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Making and Improving the Nineteenth-Century Saxophone

ALBERT R. RICE

The emergence of the saxophone in 1839 and the subsequent popularity of the saxophone family (soprano through bass) after 1870 in France is a unique development in music history. This development proceeded in two basic stages: the first, up to May 11, 1866—the date on which Adolphe Sax’s patent expired—under Sax’s patent protection; and the second, after this date, when other makers developed their own models. The result was the rapid adoption of the saxophone family by composers and players throughout Europe and the United States by the late 1880s.

The first section of this article summarizes Adolphe Sax’s professional life and focuses on the development of his earliest saxophone and its evolution through May 1866. It includes new information not appearing in Robert Howe’s comprehensive article on the early development of the instrument.¹ The second section discusses the saxophone after May 1866, emphasizing the explosion of saxophone makers and dealers after the expiration of Sax’s French patent and the many contributions made to the development of the family by makers such as Buffet-Crampon & Cie, Lecomte, and Besson. Appendixes identify fifty-four nineteenth-century saxophone makers and dealers (including trade names) and list examples of their work in public and private collections. These makers and dealers were important in disseminating the saxophone family in various countries, a little-understood but important aspect of saxophone history.

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1. Robert S. Howe, “The Invention and Early Development of the Saxophone, 1840–55,” this JOURNAL 29 (2003): 97–180.

*The Development of the Saxophone up to the Expiration
of Sax's French Patent*

Adolphe Sax (1814–1894), the son of the skilled and well-known Brussels maker Charles-Joseph Sax (1790–1865), became acquainted with many types of wind instruments in his father's factory. Adolphe probably studied flute and clarinet privately (he was not a student at the Brussels Conservatory), adding a player's experience to that of a maker.² He was a prolific inventor, holding sixteen Belgian patents (1838–63), twenty-one French (1843–81), and three British (1859–63), covering a wide variety of instruments.³ Of Sax's major inventions, his designs for cornet, bass clarinet, and soprano clarinet were highly influential in the development of the modern instruments.⁴ History reveals the saxophone as his most important contribution, since it has achieved lasting use and represents the greatest number of extant examples.⁵

2. Malou Haine, *Adolphe Sax (1814–1894): Sa vie, son œuvre, ses instruments de musique* (Brussels: Editions de l'Université de Bruxelles, 1980), 43, 45; *Grove Music Online*, s.v. "Sax, Adolphe" (by Philip Bate and Wally Horwood), <http://www.oxfordmusiconline.com>.

3. These include a superbly engineered bass clarinet (1838); two influential designs for clarinet mechanisms (1840, 1842); a cornet (1843); families of saxhorns (1845), saxotrombas (1845), and saxophones (1846); an attachment for the military bugle to provide a chromatic compass (1849); a newly designed bassoon (1840, 1851); an improved trombone (1852); and a system of six independent valves for brass instruments (1852). Adolphe Sax also devised timpani without shells, a double bass tuned in fifths, and an improved piano. For details of Sax's surviving bass clarinets, see Albert R. Rice, *From the Clarinet d'Amour to the Contra Bass: A History of Large Size Clarinets, 1740–1860* (New York: Oxford University Press, 2009), 291–305. See also Bate and Horwood, "Sax, Adolphe," and the list of patents in Haine, *Adolphe Sax*, 190–91, 196–203, 206–7. A good summary of many of the instruments made by Sax appears in Malou Haine and Ignace De Keyser, *Instruments Sax / Saxinstrumenten / Sax instruments*, incl. English trans. by Jane Still (Spirmont: Mardaga, 2000). For clear, detailed examinations of Sax's patents for cornet (1843) and saxotromba (1845), see Géry Dumoulin, "The Cornet and Other Brass Instruments in French Patents of the First Half of the Nineteenth Century," *Galpin Society Journal* 59 (2006): 86–89, 91–92.

4. Sax's saxhorn design was required in French military bands and was licensed to several makers from 1855 to 1865; thereafter, saxhorns were made by several contemporary makers. See Eugenia Mitroulia, "The Saxotromba: Fact or Fiction?" this JOURNAL, below. Bruno Kampmann lists over one hundred saxhorns made in various sizes by thirty-two French makers and dealers in "Licences accordées par Adolphe Sax à ses concurrents pour la fabrication des cuivres," *Larigot*, no. 42 (September 2008): 9–17.

5. Bate and Horwood, "Sax, Adolphe"; many of Sax's extant instruments appear in Eugenia Mitroulia and Arnold Myers, List of Adolphe Sax Instruments, <http://www.galpinsociety.org/gdsl.html> (accessed September 2009); another list of extant saxophones appears in Howe, "Invention and Early Development of the Saxophone," 170–77.

It is uncertain exactly when Sax devised the saxophone, but it is possible that he designed and/or made a prototype bass saxophone after finishing his bass clarinet in 1838; his bass saxophone is first documented as being exhibited at the 1839 Brussels Exhibition.⁶ In his account of the 1839 Paris Exhibition (published 1842), the Belgian printer and journalist Jean Baptiste Jobard described Sax's bass clarinet, a contrabass clarinet in E \flat , and a contrabass in B \flat called a "clarinette bourdon." The latter, which was probably a brass bass saxophone, was highly praised by Jobard: "Mr. Sax junior has just invented a contrabass clarinet in brass. After thunder, it is by far the strongest bass that exists. Its round, full, and vibrant sounds entirely fill the ear and will satisfy the musical appetite of the greatest glutton; it is no longer a little brook, but a river of harmony ready to overflow. The saxophone is the Niagara of sound."⁷ This may well be the first use of the name "saxophone," or at least a very early one. At the 1841 Brussels Exhibition, Sax exhibited nine of his instruments, including his bass clarinet and a "clarinette contrebasse."⁸ The latter instrument was very likely the same brass bass saxophone exhibited in 1839.

A description of this instrument by Hector Berlioz provides more construction details. The description appears in a series entitled "De l'instrumentation," in a paragraph on the bombardon (an F tuba made in an ophicleide shape with three rotary valves, played with a cup-shaped mouthpiece) in the *Revue et gazette musicale de Paris* of March 13, 1842:

6. Maurice Hamel, the son of Sax's friend Henry Hamel, gave the date of 1838 for the invention of the saxophone in *Notes complémentaires sur Adolphe Sax* (Paris: Archives de H. & A. Selmer, 1925), 38; cited in Fred L. Hemke, "The Early History of the Saxophone" (DMA diss., University of Wisconsin, 1975), 10, 469 n. 44, and Howe, "Invention and Early Development of the Saxophone," 109–10. The 1838 date was also suggested in François-Joseph Fétis, *Biographie universelle des musiciens et bibliographie générale de la musique*, 2nd ed. (Paris: Didot frères, 1860–65), s.v. "Sax," translated in Kenneth N. Deans, "A Performance Project in Saxophone Literature with an Essay Consisting of Translated Source Readings in the Life and Work of Adolphe Sax" (DMA diss., University of Iowa, 1980), 23.

7. "M. Sax fils vient d'inventer une clarinette contre-basse en cuivre; après le tonnerre, c'est bien la plus puissante basse qui existe; ses sons ronds, pleins, vibrants, remplissent entièrement l'oreille et satisferont l'appetit musical le plus glouton; ce n'est plus un filet au ruisseau, c'est un fleuve d'harmonie qui coule à pleins bords. Le saxophone est le Niagara du son." Jean Baptiste Ambroise Marcellin Jobard, *Industrie française: Rapports sur l'exposition de 1839* (Brussels: Chez l'auteur, 1841–42), 2:154. I thank Dominique Bocquet Moir for help in translation.

8. *Rapports du jury et documents de l'Exposition de l'industrie belge en 1841* (Brussels: A. Seghers, 1842), 247–49.

An invaluable invention for the beauty of sound that it gives to the ophicleide was recently completed by Mr. Sax of Brussels. It involves replacing the cup-shaped mouthpiece with a clarinet mouthpiece. Ophicleides thus become brass instruments with a reed; the difference in sonority that results is much to their advantage, as stated by those who could properly judge it. Very likely the *ophicléide-à-bec* will be in general use in a few years.⁹

According to Oscar Comettant, Sax traveled to Paris in the first part of June 1842, where he visited Berlioz and the conductor Habeneck.¹⁰ On June 12, in the *Journal des débats*, Berlioz provided an account of Sax's improvements to the soprano clarinet and a detailed description of his bass "Saxophon." Here, Berlioz employs the name of this new instrument and mentions Sax's plan to construct a family of different-sized saxophones.

The saxophone, named after its inventor, is a brass instrument with nineteen keys, whose shape is rather similar to that of the ophicleide. Its mouthpiece, unlike those of most brass instruments, is similar to the mouthpiece of the bass clarinet. Thus, the saxophone becomes the head of a new group: brass instruments played with a reed. It has a compass of three octaves beginning from low BB \flat under the bass clef, its fingering is similar to that of the flute or the second register of the clarinet. Its sonority is of such a nature that I do not know of any low instrument presently in use that can compare to it. It is full, mellow, vibrant, with an enormous power and easy to play sweetly. It is much superior in my mind to the low notes of the ophicleide in its tuning and flexibility; moreover it is completely new and does not resemble any of

9. "Une invention précieuse pour la beauté du son qu'elle donne aux ophicléides, est celle que vient de faire à Bruxelles M. Sax. Il s'agit du remplacement de l'embouchure par un bec de clarinette. Les ophicléides deviennent ainsi des instruments de cuivre à anches; la différence de sonorité et de timbre qui résulte pour eux de ce système est tellement à leur avantage, au dire de tous ceux qui ont pu en juger, que, très probablement, l'ophicléide à bec deviendra d'un usage général dans quelques années." "De l'instrumentation," *Revue et gazette musicale de Paris* 9, no. 11 (March 13, 1842): 99–100; reprinted, as "Le bombardon," in Hector Berlioz, *De l'instrumentation*, ed. Joël-Marie Fauquet (Bègles: Le Castor Astral, 1994), 94. In this article, Berlioz wrote paragraphs on the bugle, ophicleide, bombardon, and serpent. Some writers quote this text and mistakenly cite it as Berlioz's "De l'instrumentation" article on the ophicleide. The chapter on the saxophone published in Berlioz, *Grand traité d'instrumentation et d'orchestration modernes* (Paris: Schöenberg, 1843) was added at the last minute in the first proof stage of the book, and Berlioz omitted the information quoted above. See Hector Berlioz, *New Edition of the Complete Works*, vol. 24, *Grand traité d'instrumentation et d'orchestration modernes*, ed. Peter Bloom (Kassel: Bärenreiter, 2003), 352, 458–60, 517, 519, 554; compare Hugh MacDonald, *Berlioz's Orchestration Treatise: A Translation and Commentary* (Cambridge: Cambridge University Press, 2002), 238–39, 296–301.

10. Oscar Comettant, *Histoire d'un inventeur au dix-neuvième siècle: Adolphe Sax, ses ouvrages et ses luttes* (Paris: Pagnerre, 1860), 12–13.

the timbres one hears in the present orchestra, with the sole exception of the bass clarinet's low E and F. Because it uses a reed, the saxophone can increase or diminish its sound. In its upper register it produces notes of a penetrating resonance that can be successfully applied to melodic, expressive lines. Without doubt, it will never be appropriate for rapid passages or for complicated arpeggios; but low instruments were not meant for nimble movements. Instead of complaining, we must rejoice that it is impossible to abuse the saxophone and destroy its majestic character by giving it mere musical fripperies to perform. Composers will be very indebted to Mr. Sax when his new instruments are generally employed. If he perseveres, he will meet with the support of all friends of music.¹¹

At the end of October 1842, Sax moved to Paris, where he established a brass and woodwind factory.¹² Another brief mention of the B \flat bass saxophone appears in the *Allgemeine Musikalische Zeitung* in November 1843, providing a few more construction details: "The instrument maker Sax in Paris has invented a new instrument and called it 'Saxophone.' It is of brass, about eight feet long, in a conical shape, has nineteen keys (some covered holes are two inches in diameter), and a mouthpiece similar to the clarinet. The range is three octaves. The tone is sonorous and

11. "Le *Saxophon*, ainsi appelé du nom de l'inventeur, est un instrument de cuivre assez semblable à ophicléide par sa forme, et armé de dix-neuf clefs. Il se joue non pas avec une embouchure, comme les autres instrumens de cuivre; mais avec un bec semblable à celui de la clarinette-basse. Le Saxophon serait ainsi le chef d'une nouvelle famille, celle des instrumens de cuivre à anche. Son étendue est de trois octaves, en partant du *si bémol* grave au-dessous des portées (clef de *fa*); son doigté est à peu près le même que celui de la flûte ou de la deuxième partie de la clarinette. Quant à la sonorité, elle est de telle nature que je ne connais pas un instrument grave, actuellement en usage qui puisse; sous ce rapport, lui être rapport, lui être comparé. C'est plein moelleux, vibrant, d'une force énorme, et susceptible d'être adouci. C'est fort supérieur, à mon sens, aux notes graves des ophicléides, pour la justesse, pour la fixité du son, dont le caractère d'ailleurs est tout-à-fait neuf et ne ressemble à aucun des timbres qu'on entend dans l'orchestre actuel, si ce n'est un peu à celui du *mi* et du *fa* grave de la clarinette-basse. Grâce à l'anche dont il est pourvu, le Saxophon peut enfler et diminuer le son; il produit, dans le haut, des notes d'une vibration pénétrante qui pourraient même être heureusement appliqués à l'expression mélodique. Sans doute il ne sera jamais propre aux traits rapides, aux arpèges compliqués; mais les instrumens graves ne sont point destinés aux évolutions légères; il faut donc, au lieu de s'en plaindre, se réjouir de l'impossibilité où l'on sera d'abuser du Saxophon et de détruire son majestueux caractère en lui donnant des futilités musicales à exécuter. Les compositeurs devront beaucoup à Mr. Sax; quand ses nouveaux instrumens seront devenus d'un usage général. Qu'il persévère; les encouragemens des amis de l'art ne lui manqueront pas." Hector Berlioz, "Instrumens de musique," *Journal des débats politiques et littéraires*, June 12, 1842, 1.

12. "Nouvelles," *Revue et gazette musicale de Paris* 9, no. 44 (October 30, 1842): 431; Haine, *Adolphe Sax*, 123, 270 n. 440.

strong, soft and noble, and very easy to produce.”¹³ Sax initially offered a saxophone (probably a baritone) for sale in a handwritten price list (ca. 1845). This saxophone and a bass clarinet were the highest priced items, at 200 francs.¹⁴

A baritone saxophone in E \flat (serial no. 4634) from 1846 displays several early design characteristics, not all of which were carried over to later saxophones. These include pads attached by screws from the inside of the key heads rather than glued into them (the ends of the screws protrude through the outside of the key heads); pillars attached directly to the body rather than to a brass strap or platform; long levers for the E \flat and C touches rather than small, round touches; the low B key mounted behind the bell rim rather than on the side of the bell; and the use of flat brass springs rather than needle springs to close all keys. In addition, this saxophone shows uncertainty as to tone hole placement, with much soldering on the body and relocation of the A key to a higher position.¹⁵ These characteristics reveal Sax’s ongoing development of his own design.

