects and set designers, Giovanni Carlo Bibiena."* (idem, 47). In his 2016 dissertation, he states that *"At the same time, due to the attractive conditions created by King José I in the construction of his Royal Chamber Orchestra of Lisbon, many foreign musicians saw this as an opportunity to settle in Lisbon, enjoying well above average salaries. Antonio Rodil, Juan Bautista Pla and José Pla are just some of the examples we'll look at here. In the case of Pedro António Avondano, he was born in Lisbon. According to Vieira, his father, the violinist Pietro Giorgio Avondano, was invited by King João V to join the Royal Chapel Orchestra."* (idem, 18)

With regard to the activity of musicians at this time, Vanda de Sá (2008) states that *"The Brotherhood of Saint Cecilia brought together and controlled practically all the socio-professional aspects of the activity of musicians, who inherently and obligatorily had to register with this organisation, which thus regulated all the members of this professional universe."* (Silva 2008, 47)

There are also references to occasional concerts between 1771 and 1774, which leads us to conclude that there was no regularity during the two decades before the 1755 earthquake. After this catastrophe, the introduction of instrumental music began to gain some relevance. The Convent of Santos-o-Novo stood out for having an extraordinary regularity of instrumental music during the 1770s, with Antonio Rodil performing as an instrumentalist practically every month between 1775 and 1777 (Silva 2008, 51).

The Convent of Santos-o-Novo stood out as an exceptional case, having solemnised its functions with instrumental music with extraordinary regularity in the 1770s. Under the almost exclusive direction of Pedro António da Silva, we can see that this convent saw multiple performances by Antonio Rodil, who appeared there almost monthly between 1775 and 1777 (Silva 2008, 62).

In short, the main aim of this article is to analyse and demonstrate the whole evolution of the traverse flute in Portugal, as well as its driving forces. In order to do this, it was also necessary to understand the whole cultural and historical story that accompanied this evolution.

The main distinction between this article and the others is essentially the sound analysis obtained from the flutes still in existence by the builders Haupt and Silva.

### 3. Objectives

The main aim of this article is to contribute to future historically informed interpretations of the 18th and 19th century repertoire for recorder, through knowledge of the instruments of the time. The work will consider the weaknesses and also the virtues of the two best-known brands of the period. It also aims to publicize the importance of the Haupt and Silva families in the construction and development of traverse flutes in Portugal, demonstrating the difference between them.

We will focus on:

**a.** The qualities and technical characteristics:

- material used in construction;
- number of keys;
- number of sections of the instrument, among others.

**b.** Sound qualities and characteristics:

- dynamics;
- quality of the sound spectrum;
- tuning, among others.

### 4. Methodology

The methodology is based on historical research, using an analysis of the data that allows a comparison between the different constructions of traverse flutes.

The interview was qualitative in nature, as it allows the complexity and detail of the information obtained to be understood. The qualitative data obtained from the interview reveals the differences between the Haupt and Silva families' constructions of traverse flutes.

This interview was conducted in person with Teacher Olavo Barros, due to the fact that he is one of the best-known names on the national flute scene, on the 22nd (at 4pm) and 24th (at 11am) of July 2020, in Lisbon, at the home of the illustrious collector Dr Paulo Ennes.

The video recordings, which consisted of capturing all the notes from all the registers on these original traverse flutes from the Haupt and Silva families respectively, were made on 26 October 2021, at around 9pm in Lisbon, at the home of Teacher Manuel Cochofel.

The results about the harmonic structure of the sounds produced on each flute were analysed using the sound spectrum, represented by graphs, resulting from the *Spectrogram nº 16* by Richard Horne program.

## **5. Haupt and Silva Families**

### **5.1. German Haupt Family**

Upon coming to the throne after the death of King João V, King José I sought to organise the court operatically by building theatres. An example of this is the Tejo Opera Theatre. The Royal Chapel was transformed into the Royal Chamber Orchestra of Lisbon, the name by which it came to be known in the second half of the 18th century. During all this change, the Portuguese embassy in Italy hired the best opera singers, as well as one of the best architects and set designers - Giovanni Carlo Bibiena.

In terms of instrument construction, Portugal was still extremely weak due to the lack of expertise on the part of the builders. To remedy this situation, the Portuguese embassy in Germany made contact with the Haupt family, who moved to Portugal and thus managed to commercialise instruments from the wood family, more specifically the traverse flute.

So, around 1753, Friederich Haupt arrived in Lisbon with his wife and two sons, Antonio José<sup>4</sup>(1751-1811) and his firstborn son, and began building the instruments.

Friederich Haupt was born in Germany around 1720. In 1900, Ernesto Vieira's research pointed to Berlin as the builder's birthplace. However, Herbert Heyde, in 1994, while researching his work *Musikinstrumentenbau in Preussen*, found no reference in the parish registers to confirm Vieira's information. At most, according to Heyde, he may have lived in a town on the outskirts of Berlin. Friederich Haupt may have started his business in his home country and learnt his craft from his relatives (Vieira 1900). It is known that in the mid-18th century, Lisbon had trade links with Leipzig, and Friedrich Haupt played a crucial role in promoting trade between the two cities, having had contact with a close relative, possibly a brother, who was also a builder in Leipzig, Johann Christian Haupt (c.1718 - c.1771).

