

Reversed Chirality in Horns, or Is Left Right? The Horn, on the Other Hand

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Handedness of a horn¹ is generally regarded by modern players according to which hand is used to “play” the horn. Valved-horn players will refer to it as “left-handed” since that is where the valves are located on nearly all modern horns, while natural-horn players think of it as right-handed because it is the right hand in the bell that is used to alter the pitch of the notes of the natural harmonic series. In both cases the bell of the modern horn is held to the player’s right. There are occasional exceptions, but only to accommodate a person who, for some physical reason, is unable to hold the horn in the usual manner. In this paper the frame of reference will also be according to the hand that “plays” the horn, but the focus will be on historical exceptions to the modern norms. On valved horns the “handedness” will be determined by the side where the valves are located relative to the player. For natural horns a guideline is the placement of the mouthpipe or terminal crook: if the bell is directed to the player’s left when the horn is held with the mouthpipe or terminal crook (and therefore the mouthpiece) on the side of the horn nearest the player, then the horn will be said to be “left-handed.”² Of course, it is always possible to direct the bell of a natural horn in either direction, depending on the player’s preference, but seldom possible with a valved horn.

During the eighteenth and nineteenth centuries it was far more common than now to find players holding the horn with the bell toward the left. This paper explores the history of the horn as used for musical purposes from its origins in the hunt to the modern day, with focus on alternatives to mainstream practices. It will be shown that the reasons for these alternatives are various and include aesthetic and regional factors, as well as personal preference.

Musical origins

The practice of holding the horn with the bell toward the right most likely stems from its early use in the mounted hunt. From Antiquity it has been the equestrian practice to hold the reins with the left hand and horns and other weaponry with the right. This probably originated from the fact that most people are right-handed.³ While mounted, the rider was well advised to point the bell of the horn toward the right and away from the ear of the horse. This sensible practice was carried on in mounted bands when the horn was adopted for musical purposes in the early eighteenth century (see Figure 1).

It appears, however, that once dismounted there was no particular preferred manner of holding the horn. This is borne out in the many illustrations of the hunt by Johann Elias Ridinger (1698-1767), in which parforce horn players are seen, some holding the bell to the left and others holding it to the right.⁴ Parforce groups can still be seen in which the players

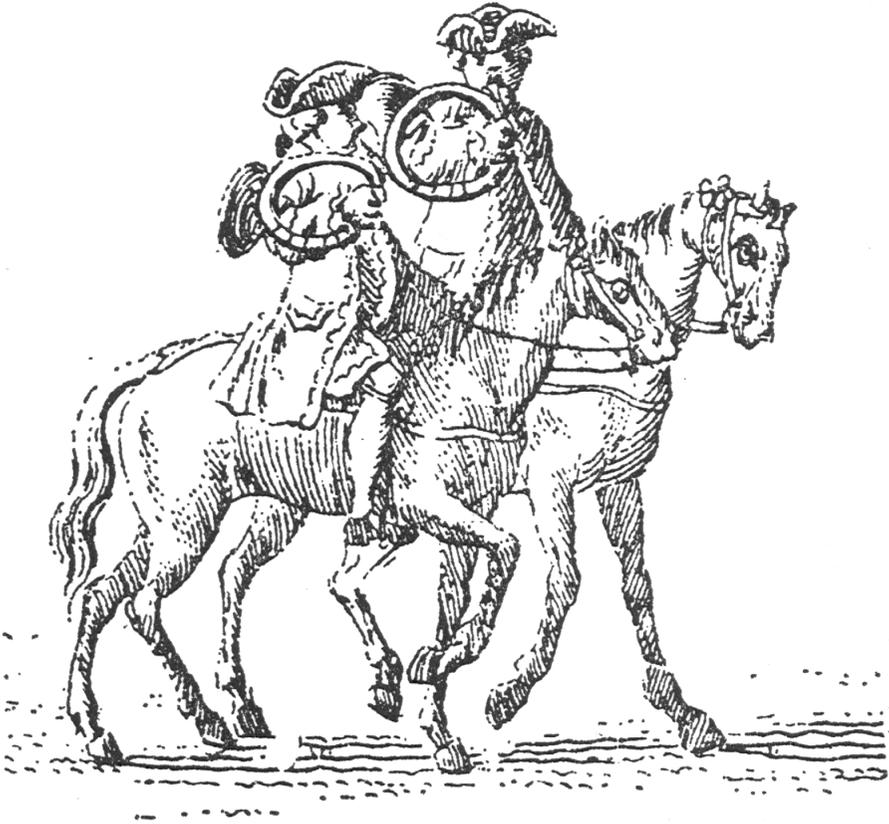


Figure 1

Horn players in band accompanying an ambassadorial procession in London, 1763 (Baines, *Brass Instruments*, 157; used with kind permission of Dover Publications).

are holding their horns both left and right. In 1997 the European natural horn group “Sonneurs du Vénérerie,” directed by Uwe Bartels, presented a lecture-concert at the American Horn Competition, held at the University of California, Santa Barbara. Dressed in colorful uniforms, the group stood in a V-formation with bells facing one another.⁵

The horn was first put to musical purpose during the second half of the seventeenth century in the opera, primarily to evoke the color of the hunt.⁶ It was also featured as a solo instrument. The “always imaginative” Johann Beer (1655-1700) was one of the first composers to make use of the hunting horn as well as the posthorn as ensemble instruments. Beer’s *Concerto à 4 für Posthorn, Jagdhorn, Violinen, und Basso Continuo in B-Dur* requires the horn soloist to alternate between the two instruments. In this concerto the *Waldhorn* in

F carries the melodic lines, which are interspersed with the B \flat posthorn's simple two-note octave signals. The concerto was written for the ducal court of Sachsen-Weissenfels, where it was first performed. In the nineteenth century a two-coil *Waldhorn* and a four-coil posthorn were constructed by an anonymous maker specifically for the Beer concerto.⁷ This *Waldhorn* is particularly interesting in that it apparently is wrapped so as to be played with the bell to the player's left. The mouthpipe is twisted knot-like through the coil of the horn so that if held with the mouthpiece on the near side, toward the player, the bell would be pointed toward the left.⁸

One of the reasons the horn was incorporated into the musical scene was because of its visual appeal, as exemplified in the artworks of the time. The horn "added an element of nobility and splendor" and was in vogue in "theater, church, and chamber music."⁹ Indeed, many art works from the period depict the horns held prominently with bells high in the air, directed both left and right (see Figure 2). The famous painting of the Teatro Regio in Turin by Pietro Domenico Olivero depicts a performance of Francesco Feo's opera *Arsace* on 26 December 1740.¹⁰ The two horns are located at the extreme end of the orchestra pit and shown with bells held unnaturally high in the air. One player holds the instrument in his left hand, while the other holds his with the right. Similarly, an engraving by Giovanni Antonio Canale ("Canaletto") of a dress rehearsal for the ballet *Le Turc généreux* in 1758 shows the two horn players of the Imperial Opera orchestra in Vienna with bells held high, one with the instrument in the left hand and the other in the right.¹¹ It must be stated that these examples might exhibit some amount of artistic license in order to add interest and drama to these paintings. The fact that they are relatively widely separated in time and locale would suggest that in fact this was a common practice among horn players in the pre-hand-horn period. This is affirmed in at least one eighteenth century horn tutor:

Position of Holding the Horn.