Sax applied for a French patent (no. 3226) for a wind instrument system called saxophones on March 21, 1846, and the patent was issued three months later, on June 20.¹⁶ This patent includes eight different saxophone sketches, but only two instruments were drawn with detailed

13. “Der Instrumentenmacher Sax in Paris hat ein neues Instrument erfunden und “Saxophone” genannt. Es ist von Kupfer, gegen 8 Fuss lang, kegelförmig, hat 19 Klappen (einige bedecken Löcher von 2 Zoll Durchmesser) und ein Mundstück dem der Clarinette ähnlich. Der Umfang ist drei Octaven. Der Ton ist sonor und kräftig, zart und edel und sehr leicht ansprechend.” “Feuilleton,” *Allgemeine Musikalische Zeitung* 45, no. 44 (November 1, 1843): col. 804.

14. “Nouveau prospectus d’Adolphe Sax et Cie,” consisting of one page, and the “Nouveau prix courant général des instruments en cuivre et en bois de la manufacture d’Adolphe Sax et Cie.” Reproduced in Haine, *Adolphe Sax*, 58, 60. Howe, “Invention and Early Development of the Saxophone” (127 n. 81), points out that this price list lacks a date and an illustration.

15. Private Collection, California. Albert R. Rice, “The Earliest Known Saxophone,” *Newsletter of the American Musical Instrument Society* 37, no. 1 (Spring 2008): 11–12, accessible at <http://www.amis.org/publications/newsletter/2008/37.1-2008.pdf>.

16. Adolphe Sax, Un système d’instruments à vent, dits, Saxophones, French patent no. 3226, filed March 21, 1846, and issued June 20, 1846. The three pages of text and one page of illustrations are reproduced in Günter Dullat, *Saxophone I: 1846–1973; Belgien, Deutschland, Frankreich, Gross-Britannien, Tschechoslowakei*, Internationale Patentschriften im Holz- u. Metallblasinstrumentenbau 1 (Nauheim: G. Dullat, 1995), 192–96; in Karl Ventzke and Claus Raumberger, *Die Saxophone: Beiträge zur Baucharakteristik und Geschichte einer Musikinstrumentenfamilie* (Frankfurt am Main: Das Musikinstrument, 1979), 67–68, Abb. 5/1–4 (without the official title page); and in Wally Horwood, *Adolphe Sax 1814–1894: His Life and Legacy*, rev. ed. (Baldock: Egon, 1983), 199, 200, 202.

keyword—the baritone and bass.¹⁷ The bass saxophone was made in an ophicleide shape with a U-bend at the lower end connecting two sections, and had six plateau keys covering the large finger holes.¹⁸ Sax soon abandoned this design, preferring saxophones with curved necks and large upright bells. An illustrated price list of about 1848 includes the E \flat alto (200 francs) and an E \flat baritone saxophone (200 francs), both in the new shape.¹⁹ The next year, Sax exhibited several saxophones, ranging from a soprano in E \flat to a contrabass (probably in E \flat), at the 1849 Paris Exposition.²⁰ How many instruments were exhibited is unknown, and other than the alto, baritone, and bass, they were prototypes and not yet available for purchase from the Sax firm.²¹

Beginning in 1845, John Distin and his brass-playing family quintet adopted Sax's saxhorns, subsequently giving many highly successful performances in France, Germany, England, Canada, and the United States.²²

17. See Howe's thorough description of this patent and the instruments in "Invention and Early Development of the Saxophone," 121–23. French patents were granted for five, ten, or fifteen years and taxed respectively at 500, 1,000, and 1,500 francs payable annually at 100 francs, subject to sale if the payments were not continued. Sax applied for a fifteen-year patent; see Haine, *Adolphe Sax*, 163.

18. One extant example is a baritone in E \flat (high pitch) by Pélisson frères & Cie, Lyon (ca. 1875, Kenz collection, Basel, Switzerland). An engraving of a baritone in F in ophicleide shape appears in Ferdinando Roth, *Catalogo generale* (1895); See Günter Dullat, *Saxophone: Erfindung und Entwicklung einer Musikinstrumenten-Familie und ihre bedeutenden Hersteller* (Nauheim: G. Dullat, 1999), 34, and Emanuele Raganato, "Saxophone Manufacture in Italy: A Short Survey," *Galpin Society Journal* 58 (2005): 60, fig. 3. The author has also received correspondence concerning the E \flat instrument from Willy Kenz and Bryan Kendall.

19. Reproduced in Malou Haine and Ignace De Keyser, "Catalogue des instruments Sax au Musée Instrumentale de Bruxelles suivi de la liste de 400 instruments Sax conservés dans des collections publiques et privées," *The Brussels Museum of Musical Instruments Bulletin* 9/10 (1979–80): 134–35, and Horwood, *Adolphe Sax*, 160. Howe showed that Jean-Georges Kastner copied the sketches of the alto and baritone saxophones and added a sketch of a tenor saxophone in his *Manuel général de musique militaire à l'usage des armées françaises* (Paris: F. Didot frères, 1848; repr., Geneva: Minkoff Reprint, 1973), pl. 25; see Howe, "Invention and Early Development of the Saxophone," 136–37.

20. "Depuis le plus petit en mi bémol aigu jusqu'à la contre-basse." in *Rapport du Jury Central sur les produits de l'agriculture et de l'industrie exposés en 1849* (Paris: Imprimerie Impériale, 1850), 2:593, quoted in Haine, *Adolphe Sax*, 143.

21. Howe convincingly argues that the tenor saxophone was not put into production by Sax until the mid 1850s. In addition, there are no extant Sax soprano or contrabass saxophones; see Howe, "Invention and Early Development of the Saxophone," 152–55, 171–77.

22. See also *Grove Music Online*, s.v. "Distin" (by Robert E. Eliason and Lloyd P. Farrar), <http://www.oxfordmusiconline.com> (accessed June 2009).

Through the Distins' performances, Sax's instruments were favorably introduced to audiences and musicians outside France. In 1846, the brass instrument company of Distin & Sons in London became agents for Sax's brass instruments, and as early as 1849 their stock list included a saxophone.²³ Distin began manufacturing his own brasses in London and sold saxhorn-type instruments made by makers other than Sax. In 1851, Sax took his agency away from Distin and assigned it to Rousselot & Co. of London.²⁴ In 1853, the agency for Sax instruments was transferred to the woodwind makers Rudall, Rose, Carte & Co.²⁵

By mid-century, the saxophone was introduced to Italy. In 1850, the Italian writer Antonio Tosoroni described the saxophone family, mentioning fourteen instruments from the highest soprano to the contrabass. Tosoroni described one saxophone in detail, probably a baritone, since "its sound incorporates the basset-horn and bass clarinet but is much more robust."²⁶ He also provided transposed scales for the soprano in F, the tenor in F, and the baritone in E \flat . Sometime before 1848, the music teachers and dealers Enea Brizzi and Giovanni Niccolai of Florence traveled to Paris and learned about the instrument from Sax. They must have purchased instruments, since the clarinetist Giovanni Bimboni played the alto saxophone in January 1848 with the Accademia Filarmonica of Florence.²⁷

One page of Sax's 1850 Paris *Prospectus* illustrates and names several of his instruments, including a soprano saxophone in B \flat (160 francs), an

23. See William Waterhouse, *The New Langwill Index: A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), 90.

24. *Musical World* 26 [29], no. 45 (November 8, 1851): 718, cited in Jack L. Scott, "The Evolution of the Brass Band and Its Repertoire in Northern England" (PhD diss., University of Sheffield, 1970), 83, 462. It is not certain what instruments made by Sax, including saxophones, were offered by Rousselot & Co. at this time.

25. "Sax's Cornet, Saxophones, Saxhorns & c.," *The Musical World* 32 (June 1853), reprinted as Appendix B in Horwood, *Adolphe Sax*, 201.

26. "La sua voce partecipa di quella del Corno Bassetto e del Clarinetto basso; ma assai più robusta." Antonio Tosoroni, *Trattato pratico di strumentazione* (Florence: Guidi, 1850), 25.

27. "Saxofono. Questo strumento é di recentissima invenzione del fabbricante Adolfo Sax di Parigi . . . Quest' ultimo é quello, che i Prof: di Musica e Negozianti di Strumenti Armonici Ssⁿⁱ BRIZZI e NICCOLAI di FIRENZE fecero venire da Parigi, e si potè sentire con graditissimo all'Accademia Filarmonica ai primi di Gennajo del 1848 col mezzo del nostro bravissimo Prof: di Clarinetto SIG. GIOVANNI BIMBONI." Tosoroni, *Trattato pratico di strumentazione*, 25. There is no evidence that Brizzi and Niccolai offered saxophones to the public during this time. See also Adriano Amore, *La scuola clarinettistica italiana: Virtuosi e didatti* (Frasso Telesino: the Author, 2006), 14–15.

alto in E \flat (200 francs), and a baritone in E \flat (200 francs).²⁸ Another page illustrates a bass in C priced at 250 francs.²⁹ Sax's Belgian saxophone patent of December 1850 lists E \flat soprano, B \flat soprano, E \flat alto, B \flat tenor, E \flat baritone, and C bass instruments, although only the soprano, alto, baritone, and bass are illustrated.³⁰ On April 8, 1854, Sax was appointed an official maker and given the title "Musical Instrument Maker of the Emperor's Military Establishment" (Facteur d'instruments de musique de la Maison militaire de l'Empereur). On August 16, 1854, Napoleon III decreed that infantry bands include two each of soprano, alto, tenor, and baritone or bass saxophones and seventeen saxhorns of different sizes.³¹ Finally, at the 1855 Paris Exposition, the first evidence appeared of the construction of a complete family of saxophones. Sax presented at least eight saxophones there: 1. E \flat soprano, 2. C or B \flat soprano, 3. F or E \flat alto, 4. C or B \flat tenor, 5. F or E \flat baritone, 6. C or B \flat bass, 7. F or E \flat contrabass, and 8. C or B \flat contrabass.³² However, even by the mid-1850s Sax's firm was not regularly producing soprano or contrabass saxophones.

In 1857, Sax's saxophones were on sale in Madrid, listed in a catalog of the dealer Carrafa.³³ Further, in 1864 the dealer, maker, and inventor Antonio Romero y Andía (1815–1885) published his observations on the instruments shown at the 1862 London Exhibition. In connection with

28. Haine and De Keyser, "Catalogue des instruments Sax," 187; Haine, *Adolphe Sax*, 131; and Horwood, *Adolphe Sax*, 128.

29. "Saxophone basse en ut 250 F," reproduced in Ventzke and Raumberger, *Die Saxophone*, 58; Dullat, *Saxophone: Erfindung und Entwicklung*, 21; and Horwood, *Adolphe Sax*, 127. Howe mistakenly called this a B \flat bass saxophone in "Invention and Early Development of the Saxophone," 138, fig. 12.

30. Reproduced in Dullat, *Saxophone 1*, 27–31; Howe, "Invention and Early Development of the Saxophone," 152 and 139, fig. 13. Sax applied for a Belgian patent (no. 5469) on December 7, 1850; it was granted on January 16, 1851, for ten years; see Haine, *Adolphe Sax*, 190–91.

31. Sax's title is presented as document no. 5 in Haine, *Adolphe Sax*, 180. The 1854 decree is printed in the *Journal militaire officiel*, année 1854, no. 59, 292; and cited in Haine, *Adolphe Sax*, 112, 269 n. 403; see also, Howe, "The Invention and Early Development of the Saxophone," 155.

32. "1° saxophone aigu en mi bémol, 2° saxophone soprano en ut ou en si bémol, 3° idem alto en fa ou en mi bémol, 4° saxophone tenor, en ut ou en si bémol, 5° idem baryton en fa ou mi bémol, 6° idem basse en ut ou si bémol, 7° idem contrebasse en fa ou mi bémol, 8° saxophone contrebasse en ut ou si bémol." Fétis, *Exposition universelle de Paris, en 1855: Fabrication des instruments de musique; Exposé historique de la formation et des variations de systèmes dans la fabrication des instruments de musique* (Paris: Imprimerie Impériale, 1856), 11.

33. E-mail correspondence from Beryl Kenyon de Pascual, November 17, 2009.

Adolphe Sax, he mentioned complete series of clarinets and saxophones from soprano through bass, useful in military music for a variety of pleasing effects. Romero included two alto saxophones in his ideal instrumentation for military bands.³⁴

Another decree by Napoleon III, dated March 26, 1860, now specified that four saxophones (soprano, alto, tenor, and baritone) were to be played in French infantry bands.³⁵ On June 26, 1860, an extraordinary appeal to the *Conseil d'Etat* (the legislative body of the French government) was made by Frédéric LePlay on behalf of Sax to extend protection of Sax's saxotromba patent of 1845 (no. 2306) and his saxophone patent of 1846 for five years. (Only one previous applicant, Mr. Boucherie, had successfully appealed for a patent extension, for the preservation and coloration of woods.) LePlay emphasized Sax's unique contributions, and the inability of Sax to benefit from his patents because of his tremendous legal costs and later bankruptcy associated with other makers seeking to make saxophones in violation of the patent. He mentioned the newness of the saxophone and noted that for several years only a handful of musicians were capable of playing the instrument. The *Conseil* agreed with Sax and LePlay and drafted a bill for the extension of Sax's patents.³⁶ Letters of support from Castil-Blaze and Meyerbeer were introduced, and the *Conseil* voted to extend the two patents by five years.³⁷ Thus the saxophone patent was extended until

34. "Tabien presentó el mismo fabricante séries completas de *clarinetes y de saxophones*, desde el soprano hasta el bajo, las que, reunidas en una música militar, producen los mas gratos y variados efectos." *Memoria sobre los instrumentos de música, presentados en la exposición internacional de Londres del año de 1862* (Madrid: Imprenta Nacional, 1864), 16, 28. The author thanks Will Peebles for a copy of this source.

35. Jacques Cools, "Adolphe Sax, la reorganisation des Musiques militaires sous Napoléon III," *Larigot*, no. 25 (March 2000): 31–35, cited in Howe, "Invention and Early Development of the Saxophone," 147, fig. 15.