---

<sup>4</sup> Born in Berlin.

Some Portuguese documentary sources refer to the German builder as “Frederico”, so in this article he will be referred to in this way or as Haupt I, and his sons as Haupt II, successively using the terminology of the historian Macario Santiago Kastner. (Andrade 2005)

As well as being pioneers in the construction of flutes and other woodwind instruments, the Haupt family was also the first school for apprentice builders, which led to the emergence of the Silva family factory at the beginning of the 19th century.

The importance of the Haupt family in Portugal's music scene is remarkable, as they were based in a house opposite the old Church of the Martyrs in Lisbon just before the 1755 earthquake. This terrible event forced the family to move to S. Paulo Street.

Frederico Haupt lost his letter of privilege, naturally on the occasion of the earthquake, and asked for it to be recopied in 1757, which was granted on 17 November of the same year.

The materials used to build the instruments were very delicate, not least because the builder always used excellent wood (ebony or boxwood), carefully selected. These materials were essentially used to build flutes, oboes, clarinets, bassoons and their counterparts.

The measurements and proportions of the flutes followed the models of the German manufacturers, in order to achieve instruments with good sound and tuning, following the old conical tube shape. It's interesting to note that the catalogues of French manufacturers of the time mentioned that the ebony came from Portugal, a way of demonstrating the quality of the instrument. This wood came from the Orient and Portugal served as a distributor to the European markets (Vieira 1895).

This reputation for distributing the exotic woods so sought after by builders is due to the fact that Portugal was the first to supply these materials to workshops in the countries of the Iberian Peninsula (Andrade 2005).

Frederico Haupt's way of demonstrating the originality of his manufactures was simply “F. Haupt – Lisbon”. His son, Antonio José Haupt, later adopted the emblem of two human heads seen in profile with the legend Haupt - Lisboa. (Vieira 1900).

His descendants continued with the same form of originality, which means that we can't distinguish which family member built the instrument, but we can only tell the time of its construction through small differences in its shape.

Haupt I lived for 93 years, having died in 1813, and it was his son Antonio José Haupt who went on to manage his workshop, even before his father's death. It's important to note that the first-born son separated from the family and no information remains about him (Vieira 1895).

With Antonio Haupt in charge of the workshop, it was elevated to the category of factory in 1785. This moment was very important for the history not only of the family, but also of this activity in Portugal, as it was the first woodwind instrument factory in the country.

This charter, which was later granted on 1 June 1785, gave a very strong boost to the production and marketing of these instruments and served to overcome the problems that existed at the time, since not only had the Haupt family been working in this business for three decades, but there was still a lack of technical knowledge among the other Portuguese manufacturers, and foreign competition was also a concern.

For the Haupt family, future internal competition would not be a problem; the most important thing was to pass on all the knowledge to the other builders in order to increase the quality of construction. On the other hand, external competition was a concern, as the flow of traded instruments was increasing.

Antonio José Haupt II died at the age of 60 on 10 February 1811 and until then he continued his work in the workshop and in his own house in Rua de S. Paulo. He left as his successor the best known member of the family, his son Ernesto Frederico Haupt, born on 27 October 1792, who is still referred to today as Haupt Pai, to distinguish him from his sons. (Vieira 1900)

Ernesto Frederico Haupt, known for his intelligence and commitment to work, enlisted as a volunteer in the army when he reached the age of majority (1810), without leaving aside his work as a builder (in 1828 Ernesto F. Haupt or Haupt III left the army because he was against the *Miguelist Government*). He was later appointed commander of the force when it returned in 1833, assigned to guard the Palace of Queluz, which led José Frederico Haupt (1818-1857), his eldest son, to follow suit and volunteer for the army that same year (Vieira 1895).

In 1835, Ernesto Haupt was the driving force behind the formation of a workshop within the army to build not only wooden but also metal instruments. He was responsible for making the wooden instruments and Raphael, an equally skilful specialist, was responsible for the metal instruments, which until then had a workshop in Largo da Graça. (Vieira 1895)

The creation of this workshop would prove to be extremely important, leading it to be the pioneer in the construction of instruments for the Military Bands, which grew in Portugal, playing an important role in popular musical culture until the mid-20th century. All the instruments made in this period were marked with the initials A. E. in order to emphasise the traditional Haupt brand (Machado and Tudela 2002).

The debut of the new workshop was marked by the construction of a flute, made entirely from ebony and encased in carved silver. This flute was intended for



*Prince Augustus of Leuchtemburg*, Maria II's first husband, who was very fond of music. However, with the prince's untimely death, it was not possible to give the instrument to him and it remains in his museum to this day. Some of these excellent instruments still exist today. Antonio Croner used a five-key flute made by this manufacturer throughout his artistic career - this flute was donated by his teacher Botelho.