The common method of holding it is with the right hand nearly in the middle of the Hoop the Bell hanging over the same arm; but it would be very absurd to adopt only one peculiar method, as different positions will hereafter be found very convenient, and absolutely necessary, I would recommend many different Positions, sometimes in the left hand, the Bell hanging over the same arm, sometimes the Bell perpendicular, which is generally used in Concerts.¹²

The simple hunting horn was soon found to be insufficient for musical purposes, since it had little or no tuning capability, but more importantly could play only the harmonic series of a single key. Therefore it was necessary to have available multiple horns in order to perform works in different keys. A document dating from 1703 by Viennese brass maker Michael Leichnamtschneider provides the first mention of crooks for the horn as well as the earliest description of what may be considered an orchestral horn.¹³ Notwithstanding this early date, crookless horns continued to be used for musical purposes through the first half of the century.¹⁴ The fine Italian horn player Luigi Brizzi (1737-1815) of Bologna is shown in his portrait holding a crookless *corno da caccia* in his left hand (see Figure 6).



Figure 2

Detail of the scene of a private orchestra, ca. 1750, by G.B. Probst, Augsburg (Baines, *Brass Instruments*, 157; used with kind permission of Dover Publications).

England

The system of crooks comprised “master” crooks, into which the mouthpiece was inserted, and couplers, which could be used in various combinations to produce the desired key. In all cases they were terminal crooks inserted at the mouthpiece end of the horn. According to Baines, “the earliest known sets of crooks belong to horns made in London about the middle of the eighteenth century shortly after crooks were first introduced from Germany.”¹⁵ An early English tutor refers to these as “Concert Horns” and describes them as follows:

There are Horns called Concert Horns which have the advantage of all other Horns that they can play in any Key, by the help of pieces called Crooks and Shanks the adding of which to a Horn, makes the Tone lower, that is, an A Horn, may play in G, F, E, D, C, or B, by the addition of more or less Crooks, another advantage is also derived from the Crooks and Shanks, and that is, that the Horn can be put perfectly in Tune to the Pitch of other Instruments whatever Key they play in. The most common Keys wherein Horns are used are C, D, E, F, and G. B is rather too low, and A Horns, though sometimes used in Concert, have not a good Effect as the Tone they produce is rather harsh and bawling.¹⁶

There are fairly numerous examples of these horns by various makers in the major museum collections. What is of interest to the current topic is that they exist in both left and right-handed models, often in “mirrored” pairs. The handedness is determined by the location of the socket for the crooks if it is assumed that the crooks are held toward the side of the player. It is also true that the crooks for a left-handed horn would not be used on a right-handed horn since they are coiled in opposite directions. The spiral of the crook from one horn would prevent it from lying flat against the corpus of a horn of opposite orientation.

Figure 3 shows a horn made by John Christopher Hofmaster, who was active in London from ca. 1725 until his death in 1764. What is interesting about this horn is that both it and its nearly identical mate (Edinburgh 3296) are apparently made for left-hand use. Arnold Myers has provided the following historical summary:

This pair of Hofmaster horns were in the possession of Sir Samuel Hellier (1736-84) by the time he compiled his *A Catalogue of Musickall Instruments*—that is, probably between January 1768 and February 1770. The *Catalogue* includes ‘one pair of concert horns wth Crooks &c Complete in painted boxes—by Hofmaster London’. This exactly describes the existing horns and cases.

Hofmaster died in 1764. It is possible that his name continued to be used by Rodenbostel as his successor, but it is quite possible that Sir Samuel or his father had already purchased these horns in Hofmaster’s lifetime. Since the surviving crooks and couplers are all left-handed and fit well, they probably always belonged with the Hofmaster horns. The Hofmaster horns have continued in the ownership of successive heirs of Sir Samuel Hellier.

It is unusual for such a well-matched pair of French horns to be both left-handed. This could be because Sir Samuel (or other original owner) was content for one or both instruments to be played right-handed despite the crook socket lying above the main tubing, or because a mirror pair was not available (at a time when makers were fully occupied with trumpets, perhaps).¹⁷



Figure 3

Orchestral hand horn by John Christopher Hofmaster, London, ca. 1760.
University of Edinburgh Collection (3297). Courtesy of Arnold Myers
(photo by Antonia Reeve).

In the Baroque period it became fashionable to arrange instrumentalists symmetrically. Early woodwind instruments were often made “reversible;” for example, recorders would have two holes drilled for the little finger (the only one not in line with the others), one of which was plugged with wax. The choice as to which hand to hold above the other was left to the player, and two players would often mirror one another. This visually elegant practice continued even into the early nineteenth century, as evidenced by a symmetrical pair of clarinets by the Saxon maker Heinrich Grenser.¹⁸ Similarly, horn players would stand together with one pointing the bell to the right and the other to the left (Figure 4).

To complete the symmetry the horns themselves were built as mirrored pairs, particularly in England. Several such pairs can be found in British collections. The most famous mirrored pair is by John Christopher Hofmaster (London, ca. 1750) and is now in the Bate Collection of Oxford University, catalogued as nos. 606 (right-handed) and 607 (left-handed). They are shown lying on a piano in the portrait of the Sharp family (1781) by Johann Zoffany (1733-1810).

A pair similar to the above was made by George Henry Rodenbostel, successor and son-in-law of Hofmaster. They are in the collection of the City Museum, Gloucester, catalogued

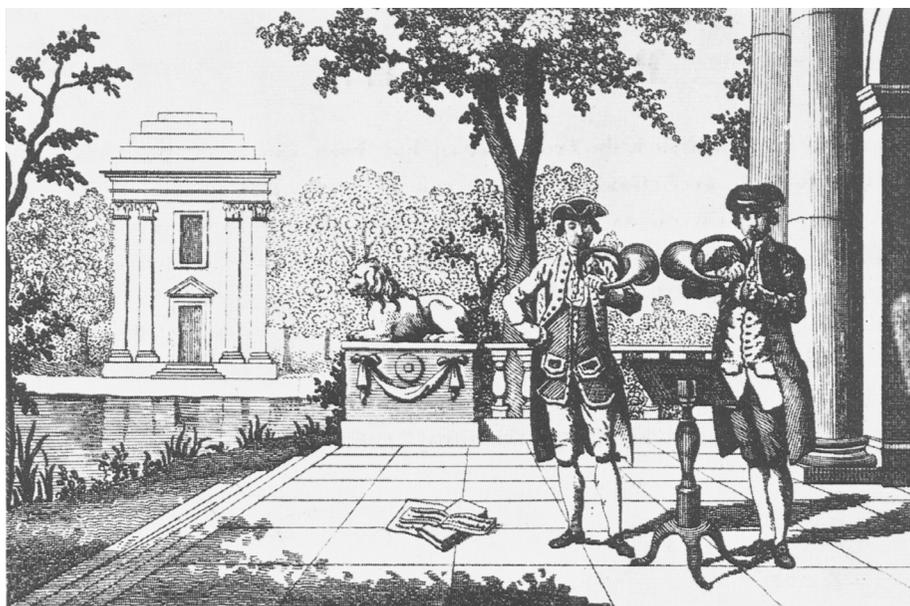


Figure 4

Frontispiece from *New Instructions for the French Horn*,
reprinted by Monro & May (second quarter nineteenth century)
from the earlier same title by Longman & Lukey.