36. The proceedings are documented in the Archives nationales de France, *C 1065, dr. 21*: "Projet de loi prolongeant la durée de deux brevets d'invention accordés à Antoine-Joseph Sax, dit Adolphe Sax, 20 juillet 1860" and in Jules Pataille, *Annales de la propriété industrielle, artistique et littéraire. Journal de législation, doctrine et jurisprudence française et étrangère et matière de brevets d'invention, littéraire, théâtre, musique, beaux-arts* (Paris: Bureau des annales, 1859–60), vol. 2, article 602, 321–58; cited in Haine, *Adolphe Sax*, 164–69, 277 n. 651, 278 n. 664. Also reported in *Revue et gazette musicale de Paris* 27, no. 39 (September 23, 1860): 332–36, cited in Hemke, "Early History of the Saxophone," 476 n. 53.

37. *Revue et gazette musicale de Paris* 27, no. 39 (September 23, 1860): 334, and Paul Scudo, *L'Année musicale* (Paris: L. Hachette et Cie, 1861), 350, cited in Hemke, "Early History of the Saxophone," 476 nn. 56–57.

May 11, 1866.³⁸ After this time, other companies were free to manufacture their own saxophones. Sax's 1867 *Prospectus* illustrates four saxophones that were to become the most common sizes: soprano, alto, tenor, and baritone.³⁹

An interesting aside in the development of the saxophone is the activity of the clarinetist Charles-Valentin Soualle (1820–after 1865), winner of a first prize at the Paris Conservatoire in 1844.⁴⁰ Subsequently, Soualle became director of music of the French Marine Band in Senegal, after which he returned to Paris to play principal clarinet at the Opéra-Comique. After the revolution of 1848, he fled to London, where he played in the Queen's Theatre orchestra. Here, Soualle was encouraged by the conductor and composer Louis Jullien to learn the saxophone, and he became a well-known saxophone soloist. By the early 1850s, Soualle had converted to Islam, changed his name to Ali-Ben-Sou-Alle (meaning Ali, son of Soualle), and designed a straight alto saxophone with a slightly upturned bell he called a "turcophone."⁴¹ A depiction of Ali-Ben-Sou-Alle with an alto turcophone shows that he grew a full beard, and wore a turban and the typical dress of Islamic males (fig. 1).

From 1855 or earlier, Ali-Ben-Sou-Alle toured with at least three instruments, the turcophone, the turcophono, and the turcophonini, performing in many European capitals, Australia, New Zealand,⁴² Manila, Java, China, and India; he settled in the latter, in Mysore, becoming Director of the Royal Music for the Maharajah.⁴³ About 1860, he returned

38. Napoleon III's decree of July 20, 1860, states that both of Sax's patents are to be extended by five years; see Haine, *Adolphe Sax*, 181, document 7.

39. Haine and De Keyser, "Catalogue des instruments Sax," 152, and Horwood, *Adolphe Sax*, 78.

40. Constant Pierre, *Le Conservatoire national de musique et de déclamation: Documents historiques et administratifs* (Paris: Imprimerie Nationale, 1900), 853.

41. Fabien Chouraki, "Ali-Ben-Sou-Alle: Un mystérieux saxophoniste du 19^e siècle," *Bulletin de l'As Sa Fra* [Association des Saxophonistes de France], no. 47 (November 1995), accessible from www.jazzbank.com/saxophone/Soualle.html (accessed August 2009).

42. Hemke, "Early History of the Saxophone," 343–45. Reviews of Ali-Ben-Sou-Alle's two concerts during March 1855 in Nelson and Croixelles, New Zealand, indicate that he played a turcophone in E♭, a smaller instrument, probably in B♭, and other instruments; *Nelson Examiner and New Zealand Chronicle*, April 7, 1855, 2, and April 11, 1855, 2, <http://paperspast.natlib.govt.nz/cgi-bin/paperspast?a=d&cl=CL1.NENZC> (accessed August 2009).

43. In 1857 Ali-Ben-Sou-Alle performed two concerts in India, reported by the *Moniteur officiel des établissements français en Inde*; the report was republished in the *Revue et gazette musicale de Paris* 24, no. 25 (June 21, 1857): 204–5; quoted in Chouraki, "Ali-Ben-Sou-Alle." He subsequently traveled and performed in Ile Maurice (present day Mauritius), French Polynesia, and at the Cape of Natal and the Cape of Good Hope, South Africa.



FIGURE 1. Ali-Ben-Sou-Alle holding his alto turcophone. Fabien Chouraki, "Ali-Ben-Sou-Alle: Un mystérieux saxophoniste du 19^e siècle," *Bulletin de l'As Sa Fra*, no. 47 (November 1995).

to France for health reasons and published some of his own music for soprano and alto turcophones.⁴⁴ In the same year, he took out a French patent (no. 46,837) for the turcophone,⁴⁵ incorporating Louis-Auguste

44. Thirty musical compositions for turcophone in E \flat or B \flat are identified in Chouraki, "Ali-Ben-Sou-Alle."

45. Ali-Ben-Sou-Alle, *Mémoire descriptif déposé à l'appui de la demande d'un brevet d'invention de quinze ans, pour des perfectionnements apportés aux instruments de musique à clefs*, French patent no. 46,837, filed September 22, 1860, and granted November 5, 1860; an addition was filed on September 21, 1861, and granted December 12, 1861. For a copy of the patent, the author thanks Robert Adelson of the Musée du Palais Lascaris in Nice and Valérie Marchal of the Institut national de la propriété industrielle.

Buffet's Boehm-system clarinet key work⁴⁶ and thereby bypassing Sax's patent. On March 27, 1865, he performed a concert for Emperor Napoleon III at the Tuileries Palace,⁴⁷ after which he is not heard of again. No examples of Ali-Ben-Sou-Alle's turcophones are known; neither is it known who made these instruments.

Makers and Dealers after May 11, 1866

After Sax's patent lapsed in May 1866, four French makers began almost immediately to produce saxophones. The first was François Millereau of Paris, who had sold Sax's brass instruments since 1862 under a license. He applied for a French patent (no. 72,530) for his Saxophone-Millereau on August 7, 1866, and the patent was granted on October 10.⁴⁸ According to Fred L. Hemke, Millereau's alterations to Sax's design included new positioning of the plates of the plateau keys, a new system of rods to prevent key noise, steel covered with brass for some keys, redesign of the two octave keys, a single rod for mounting both E \flat and C, and changes to some key positions.⁴⁹

Buffet-Crampon of Paris is said to have made their first saxophones in 1866.⁵⁰ In 1865, Pierre Goumas of Paris had succeeded to the firm (Buffet-Crampon was his wife's uncle), retaining the trade name of Buffet-Crampon on his instruments. The firm was, however, listed in exhibition reports as Goumas et Cie. It seems likely that under Goumas the

46. Soualle's patent has not been mentioned in the main literature on the saxophone and is not found in compilations such as Dullat's saxophone patent book (*Saxophone I*) because the instrument was not known as a saxophone, but rather as a turcophone. Soualle specifically noted that his patent improvements were meant for instruments named saxophones or turcophones-sax (spécialement destinés aux instruments connus sous le nom de saxophones ou de turcophones-sax). The design includes a single automatic octave key to replace the two octave keys used by Sax, Boehm-system clarinet key work, and the plateau keys of a saxophone.

47. "Nouvelles," *Revue et gazette musicale de Paris* 32, no. 14 (April 2, 1865): 109–10.

48. Millereau et Cie., *Brevet d'invention* no. 72,530 (October 10, 1866), partially reproduced in Dullat, *Saxophone I*, 186–87; the text is missing and only the drawings are reproduced. See also Hemke, "Early History of the Saxophone," 73, 477 n. 63, and Waterhouse, *New Langwill Index*, 265.

49. Hemke, "Early History of the Saxophone," 73–74.

50. According to the firm's website, "dès 1866, BUFFET CRAMPON fabrique ses premiers saxophones, 20 ans après l'invention du Belge Adolphe Sax." Buffet-Crampon, Depuis 1825, www.buffet-crampon.com/fr/histoire.php (accessed August 2009). See also Dullat, *Saxophone: Erfindung und Entwicklung*, 34.

firm made some saxophones during the 1860s before actively selling them under their own name. The Dutch saxophonist Ed Bogaard, who has examined Buffet-Crampon's order books, reported that the earliest order for saxophones—for two sopranos, two altos, two tenors, and two baritones—was entered on December 26, 1871.⁵¹ Bogaard's research reveals that E \flat and F baritone saxophones in old pitch were ordered from London on May 17, 1872; a saxophone quartet and a separate alto saxophone (new model) were ordered from Lyon on May 17 and July 20, 1872; a silver-plated saxophone quartet was ordered from Vienna on March 10, 1873; and a saxophone quartet and a new-model saxophone quartet were ordered from America on December 15, 1875.⁵²

The "new model" refers to instruments based on Goumas' design for a system of saxophone keywork (French patent no. 109,817), approved on December 9, 1875. Improvements to keywork and fingering by Goumas are found in three additions to this patent (September 13 and September 20, 1878, and January 12, 1880).⁵³ Based on the serial numbers, Bogaard estimates that about six thousand saxophones were made by Goumas up to 1885, when the company was taken over by Evette & Schaeffer (they continued to use the Buffet-Crampon stamp on their instruments).⁵⁴ Four slightly different saxophone key systems were devised by Evette & Schaeffer and designated by letters: Series A (made 1885–87), B (1887–95), C (1895–96), and D (1896–1907). Series A through C were illustrated and described in Evette & Schaeffer's 1907 catalog.⁵⁵

On January 25, 1867, Claude George of Toulon applied for a French patent (no. 74,477) for a system of mounting keys on the saxophone. He made additions to this patent on June 24, 1869, and June 13, 1870.⁵⁶ The new system involved a number of differences in the placement of pads and touches, as compared to Sax's instrument. George initially made these saxophones himself in Toulon; in 1875 he licensed production to Pélisson frères, active in Lyon and Paris.⁵⁷ Although the George system

51. Ed Bogaard, *De Saxofoonfamilie van Buffet Crampon* (Best: Buffet Crampon Benelux, 1986), 12. The author thanks Johan van Kalker for providing a photocopy of this study.

52. *Ibid.*, 14.

53. Reproduced in Dullat, *Saxophone 1*, 164–75, and Hemke, "Early History of the Saxophone," 76–77, 477 nn. 71–72, 478 n. 73.

54. Bogaard, *De Saxofoonfamilie van Buffet Crampon*, 15.

55. *Ibid.*, 16–28.

56. Bruno Kampmann, "Le saxophone 'système George,'" *Larigot*, no. 37 (May 2006): 20, 22–23.

57. *Ibid.*, 20–21, 24–25.

was never very popular, it was briefly offered by two foreign firms: Lapini in Florence (1884) and Boosey & Co. in London (1897).

The fourth maker was Pierre Louis Gautrot (known as Gautrot aîné) of Paris, who was a persistent adversary of Sax and the inventor in 1856 of a family of double-reed instruments called sarrusophones. Gautrot was granted a French patent (no. 79,612) for a saxophone on March 1, 1868.⁵⁸ His proposed improvements included tone hole placement, interior bore dimensions, placement of keys, the key mechanism, and a newly designed pad. Some of these objectives may have been achieved; however, in exterior appearance Gautrot's instrument appears little changed from Sax's.⁵⁹

By the 1870s, Parisian makers were making saxophones in earnest, and complete families were exhibited by Buffet-Crampon & Cie (under Goumas) and Lecomte et Cie at the 1878 Paris Exhibition.⁶⁰ Buffet-Crampon was the largest producer and exporter of high-quality saxophones worldwide through the early twentieth century. In Brussels, two well-known manufacturers made and patented fine saxophones: Eugène Albert (Belgian patent no. 50,774, 1880) and Charles Mahillon (Belgian patent no. 57,780, 1880). The firms of Closset and Walpot, both in Brussels, imported and sold saxophones. In Italy, the popularity of the saxophone increased, with several large manufacturers making their own instruments or selling imported ones; they included Maino & Orsi (Milan), Maldura (Milan), Pelitti (Milan), Rampone (Milan), Rondino (Verona), Roth (Milan), and Zelweger (Beilla). The number of Italian makers suggests a wide use of saxophones in military and civilian bands there. British firms who made saxophones or sold imported ones were Boosey & Co., Besson & Co., and Butler in London; Ward & Sons may have made them in Liverpool. Sales of saxophones by Boosey & Co. began to rise during the 1890s, and after 1900 increased dramatically due to use of the instrument in military and jazz bands.⁶¹ In Germany, only three makers produced saxophones or sold imported ones: Julius

58. Gautrot aîné et Cie., *Brevet d'invention* no. 79,612 (March 1, 1868); see Hemke, "Early History of the Saxophone," 74, 477 n. 68.

59. Hemke, "Early History of the Saxophone," 74–75.

60. Gustave Chouquet, *Rapport sur les instruments de musique et les éditions musicales: Rapports du Jury international: Exposition universelle internationale de 1878 à Paris; Groupe 2, Classe 13* (Paris: Imprimerie Nationale, 1880), 54–55.

61. Kelly J. White and Arnold Myers, "Woodwind Instruments of Boosey & Company," *Galpin Society Journal* 57 (2004): 72.

Jehring (Adorf), Michael Schuster (Markneukirchen), and Stegmann (Magdeburg).⁶²

In the United States in 1873, the bandmaster Patrick S. Gilmore hired four saxophonists for the newly reorganized 22nd Regiment Guard Band, based in New York City. Their saxophone quartet was initially featured on a program at the Academy of Music in Brooklyn on January 15, 1874.⁶³ In 1889, Gilmore used a sextet of saxophones (soprano, alto, two tenors, baritone, and a contrabass in E \flat) in this band, then the foremost professional band in the United States.⁶⁴ A photograph of a quintet of saxophones held by members of Gilmore's band shows straight soprano, alto, tenor, baritone, and bass in B \flat (fig. 2).⁶⁵ Gilmore's use of the saxophone in the 1870s and 1880s and John Philip Sousa's use of it in the 1890s were highly important for the instrument's acceptance in American bands. Beginning in 1892, Conn of Elkhart, Indiana, began to manufacture and sell saxophones. Conn likely began making saxophone prototypes in about 1890, and by 1895 had hired the well-known alto sax-

62. Wilhelm Heckel (1856–1909) applied for a German patent (no. 53,181) on December 8, 1889, for an octave key mechanism for woodwinds (granted September 8, 1890). The instrument of the patent drawing resembles a conical-bore soprano saxophone, although the saxophone is not mentioned in the patent text, and it is known that this mechanism was to be applied to Heckel's sopranino and soprano clarina, a straight conical-bore brass instrument. Heckel's price list of 1907 includes a quartet of saxophones. See Dullat, *Holzblasinstrumente und Deutsche Patentschriften 1877–1970: Holzblasinstrumente* (Nauheim: the Author, 1987), 17–18; Gunther Joppig, "Heckels Beiträge zum Saxophonbau: Wilhelm Heckel (1854 [sic]–1909) zum einhundertsten Todesjahr," *Rohrblatt* 24, no. 3 (September 2009): 134, 137–38.