Augusto Haupt (1839-1897) also held in high esteem the flute that was made exclusively for him by his father in 1845. Augusto Frederico Haupt or Haupt VI was the youngest son of Ernesto Frederico Haupt III. Augusto Frederico dedicated himself to the study of the double bass, but didn't pursue a career as a builder, as his older brothers were in charge of the business, which we'll get to later (Vieira 1895).

It's interesting to note that the prices practiced by this maker were maintained by his sons until the workshop went out of business. A boxwood flute with just one brass key cost six pence; a boxwood flute with five brass keys cost one and a half pence.

Ernesto Haupt had four sons, two of whom, José <sup>5</sup>(1818-1857) and Ernesto<sup>6</sup> (1821-1890), took over the workshop when their father was unable to continue the work, while the youngest became a professional musician (Augusto Frederico Haupt) and Filippe Frederico Haupt also took up another profession. At the age of 60, he lost his sight and died 19 years later on 20 July 1871 (Vieira 1895).

As you can see, at just 20 years old, the young José Frederico had the opportunity to show the quality of his work at a national exhibition, which was widely praised by the jury. And at just 34 years old, José Frederico took over as head of the factory because his father Ernesto Haupt had lost his sight (Vieira 1895).

In 1946-47, the National Conservatory Bulletin referred to the acquisition of a flute by him: "*Flute, signed: José Frederico Haupt and respective case box.*" (Andrade 2005, 75)

When José<sup>7</sup> died, Ernesto took over<sup>7</sup> the workshop. However, the industry began to decline as it was unable to compete with the cheaper and lower quality products from the Paris factories. Ernesto Haupt Júnior V tried to keep the workshop going, moving several times to try to get lower rents and keep it going. However, sales and orders became increasingly scarce, leading to the complete closure of the workshop. Finally, Ernesto Frederico Haupt Júnior died on 8 December 1890, the cause of which was a terrible prolonged illness. Seven years later, his brother Augusto Frederico Haupt XV<sup>8</sup> also died. (Vieira 1900)

---

<sup>5</sup> Born on January 2, 1818.

<sup>6</sup> Born on December 9, 1821.

<sup>7</sup> He died on April 21, 1857.

<sup>8</sup> He was born on December 23, 1839 and died on January 15, 1897.

## 5.2. Silva Family

Possibly a disciple of Haupt, Manoel Antonio da Silva (c.1785/90-1878) was a famous woodwind instrument maker. He founded his own workshop in 1807, which he maintained for over seventy years, located in Street of Loreto, on the corner of North Street. (Andrade 2005)

As well as building flutes, clarinets, oboes and bassoons, Silva was also responsible for building apparatus used in physics and chemistry. His two sons followed in their father's footsteps, however, one of them (Félix José da Silva) died very early and Antonio Ludgero da Silva<sup>9</sup>, his brother, took over the running of their father's company when he retired due to old age.

Manoel Silva's instruments were very well received at the industrial exhibition of 1822, an initiative of the "National Industry Promotion Society". (Vieira 1900). This can be seen in the following report on the exhibition:

*"The musical instruments made by Mr Manuel Antonio da Silva and sons, resident at Street of Loreto no. 79, were Clarinets in B $\acute{e}$ f $\acute{a}$  and in ut; a box oboe; a Grenadilla Flute; a Flute with Flageolet embouchure; an ordinary Flageolet; a English Horn or Human Voice; and a Box Flute. These instruments are very sonorous, well tuned, excellent in every respect, and have been favoured over foreign instruments by foreign players." (Vieira 1900, 319)*

In 1839, Silva also began manufacturing the alloy of metals that produces white metal, commonly known as "German silver". This metal was later sold to other industrialists, as he announced in the catalogue he published in 1849.

The 1844 exhibition was also important for Silva, as his presentation was once again well received. It was also at this time that he printed his "Table of Prices" for the first time, a novelty at the time. According to Vieira, the first copy of this table has not yet been found, but he claims that there was a second edition printed in 1849, this one referring to the first one, with information on the lower prices compared to it. Its title was: "New Table of prices for Musical Instruments made at the Manoel Antonio da Silva National Factory. Street of Loreto no. 79, in front of Platter of Cats. - Lisbon. 1849." (Vieira 1900). Before stating the price, the author gave the following warning:

*"MANOEL ANTONIO DA SILVA has the honour of announcing that, in the state of perfection in which his Instruments are today, they do not yield anything to foreigners, offering, however, greater solidity over the latter, and more convenient prices. He also announces that he has just innovated in the Flutes Keys, a more beautiful, more solid and more apparatuses organisation, already approved by the most distinguished Teachers and Music Curios of this Capital." (Andrade 2005, 70)*

---

<sup>9</sup> Antonio Ludgero da Silva was born in 1820 and died in 1893.