Provided by kind courtesy of the Horniman Public Museum & Public Park Trust, London.

as F.1536 (left-handed, Figure 5) and F.1537. This pair was originally purchased by the Frampton-on-Severn Volunteers in 1798. Baines observes that these horns were “played with the hand in the bell, though judging by the wearing of the bell paint, not in a true hand-horn manner—nor would the players’ music have demanded it.... There are no signs that this pair was ever provided with the small master crook: B \flat must have been played *basso* in this band.”¹⁹

A third matched mirrored pair is in the Edinburgh University Collection of Historic Musical Instruments, catalogued as 2887 and 2888 (left-handed). The maker is anonymous and the horns are dated to the late eighteenth century, probably England.

The tutor published by Longman & Lukey gives another reason besides visual symmetry for playing with the bells facing one another in its continuation of the topic “Position of Holding the Horn”:

When two are blowing first & second, & their tones of equal Strength, the two Bells of the Horns should be in one direction, as the Tones will more

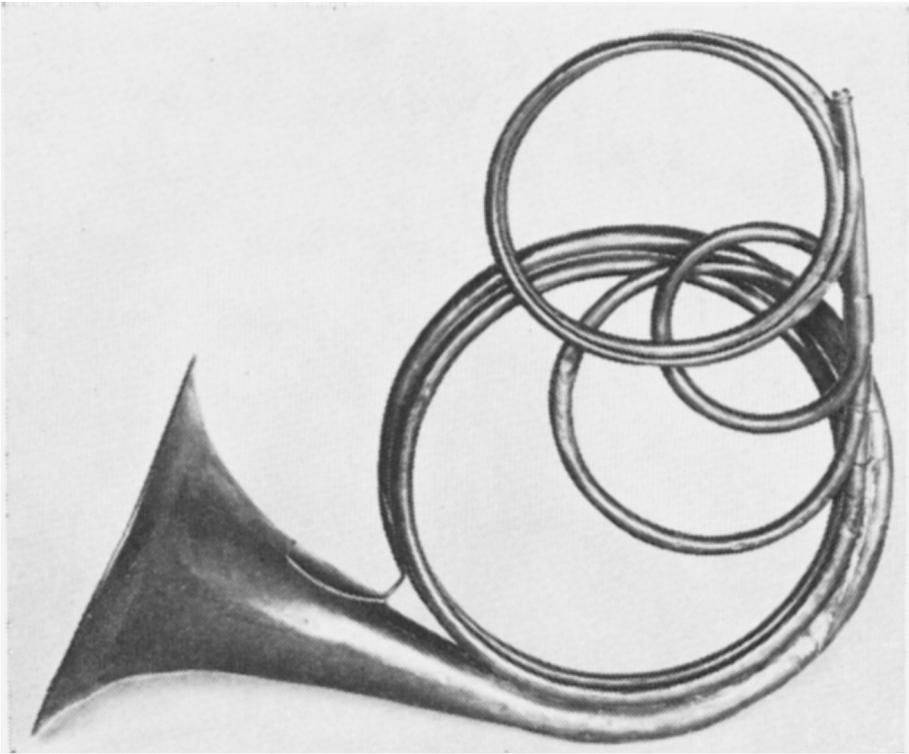


Figure 5

Horn by Rodenbostel (Baines, *Brass Instruments*, Plate IX, 2;
used by kind permission of Dover Publications).

equally unite. An Instance why they should be so may be experimentally proved from a man's Voice, or the sounding of a speaking Trumpet; if a person turns his back and speaks to you, you cannot hear him equally loud as if his face was toward you, and was a speaking Trumpet alternately made use of in the same manner, it would be equally different. If a further explanation is wanted, let two persons find out a single correct Echo and try the experiment; let one Bell face the Echo, and the other be turned from it, by which means you will be convinced.²⁰

The phrase "the two Bells of the Horns should be in one direction" is taken here as an archaic way of saying to be pointed toward one another, as shown in the illustration that accompanied the text (Figure 4).

The system of crooks and couplers was an adequate solution for supplying multiple keys and providing a mechanism for tuning, but it became very unwieldy with the development of hand-stopping. The technique of hand-stopping came somewhat late to England; it was first introduced to an English audience when Punto visited London in 1770 or 1771.²¹ Early in 1773 the German virtuoso Spandau performed in London, demonstrating the “accuracy of intonation in the chromatic tones.”²² From the tutor published by Longman & Lukey:

Should you want to make the Cromatic tones, you may hold the horn with your Left or Right hand as near as you can to the Mouth-piece, the Bell to bear against your side, one hand must be within the Edge of the Bell ready to put into the Pavilion or Bell of the Horn as notes may require; but this will be better found out by Practise than it is possible here to describe; Mr. Ponto and many others, famous on this Instrument, constantly uses this method, by which means the half tones are expressed, which is not to be done by any other method, but it is deemed by Judges of the Horn that the principle beauty, the Tone, is greatly impaired thereby.²³

Italy

The term *corno da caccia* literally means “horn of hunting,” however Fitzpatrick defines *corno da caccia* as follows: “In Italian eighteenth-century usage the orchestral horn or *Waldhorn*. The mounted hunt was virtually unknown in Italy, and for this reason the Italians first encountered the horn in its orchestral form.”²⁴ Hiebert observes that *corno da caccia* is the most common name for the instrument found in Dresden baroque manuscripts.²⁵ Antonio Vivaldi (1678-1741) wrote well for horns, notably in two double concertos (RV 538 and 539) as well as *concerti grossi* for groups of winds. He no doubt became familiar with the musical potential of the instrument during his several travels to Bohemia and Dresden, and also through his association with fellow Venetian, Antonio Lotti (1666-1740).²⁶ Fitzpatrick states,

The long-standing blood ties between the Habsburg Court and the ducal houses of Modena, Tuscany, and Milan account for the derivation of the Italian school of horn-playing from the Austrian. As early as 1756 we meet a band of horns at Florence in the retinue of Marshal Botta, head of the Austrian Regency there. A Bohemian horn-player, Joseph Reichel, was a member of the Imperial ambassador’s band at Genoa in the 1770s; and Wenzel Pichel, violinist-composer to the Archduke of Milan, found two Bohemian horn duetists residing in Rome in 1775.²⁷

Hand-horn technique was probably introduced into Italy by Jean Joseph Rodolphe (1730-1812), who was in the service of Philip, Duke of Parma, from 1754 to 1760. He is also credited with introducing the concept into Paris as early as 1763.²⁸ Parma became a center

for the horn in Italy by hosting the Belloli brothers among others, and also as the birthplace of Giovanni Puzzi.

Luigi Brizzi was described as “a fine player of the *corno da caccia*” in his home city of Bologna.²⁹ He was born there in 1737, and at the time of Rodolphe’s tenure at Parma, Brizzi would have been about seventeen. It is certainly conceivable that, as a gifted and promising student, he could have learned the new technique of hand horn directly from Rodolphe. In his portrait (Figure 6, left) Brizzi is shown holding a piece of music in his right hand, presumably of his own composition, and a *corno da caccia* without tuning slide in his left hand.³⁰ Horns of this type, fitted with terminal crooks, continued to be made in Italy as late as 1770.³¹ The horn as he is holding it in his left hand suggests that he might have performed with the bell directed to the left.³²

Luigi Brizzi was at the head of three generations of distinguished horn players in Italy. Besides himself, his son, Francesco, was also a “most celebrated” horn player and the father of Gaetano Brizzi, in turn a famous horn player and professor of horn and trumpet at the Liceo Comunale di Musica in Bologna.³³ Luigi Brizzi died at Bologna on 10 September 1815. It is very likely that he was also the teacher of the three Belloli brothers, who were born and raised at Castelfranco Emilia, only about 30 km from Bologna.