63. An *Andante and Allegro* by Jean-Baptiste Singelée was played by Walrabe, Edward A. Lefebre, Steckelberg, and F. W. Schultze. Lefebre also performed his own solo for alto saxophone, a *Swiss Air* with variations. See James Russell Noyes, "Edward A. Lefebre (1834–1911): Preeminent Saxophonist of the Nineteenth Century" (DMA diss., Manhattan School of Music, 2000), 27, 29, 194, 197, 204.

64. Leon Mead, "The Military Bands of the United States," *Harper's Weekly Supplement*, September 28, 1889, 787. Mead states: "Unlike Signor Cappa and other great bandmasters, he [Gilmore] believes in the employment, where permissible, of saxophones." See also *Grove Music Online*, s.v. "Gilmore, Patrick S." (by Frank J. Cipolla), <http://www.oxfordmusiconline.com> (accessed August 2009).

65. "Quintette of Saxophones" in Mead, "Military Bands of the United States," 785. The saxophonists are M. Davidson, soprano; E. A. Lefebre, alto; E. Schaap, tenor; F. W. Schultze, baritone; and T. F. Shannon, bass. See Noyes, "Edward A. Lefebre," 212. A photo entitled "Roster of Patrick Sarsfield Gilmore's Famous 100 piece Band — Madison Sq. Garden-June 1892-New York" shows a bass saxophone in E \flat in the back row, to the left of center. The author is grateful to Bryan Kendall for sharing this photograph.

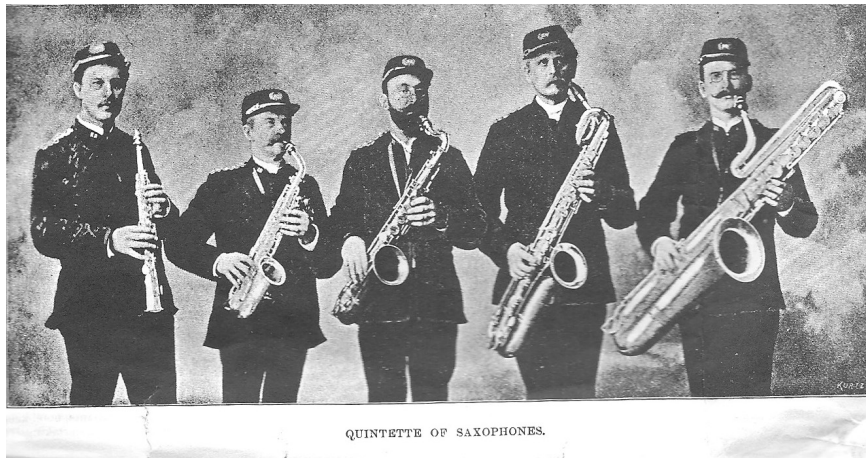


FIGURE 2. Members of the 22nd New York Regiment Band with soprano, alto, tenor, baritone, and bass saxophones. Leon Mead, "The Military Bands of the United States," *Harper's Weekly Supplement*, September 28, 1889, 785.

ophone soloist Edward A. Lefebre as a consultant.⁶⁶ Three nineteenth-century American dealers who imported a few saxophones were Foote (New York), Hall (Boston), and Lyon & Healy (Chicago).⁶⁷ The saxophone was not widely used in America until after 1900.

Significant and long-lasting improvements to the saxophone appeared in late nineteenth-century French patents for instrument designs. For example, in an 1887 patent (no. 184,066), Evette & Schaeffer added a connecting bar to permit a trill from F or F# to G#, a right-hand chromatic side key for F#, and the *bis* key for playing Bb with the first finger of the left hand alone; they also extended the range to low Bb.⁶⁸ Most

66. See Noyes, "Edward A. Lefebre," 127–28. Confusingly, Paul Alan Bro refers to some early Conn literature that claims 1889 as the year of Conn's earliest saxophones; see Bro, "The Development of the American-Made Saxophone: A Study of Saxophones made by Buescher, Conn, Holton, Martin, and H. N. White" (DMA diss., Northwestern University, 1992), 22–62.

67. A list of international saxophone patents is given in Dullat, *Saxophone: Erfindung und Entwicklung*, 87, and the patents themselves are reproduced in Dullat, *Saxophone 1: 1846–1973*, and *Saxophone 2: 1916–1973; Vereinigte Staaten (USA)*, Internationale Patentschriften im Holz- und Metallblasinstrumentenbau 2 ((Nauheim: G. Dullat, 1995).

68. Société Evette et Schaeffer, *Brevet d'invention*, no. 184,066 (June 25, 1887); reproduced in Dullat, *Saxophone 1*, 110–14; see also Hemke, "Early History of the Saxophone,"

of these patents include fundamental designs that continue to be used in modern instruments. However, not all of Evette & Schaeffer's instruments include each of these modifications; some have a trill key (left-hand fourth finger) for a G to G \sharp trill and a *bis* key for a D to D \sharp trill, played by holding down the key with the second finger of the left hand and trilling with the third finger.⁶⁹ In 1888, Lecomte patented a single "automatic" octave key and rollers between the low E \flat and C keys.⁷⁰ The Besson company in Paris began to produce its own saxophones about 1889. Their instruments had several improvements, including a right-hand side C trill key.⁷¹

Conclusions

Of the fifty-four makers and dealers of the saxophone listed below, twenty-four were active in France, with eighteen in Paris and the remainder in Bordeaux, Lille, Lyon, and Toulon. The saxophone's unique sound and usefulness as a band instrument made it attractive to makers, and in France production was stimulated by the royal decrees of 1854 and 1860 specifying a quartet of saxophones in military wind bands. The leading maker in Paris was Buffet-Crampon & Cie, first under the leadership of Pierre Goumas (1865–85) and then owned by Evette & Schaeffer. By 1885, this firm had produced about six thousand saxophones in various sizes.⁷² Evette & Schaeffer continued to be the leading producer and

82–83, 478 n. 83, and Thomas Liley, "Invention and Development," in *The Cambridge Companion to the Saxophone*, ed. Richard Ingham (Cambridge: Cambridge University Press, 1998), 16. These improvements were later patented in America by Paul Evette in U.S. patent no. 638,386 (December 5, 1899).

69. See the diagram of these keys in *The Carl Fischer Band Instrument Catalog: Reed & Wood Wind Instrument Section no. II*, 19th ed. (New York: Carl Fischer, ca. 1925), 2. Variations among Evette & Schaeffer saxophones were pointed out to the author by the collector and player Paul Cohen.

70. A. Lecomte et Cie, *Brevet d'invention* no. 193,722 (November 4, 1888); reproduced in Dullat, *Saxophone I*, 176–85; see Hemke, "Early History of the Saxophone," 85–86, 479 n. 91, and Liley, "Invention and Development," 16.

71. Constant Pierre, *La facture instrumentale à l'Exposition universelle de 1889* (Paris: Librairie de l'Art Indépendant, 1890), cited in Hemke, "Early History of the Saxophone," 86, 479 n. 94, and Liley, "Invention and Development," 16.

72. Bogaard, *De Saxofoonfamilie van Buffet Crampon*, 15; *Grove Music Online*, s.v. "Buffet-Crampon" (by Anthony Béthune and William McBride), <http://www.oxfordmusiconline.com> (accessed August 2009).

exporter of saxophones into the twentieth century. Significant design improvements were made by Buffet-Crampon, Lecomte (Paris), and Besson (Paris). The incorporation of these improvements into the instrument's design led to the modern saxophone. Other saxophone makers and dealers made and sold fewer instruments; nevertheless, saxophones were available from makers and dealers in a variety of countries. Nine makers or dealers are recorded in Italy—in Biella, Florence, Milan, and Verona; seven in Liverpool and London; four in Brussels; five in the United States; three in Germany; one in Madrid; and one in Moscow. The many saxophone patents taken out by these makers provide a rich area for future research into the development of the modern saxophone.

The instrument's development and dissemination went hand in hand with its increasing musical use. Until the 1880s, the saxophone was a wind instrument primarily played in France, in solo works, chamber music, many wind bands, and in operas and sacred works.⁷³ As well as sixteen solo works, at least twenty-seven symphonic and operatic compositions that include the saxophone were written between 1844 and 1919, most by French composers.⁷⁴ The saxophone was also used in Belgium in various wind bands and in orchestral music and operas; and at the end of the nineteenth century it began a strong and successful career in wind bands in Italy, England, Germany, America, and Russia. Soon after 1895 the saxophone was generally established in military and civilian wind bands throughout most of Europe and America. Famous bands led by Patrick S. Gilmore and John Philip Sousa featured, respectively, a quintet and sextet of saxophones, along with saxophone soloists, helping to popularize the instruments in America and abroad. Later, the use of saxophones in various American jazz bands and the dissemination of recorded music led the saxophone to become one of the most popular and significant musical instruments of the twentieth and twenty-first centuries.

73. See also the summaries of saxophone music in Thomas Liley, "The Repertoire Heritage," 51–52; Richard Ingham, "The Saxophone Quartet," 65; and Stephen Trier, "The Saxophone in the Orchestra," 101–2, all in *The Cambridge Companion to the Saxophone*.

74. See Edwin Fridorich, "The Saxophone: A Study of Its Use in Symphonic and Operatic Literature" (EdD diss., Columbia University, 1975), 21 n. 1, 24–25, 108, 111, 113.

APPENDIXES:

An Index of Nineteenth-Century Saxophone Makers and Dealers

The following alphabetical list (Appendix 1) represents the nineteenth-century saxophone makers and dealers known to the author. The examples, however, represent only a sample of extant saxophones made during this time. Further research will undoubtedly uncover many more. Appendix 2 sorts makers and dealers by city and country. Appendix 3 provides a key to the alphabetical list, including abbreviations for collections (pp. 120–21) and a bibliography of frequently cited items (pp. 121–22).

APPENDIX 1:

Saxophone Makers and Dealers to 1900

Albert, Eugène. Brussels, 1839–1887.⁷⁵ Albert took out a Belgian patent (no. 50,774) for an improved saxophone mechanism on March 8, 1880.⁷⁶

Maker's mark: “(6-pointed star) / E. ALBERT / BRUXELLES / (6-pointed star)”

Examples: soprano in B \flat , B-Bruxelles, MR, V/5754;⁷⁷ tenor in B \flat , F-Castelnau Montratier.

Association générale des ouvriers. Paris, 1860–ca. 1905. By 1875, L. François Maître and J. Maître were directors. In 1885, this firm absorbed Feuillet, taking over their saxophone models.⁷⁸ On April 6, 1886, they applied for a French saxophone patent (no. 175,287) for a new key arrangement.⁷⁹

Maker's marks: “ASSOCIATION / DES OUVRIERS / RUE S^T MAUR 81 / PARIS”; “BRUXELLES MEDAILLE D'OR 1880 / OUVRIERS REUNIS / (stamp) / ASSOCIATION Générale / F^{eurs} de l'armée / PARIS”

Examples: alto in E \flat , NL-Amsterdam;⁸⁰ tenor in B \flat , US-SD-Vermillion, 5770.

Besson. Paris, 1837/38–present. Founded by Gustave Besson; from 1867 known as F. (Florentine) Besson. The firm was producing saxophones by 1889.⁸¹

75. Jacques Cools, “Essai de classification alphabétique des facteurs, ouvriers, inventeurs, marchands belges d'instruments de musique à vent,” *Larigot*, no. 8 spécial (December 1997): 2; Waterhouse, *New Langwill Index*, 4.

76. Dullat, *Saxophone 1*, 9–13.

77. For a description and photo, see Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie: Inventaire descriptif* (Liège: Mardaga, 1992), p. 88, no. 374.

78. Waterhouse, *New Langwill Index*, 12. See also Algernon S. Rose, *Talks with Bandmen: A Popular Handbook for Brass Instrumentalists* (London, 1895; repr., London: T. Bingham, 1996), 151. In 1895, Rose specifically mentioned François Maître & Co., meaning the Association générale, as saxophone makers.

79. Dullat, *Saxophone 1*, 73–80.

80. For a photo and description, see Leo van Oostrom, *Saxofoons: Kreuze uit de verzameling Leo van Oostrom* ([Eindhoven]: Museum Kempenland Eindhoven, 1994), p. 35, no. 46.

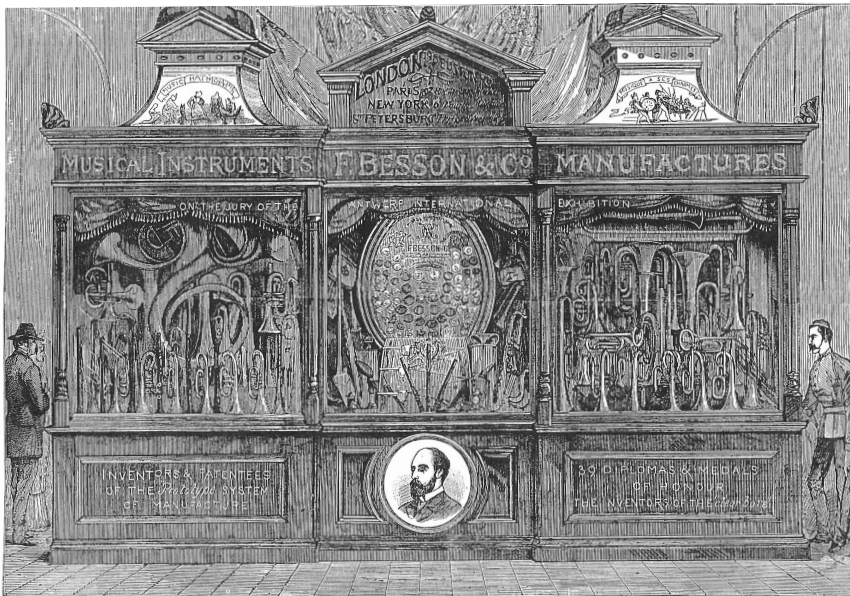
81. Waterhouse, *New Langwill Index*, 29–30; Hemke, “History of the Early Saxophone,” 86.

Maker's mark: "SYSTEME MONOPOLE (in scroll) / FB (monogram) / F. BESSON / BREVETÉ / S.G.D.G. / 96 RUE D'ANGOULEME / PARIS (5-pointed star)"

Besson & Company. London, 1858–1968. Founded by Gustave Besson; from 1862 known as F. Besson.⁸² An advertising poster of ca. 1885 includes photographs of a baritone saxophone in E \flat , an alto in E \flat , and a soprano in E \flat .⁸³ At the International Inventions Exhibition in London in 1885 the company presented a large cabinet filled with various brass instruments, including two different sizes of saxophones in the center cabinet (fig. 3).⁸⁴ In 1895, the firm advertised a Boehm-system saxophone.⁸⁵

Maker's mark: "BESSON & Co. / 198 EUSTON ROAD / LONDON / (5-pointed star)"

Example: soprano in B \flat (serial no. 570), US-SD-Vermillion, 5760.