According to Andrade (2005), Silva began by stating that his instruments were of equal quality to those from abroad, with more attractive prices. He also wanted to demonstrate the innovations he was making to his instruments. The innovations relating to the flutes were supported by flute teachers and flutists from Lisbon who had direct contact with the builders. Naturally, the material used in the construction of the instruments influenced the final price, so Silva announced:

*“In addition to these prices, there will be others whenever the competitor wants a change in wealth or labour. The said manufacturer undertakes to fulfil these works with complete perfection, both in terms of finish and solidity, as well as in terms of refinement, for which he is responsible. It also makes Physics and Chemistry Instruments, and works of all kinds of metals and ivory; it has an oval turning machine, with which it carries out any and all orders placed with it. Promptly fulfils any order for the NEW ALLIANCE entitled GERMANY SILVER, which has the property of remaining white without tarnishing, which the said Manufacturer has the glory of having put into use in Portugal since 1839; and, believing it to be useful to most Artists, makes it at 1440 rs. the arratel; being able to affirm (which can be verified by comparison) that he has perfected the composition of this metal, to the point that it exceeds in brightness and whiteness what comes from Germany, England and France.”*

(Andrade 2005, 71 e 72)

In 1849, Silva published a new price list that coincided with the organisation of another National Industry Exhibition. In this exhibition, unlike the previous ones, Manoel only had the support of his son Ludgero, which may suggest that Félix had already passed away. During the exhibition, in addition to Manoel's instruments, other instruments belonging to his son were also presented (Andrade 2005). The instruments on display were mentioned verbatim in the respective report:

*“Mr. Manuel Antonio da Silva & Filho, with a Musical Instrument Factory in Street of Loreto no. 79, exhibited: a Texo Bassoon, with 15 silver keys and ferrules from Germany, of his own composition, an Ebony Clarinet, with 13 keys and ferrule of carved silver, and castors of gold, Dito of boxwood colored with 7 silver keys, Ditos ditos with 14 keys of dita, being one of Alamiré, another of Bfá and another of Solfaut, an ebony flute with 9 keys and carved silver ferrules, a ditto flute with 9 keys, an ebony ditto flute with 5 keys and sterling silver ferrules, an ebony terça flute with 5 ditto keys, a ditto requinta with 13 ditto keys and ivory ferrules. An ebony piccolo with a flenjolet embouchure and four sterling silver keys and ferrules, a grenadillo martial band with ivory ferrules and silver keys, a boxwood piccolo with an ivory ferrule and a brass key, Dito oitavino, for marching band, of boxwood, with ivory ferrules and a brass key, Oboe of ebony*

*with 9 keys and silver ferrules, English Horn, with 9 ditas keys of sterling silver, Flenjolet of ebony with ivory ferrules, dito of boxwood with ditas of dito."*

(Vieira 1900, 321)

The report on the exhibition of Silva's instruments was positive and was presented in the following terms:

*"A large number of musical instruments are manufactured in Lisbon today, especially wind instruments, which are so well made that the import of these industrial items is largely unnecessary. The instruments exhibited by Mr Silva are finished with care. If their sounds are not as easy and pure as those of some instruments from old foreign manufactures, they nevertheless fulfil many of the conditions required of objects of this nature."* (Vieira 1900, 321)

There was a notable need to balance the factory's finances by looking for new markets. The activity was now geared towards commercializing products, so as not to be dependent on domestic production. Silva wrote: *"It also takes care of any orders for metal and rope instruments"*. These measures reflect the foreign competition that Portuguese manufacturers had to face.

In addition to the quality of all the instruments he built, he was unable to resist foreign competition and went from being a manufacturer to a trader. In 1865, he printed a "Catalogue of national and foreign instruments from Silva Factory and Warehouse, a supplier to the army and navy arsenals" (Vieira 1900). Portuguese constructions began to be made only to order, leading to a steady decline of the factory. (Andrade 2005)

## **6. Analysis of the Qualitative Interview and the Images containing the Graphs resulting from the *Spectrogram Programme no. 16* by Richard Horne, referring to the Video Recordings of the Haupt and Silva Flutes, made by Teacher Olavo Barros**

### **6.1. Flutes of the Haupt and Silva Families, Flutes with 7 keys:**

The first flute belongs to the Private Collection of Manuel Cochofel (CPC/HIII by Ernesto Frederico Haupt III) and the second flute belongs to the Private Collection of Olavo Barros (CPB by Manoel Antonio da Silva). Although these instruments have the same number of keys, the final number can change, since the CPB flute, in addition to the usual 7 keys, can reach up to 9 keys if the foot with the keys of C, C# and D# bass is added. The type of keys used on the CPC/HIII and the CPB are the same: D#, F, long F, G#, Bb, C and a closed key for trills between the notes B<sup>1</sup>/C<sup>2</sup>#, B<sup>2</sup>/C<sup>3</sup># and D<sup>3</sup>/E<sup>3</sup>. (Andrade 2005, 172 e 173).

Flute (CPC/HIII) by Ernesto Frederico Haupt III (1792-1871)
Flute (CPB) by Manoel Antonio da Silva (c.1785/90-1878)
Flute (CPC/HIII) by Ernesto Frederico Haupt III (1792-1871)

Belonging to the Private Collection of Manuel Cochofel, the 7-key CPC/HIII flute is currently in an excellent state of preservation. It is a flute with the keys of D#, F, long F, G#, Bb, C and a closed key for trills between the notes B<sup>1</sup>/C#, B<sup>2</sup>/C# and D<sup>3</sup>/E<sup>3</sup>. It was built by Ernesto Frederico Haupt III between 1825 and 1840. (Andrade 2005, 172 - 191)

This flute is made up of four sections: the head, upper body section, lower body section and foot.