The great Italian virtuoso and composer Luigi Belloli (Figure 6, right)³⁴ was born on 2 February 1770, into a very musical family.³⁵ Two of his brothers, Giuseppe (1775-?) and



Figure 6

Left: Portrait believed to be of Luigi Brizzi (1737-1815). Courtesy of Civico Museo Bibliografico Musicale, Bologna. Right: Portrait believed to be of Luigi Belloli (1770-1817). Courtesy of Museo Teatrale alla Scala.

Agostino (1778-1839), were also horn players. The latter is remembered primarily for his etudes for horn.³⁶ The brothers probably took their musical studies at the Liceo Communale di Musica at Bologna, not far from their home. It has also been supposed that Luigi studied with the great Bohemian virtuoso Giovanni Punto.³⁷ The following notice from the newspaper *Indice* illustrates the brothers' early success: "The gentlemen Belloli brothers of Parma, professors of horn, played two concerti for that instrument."³⁸ From 1790 to 1802 Luigi Belloli was principal horn in the service of Duke Ferdinand of Parma.

In 1803, the year following the death of his patron, Duke Ferdinand, Luigi Belloli moved to Milan to become principal horn at Teatro alla Scala. On 23 April 1808 Belloli was appointed professor of horn, trumpet, and trombone at the newly formed Milan Conservatory, with an annual salary of 1400 lira.³⁹ While there he wrote a method for horn that he used in his teaching, but which has since been lost.⁴⁰ This is unfortunate since it would no doubt be very helpful in establishing Belloli's approach to playing the horn. According to the contemporary writer on music Carlo Gervasoni, he had a "very pure sound and brilliant execution." In addition to composing several ballets that were performed at La Scala in his lifetime, he also composed several pieces for horn, including at least two concerti dedicated to his supposed student, the immensely talented Giovanni Puzzi.⁴¹ Luigi Belloli's career was cut short prematurely and quite suddenly at the age of forty-seven on 17 November 1817 from an attack of apoplexy.⁴² He was still actively engaged at La Scala and as recently as September 27 had performed in a production of Felice Romani's *Adele di Lusignano*.⁴³

The manner in which Belloli is shown holding his horn in Figure 6 strongly suggests that he played with the left hand in the bell. It should be noted also that the horn depicted is a right-handed *cor d'orchestre* held "backwards" with the terminal crook toward the audience.⁴⁴ This begs the question as to whether it was simply Belloli's personal preference or possibly a practice learned from Luigi Brizzi. The musicians at La Scala, as in many orchestras of the period, stood as they played: "They stand in two rows: in one the strings, in the other the winds and percussion; the basses and cellos stand at both extremities." The further description "4 *Waldhörner* (alternately)"⁴⁵ might suggest that their bells were pointed in "alternate" directions.

The most famous student of Belloli was undoubtedly the virtuoso horn player and later opera impresario Giovanni Puzzi (1792-1876). Puzzi had already achieved considerable fame as a soloist in Italy and Paris before settling in London in 1816.⁴⁶ He was born in Parma and once his talent had been demonstrated he began musical studies in the Conservatory of Fontanellato in his hometown. There can be little doubt that he met Luigi Belloli there at an early age. One of Belloli's horn concertos was written to be performed by Puzzi for the first time at the "great concert" in Paris at the Favart Theatre in 1814. The *Journal de Paris* of 21 October 1815 wrote,

The reputation that the Parmesan Giovanni Puzzi deservedly has acquired at Paris playing in the concerts that the celebrated [Angelica] Catalani gave in the past month of August at the Favart Theatre, has placed him in the first class of artists of this capitol. Therefore on September 7 he was named

principal solo horn to perform at the New Italian Theatre that opened on the first of this October.

The same year the *Journal de Paris* reported,

Are we permitted perhaps, without being unjust, to forget the beautiful talent of the Sig. Puzzi, who draws thereby such luminous benefit from that most ungrateful among the instruments? Those pure and sweet sounds he knows how to make from the horn by the spirit of his breath? What clearness! What possession! He makes a game of the difficulties; he faces the attack with a lot of courage and luck, which is not noticed, so to speak, if they are not overcome. His modesty then enhances his admirable talent that to himself he seems not to have."⁴⁷

After the fall of Napoleon in 1815, Puzzi was taken to England under the auspices of the Duke of Wellington and settled there two years later. For his first five years in London, Puzzi appeared primarily as a concert soloist. In 1821 he was offered and accepted the position of principal horn of the Philharmonic Society Orchestra.⁴⁸



Figure 7

Cor solo by Marcel August Raoux (1826), catalogue number W.83-1926.
By kind courtesy of the Victoria and Albert Museum, London.

One of the most famous and beautiful extant examples of a *cor solo*⁴⁹ was made by Marcel August Raoux as a presentation piece for Puzzi (Figure 7). The horn is “left-handed,” as indicated by the placement of the mouthpipe. Morley-Pegge estimates that it was made about 1826 and was a gift to Puzzi from Charles X, King of France (1824–30).⁵⁰ The provenance of the horn is very precise: it was presented to the Victoria and Albert Museum one hundred years later, in 1926, by Puzzi’s grandson, Generale Vittorio Elia, and had been in the constant possession of the family since Puzzi’s death in 1876.⁵¹ In addition to the fact that the horn was designed to be played left-handed and made specifically for Puzzi, E. Bradley Strauchen has convincingly shown that he indeed played with his left hand in the bell.⁵² Her careful analysis of the wear patterns on the paint in the bell indicates quite conclusively that they were made by a left hand. Once again, this raises the question as to whether it was only a personal preference, or did it represent a practice passed down from Puzzi’s Italian predecessors?

England, again

Puzzi’s predecessor as principal horn in the Philharmonic Society Orchestra was Charles Tully.⁵³ Tully had been a member of the orchestra nearly from the time of its founding in 1813. He was born on 8 February 1787, the son of James and Cassandra Tully. It is not known with whom he studied, but it is within the realm of possibility that he had some professional training as a teenager with one or both of the brothers Petrides, who had settled in London in 1802.⁵⁴ In 1814 he played fourth horn in the Philharmonic Society Orchestra and on 3 November 1816 he joined the Royal Society of Musicians. In the 1819 and 1820 seasons he sat as principal in the Philharmonic Society Orchestra and from that time until his last season in 1842 he played with them every year at various positions.⁵⁵ Although not known as a soloist, Tully was a solid section player who was employed by Covent Garden and the Theatre Royal, Haymarket, as well as various provincial festivals. Charles Tully died on 9 June 1845 from the effects of “decline.”