MESSERS. F. BESSON AND CO.'S WIND INSTRUMENTS.

FIGURE 3. F. Besson exhibit at the International Inventions Exhibition, London, 1885. "Messrs. F. Besson and Co.'s Wind Instruments, at the Inventions and Music Exhibition," *The Illustrated London News*, August 8, 1885, 133.

82. A history of this firm appears in Arnold Myers and Niles Eldredge, "The Brasswind Production of Marthe Besson's London Factory," *Galpin Society Journal* 59 (2006): 43; see also Waterhouse, *New Langwill Index*, 30.

83. Myers and Eldredge, "Brasswind Production," 45, 63–64.

84. *The Illustrated London News*, August 8, 1885, 133.

85. Waterhouse, *New Langwill Index*, 30.

Boosey & Company. London, 1851–1930. They began production of saxophones in 1882.⁸⁶ A “Georgephone” appears in the 1897 workshop books and may have been the saxophone model made after 1867 by Claude George of Toulon and after 1875 by Pélisson frères et Cie of Lyon.⁸⁷

Maker’s mark: “BOOSEY & CO. / MAKERS / LONDON”

Brizzi, Enea & Niccolai, Giovanni. Florence, 1842–1935. In 1842, the firm was established as a dealership offering pianos; they became important for their selection of wind instruments. Brizzi & Niccolai advertised as makers of vertical pianos and by 1873 were offering wind instruments by several foreign makers including Lecomte and Buffet-Crampon, both makers of saxophones.⁸⁸

Buescher, Ferdinand. See *Conn, Charles Gerard.*

Buffet-Crampon & Cie. Paris, 1844–1885. Led 1865–1885 by Pierre Goumas, who retained the Buffet-Crampon trade name. According to Dullat, the firm started to produce saxophones in 1866–67.⁸⁹ The firm’s earliest orders for saxophones were received in 1871.⁹⁰ A credible saxophone serial-number list for the years 1875–1927 is printed by Dullat and Bogaard.⁹¹ Prototypes and early examples are preserved in the Collection Buffet-Crampon in Mantes la Ville.⁹²

Maker’s marks: “(lyre) / BUFFET / Crampon (cursive) / A PARIS (in oval cartouche) / BC (monogram)”; “(lyre) / BUFFET / Crampon & Cie. (cursive) / A PARIS / (in oval cartouche) / BC (monogram) / S.G.D.G.”⁹³

Examples: soprano in B \flat (no serial number), US-SD-Vermillion, 2523; soprano in B \flat (serial no. 1060, ca. 1872), D-Düren;⁹⁴ soprano in B \flat (serial no. 2836, 1877), D-Düren;⁹⁵ soprano in B \flat (serial no. 4365, 1881), US-MA-Wilbraham; alto in E \flat

86. Waterhouse, *New Langwill Index*, 40; White and Myers, “Woodwind Instruments of Boosey & Company,” 72.

87. White and Myers, “Woodwind Instruments of Boosey & Company,” 73.

88. Alessandro Onerati, “Strumenti a fiato nella vita musicale fiorentina dell’Ottocento” (Tesi di laurea, Università degli Studi di Urbino, Facoltà di Lettere e Filosofia, 1994–95), 164–66.

89. Dullat, *Saxophone: Erfindung und Entwicklung*, 34, 89 nn. 26–27.

90. Bogaard, *De Saxofoonfamilie van Buffet Crampon*, 12.

91. Dullat, *Saxophone: Erfindung und Entwicklung*, 36; this same serial number list is printed in Bogaard, *De Saxofoonfamilie van Buffet Crampon*, 34, suggesting that it came from the Buffet-Crampon archives.

92. In 1984, William McBride advertised a book, which was never published, on the history of Buffet-Crampon’s collection of saxophones and woodwinds (374 instruments) in Mantes la Ville, see *The Clarinet* 12, no. 1 (Fall 1984): 45.

93. Waterhouse states that the last maker’s mark by Buffet-Crampon was registered in 1867 and 1882 but does not say where nor to whom it was registered; Waterhouse, *New Langwill Index*, 50.

94. For a photo and description, see Karl Ventze, *Saxophonisches seit 1842: Frühzeit-Instrumente und Dokumente aus der saxophonhistorischen Sammlung Karl Ventzke; Leopold-Hoesch-Museum der Stadt Düren*, 6. Dezember 1981–24. Januar 1982 (Düren: Leopold-Hoesch-Museum der Stadt Düren, 1981), no. 4.

95. For a photo and description, see Ventzke, *Saxophonisches seit 1842*, no. 5.

(serial no. 178, 1868), D-Tübingen, B29;⁹⁶ alto in E \flat (serial no. 1496, 1874), F-Montpellier;⁹⁷ alto in E \flat (serial no. 5060, 1882–83), US-MA-Wilbraham; tenor in B \flat (serial no. 6259, 1885), US-MA-Wilbraham; baritone in E \flat (no serial number, ca. 1870), F-Montpellier;⁹⁸ baritone in E \flat (serial no. 792, ca. 1870), D-Düren;⁹⁹ bass in B \flat (serial no. 5786, 1884), F-Montpellier.¹⁰⁰

Butler. London, 1858–1913.

Maker's mark: "GB (monogram) / BUTLER / HAYMARKET / LONDON / & / DUBLIN"

Example: alto in E \flat , GB-Edinburgh, 1215.¹⁰¹

Closset, C. Brussels, 1870–ca. 1914.

Maker's mark: "C CLOSSET / BRUXELLES"

Example: tenor in B \flat , B-Wavre.¹⁰²

Conn, Charles Gerard. Elkhart, Indiana, 1879–1985.¹⁰³ First in partnership with Eugene Dupont, 1876–79; then Conn sole proprietor of the firm. Ferdinand Buescher, who worked from 1876 for the company, was probably the first to make saxophones in the USA, as early as 1888.¹⁰⁴ He claimed to have invented drawn tone holes on saxophones in 1888, independently of George W. Haynes's 1898 invention of drawn tone holes on metal flutes.¹⁰⁵ However, the Conn firm is

96. Listed on www.uni-tuebingen.de/musik/saxophone.htm (accessed July 2009).

97. For a photo and description, see Alain Coulet, "Catalogue de la collection d'instruments de musique à vent," *Larigot*, no. 7 spécial (April 1997): p. 39, no. 57.

98. For a photo and description, see Coulet, "Catalogue de la collection d'instruments de musique à vent," p. 38, no. 55.

99. For a photo and description, see Ventzke, *Saxophonisches seit 1842*, no. 15.

100. For a photo and description, see Coulet, "Catalogue de la collection d'instruments de musique à vent," p. 38, no. 54.

101. Nadine Parks and Raymond Parks, *Saxophones*, vol. 2, pt. F, fasc. 2 of *Historic Musical Instruments in the Edinburgh University Collection: Catalogue of the Edinburgh University Collection of Historic Musical Instruments*, ed. Arnold Myers (Edinburgh: Edinburgh University Collection of Historic Musical Instruments, 1996), 11–12.

102. Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, p. 491, no. 2251.

103. In 1969 Conn Ltd. was sold to Macmillan, Inc. in a hostile takeover. In 1980 Daniel Henkin purchased Conn Ltd., and in 1985 Henkin sold his music manufacturing companies to Skåne-Gripen, a Swedish conglomerate. In that year, Conn Ltd. and its companies were reorganized under the corporate name of United Musical Instruments. See Bro, "Development of the American-Made Saxophone," 20–21.

104. Waterhouse, *New Langwill Index*, 49; Lloyd G. Farrar, "American Musical Wind Instrument Makers and Dealers" (typescript, author's collection), 1992, s.v. "Ferdinand August 'Gus' Buescher."

105. Waterhouse, *New Langwill Index*, 49. For a clear account of Haynes's invention of drawn tone holes on an alto flute made in 1898, now in the Dayton C. Miller Collection, Library of Congress, Washington, DC (no. 118), see Susan Marie Beagle Berdahl, "The First Hundred Years of the Boehm Flute in the United States, 1845–1945: A Biographical Dictionary of American Boehm Flutemakers" (PhD diss., University of Minnesota, 1985),

known to have built their earliest saxophones in about 1890 and put them in production in 1892.¹⁰⁶ In 1894, Buescher established his own firm, the Buescher Manufacturing Co.,¹⁰⁷ and subsequently contributed greatly to the popularity of the saxophone in America. A Conn catalog of about 1894 for their New York sales office includes a straight soprano, alto, tenor, and baritone saxophones.¹⁰⁸ Two separate serial number lists of Conn brasses and woodwinds, beginning in 1892, have been reproduced in printed and online sources such as *Allied: Supplier to the Professional Technician, Catalogue 9-85* (Elkhorn, WI: Allied Co., 1985), and Scott Hirsch, *The Woodwind and Brass Guidebook* (Colville, WA: Stranger Creek Productions, 1995), 12–15. However, it is now thought by Margaret Downie Banks (National Music Museum) that the earliest serial numbers for reed instruments began in 1888.¹⁰⁹

Maker's marks: "C.G. Conn / Elkhart, Ind."; "C.G. Conn / Worcester, MA"; "C.G. Conn / New York, NY"

Examples: soprano in B \flat (serial no. 298, ca. 1890), US-SD-Vermillion, 3160; soprano in B \flat (serial no. 345, ca. 1899), US-NY-Teaneck; alto in E \flat (serial no. 7, ca. 1888), US-NJ-Teaneck; alto in E \flat (serial no. 16, ca. 1888), US-SD-Vermillion, 10280; alto in E \flat (serial no. 25, ca. 1888), US-AZ-Phoenix, T2008.15.172; alto in E \flat (serial no. 306, ca. 1895), US-NJ-Teaneck; alto in E \flat (serial no. 3155, ca. 1898), D-Nauheim; baritone in E \flat (serial no. 9186, ca. 1895), US-MA-Wilbraham.

Couesnon, Amédée Auguste. Paris, 1882–after 1950. Couesnon and the firm of Dolnet, Lefèvre et Pigis applied for a French patent on March 7, 1888, for improvements in saxophone fingering.¹¹⁰ In 1905, Couesnon bought the Association générale, which had absorbed Feuillet in 1885; both firms had made saxophones. According to a 1913 catalog, Couesnon continued to use the marks of these firms as well as those of other predecessors, such as Gautrot-Marquet and Triebert.¹¹¹

Maker's mark: "EXPOSITION UNIVERSELLE DE PARIS / 1889 / MÉDAILLE D'OR / (monogram) / COUESNON & C^{IE} / 94 RUE D'ANGOULÊME / PARIS / 95"

2:407–9; see also Laura Gilliam and William Lichtenwanger, *The Dayton C. Miller Flute Collection: A Checklist of the Instruments* (Washington, DC: Library of Congress, 1961), pp. 8–9, no. 118.

106. Different dates are given in various sources for the beginning of Conn's saxophone production. The most reliable appears in a *New York Tribune* article of January 10, 1892, cited in Margaret Downie Banks, *Elkhart's Brass Roots: An Exhibition to Commemorate the 150th Anniversary of C. G. Conn's Birth and the 120th Anniversary of the Conn Company* (Vermillion, SD: The Shrine to Music Museum, 1994), 36.

107. Bro, "Development of the American-Made Saxophone," 70.

108. *Ibid.*, 25.

109. Reported in an e-mail to the author.

110. Couesnon et Cie. and Dolnet, Lefèvre et Pigis, *Brevet d'invention* no. 189,198 (March 11, 1888); reproduced in Dullat, *Saxophone I*, 81–86; for details of the mechanism, see Hemke, "History of the Early Saxophone," 83–84.

111. Waterhouse, *New Langwill Index*, 12, 72–73, 114. I have not found saxophones stamped only with a Triebert stamp.

Examples: soprano in B \flat (1895), NL-Amsterdam;¹¹² baritone in E \flat (1895), NL-Amsterdam.¹¹³

Cousin, Jean Léon. Lyon, 1867–ca. 1905. Cousin succeeded Louis Muller’s firm in 1867.¹¹⁴

Maker’s mark: “L. Von Muller / COUSIN Sr. / LYON / 29 / 2 / 1888 / HS”

Example: baritone in E \flat (1888), B-Wavre.¹¹⁵

Couturier. Lyon, 1812–after 1900. Couturier’s instruments were sold by other firms, including that of Autière, a dealer active in Avignon after 1876.¹¹⁶

Maker’s mark: “GAETAN AUTIERO / AVIGNON / COUTURIER A LYON”

Example: tenor in B \flat , F-Paris-K.¹¹⁷

David, Louis. Paris, 1836–1873. In 1860, David was licensed as a maker of Sax-model brass instruments. The firm continued to about 1905 as David fils.¹¹⁸ David’s *Catalogue général illustré des instruments de musique* (Paris, 1883), 3, lists soprano, alto, tenor, and baritone saxophones, and illustrates tenor and baritone sarrusophones and soprano and alto saxophones (fig. 4). See also the reproduction of selected pages from David’s *Catalogue in Larigot*, no. 17 (August 1995): 17.

Distin & Sons. London, 1846–1868. This firm was established by John Distin and his son Henry Distin as a dealership for Adolphe Sax’s brass instruments. By 1849, their stock list included a saxophone. In 1850, Henry Distin took over the firm, which became a brass manufactory in 1851. Sax transferred his London dealership to Rousselot & Co. in 1851 and to Rudall, Rose, Carte & Co. in 1853.¹¹⁹

Dolnet, Adolphe. Paris, 1880–1911. The firm, known as Dolnet Lefèvre et Pigis or Dolnet Lefèvre, was continued by Adolphe’s son Henri Dolnet to about 1945.¹²⁰

Maker’s mark: “Dolnet / DLP / Paris”; “(crest) / Dolnet Lefèvre / Brevetés s.g.d.g. / Mantes”; “Dolnet Lefevre & Pigis / Brevetés s.g.d.g. / Mantes”

Examples: soprano in B \flat , US-MA-Wilbraham; alto in E \flat , US-MA-Wilbraham; alto in E \flat , F-Paris-K;¹²¹ tenor in B \flat , NL-Amsterdam.¹²²

See also Couesnon, *Amédée Auguste*.

112. For a photo and a description, see Oostrom, *Saxofoons*, p. 32, no. 38.

113. *Ibid.*, p. 42, no. 61.