In the following figures, we see the Haupt flute with which the recording was made, analysed later as part of the interview with Teacher Olavo Barros. In this recording, the instrument is tuned to 440 Hz.



Fig. 1. 7-key traverse flute, from the Private Collection of Manuel Cochofel - CPC/ HIII, flute head

Source: Own Archive



Fig. 2. 7-key traverse flute, from the Private Collection of Manuel Cochofel - CPC/ HIII, upper section of the flute

Source: Own Archive



Fig. 3. 7-key traverse flute, from the Private Collection of Manuel Cochofel - CPC/ HIII, lower section of the flute

Source: Own Archive



Fig. 4. 7-key traverse flute, from the Private Collection of Manuel Cochofel - CPC/ HIII, foot of the flute

Source: Own Archive

As for its keys, the foot of the instrument has the key of D#, the lower section of the body has the keys of F and long F and the upper section of the body has the keys of G#, Bb, C and a closed key for the trill between the notes D<sup>3</sup>/E<sup>3</sup>.

As for the materials used for the keys of the CPC/HIII, silver-plated brass was the metal selected. This material was also used for the rings and the easel plus its shaft (Andrade 2005, 190 and 191).

Ebony was the wood used to make the flute's tube, as well as the tuning stopper, which has an adjustable system. (Andrade 2005, 191)

## 6.2. Flute (CPB) by Manoel Antonio da Silva (c.1785/90-1878)

Belonging to the Olavo Barros Private Collection, the CPB 7-key flute is in excellent condition. It is a flute with the keys of D#, F, long F, G#, Bb, C and a key for the D<sup>3</sup>/E<sup>3</sup> trill. In addition to the usual 7 keys, this flute can have up to 9 keys if you add a foot with C, C# and D# bass keys.

With the addition of this foot, the flute has the following keys: C, C# and D# on the foot plus F, long F, G#, Bb and C on the body, in the upper and lower sections, plus a key for the D<sup>3</sup>/E<sup>3</sup> trill.

The instrument is made up of 4 sections, as the barrel is considered part of the flute head. So the flute is made up of: head, upper section body, lower section body and foot.

In order to be able to change the tuning fork, the flute had another, longer barrilet. Its construction consists of ebony from Mozambique, silver on its keys and holes surrounded by carved silver.

The recordings made and analysed later were produced with this instrument, which is tuned to 440 Hz.



Fig. 5. 7-key traverse flute, from the Olavo Barros Private Collection - CPE, four sections of the flute

Source: Own Archive



Fig. 6. 7-key traverse flute, from the Olavo Barros Private Collection - CPE, head + 2 flute barrels

Source: Own Archive



Fig. 7. 7-key traverse flute, from the Olavo Barros Private Collection - CPE, upper section of the flute

Source: Own Archive



Fig. 8. 7-key traverse flute, from the Olavo Barros Private Collection - CPE, lower section body + 2 flute feet

Source: Own Archive

### 6.3. Qualitative (face-to-face) interviews with Teacher Olavo Barros

#### Questions:

1. Since the study and performance of the modern flute is more common in our generation, how important is it to deepen and publicise the knowledge of the flute's predecessors, in order to understand the possible forms of interpretation of each era?
2. What do you think is needed for this subject to be given sufficient attention in Portugal by performers, teachers and musicologists?
3. With regard to the traverse flutes built by the Haupt and Silva families, closely linked to Portugal, what are the main characteristics (sound, tuning, construction, etc.) that differentiate them?
4. Regarding the usefulness of these instruments, are you aware of the repertoires that were most performed on them during the 18th and 19th centuries in Portugal?
5. What are the limitations/advantages of playing repertoire from this period on a modern transverse flute?
6. Often absent from flute programmes in art schools, which pieces from this repertoire (mainly written in the Iberian Peninsula), in your view, are most appropriate for primary, secondary and higher education levels?
7. What documents do you consider important (books, theses, articles) that deal with these two types of flutes?
8. Following the circulation of these instruments in the Iberian Peninsula, can you name the musicians who play (played) these two types of flutes?