Of interest in the present discussion is that Tully also played with the left hand in the bell. Tully was the only native Englishman to write a tutor in the nineteenth century. In his *Tutor for the French Horn* (ca. 1840, London), he writes, “fix the right hand close to the stay of the crook ... [and] at the same time place the left hand a little way in at the bottom of the bell.”⁵⁶ In his section entitled “Method of sounding the horn,” Tully always refers to inserting the left hand into the bell. For example, “Next, blow C, very softly and introduce the left hand a very little way into the horn, to alter the pitch and produce B,” and “To produce the following D, the left hand must be put as far into the bell of the horn as possible.”⁵⁷

It was stipulated in Puzzi’s contract with the Philharmonic Society that he had authority over seating⁵⁸ and it is possible that Tully was influenced by Puzzi to use the left hand in the bell. This seems unlikely, however, since Tully was already well established as a professional player in London before Puzzi’s arrival. Even if Puzzi had succeeded in converting the Philharmonic Society section (which included the Petrides brothers) to left-

hand playing it would probably have been only during his brief tenure there from 1821 to 1824. After that, Tully would have been free to revert to right-handed playing and certainly would not have specified the left hand in his tutor some fifteen years later.⁵⁹ It seems more reasonable to conclude that the practice of playing with the left hand in the bell was adopted by Tully independent of Puzzi. In the case of the Petrides brothers, they were no doubt familiar with the concept of playing bell-to-bell and might have incorporated it into their act as itinerant duettists. Always the showmen, one can imagine them switching back and forth between parts and positions as they played. The orchestral horn parts in the Philharmonic Society were not nearly as demanding as their solo and duet literature, so an accommodation to Puzzi would not have caused them any technical problems.



Figure 8

Horn, left-hand wrap (catalogue 14.5.47/299). By kind courtesy of the Horniman Public Museum and Public Park Trust.

Contemporary with the tutor by Tully is a horn possibly made by Smith of Wolverhampton, England (ca. 1840) and sold by Collard & Collard, London (see Figure 8). The date is established by the fact that Collard & Collard flourished in London under that name from 1832 to 1855.⁶⁰ It bears great similarity to another example in the Bate Collection, Oxford, by Smith and Sons⁶¹ in that it is rather uncomfortably configured for hand-stopping, with a mouthpipe that is almost parallel to the bell. The two nineteenth-century horns attributed to Smith of Wolverhampton are described as *cor à l'anglaise*, a term applied by the French when the English added a medial tuning slide of the *Inventionshorn* type to the master crook and coupler scheme.⁶² Everywhere else this cumbersome system had been abandoned in favor of a single crook for each key.

Another left-hand horn approximately contemporary with Tully's tutor is a *cor solo* or *Inventionshorn* also in the Bate Collection (no. 60). The horn is marked "J. Goodison, Maker, 7 Sherrard Street, Golden Square, London" and was probably made in 1849-50, when Goodison occupied that address.⁶³ This date is quite late for such a horn and postdates Tully by several years. Morley-Pegge believed that the horn was actually made by Charles Sax of Brussels and that Goodison (1803-60) "did little more than put his name on it."⁶⁴ What is most interesting about this horn is that the Bate catalogue entry states that it includes a "complete set of tuning-slide crooks from B \flat alto down to C (missing the A)."⁶⁵ If true, it would imply that the horn was used for orchestral work.

The existence of these three surviving examples indicates that the practice of playing with the left hand in the bell continued in England well through the first half of the nineteenth century and was probably not limited to a few isolated players.

France and Germany

The practice of playing with the left hand in the bell instead of the right had not gone unnoticed, especially by the great performers and teachers in Paris. Many of the tutors and method books of the early nineteenth century addressed the manner of holding the horn. Although uniformly expressing a preference for using the right hand, most acknowledged that it is not an important consideration. The senior professor of horn at the Paris Conservatoire, Frédéric Duvernoy (1765-1838), states in his *Méthode* of 1803,

It is immaterial whether the student holds the horn with the right hand or the left hand. It lends itself as well to one or the other. However I will establish my principles on the manner that I have adopted. It is necessary for the left hand to hold the horn and the right hand to be placed within the bell as the figure indicates.⁶⁶

Heinrich Domnich (1767-1844?), who was professor of second horn at the Conservatoire at the same time as Duvernoy, is more direct in his *Méthode* of 1808:

Before the invention of the slide, it mattered little whether the bell was turned to the left or the right of the performer; but since its invention, the position

of the instrument has been irrevocably fixed. It is now the left hand which holds the horn and the right hand which is placed in the bell. This attitude allows the performer to tune his instrument promptly at the same time as playing without obstructions to the entire length of the slide.⁶⁷

Domnich's opinion and reasoning are curious, however, since most horns of the period placed the tuning slide on the side of the instrument facing away from the player, a longer reach than if on the near side as on most modern horns. He also ignores the fact that horns can be built either way.

Louis-François Dauprat (1771-1868), who succeeded both Duvernoy and Domnich as professor of horn at the Conservatoire, takes the more liberal view in his monumental *Méthode* of 1824:

Some players hold the horn with the right hand—most German virtuosi whom we have seen in Paris hold it this way. Thus, it is not a defect. The manner of holding the horn is, after all, entirely arbitrary. It is decided at the first lesson according to the natural inclinations of the student, who may feel himself more adroit with one hand than the other, whether for holding the instrument or for making the motions in the bell for the factitious notes.⁶⁸

Dauprat's comment regarding "most German virtuosi" holding the horn with the right hand is intriguing. Certainly he was aware of Puzzi, who had been resident in Paris, and probably Belloli as well. Excluding them from his comment serves only to emphasize the practice in Germany. Since no specific examples of left-handed German natural horns or horn players have been identified, it is interesting to speculate as to whom he refers; undoubtedly he has in mind some of the well-known itinerate horn soloists and duettists of the time.

Although the esteemed University of Würzburg professor, author, and composer Joseph Fröhlich (1780-1862) might not have been a horn player himself, his various tutors for orchestral instruments are considered to be well-informed.⁶⁹ His *Vollständige theoretisch-practische Musikschule* (1811) contains the following advice:

It is indeed unimportant with which hand one holds the horn, although it is more usual for it to be held with the left hand, and the right [hand] placed in the bell of the instrument, as shown in figure D. Actually, whoever aspires to be *Primarius* should accustom himself to holding the horn with the right hand so that when playing duets the bells of the two horns face one another and each [player] can hear the other better.⁷⁰

The publisher of Fröhlich's book, Nicholas Simrock, was a horn player himself in Bonn, and he certainly would have asserted some editorial authority over its contents. It is interesting that this suggestion to play duets bell-to-bell echoes the earlier tutor published by Longman

& Lukey. Also note that, at least in the case of duets, this suggestion places the first horn (*primarius*) to the right of the second, a practice that is the reverse of the customary placement, but which is seen in some orchestral seating plans.