114. Waterhouse, *New Langwill Index*, 74, 276.

115. Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, p. 490, no. 2249.

116. Waterhouse, *New Langwill Index*, 13, 74.

117. For a description and photo, see Kampmann, “Catalogue de la collection d’instruments de musique à vent,” *Larigot*, no. 1 spéciale (September 1991): p. 64, no. 205.

118. Waterhouse, *New Langwill Index*, 81.

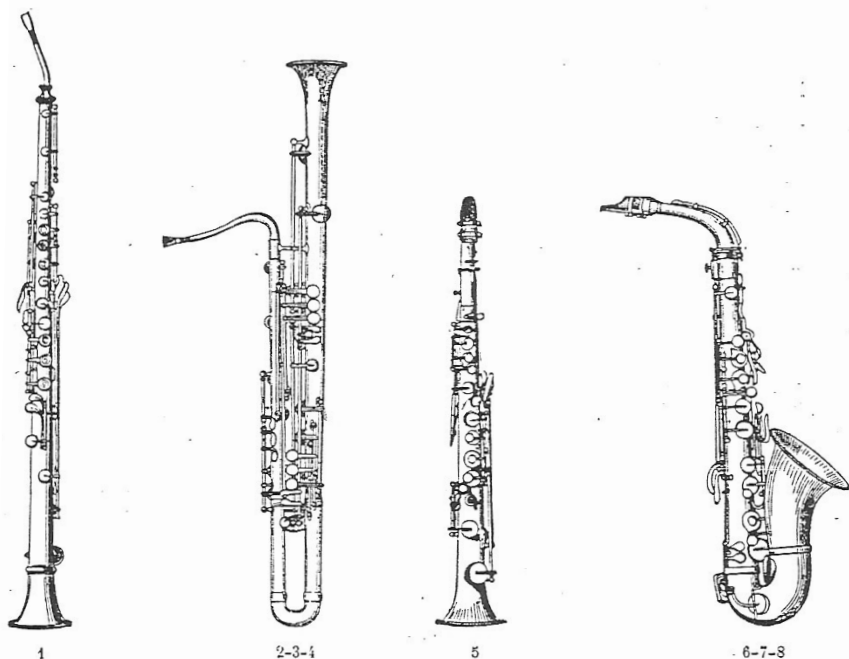
119. *Ibid.*, 90.

120. *Ibid.*, 93.

121. For a description and photo, see Kampmann, “Catalogue de la collection d’instruments de musique à vent: Tome 5,” *Larigot*, no. 17 (February 2006): 99–100.

122. For a description and photo, see Oostrom, *Saxofoons*, p. 39, no. 57.

SARRUSOPHONES ET SAXOPHONES



REMARQUE. — Les Sarrusophones et les Saxophones, ténors et barytons, ne différant des altos (nos 2 et 6) que par le volume, nous croyons inutile de les représenter ici.
 (Cette remarque s'applique à tous les dessins portant plusieurs numéros.)

FIGURE 4. "Sarrusophones et Saxophones." David, *Catalogue général illustré des instruments de musique* (Paris: David, 1883), 5. Reproduced by permission of the University of Edinburgh Collection of Historic Musical Instruments.

Evette & Schaeffer. Paris, 1885–1929. Paul Evette and Ernest Schaeffer bought the Buffet-Crampon firm in 1885, continuing to use the Buffet Crampon & Cie stamp on their instruments.¹²³ Buffet Crampon & Co. saxophones (soprano through baritone) were advertised in New York by the dealer August Pollmann from at least 1893.¹²⁴ The 1907 Evette & Schaeffer catalog includes an engraving of a quartet of saxophones labeled Series A: a straight soprano, alto, tenor, and

123. Waterhouse, *New Langwill Index*, 109.

124. August Pollmann, *Importer and Manufacturer of Musical Merchandise, Catalogue K. 1894–95* (New York: August Pollmann, 1893), 64.

baritone (fig. 5).¹²⁵ Evette & Schaeffer were among the earliest makers of commercially available E \flat contrabass saxophones, beginning in about 1907.¹²⁶

Marker's mark: "(lyre) / BUFFET / Crampon & Cie / A PARIS / BC (monogram) / Evette & Schaeffer / Anc M^{son} Buffet-Crampon & Cie / Brevetés s.g.d.g. / 18 & 20 Passage du G^d Cerf / Paris"

Examples: soprano in E \flat (serial no. 772, ca. 1870), US-AZ, T2009.16.62; soprano in C (no serial no., ca. 1890), NL-Amsterdam;¹²⁷ soprano in B \flat (serial no. 687, ca. 1868), US-NJ-Teaneck; soprano in B \flat (serial no. 1833, ca. 1875), US-NJ-Teaneck; soprano in B \flat (serial no. 8301, 1889), US-NJ-Teaneck; soprano in B \flat (serial no. 10115, 1893), D-Tübingen, A44;¹²⁸ alto in E \flat (serial no. 7956, ca. 1887), US-NJ-Teaneck; alto in E \flat (serial no. 9067, ca. 1890), US-SD-Vermillion, 3322; tenor in C (serial no. 1524, ca. 1873), US-SD-Vermillion, 487; tenor in B \flat (serial no. 10233, ca. 1893), US-SD-Vermillion, 1197; tenor in C (serial no. 12342, ca. 1897), US-SD-Vermillion, 991; tenor in B \flat (serial no. 11066, ca. 1895), US-SD-Vermillion, 1790; tenor in B \flat (serial no. 11652, ca. 1896), US-SD-Vermillion, 2202; baritone in E \flat , B-Tournai, 1478;¹²⁹ bass in B \flat (no serial no.), NL-Amsterdam.¹³⁰

Fedorov, Nicolas. Moscow, ca. 1867–after 1889. Fedorov exhibited a saxophone in Vienna at the 1873 Exhibition.¹³¹

Feuillet, Auguste. Paris, 1867–1885. Feuillet advertised in 1870 as a saxophone specialist maker.¹³²

Foote, John Howard. New York, 1863–1896. Foote was a woodwind and brass instrument dealer and importer.¹³³ In his 1893 *Catalogue of Musical Instruments* he advertised soprano, alto, tenor, and baritone saxophones and mouthpieces made by Buffet, i.e., Evette & Schaeffer.¹³⁴

125. *Evette & Schaeffer, 18–20, Passage du Grand-Cerf, Paris, Manufacture d'instruments de musique: Catalogue* (Paris: Evette & Schaeffer, 1907), 28; reproduced in Bogaard, *De Saxofoonfamilie van Buffet Crampon*, 22.

126. The author thanks Bryan Kendall for this information. Photographs of the E \flat contrabass saxophone include: "A Monster Contra E-flat Saxophone," *The Metronome* 26 (March 1910): 20; Karl Geiringer, *Musical Instruments: Their History from the Stone Age to the Present Day*, trans. B. Miall (London: G. Allen & Unwin, 1943), 257, pl. LVII; and a photo of Sigurd Rascher with his E \flat contrabass saxophone by Evette & Schaeffer in *Music Educators Journal* 51, no. 1 (September–October 1964): 113.

127. Oostrom, *Saxofoons*, p. 18, no. 19. Oostrom states that this straight C soprano saxophone is a prototype made about 1890.

128. Listed on www.uni-tuebingen.de/musik/saxophone.htm (accessed July 2009).

129. For a description and photo, see Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, pp. 458–59, no. 2088.

130. Oostrom, *Saxofoons*, p. 18, no. 18. Oostrom states that this is a prototype B \flat bass saxophone made about 1890.

131. Waterhouse, *New Langwill Index*, 112.

132. *Ibid.*, 114.

133. *Ibid.*, 120.

134. *J. Howard Foote's Catalogue of Musical Instruments* (New York: J. H. Foote, 1893), 29.

SAXOPHONES

— Série A —



FIGURE 5. Straight soprano, alto, tenor, and baritone saxophones by Buffet Crampon & Cie. *Evette & Schaeffer, 18–20, Passage du Grand-Cerf, Paris, Manufacture d'Instruments de Musique, Catalogue* (Paris: Evette & Schaeffer, 1907), 28.

Maker's marks: "JHF / NY"; "J. Howard Foote Sole U.S. Agent / New York and Chicago"

Example: alto in E \flat , Bonham's auction catalogue, Knightsbridge, May 6, 1999, no. 27.¹³⁵

Gautrot, Pierre Louis, known as Gautrot aîné. Paris, ca. 1845–ca. 1884.¹³⁶ Although an opponent of Sax, Gautrot was licensed on July 9, 1859, to make Sax-model brass instruments with the stamp "A S autorisé."¹³⁷

Maker's marks: In an oval: "GAUTROT / PARIS / D. J. / U.S.Q.M.D."; "GAUTROT-MARQUET / PARIS / BREVETÉ S.G.D.G."; "Gautrot Marquet / breveté s.g.d.g. à Paris"

135. *Musical Instrument Auction Price Guide*, 2000 edition (San Anselmo, CA: String Letter Publishing, 2000), 17.

136. Waterhouse, *New Langwill Index*, 129.

137. Haine and De Keyser, "Catalogue des instruments Sax," 230.

Examples: soprano in B \flat , D-Düren;¹³⁸ alto in E \flat , D-Düren;¹³⁹ alto in E \flat , RU-St Petersburg, 1235;¹⁴⁰ alto in E \flat , NL-Amsterdam;¹⁴¹ tenor in B \flat , RU-St Petersburg, 2021;¹⁴² tenor in B \flat , US-NY-New York, 89.4.2226; tenor in B \flat , NL-Amsterdam;¹⁴³ baritone in E \flat , RU-St Petersburg, 52.¹⁴⁴

George, Claude. Toulon, 1867–1870. He exhibited a saxophone at the 1867 Paris Exhibition.¹⁴⁵ In 1867 George took out a French patent (no. 74,477) for his key system; there were two later patent additions.¹⁴⁶

Maker's mark: “George Breveté s.g.d.g. / à Toulon / No. 17 / 4M / 1869 / M.M No. 4.”

Examples: alto in E \flat , private collection, France; tenor in B \flat , F-Paris-K.¹⁴⁷

Goumas, Pierre. *See Buffet-Crampon & Cie.*

Gras, J. Lille, 1868–ca. 1927. J. Gras was succeeded in 1909 by Charles Gras, who continued the firm past 1948.¹⁴⁸

Maker's mark: “BREVETE S.G.D.G. / J. GRAS / FOURNISSEUR DE L'ARMÉE / 32 RUE DES PONTS DE COMINES / LILLE / (star)”

Examples: soprano in E \flat , US-NJ-Teaneck;¹⁴⁹ alto in E \flat , US-SD-Vermillion, 1199; baritone in E \flat , NL-Amsterdam.¹⁵⁰

Gunckel, Henry (Henri). *See Lyon & Healy.*

Hall, David C. Boston, 1854–1880. Hall was active as a brass instrument maker and a dealer.¹⁵¹ Saxophones were made for Hall by A. Z. Lecomte, Paris.

Maker's mark: “Made especially for D. C. Hall, Boston by A. LECOMTE et C^{IE} / PARIS”

Example: tenor in C (lent to former Fiske Museum, Claremont, CA), private collection, USA.

138. For a description and photo, see Ventzke, *Saxophonisches seit 1842*, no. 3.

139. For a description and photo, see *ibid.*, no. 8.

140. Georgii Ivanovich Blagodatov and Konstantin Aleksandrovich Vertkov, *Katalog sobraniia muzykal'nykh instrumentov* (Leningrad: “Muzyka” Leningr. otd-nie, 1972), 74.

141. For a description and photo, see Oostrom, *Saxofoons*, p. 34, no. 44.

142. Blagodatov and Vertkov, *Katalog sobraniia muzykal'nykh instrumentov*, 74.

143. For a description and photo, see Oostrom, *Saxofoons*, p. 38, no. 54.

144. Blagodatov and Vertkov, *Katalog sobraniia muzykal'nykh instrumentov*, 74.

145. Waterhouse, *New Langwill Index*, 132; Kampmann, “Le saxophone ‘système George,’ ” 20–23.

146. Dullat, *Saxophone 1*, 151–63.

147. Kampmann, “Catalogue de la collection d'instruments de musique à vent: Tome 5,” 115–17.

148. Waterhouse, *New Langwill Index*, 142; Jacques Cools, “Essai de classification alphabétique des facteurs, ouvriers, inventeurs, essayeurs, marchands français d'instruments de musique à vent, première partie A–L,” *Larigot*, no. 11 spécial (September 2000): 28.

149. This is one of the earliest-made soprano saxophones. It was previously owned by Bruno Kampmann and is described in Kampmann, “Catalogue de la collection d'instruments de musique à vent: Tome 3,” *Larigot*, no. 9 spécial (September 1998): p. 60, no. 354.

150. Oostrom, *Saxofoons*, p. 41, no. 60.

151. Waterhouse, *New Langwill Index*, 157–58.

Hawkes & Son. London, established in 1860, active as Hawkes & Son 1889–1930.¹⁵²
Maker's mark: "HAWKES & SON / MAKERS / LONDON"

Example: tenor in B♭, NL-Amsterdam.¹⁵³

Herfort. France or Belgium, ca. 1880. An alto saxophone in the Kampmann collection with this mark uses a mechanism with four keys for the right hand inspired by the Boehm clarinet system; it is similar to the Lecomte soprano saxophone designed by Gaubert.¹⁵⁴

Maker's mark: "SYSTEME / *HERFORT* / BREVETE / 1"

Example: alto in E♭, F-Paris-K.¹⁵⁵

Jehring, Julius. Adorf, ca. 1850–1905. According to Wilhelm Altenburg, Jehring and Michael Schuster of Markneukirchen made the first saxophone in Germany sometime after 1860,¹⁵⁶ likely after Sax's patent expired in 1866.¹⁵⁷ Neither Jehring nor Schuster subsequently offered saxophones.

Lapini, Adolfo. Florence, 1880s?–ca. 1900. Lapini's catalog of 1884 lists soprano, alto, tenor, and baritone saxophones as "System George Saxophones, patented by the celebrated and first maker COUTURIER PELISSON of Lyon."¹⁵⁸

152. *Ibid.*, 165.

153. Oostrom, *Saxofoons*, p. 39, no. 56.

154. Kampmann cites another example by Herfort with a less complex mechanism in the Guy Collin collection (France), marked "SYSTEME / *HERFORT* / BREVETE / 2". See Kampmann, "Catalogue de la collection d'instruments de musique à vent: Tome 5," 103–4.

155. For a description and photos, see Kampmann, "Catalogue de la collection d'instruments de musique à vent: Tome 5," 103–4.