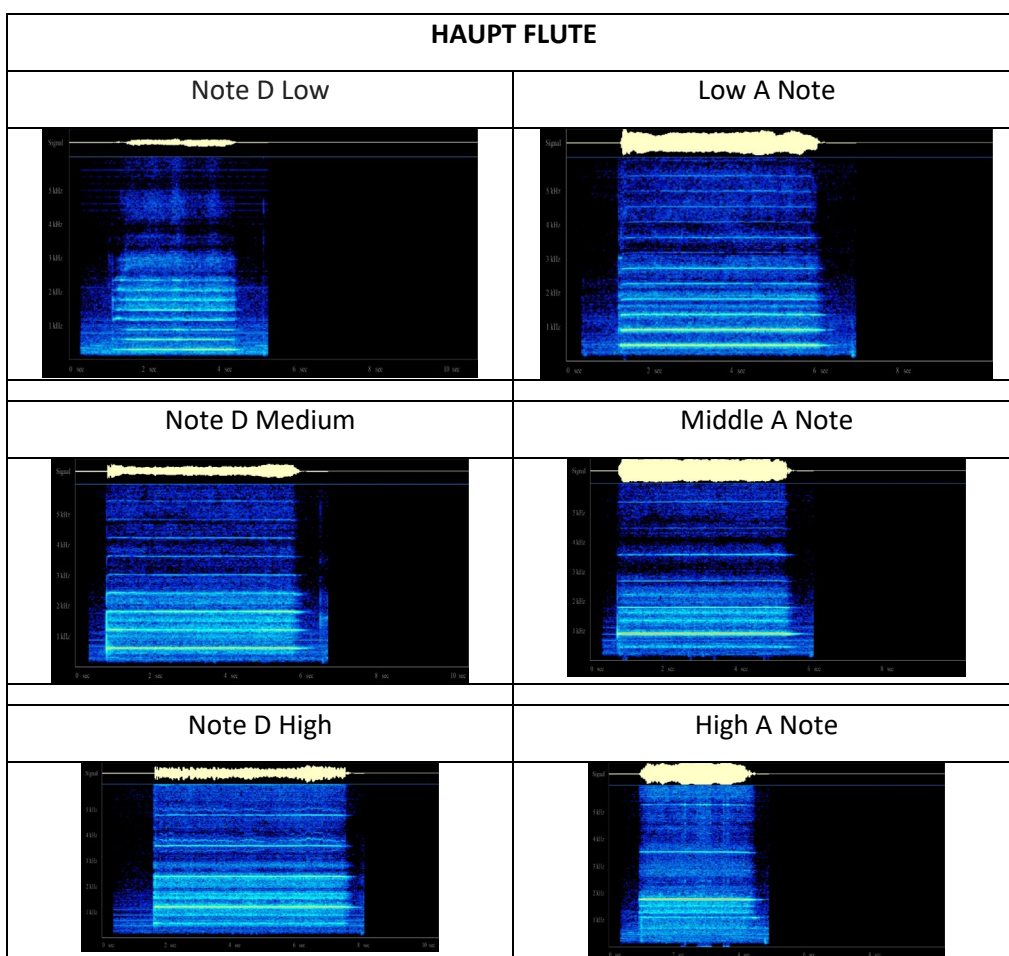
Answers from Teacher Olavo Barros:

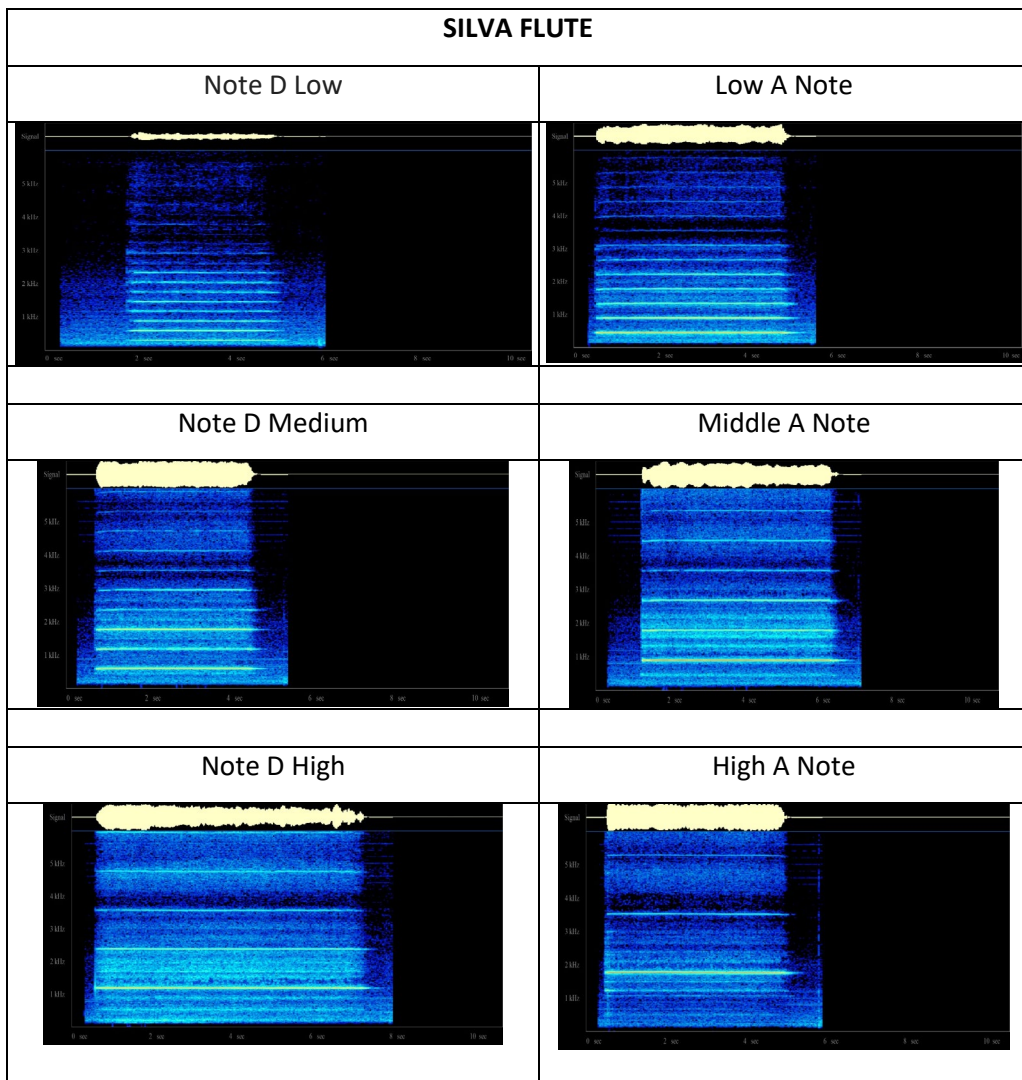
1. "Yes, it's important. I think it's important to know the historical instruments and to know how to play them to help you better understand the music of the time, but I think it's even more important to know all the historical treatises."
2. "It would be interesting to add the teaching of the traverse flute to the modern flute programmes at the Conservatoires. We could start learning with just a 1-key traverse flute, for example. We could also change the use of the traditional "fife" to a flute, but with a smaller size, of  $\frac{3}{4}$ , such as a *tercina flute* or third flute, in Eb, (there are also Eb flutes with the Boehm system) and also add repertoire from this period, both Portuguese and foreign (18th and 19th century), to the respective programmes."
3. "Regarding these two families of flutes, the structure of the keys is similar, including the position of the keys and the holes. But my Silva flute, compared to the French flutes (because the French flutes are more in tune) is no longer as in tune, some notes are more difficult to tune, but I like the sound of it."
4. "The works played during this period were probably by composers such as the Pla Brothers, Antonio Rodil, Pedro Antonio Avondano, David Perez and Niccolò Jommelli. P. A. Avondano composed a *trio sonata* for 2 violins in D major, which could have been played on flutes, as well as the well-known "*Lisbon Minuets*"; David Perez wrote at least *two concertos for flute*, which may have been played in Portugal (or in Brazil, since copies of one of them exist there); Rodil wrote and performed his *sonatas* and *duets*; the Pla brothers may have performed their *trio sonatas* either on flutes or oboes. Niccolò Jommelli, who had a contract to compose and send works to Portugal, wrote several *trio sonatas for two flutes and bass continuo*."
5. "The advantages are that you get to know the style of the time better, since the instrument is the same, even if it's a modern one, so I agree with performing 18th and 19th century repertoire on a modern transverse flute, as long as you always follow the appropriate musical rules/interpretation of the time".
6. "It depends on the difficulty of the Sonatas and certain tempos, such as the "*Minuets*" by P. A. Avondano, which for me are more suitable for secondary schools, for example, since in this work, like many others from the 18th century, they used different types of clef, so that they could be played on different flutes, since at the time there were flutes with different sizes and tunings."
7. "I don't know of any literature that deals with these two types of traverse flutes, apart from the works of Teacher Alexandre Andrade and Ernesto Vieira's Dictionary."



8. "I know Teacher Ricardo Kanji. As an aside, *David Perez's Concerto for Flute* must have been played in Brazil or Italy in the 18th and 19th centuries, as there are copies of this score there."

**6.4. Spectrogrammes** for the recordings made of Teacher Olavo Barros with the Haupt and Silva Flutes





## Analysis and Discussion of Results

	Technical Qualities		Sound Qualities		
	Number of Keys	Number of Sections	Tuning	Greater Intensity	Greater presence of all harmonics
HAUPT Flute (between the years 1825-1840)	7	4	440 Hz	Note D Low; Low A note; Middle A note	Note D Medium
SILVA Flute (Year?)	7 a 9	4	440 Hz	Note D Low; Low A note; Note D Medium; Note D High; High A note	Note D Low; Low A note; Middle A note; Note D High; High A note

Table 1. Comparison of Haupt and Silva Flutes

By analysing the sound spectrum of the two flutes in question, we can conclude that the results of the previous graphs, obtained using the *Spectrogram no. 16* by *Richard Horne* software, show that the middle and high harmonics are significantly more defined in the case of the Silva flute in all its registers. This difference coincides with the responses in the interview with Teacher Olavo Barros, where he demonstrated a greater affinity with the Silva flute, as we can confirm in his response: *“But my Silva flute, compared to the French flutes (because the French flutes are more in tune) is no longer as in tune, some notes are more difficult to tune, but I like the sound of it.”*

The exception is the middle note D, since the Haupt flute has clearer middle and high harmonics, while the other notes generally only have more defined low harmonics, compared to the Silva construction. These sound characteristics also define the intensity and projection of the sound, which from 2.5 Hz onwards becomes more noticeable to the human ear, which can register auditory differences such as the volume and colour of the sound.