Fröhlich was not alone in this advice, and apparently it was also taught elsewhere in Germany, for eleven years later the same suggestion was given by J.H. Goeroldt in his *Hornschnule*:

Usually one holds the horn near the mouthpiece with the left hand and at the opening (bell) with the right hand, which one also uses to stop the bell to produce different tones.... However one can also hold the horn the other way around, which is, however, not usual, although this has the advantage, once one has become accustomed to it, that two horn players can hear themselves better, as the openings of both horns face one another if the *Primarius* uses the left hand, and the *Secundarius* uses the right [hand] for stopping.⁷¹

A very interesting sketch by the Munich artist Ludwig Lesker (1840-90) depicts a horn player holding the instrument to the left (Figure 9). The horn has been identified as having been made by Michael Saurle, also of Munich, based on the shape of the mouthpiece receiver on the crook, the shape of the tuning slide, and the rather conical bell profile.⁷² The horn itself is a standard right-handed terminal-crooked orchestral horn, but this hornist's interesting costume suggests that he is more of a country musician than a Munich professional. Though the artist lived well into the valved-horn era, the art of the natural horn was still known and taught well into the twentieth century.⁷³

During the first half of the nineteenth century, professional orchestral musicians in Europe were most regularly employed in theaters and royal opera houses. In Germany there were few full-time concert orchestras,⁷⁴ and even though Vienna was known as the "city of the symphony," there was no full-time professional concert orchestra there until the formation of the Philharmonic in 1842. Concert orchestras comprised musicians who were drawn as needed from among the professionals working in opera and theater pits, augmented (mostly in the strings) by talented amateurs.⁷⁵ In Italy the orchestra existed almost exclusively for the opera, and concert performances were all but unknown.⁷⁶ The manner of holding the horn was probably conditioned by the often cramped conditions within the orchestra pit and its close proximity to the audience. It is reasonable to hypothesize that the player would choose the direction of holding the bell based upon the need to enhance or restrict the projection from his usual position in the pit. Once accustomed to playing toward one side or the other he probably would have carried it over to the concert stage.

Most of the orchestra plans from this period show the horns grouped with woodwinds, which, as Carse points out, are the "weakest in tone quality."⁷⁷ For example, in the 1825 plan for the orchestra at La Scala, the four horns are shown in two pairs, standing at the left behind the woodwinds, against the stage, facing the center.⁷⁸ If this plan is the same as in the previous decade when Luigi Belloli was at La Scala, then by playing to his left, Belloli would have



Figure 9

Sketch by Ludwig Lesker. Used by kind courtesy of Hans Pizka.

directed his bell away from the audience and toward the stage. Perhaps this would have facilitated blending with the weaker winds.

Descriptions of Weber's arrangement in the Dresden opera pit in 1817 also have the horns near the woodwinds and on the opposite side from the brass.⁷⁹ Similarly the horns in the Vienna Court Opera of 1840 are shown at the extreme right side of the pit behind the woodwinds, while the other brass and percussion are at the opposite side of the pit.⁸⁰ At the Kärntnerthor Theater in Vienna in 1821, the horns and woodwinds were together on the right with the brass and percussion on the left, an arrangement that was continued into the 1840s.⁸¹ One interesting plan is for the pit orchestra of the theater at Leipzig before 1830, in which horn 3 is shown seated to the right of horn 4. This suggests that horn 3 played toward the left since the bell of the higher horn usually faces toward the lower.⁸² That the horns were commonly grouped with the weaker woodwinds is consistent with the fact that the stopped tones of the natural horn limited its volume and projection. If played too strongly, the sound becomes too uneven and buzzy, hence the horn was perceived as a soft instrument in comparison to the other brasses. All of this would change with the introduction (albeit gradual) of valved horns into the orchestra.

Valves in Germany, Austria, and Bohemia

The invention of the first practical valve in 1814 by Heinrich Stölzel (1777-1844) with its subsequent impact on brass instruments has been reported and analyzed extensively.⁸³ There is no doubt that Stölzel's original valves as applied to the horn were operated by two fingers of the right hand. This was first reported by Gottlob Benedikt Bierey (1772-1840) in the *Allgemeine musikalische Zeitung* (henceforth *AMZ*) 17 no. 18 (3 May 1815), col. 309-10 and two years later in the same publication by Friedrich Schneider (1786-1853).⁸⁴ In June 1819, Christian Friedrich Sattler (1778-1842) announced an improvement to Stölzel's design by adding a third valve and attaching the valves "at the side whereby the horn players' usual manner of holding of the instrument can be retained."⁸⁵ The following year Schneider noted that the valves of the horn are now "pressed by the fingers of the *left* hand."⁸⁶ Nothing in any of these articles indicates the location of the valves with respect to the bell of the horn, nor the direction in which the bell was pointed. In the absence of original drawings or detailed contemporary descriptions it is impossible to determine the exact design of Stölzel's original valves or their location on the horn. From the available descriptions it is generally agreed that they were piston valves of some type, perhaps similar those found later in France bearing Stölzel's name. Heyde suggests that they were positioned "upright in the center" of the horn,⁸⁷ while Ericson, although allowing that the horn could have been "backwards," with the bell directed to the left, suggests instead that the valves were located adjacent to the bell, as in Figures 18 and 19.⁸⁸

Stölzel was first employed as a chamber musician in the private band of the Prince of Pless in Silesia and it was during this employment that he developed the valved horn. In 1817 he joined the orchestra of the Royal Opera, Berlin, and continued to generate interest in his new horn by giving public performances. The *AMZ* exuberated,

The very substantial improvement of the *Waldhorn* by Mr. Stölzel from Breslau, which was exactly described and lauded by music director [Friedrich] Schneider of Leipzig in number of 48 this periodical, proved itself completely in everything praised there [i.e., in Schneider's report], first before all the local experts, and then in a public concert before a very large audience.⁸⁹

Probably the first pieces written specifically for the valved horn were created by the well-known Silesian composer Friedrich Wilhelm Berner (1780-1827), no doubt in collaboration with Stölzel. Berner was from Stölzel's hometown of Breslau and in 1817 he composed a *Konzert für das Chromatische Horn* and *Variationen für das Chromatische Horn*.⁹⁰ Clearly, these are the works that Stölzel had been using in the performances as noted above by the *AMZ*. The following year, on 1 July 1818 in Berlin, he once again performed the *Variationen*.⁹¹



Figure 10

Waldhorn with two early Vienna Valves. By kind permission of the Germanisches Nationalmuseum, Nuremberg.

Also in 1818, composer Georg Abraham Schneider, a horn player himself, wrote a *Concerto für 4 Hörner und Orchester*, intended for the new *Ventilhorn* and three *Waldhörner*. The piece was given its premier in Berlin on 16 October 1818 with the famous virtuoso Carl Friedrich Bode (1781-1832) playing the soloistic valved-horn part. Bode reprised his performance the following month, and in December Ernst Bliesener played the solo part.⁹² The valved-horn part does not fully exploit the potential of the instrument. It does include a few “chromatic” notes but is certainly easily played on natural horn, even though it is written for a high horn player (a few times achieving a written e^3 for horn in E). Of interest in the present discussion is that all of these performances mark the debut, not only of the valved horn, but in particular the right-handed valved horn.

The only logical explanation for putting the valves on the left hand is for conformity with the common, although not universal, natural-horn practice of using the right hand in the bell. Examples of all of the successful valve types have been found on right-handed horns, with the one somewhat ironic exception of the improved “Stölzel” valve that was in use in France during the second quarter of the nineteenth century. It is well documented that there was considerable resistance to the use of valves throughout the nineteenth century in France, so it makes sense that there would not be any right-handed examples of what became the idiomatically French “Stölzel” valve horn.