156. Wilhelm Altenburg, "Die Holzblasinstrumentenfabrikation in Markneukirchen und Umgebung," *Zeitschrift für Instrumentenbau* 22 (1902): 671–73, cited in Enrico Weller, *Der Blasinstrumentenbau im Vogtland von den Anfängen bis zum Beginn des 20. Jahrhunderts: Untersuchungen und Dokumentationen zur Geschichte eines Gewerbebezuges der Musikinstrumentenindustrie* (Horb am Neckar: Geiger, 2004), 212, 331; see also Waterhouse, *New Langwill Index*, 194, and the photos of an octavin (Adler), clarina (Heckel), and soprano saxophone (Gras) in Dullat, *Saxophone: Erfindung und Entwicklung*, 49.

157. Dullat reports the sale of a "Saxophon" by Jehring on a list dated November 26, 1890, and suggests that this instrument was an octavin, a single-reed instrument with a rose-wood body in a bassoon-butt shape with a upturned brass bell (Jehring made such an instrument about 1880 and patented it in 1883); see Dullat, *Saxophone: Erfindung und Entwicklung*, 48. Weller mentions a note of June 21, 1891, written by Paul Apaian-Bennewitz, curator of the Gewerbemuseum in Markneukirchen, documenting the purchase from Jehring of an octavin and a "Heckel'sche Saxophon" or *Heckelclarina*, an instrument similar to a soprano saxophone invented by Heckel of Biebrich in 1890. See Weller, *Der Blasinstrumentenbau im Vogtland*, 212; Waterhouse, *New Langwill Index*, 168.

158. "Saxophones sistema George, brevettato della rinomata e premiata fabbrica COUTURIER PELISSON di Lyon," *L'amico del musicante: Edizione periodica bimestrale contenute tutte novità dello Stabilimento musicale di Adolfo Lapini* (Florence: A. Lapini, [1884]), 4, reproduced in Onerati, "Strumenti a fiato nella vita musicale fiorentina dell'Ottocento," tav. XLII.

Lecomte, Arsène Zoë. Paris, 1859–ca. 1910. Lecomte was licensed from January 10, 1860, to manufacture Sax-model brass instruments.¹⁵⁹ A soprano saxophone in the Kampmann collection makes use of keywork inspired by the Boehm clarinet system as developed by Gaubert.¹⁶⁰

Maker's marks: "(tuning fork) / A.L. & C^{IE}"; "(tuning fork) / A.L. & C^{IE} / A LECOMTE & C^{IE} / PARIS"; "(tuning fork) / A.L. & C^{ie} / (exposition medals PARIS 1867 1878) / EXCELSIOR / A. Lecomte & C^{ie} / Paris / SYSTEME BOEHM / N^O 4 / GAUBERT-LECOMTE / N^O 37"

Examples: soprano in B \flat , F-Paris-K;¹⁶¹ alto in E \flat , US-NY-New York, 89.4.2170; alto in E \flat , US-MA-Wilbraham; alto in E \flat , F-Paris-K;¹⁶² tenor in B \flat , US-AZ-Phoenix, T2008.15.1076; tenor in B \flat , D-Tübingen, A47;¹⁶³ baritone in E \flat , S-Stockholm-N, TB 110.¹⁶⁴

Lefèvre. See *Thibouville, André*.

Lyon & Healy. Chicago, 1864–ca. 1940. This important company sold imported instruments and also manufactured instruments of their own from 1896 to about 1928.¹⁶⁵ The *Band Catalogue* of 1891 (p. 58) has a page devoted to saxophones, picturing four by "Henry Gunckel—Paris" and four by "Buffet, Crampon & Co." (soprano, alto, tenor, and bass in both cases). Henry or Henri Gunckel was a trade name used by Lyon & Healy; instruments with this mark were produced by a French maker, possibly Gautrot or one of the Thibouville firms.

Mahillon, Charles. Brussels, 1836–1887; firm continued to 1935.¹⁶⁶ In 1880, Mahillon took out a Belgian patent (no. 87,780) for improvements to the saxophone.¹⁶⁷

Maker's mark: "C. MAHILLON / FOURNISSEUR BREVETÉ / DE L'ARMÉE / ET DES / CONSERVATOIRES / BRUXELLES" With, in an oval: "Manufacture Générale d'instruments de musique / Médaille d'or / Exposition Internationale Paris 1878"

159. Malou Haine, "Les licences de fabrication accordées par Adolphe Sax à concurrents: 26 juin 1854–13 octobre 1865," *Revue belge de musicologie* 34–35 (1980–81): 199.

160. Kampmann, "Catalogue de la collection d'instruments de musique à vent: Tome 5," 92–94.

161. *Ibid.*, 92–94.

162. For a description and photo, see Kampmann, "Collection d'instruments de musique à vent," *Larigot*, no. 1 bis spécial (December 1986): 40.

163. Listed at www.uni-tuebingen.de/musik/saxophone.htm (accessed July 2009).

164. Listed at www.nydahllcoll.se (accessed July 2009).

165. A Lyon & Healy catalog of 1917 states that the factory for making Lyon & Healy "Own Make" band instruments was established in 1896. The author thanks Peter H. Adams for this information.

166. Waterhouse, *New Langwill Index*, 249–50.

167. Dullat, *Saxophone 1*, 20–27.

Examples: soprano in B♭, US-MI-Ann Arbor, 640;¹⁶⁸ alto in E♭, B-Wavre;¹⁶⁹ alto in E♭, B-Wavre;¹⁷⁰ alto in E♭, US-SD-Vermillion, 5743; tenor in B♭, B-Liège-AW, A 3201;¹⁷¹ tenor in B♭, B-Wavre;¹⁷² tenor in B♭, NL-Amsterdam;¹⁷³ baritone in E♭, B-Bois-du-Lac;¹⁷⁴ saxophone (size not described), B-Liège-AW, 24332.¹⁷⁵

Maino, Paolo. Milan, 1836–1880.¹⁷⁶ Maino began producing saxophones in the 1860s,¹⁷⁷ after the expiration of Sax’s patent. He worked with Romeo Orsi in the firm of Maino and Orsi from 1865 until about 1926. Soprano to bass saxophones are illustrated in a *Catalogo generale* (1898).¹⁷⁸

Maldura, Alessandro. Milan, 1850–ca. 1914. The Maldura firm specialized in making all types of woodwind instruments. They began making saxophones during the last decade of the nineteenth century.¹⁷⁹

Maker’s mark: “Maldura / Milano / Brevetto”

Example: alto in E♭, I-Firenze-A.¹⁸⁰

Millereau, François. Paris, 1861–ca. 1898; firm continued to about 1938.¹⁸¹

Maker’s marks: “Millereau, Fr. du Conservatoire de Paris / Medailles d’Or d’Argent / Diplômes d’Honneur / Breveté, No. 8467 / Qualité supérieure / (staff with G clef with triad C, E, G eighth notes)”; “(crown) / G.I.Z / 14 – 1868 / No 192 / (monogram) / Millereau & C^{ie} Brevetés / MM no 1 / 29, Rue des Trois Bornes Paris / Exposition Universelle 1867 / 1^{ere} Médaille d’Argent / (stamp)”

Examples: alto in E♭, NL-Amsterdam;¹⁸² alto in E♭, GB-London-H, 1973.242; tenor in B♭, D-Bonn, 159;¹⁸³ baritone in E♭, US-MA-Wilbraham.

168. For a description and photos, see James M. Borders, *European and American Wind and Percussion Instruments: Catalogue of the Stearns Collection of Musical Instruments, University of Michigan* (Ann Arbor: University of Michigan, 1988), p. 46, no. 640.

169. For a description, see Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, p. 490, no. 2246.

170. For a description, see *ibid.*, p. 490, no. 2247.

171. For a description, see *ibid.*, p. 335, no. 1614.

172. For a description, see *ibid.*, p. 491, no. 2252.

173. For a description and photo, see Oostrom, *Saxofoons*, p. 38, no. 55.

174. For a description and photo, see Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, pp. 46–47, no. 130.

175. *Ibid.*, p. 335, no. 1614.

176. Waterhouse, *New Langwill Index*, 250.

177. Dullat, *Saxophone: Erfindung und Entwicklung*, 47, 89 n. 33.

178. Raganato, “Saxophone Manufacture in Italy,” 59, fig. 1, 60, 65.

179. Waterhouse, *New Langwill Index*, 251; Raganato, “Saxophone Manufacture in Italy,” 58, 65.

180. This instrument was reported to the author by Francesco Carreras.

181. Waterhouse, *New Langwill Index*, 265.

182. For a description and photo, see Oostrom, *Saxofoons*, p. 34, no. 45.

183. Josef Zimmermann, *Von zinken flöten und schalmeyen: Katalog einer Sammlung historischer Holzblasinstrumente* (Birkedorf-Düren: A. Bezani, 1967), p. 55, no. 159.

Moeremans, Léon. Ghent, 1897–after 1927.¹⁸⁴

Maker's mark: Medal “Fabrication supérieure L.M. / MEDAILLE D'OR / 1897 / L. MOEREMANS / BREVETE / FOURNISSEUR DE L'ARMEE / ET DES CONSERVATOIRES / GAND / 1899 / DIPLOME D'HONNEUR / (five-pointed star)”

Example: tenor in B \flat , B-Wavre.¹⁸⁵

Morhange, A. Paris, 1890–1927.¹⁸⁶

Maker's mark: “(star) / (winged victory blowing a straight trumpet in right hand, left hand holding an olive wreath, standing on a globe) / TRIOMPHE / A.MORHANGE / PARIS / (star)”

Example: alto in E \flat , GB-Oxford-M, VI 188.¹⁸⁷

Orsi, Romeo. See *Maino, Paolo*.

Péllisson frères & Cie. Paris and Lyon, ca. 1875–1905; as Péllisson, Guinot & Cie, Lyon, 1900–1905; as Péllisson, Guinot & Blanchon, Lyon, 1905–1911; as Péllisson frères & Cie., Lyon, 1911–1931. Successors to the Couturier firm in about 1875.¹⁸⁸

Maker's marks: “PELLISSON FRERES & C^E / LYON PARIS / E. GIBERT / FOURNISSEUR DU CONSERVATOIRE / S^T ETIENNE”. In an oval: “SYSTEME GEORGE / BREVETE S.G.D.G.” “M. COUTURIER / PÉLISSON FRÈRES & CIE / LYON-PARIS / SYSTÈME GEORGES”, in an oval: “548 [upside down] / BREVETÉ / S.G.D.G.”

Examples: soprano in B \flat , F-Paris-K;¹⁸⁹ soprano in B \flat , D-Hamburg, 1924, 192;¹⁹⁰ alto in E \flat , GB-Edinburgh, 1047;¹⁹¹ alto in E \flat , F-Montluçon;¹⁹² tenor in B \flat , F-Montluçon;¹⁹³ baritone (ophicleide-shaped) in E \flat , CH-Basel-K; baritone in E \flat , F-Céret.¹⁹⁴

184. Cools, “Essai de classification alphabétique des facteurs, ouvriers, inventeurs, marchands belges,” 17.

185. For a description, see Communauté française de Belgique, Conseil de la musique, *Les instruments de musique à Bruxelles et en Wallonie*, p. 491, no. 2253.

186. Waterhouse, *New Langwill Index*, 272; Jacques Cools, “Essai de classification alphabétique des facteurs, ouvriers, inventeurs, essayeurs, marchands français d'instruments de musique à vent, seconde partie M–Z,” *Larigot*, no. 11 spécial (March 2002): 46.

187. For a description, see Jeremy Montagu, *Reed Instruments: The Montagu Collection; An Annotated Catalogue* (Lanham, MD: Scarecrow Press, 2001), 125–26.

188. Waterhouse, *New Langwill Index*, 74, 295; Cools, “Essai de classification alphabétique des facteurs . . . français, seconde partie,” 51.

189. For a description and photos, see Kampmann, “Catalogue de la collection d'instruments de musique à vent: Tome 5,” 91–93.

190. Hans Schröder, *Verzeichnis der Sammlung alter Musikinstrumente [im] Museum für Hamburgische Geschichte* (Hamburg: Alster, 1930), 83.

191. Parks and Parks, *Saxophones*, 11.

192. See Kampmann, “Le saxophone ‘système George,’ ” 22.

193. For a description and photos, see *ibid.*, 22, 25–26.

194. Bruno Kampmann, “Quelques instruments remarquables du Musée de Céret,” *Larigot*, no. 41 (February 2008): 17, 19.

Pelitti, Giovanni. Milan, ca. 1828–1905.¹⁹⁵

Maker's mark: "(drapes around a family crest surmounted by a crown) / G. PELITTI / MILANO / (three stars)"

Example: alto in E \flat , A-Salzburg, 19/1.¹⁹⁶

Pollmann, August. New York, 1880–1905. Henry August Pollmann was an importer and dealer of brass, woodwind, and string instruments. His 1893 and 1894–1895 catalogs indicate that he sold Buffet Crampon & Co. brass and silver-plated saxophones, soprano through baritone.¹⁹⁷

Pourcelle, Henri (Henry). Paris, ca. 1850–1930s (trade name used by a French firm for exported instruments).¹⁹⁸

Maker's mark: "HENRY POURCELLE / PARIS / FRANCE"

Example: alto in E \flat , US-AZ-Phoenix, T2008.15.771.

Rampone. Milan, ca. 1850–1912.¹⁹⁹

Maker's mark: "(Tuning fork with leaves) / RAMPONE / MILANO / BREVETTATO / ER (monogram)"

Rivet, Michel. Lyon, 1839 to after 1871. From 1846 to 1850 Rivet was a defendant in a lawsuit brought successfully against him by Adolphe Sax, alleging the counterfeit of a saxophone.²⁰⁰

Romero y Andia, Antonio. Madrid, ca. 1853–the 1880s. From 1853, the Romero firm sold clarinets and other woodwinds, and constructed brass instruments (helicons).²⁰¹ There is no documentary evidence that this firm made saxophones. However, the firm published several teaching books, including Jose Maria Beltran's *Nuevo método complete y progresivo de saxofon, aplicable á los de todos los tonos y formas*.²⁰² There is also an unstamped twenty-seven-key alto saxophone (F-Paris-K, ca. 1900) on which the layout of keys resembles the clarinet key system patented by Paul Bié and Romero and made by the Bié & Noblet firm of Paris. The latter firm purchased the Lefèvre firm in 1855 and continued to use

195. Waterhouse, *New Langwill Index*, 296.

196. Kurt Birsak, *Die Holzblasinstrumente im Salzburger Museum Carolino Augusteum: Verzeichnis und Entwicklungsgeschichtliche Untersuchungen* (Salzburg: Salzburger Museum Carolino Augusteum, 1973), 51, 61.

197. Pollmann, *Musical Merchandise*, 64.

198. Waterhouse, *New Langwill Index*, 309.

199. Waterhouse, *New Langwill Index*, 318; Raganato, "Saxophone Manufacture in Italy," 58, 65.

200. Waterhouse, *New Langwill Index*, 330.

201. *Ibid.*, 334.