Regarding the tuning of the flutes during these recordings, both are situated at 440 Hz. In terms of dynamics, the Haupt flute has greater dynamics in the low and middle register, as we can see in the graph above, due to the fact that, as already mentioned, it has more defined low harmonics. The exception compared to the Silva is the treble register, where it was at a lower level due to a lower presence of medium and high harmonics.

## 7. Conclusions

As with other baroque instruments, the traverse flute is a very different instrument from its successor. Practicing it can be an incentive for a modern transverse flute player.

According to Henrique (2002), the characteristics that flutist Olavo Barros most appreciates in a traverse flute are: “the construction in wood, a material whose contact is very different from metal alloys; the direct contact of the finger pulp with the side holes; the possibility of playing flatements - a kind of vibrato produced with the fingers in the side holes; the fact that it requires little air pressure, makes it possible to better differentiate the various types of articulations and makes it easier to obtain various timbres through mouth resonances and embouchure variations and to finalize the timbral differences between the tones with sharps and flats.” (Henrique 2002, 548)

This research gathered data that confirmed the enormous work carried out by the Haupt and Silva families, as they were the great driving forces behind the development of the flute in Portugal. We devoted our attention to comparing their constructions in order to gain a deeper understanding of the instruments. The data obtained was presented in a comparative table. This comparison was made between a Haupt flute and a Silva flute, both in excellent condition, duly presented and analyzed previously, with specific characteristics of each builder, which may have other technical/sound characteristics that are different from other traverse flutes by the same builder.

## References

- Albuquerque, Maria João Durães. 2006. *Estudos Musicológicos - A Edição Musical em Portugal (1750-1834)*. Lisboa: INCM & Fundação Calouste Gulbenkian.
- Andrade, Alexandre Alberto da Silva. 2005. *A Presença da Flauta Traversa em Portugal de 1750 a 1850*. Tese de Doutoramento em Música. Universidade de Aveiro: Departamento de Comunicação e Arte da Universidade de Aveiro.
- Andrade, Alexandre Alberto da Silva. 2016. *Música de Câmara de Rodil, Pla e Avondano: A Flauta na 2ª Metade do Século XVIII e o Estilo Galante Ibérico*. Tese de Mestrado em Música Interpretação Artística. Escola Superior de Música, Artes e Espectáculo do Instituto Politécnico do Porto.

- Henrique, Luís L. 2002. *Acústica Musical*. Lisboa: Serviço de Educação e Bolsas – Fundação Calouste Gulbenkian.
- Machado, Carla Capelo and Ana Paula Tudela (eds.). 2002. *Michel'angelo Lambertini 1862/1920*. Lisboa: Instituto Português de Museus - Museu da Música.
- Pereira, Mayra Cristina. 2013. *A Circulação de Instrumentos Musicais no Rio de Janeiro – do período colonial ao final do primeiro reinado*. (Programa de Pós-Graduação em Música – Doutorado em Música da Universidade Federal do Estado do Rio de Janeiro - Centro de Letras e Artes)
- Silva, Vanda de Sá Martins da. 2008. *Circuitos de Produção e Circulação da Música Instrumental em Portugal entre 1750-1820*. Tese de Doutoramento em Musicologia da Universidade de Évora.
- Silva, Vanda de Sá Martins da and Cristina Fernandes (coords.). 2014. *Música Instrumental no Final do Antigo Regime – Contextos, Circulação e Repertórios* Lisboa: Edições Colibri.
- Vieira, Ernesto. 1895. “Fabricantes de instrumentos musicais: a família Haupt.” *Arte Portuguesa - revista ilustrada de archeologia e arte moderna*, pp. 89-92. Lisboa.
- Vieira, Ernesto. 1900. *Diccionario Biographico de Musicos Portuguezes – Historia e Bibliographia da Musica em Portugal*, I Volume. Lisboa: Fundação Calouste Gulbenkian.
- Vieira, Ernesto. 1900. *Diccionario Biographico de Musicos Portuguezes – Historia e Bibliographia da Musica em Portugal*, II Volume. Lisboa: Fundação Calouste Gulbenkian.

## Websites

- Arte Portuguesa: revista ilustrada de archeologia e arte moderna:  
[http://hemerotecadigital.cm-lisboa.pt/Periodicos/ArtePortuguesa/N04/N04\\_item1/P21.html](http://hemerotecadigital.cm-lisboa.pt/Periodicos/ArtePortuguesa/N04/N04_item1/P21.html) (accessed on 31 May 2020)
- Museu da Música:  
[http://www.museunacionaldamusica.gov.pt/index.php?option=com\\_content&view=article&id=81&Itemid=105&lang=pt](http://www.museunacionaldamusica.gov.pt/index.php?option=com_content&view=article&id=81&Itemid=105&lang=pt) (accessed on 31 May 2020)

Museu da Música

<http://www.matriznet.dgpc.pt/MatrizNet/Objectos/ObjectosConsultar.aspx?IdReg=39872> (accessed on 31 May 2020)