In the examples that follow, it should be kept in mind that each one represents a particular application in a particular setting. Valved horns were not inexpensive and in the first twenty years were used primarily by soloists. In fact, for this reason, and the fact that “the valves return too slowly to be able to play fast passages on them,” the horn player August Philipp Jahn advised composers in 1827 not to write for them.⁹³

Another early example of a right-handed valve horn is shown in Figure 10. It is described as having probably been made in Austria ca. 1835.⁹⁴ Note that the first valve is the half-tone and the second valve is the whole-tone, which was somewhat common among two-valved brass instruments of the period.⁹⁵ This horn is stated to be in C alto, as shown with the short *Setzstück*. This must not be the intended pitch of the horn, since the two valve slides are entirely too long for a horn in C alto and more appropriate for a horn crooked in F or Eb.⁹⁶ The valves themselves are of an early (pre-1830) Vienna-valve design in which the internal piston extends out of the cylinder casing when the valve lever is pressed. This design was superseded by the patent of Leopold Uhlmann in 1830 (Figure 11).⁹⁷

Figure 11 is a drawing that accompanied the application for a *Privilegium* for the modified double-piston valves as applied to the horn by Leopold Uhlmann in 1830. The purpose of the drawing—and Uhlmann’s written application⁹⁸—was primarily to describe the valve mechanism, and only secondarily his design for the horn. Of interest to the present discussion, however, is that the horn is depicted as right-handed. The layout of the valve slides is the same as that subsequently found on Uhlmann’s horns, as well as most modern Vienna horns, with the characteristic vertical third valve slide. Worthy of note is that the drawing shows a fixed mouthpipe instead of the ubiquitous terminal crook found on Vienna horns; moreover, the instrument does not include a main tuning slide. It is not clear whether Uhlmann ever intended the Vienna horn to be right-handed. Certainly most such

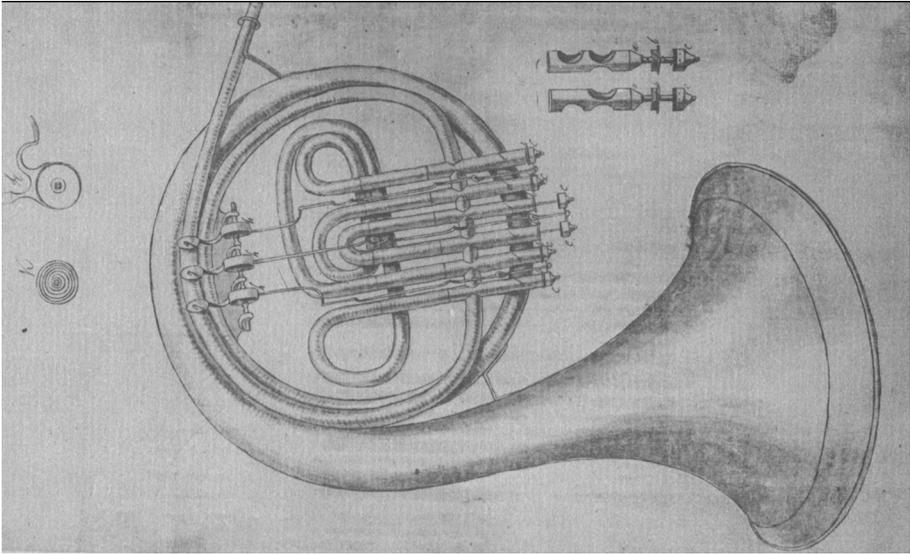


Figure 11

Das privilegierte Waldhorn von Leopold Uhlmann, Vienna, 1830 (Vienna, Technische Universität). Reprinted from Heyde, *Das Ventilblasinstrument*, ab. 44, p. 298. With kind permission of Deutscher Verlag für Musik, Leipzig.

instruments have been made for the left hand; there is no known right-handed horn made by Uhlmann.

An example of a right-handed Vienna horn by an anonymous maker is shown in Figure 12. This horn does not follow Uhlmann's pattern, but is instead nearly identical to a horn by Joseph Felix Riedl, estimated to have been made ca. 1835-40.⁹⁹ The wrap of this horn is very symmetrical, and the main tuning slide and valve slides are arranged horizontally. The only difference between this horn and the one made by Riedl is that the valve keys are located on the opposite side of the corpus, adjacent to the terminal crook socket. From this it might be deduced that an originally left-handed horn has been modified, although close inspection shows no such evidence. Some Vienna horns are made to be easily changed from left- to right-hand use. If, for example, the bridge that holds the clock-spring valve levers is equidistant from the two sides of the horn, then it is a simple matter to move the levers to either side, provided nothing else is in the way. In this case, however, the bridge is not centered on the bell tail, but is closer to the crook socket. In addition, the second valve slide is angled so as to prevent location of the valve levers on the other side. In order to reverse this horn it would be necessary to unsolder and move the bridge, and also turn the second valve slide around. There is no evidence (such as residual solder or scratch marks from



Figure 12

Anonymous right-handed Vienna horn, ca. 1840, following the pattern of Joseph Riedl (author's collection).

cleanup around a previous location of the bridge) that would indicate that either has been moved. There is, however, extensive evidence of other repair work: for example, the crook socket has been moved. Apparently the horn has been shortened in order to raise its pitch while using a standard terminal crook. This horn was probably a "special order," with simple adjustments made as regards the positions of standard components.

Johann Strauss the Elder (1804-49) was the first to take horns and trumpets incorporating Uhlmann's Vienna valves to Berlin.¹⁰⁰ If the hypothesis suggested above is correct that the choice of bell direction is determined sometimes by the circumstances of seating, then the often crowded conditions of the Vienna dance halls might have warranted the use of horns such as those shown in Figures 11 and 12, with bell directed to the left.

Two seating plans from Munich ca. 1844 suggest the use of horns with bells pointed to the players' left. In the concert seating for the Munich Odeon Theater (Figure 13), the horns are in a single row at the back of the orchestra. They are arranged with the principal at the right of the section, in the reverse order to that found now almost universally. The purpose of seating the principal with his bell directed toward the rest of the section is to provide leadership. The second horn is expected to match the first, and the fourth is expected

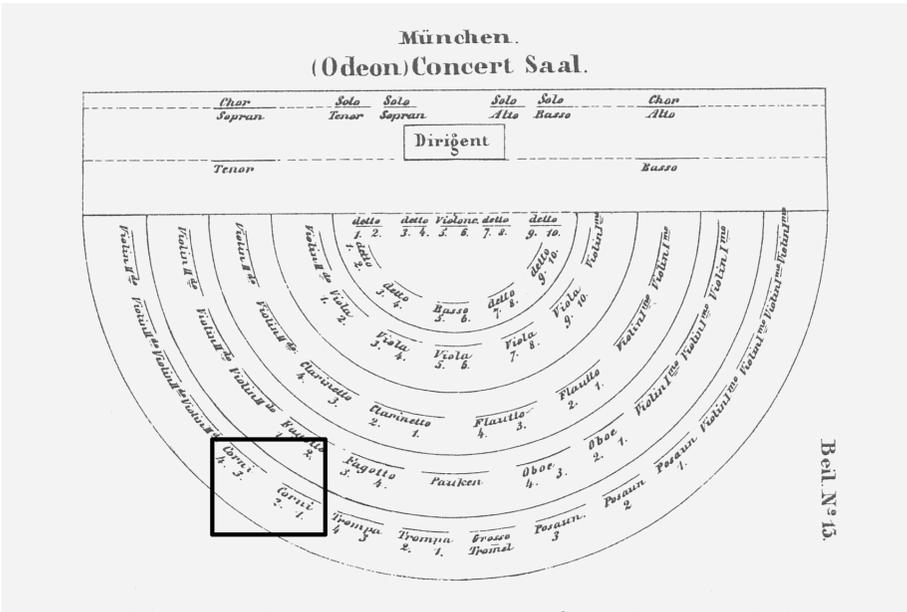
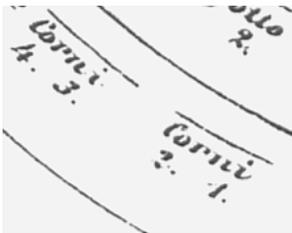