202. *Casa editorial de obras musicales de D. Antonio Romero y Andia, extracto de gran catalogo*, Suplemento Núm. 41 (Madrid: Romero, n.d.), 4.

their mark.²⁰³ This saxophone could have been made in Paris by the Lefèvre firm.²⁰⁴

Rondoni, Paolo. Verona, before 1900–after 1914. Rondoni absorbed the firm of Ambrogio Santucci of Verona in 1914. Catalogs before 1900 include saxophones, soprano through baritone.²⁰⁵

Roth, Ferdinando. Milan, 1838–1898.²⁰⁶ Saxophones illustrated in his *Catalogo generale* (1895).²⁰⁷

Rousselot & Co. See *Distin & Sons*.

Rudall, Rose, Carte & Co. London, 1852–1871. In 1853, they became agents for Sax’s brass instruments and saxophones.²⁰⁸ From 1857 to 1858, the firm was known as Key, Rudall, Rose, Carte & Co.²⁰⁹ Saxophones by these firms stamped by Adolphe Sax were made prior to 1866.

Maker’s marks: Inscribed “Adolphe Sax & Cie à Paris / Rudal Rose Cartes & Cie”; “Rudall, Rose, Carte & Co / 20 Charing Cross / London”; “Key, Rudall, Rose, Carte & Co., London”

Examples: soprano in C, GB-London-H, 14.5.47/83; soprano in C, NL-Amsterdam;²¹⁰ alto in Eb, B-Bruxelles, 945;²¹¹ alto in Eb, GB-Oxford, pc5.²¹²

Sax, Adolphe. Paris, 1843–1894.²¹³

Maker’s marks: “A¹S”; “Adolphe Sax & Cie à Paris (serial number)”; “Saxophone baryton en mi^b Breveté / Adolphe Sax & C^{IE} à Paris, 5140, / F^{teur} de la M^{son} Mil^{re} de l’Empereur”; “AS” (monogram) added at the beginning or end of stamp.

203. The French patents of 1862 (no. 55,768) and 1867 (no. 76,636) are both signed by Paul Bié and Antonio Romero. See the schematic diagram of the Romero clarinet (ca. 1865) at the University of Edinburgh Collection of Historic Musical Instruments (no. 130) in Jerry L. Voorhees, *The Development of Woodwind Fingering Systems in the Nineteenth and Twentieth Centuries* (Hammond, LA: the Author, 2003), 186.

204. For a description and photos, see Kampmann, “Collection d’instruments de musique à vent,” 39–40, pls. XXVII–XXVIII.

205. Raganato, “Saxophone Manufacture in Italy,” 59; Waterhouse, *New Langwill Index*, 334.

206. Waterhouse, *New Langwill Index*, 336.

207. Raganato, “Saxophone Manufacture in Italy,” 58–60, 65.

208. Waterhouse, *New Langwill Index*, 90, 339. That this firm was selling alto and tenor saxophones early on is suggested by the illustration of reeds for these instruments in Giuseppe Tamplini, *The Bandsman, A Course of Instruction for Military Musical Instruments* (London: Key, Rudall, Rose, Carte & Co., 1857), 60.

209. Waterhouse, *New Langwill Index*, 204.

210. For a description and photo, see Oostrom, *Saxofoons*, p. 10, no. 6.

211. Victor-Charles Mahillon, *Catalogue descriptif et analytique du musée instrumental du Conservatoire royal de musique de Bruxelles*, 2nd ed. (Gand: A. Hoste, 1909; repr., Brussels: Les Amis de la musique, 1978), 2:226.

212. Hélène La Rue, *The Bate Collection of Musical Instruments: Check List of the Collection*, 10th ed. (Oxford: University of Oxford, 2003), 27.

213. Waterhouse, *New Langwill Index*, 348.

Examples: There are at least 170 examples; numbers in parentheses indicate known extant examples of each type: sopranos in B \flat (32); altos in E \flat (64); tenors, most in B \flat but including some in C (37); baritones in E \flat (30); and basses in B \flat (5).²¹⁴ From the beginning, the alto saxophone was the most popular size.

Schuster, Michael, jun. Markneukirchen, 1861–1895. The Schuster firm was a large manufacturer of brass instruments. According to Weller, the firm made saxophones during the 1860s but did not produce them afterward.²¹⁵

Stegmann, A. L. Magdeburg, ca. 1875–ca. 1900.²¹⁶

Maker's mark: "L. Stegmann, Magdeburg"

Example: alto in E \flat , A-Wien, 346.²¹⁷

Sudre, François. Paris, with Halary, 1866–1873; as A. Sudre, 1873–1912. Sudre purchased the Halary firm in 1873.²¹⁸

Maker's marks: "Halari / Paris"; in oval cartouche: "HALARY / SUDRE / SUCCR. / Paris"; "FS (monogram) / 83 MÉDAILLES & BREVETÉ / Halari / DIPLÔME D'HONNEUR / F.SUDRE / SEUL FORN^R DE LA MARINE / FAC-TEUR DU CONSERVATOIRE / ET DE L'ARMÉE / 13 Boulevard Rochechouart / A PARIS"

Examples: soprano in B \flat , NL-Amsterdam;²¹⁹ soprano in B \flat , US-MA-Newton Centre; baritone in E \flat , US-AZ-Phoenix, T2009.16.66, baritone in E \flat , US-MA-Wilbraham.

Thibouville, André. Paris and La Couture, 1886–1900. Thibouville succeeded Bié et Noblet, who had purchased the Lefèvre firm. The Lefèvre maker's mark continued to be used on instruments.²²⁰ The firm was continued by André Thibou-

214. See the list compiled in Howe, "Invention and Early Development of the Saxophone," 171–77.

215. See Weller, *Der Blasinstrumentenbau im Vogtland*, 111–14, 212, 250–51.

216. Waterhouse, *New Langwill Index*, 384. The first German maker to construct a family of saxophones for regular production was Oscar Adler of Markneukirchen in 1901. See Weller, *Der Blasinstrumentenbau im Vogtland*, 167; Dullat, *Saxophone: Erfindung und Entwicklung*, 51; Matthias Hochheim, *Saxwelt: Das deutsche Saxophonbuch; Die Geschichte des Saxophones, seiner Hersteller und seines Erfinders* (Norderstedt: Books on Demand, 2004), 36. Although the University of Tübingen collection has dated a baritone saxophone by Gebrüder Alexander in Mainz as ca. 1890, it seems more likely that this instrument was made after 1909, since saxophones appear in a *Haupt-Preisliste* (after 1909) of this firm. See Eva-Maria Duttenhöfer, *Gebrüder Alexander: 200 Jahre Musikinstrumentenbau in Mainz; Ein Beitrag zur Musikinstrumentenkunde* (Mainz: Schott, 1982), 38; see also the list of instruments at the University of Tübingen at www.uni-tuebingen.de/musik/saxophone.htm (accessed July 2009).

217. For a description and photo, see Julius Schlosser, *Die Sammlung alter Musikinstrumente: Beschreibendes Verzeichnis* (Vienna: A. Schroll & Co., 1920), 186, Tafel LIII.

218. Cools, "Essai de classification alphabétique des facteurs . . . français, seconde partie," 63; Waterhouse, *New Langwill Index*, 391–92.

219. For a description and photo, see Oostrom, *Saxofoons*, p. 32, no. 39.

220. Dullat lists the Lefèvre firm as makers of saxophones in *Saxophone: Erfindung und Entwicklung*, 24.

ville's two sons, Desiré, who took over the Paris shop, and Henri, who took over the La Couture shop.²²¹ Ventzke and Raumberger list Thibouville as a maker of saxophones about 1890.²²²

Thibouville-Lamy, Jérôme. Paris, 1867–1937.²²³

Maker's marks: "(lyre in aureole, bird in horn superimposed) / J.T.L."; "(lyre) / J.T.L. / JÉRÔME THIBOUVILLE-LAMY / 68bis Rue Réamur / PARIS / A.E."

Examples: soprano in B \flat , NL-Amsterdam;²²⁴ alto in E \flat , CH-Basel, 1956.577;²²⁵ alto in F, US-NJ-Teaneck; alto in E \flat , US-MA-Wilbraham; alto in E \flat , NL-Amsterdam;²²⁶ tenor in C, US-MA-Wilbraham.

Union de la facture instrumentale. Paris, 1880?²²⁷

Example: soprano in B \flat , US-AZ-Phoenix, T2009.16.63; soprano in B \flat , US-MA-Wilbraham.

Verdeau, B. & fils. Bordeaux, 1862–1878.²²⁸

Maker's mark: "F. VERDEAU FILS / Cours D'ALSACE=LORRAINE 188 / BORDEAUX"

Walpot & Cie. Brussels, 1851–1924. Dealers for Evette & Schaeffer.²²⁹

Example: baritone saxophone seen in a Berlin shop.²³⁰

Ward, Roger J. & Sons. Liverpool, 1848–1931.²³¹

Maker's mark: "Ward & Sons, Liverpool"

Example: soprano in B \flat , GB-Oxford, 51.²³²

Zelweger, Luigi. Biella, 1890–after 1926.²³³

Saxophones illustrated in catalog (1894).²³⁴

221. Waterhouse, *New Langwill Index*, 399; Cools, "Essai de classification alphabétique des facteurs . . . français, seconde partie," 64.

222. Ventzke and Raumberger, *Die Saxophone*, 99.

223. Cools, "Essai de classification alphabétique des facteurs . . . français, seconde partie," 64; Waterhouse, *New Langwill Index*, 398.

224. For a description and photo, see Oostrom, *Saxofoons*, p. 33, no. 40.

225. Martin Kirnbauer, "Die Rohrblattinstrumente in der Musikinstrumenten-Sammlung des Historischen Museums Basel," *Historisches Museum Basel: Jahresbericht*, 1994: 74.

226. For a description and photo, see Oostrom, *Saxofoons*, p. 35, no. 47.

227. Cools, "Essai de classification alphabétique des facteurs . . . français, seconde partie," 67.

228. Waterhouse, *New Langwill Index*, 412; Cools, "Essai de classification alphabétique des facteurs . . . français, seconde partie," 68.

229. Waterhouse, *New Langwill Index*, 420; Cools, "Essai de classification alphabétique des facteurs belges," 25.

230. Reported to the author by Thomas Reil.

231. Waterhouse, *New Langwill Index*, 421.

232. La Rue, *The Bate Collection of Musical Instruments: Check List of the Collection*, 26.

233. Waterhouse, *New Langwill Index*, 443.

234. Howe, "Invention and Early Development of the Saxophone," 166, 167 n. 159.

APPENDIX 2:

Saxophone Makers and Dealers Listed by City

Location	Maker or Dealer
Adorf, Germany	Jehring, Julius
Biella, Italy	Zelweger, Luigi
Bordeaux, France	Verdeau, B. & fils
Boston, MA, USA	Hall, David C.
Brussels, Belgium	Albert, Eugène
	Closset, C.
	Mahillon, Charles
	Walpot & Cie
Chicago, USA	Lyon & Healy
Elkhart, IN, USA	Conn, C. G.
Florence, Italy	Brizzi & Niccolai
	Lapini, Adolfo
Ghent, Belgium	Moeremans, L.
Lille, France	Gras, J.
Liverpool, England	Ward, Roger J. & Sons
London, England	Besson & Co.
	Boosey & Co.
	Butler
	Distin & Sons
	Hawkes & Sons
	Rudall, Rose, Carte & Co.
Lyon, France	Cousin, Jean Léon
	Couturier
	Péllisson frères & Cie
	Rivet, Michel
Madrid, Spain	Romero y Andia, Antonio
Magdeburg, Germany	Stegmann, A. L.
Markneukirchen, Germany	Schuster, Michael, jun.
Milan, Italy	Maino, Paolo
	Maldura, Alessandro
	Pelitti, Giovanni
	Rampone
	Roth, Ferdinando
Moscow, Russia	Fedorov, Nicolas
New York, NY, USA	Foote, John Howard
	Pollmann, August
Paris, France	Association générale des ouvriers
	Besson
	Buffet-Crampon & Cie
	Couesnon
	David, Louis

Toulon, France
Verona, Italy

Dolnet, Adolphe
Evette & Schaeffer
Feuillet, Auguste
Gautrot, Pierre Louis
Lecomte, Arsène Zoë
Millereau, François
Morhange, A.
Péligon frères & Cie
Pourcelle, Henri
Sax, Adolphe
Sudre, François
Thibouville, André
Thibouville-Lamy, Jérôme
Union de la facture instrumentale
George, Claude
Rondoni, Paolo

APPENDIX 3:

Key to List of Makers and Dealers

Abbreviations for Museums and CollectionsAustria

A-Salzburg	Museum Carolino Augusteum
A-Wien	Kunsthistorisches Museum, Sammlung alter Musikinstrumente

Belgium

B-Bois-du-Lac	Musée de la mine du Bois-du-Lac
B-Bruxelles	Museum of Musical Instruments
B-Bruxelles-MR	Musée royal de l'armée et d'histoire militaire
B-Liège-AW	Musée de l'art wallon
B-Tournai	La Maison tournaisienne-Musée du folklore
B-Wavre	Musée de la vie locale

France

F-Castelnau-Montratier	Bocquet Moir Collection
F-Céret	Musée d'art moderne
F-Montluçon	Musée des musiques populaires
F-Montpellier	Coulet Collection
F-Paris-K	Kampmann Collection

Germany

D-Bonn	Beethoven-Haus
D-Düren	Ventzke Collection, Düren (dispersed)
D-Hamburg	Museum für Hamburgische Geschichte
D-Nauheim	Dullat Collection
D-Tübingen	Universität Tübingen, Musikinstrumentensammlung

Great Britain

GB-Edinburgh	Edinburgh University Collection of Historic Musical Instruments
GB-London-H	Horniman Museum

Italy

I-Firenze-A	Galleria dell'Accademia, Museo degli strumenti musicali
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The Netherlands

NL-Amsterdam	Oostrom Collection
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Russia

RU-St. Petersburg	State Museum of Theatre and Music
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Sweden

S-Stockholm-N	Nydahl Collection
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Switzerland

CH-Basel	Historisches Museum
CH-Basel-K	Kenz Collection

United States

US-AZ-Phoenix	Musical Instrument Museum
US-MA-Newton Centre	Sigal Collection

US-MA-Wilbraham	Howe Collection
US-MI-Ann Arbor	Stearns Collection, University of Michigan
US-NJ-Teaneck	Cohen Collection
US-NY-New York	The Metropolitan Museum of Art
US-SD-Vermillion	National Music Museum, University of South Dakota, Vermillion, SD

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