Figure 13

Munich Odeon Concert Saal, from Ferdinand Simon Gassner, *Dirigent und Ripienist für angehende Musikdirigenten, Musiker und Musikfreunde* (Karlsruhe: C.T. Groos, 1844), Beilage 13. Above is the full plan and below, a detail showing the horn seating.



to match the third, in volume, pitch, and interpretation. The plan for the pit at the Hoftheater (Figure 14) is similar, except that the two pairs of horns are seated as a block. This is a preferable arrangement, even for concert seating, in that it places the two high horns (1 and 3) in close proximity while also keeping them next to their respective seconds, 2 and 4. Once again, however, the principal sits to the right. In both cases the horns are integrated with the other brass.¹⁰¹ Valved horns were certainly employed in Munich by this time. Franz Lachner (1803-90), himself a horn player and composer of a *Concertino für chromatisches Waldhorn*,

was the Court Conductor and was later named General Music Director. Friedrich Sendelbeck, who had performed his own *Concertino für chromatisches Waldhorn* on 29 December 1837 while engaged in Leipzig, was now in the Munich *Hofkapelle*.¹⁰²

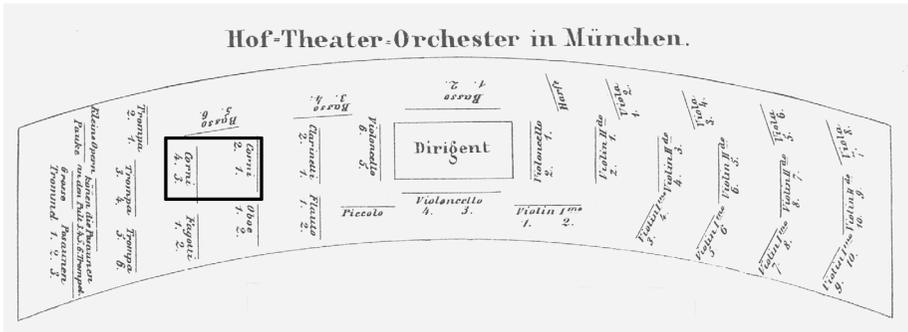


Figure 14

Munich Hoftheater, Gassner, *Dirigent und Ripienist*, Beilage 14.
Above is the full plan and below, a detail showing the horn seating.

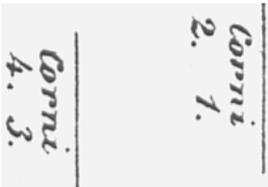


Figure 15 shows a right-handed valve horn by Michael Saurle (Sr. or Jr.), Munich, from about the same time as the accompanying seating plans. It is pitched in D and, as in the case of the horn shown in Figure 10, has the first valve as the semitone and the second valve as the whole tone.¹⁰³ According to Heyde (in reference to this horn), “right-handed horns were not generally adopted in Bavaria. Otherwise the Austrian horn models were often followed in southern Germany and Bavaria.”¹⁰⁴ Of course, right-handed horns are also found in Vienna models, as shown in Figure 12.

Heyde goes on to observe, “Since in Bohemia, more than elsewhere, one played right-handed, the company V.F. Červený & Son, in its *Preis-Liste in österreichischer Kronenwährung* (Price List in Austrian Crown Currency), still reminded its customers ca. 1898, ‘One should always specify with which hand the *Waldhorn* is to be played’.”¹⁰⁵ Figure 16 is an illustration of two different horn models available from Červený. The one on the left is a simple single F horn shown configured for the right hand. The one on the right is a single horn with what appears to be additional quick-change extension to E♭. The latter is shown with more ornate (and expensive) Neolithic ornamentation. Presumably both of these could be ordered in either handedness, as desired.

Another right-handed horn by a Bohemian maker is shown in Figure 17. This horn was made by the firm Wenzel Stowasser’s Söhne in Graslitz, Bohemia, ca. 1900.¹⁰⁶ It is pitched in F and features a triangular arrangement of valves, designed to eliminate some of the right-angle bends and reduce air resistance. The triangular valve arrangement is much less common than the typical in-line array, but such horns (left-handed) by Josef Glassl (Graslitz) and Leopold Uhlmann (Vienna) are also found.¹⁰⁷ Early in his career Josef Schantl (1842-1902) used a left-handed horn of this design while a member of the Johann Strauss Jr. Orchestra.¹⁰⁸



Figure 15

Ventilwaldhorn by Saurle, Munich (c. 1845-48). Historisches Museum Basel, 1980.2143.
Photo: M. Babey (copyright HMB).

Two interesting right-handed horns of a different design are shown in Figures 18 and 19. In both cases the valves are located next to the bell, making it impossible to place a hand in the bell for stopping or correction of intonation. The horn by an anonymous maker in Figure 18 is described as being “presumably a reconstruction of an *Inventionshorn*.”¹⁰⁹ It stands in G, with crooks for F and C. The valves are of the *Berliner-pumpen* type and judging from the above comment they are apparently regarded as an addition to an existing *Inventionshorn* corpus. It is probably a very early example of *Berliner-pumpen* valve, which was developed in 1833 by Friedrich Wilhelm Wieprecht (1802-72) in collaboration with the father-and-son firm of Johann Gottfried (1777-1840) and Carl Wilhelm Moritz (1810-55), Berlin. Valves of this type are often found on instruments made by the firm C.W. Moritz, many of which are marked “Wieprecht & Moritz.”¹¹⁰ Wieprecht later explained that these valves “were then used in my chromatic brass instruments for army bands, especially cavalry bands.”¹¹¹ One can easily see how a horn of this design would work well in the cavalry, with the bell directed away from the ear of the horse, and the left hand, unencumbered with the valves, holding the reins.

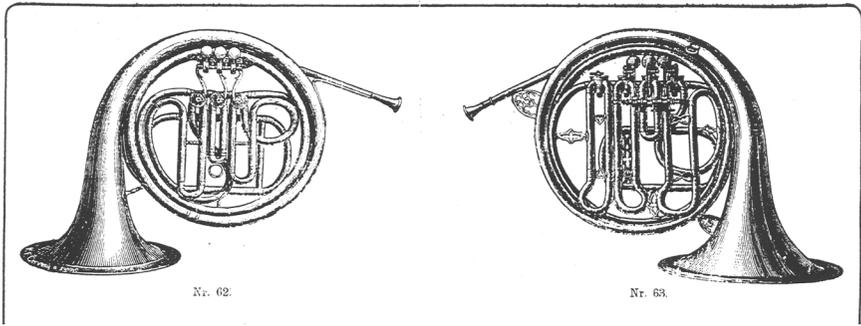


Figure 16

V.F. Červený & Söhne, Königgrätz, Bohemia, Catalogue 1896.

From *Larigot: Bulletin de l'Association des Collectionneurs d'Instruments à Vent*, no. 14 (February 1994): 9.



Figure 17

Ventilwaldhorn, Wenzel Stowasser's Söhne, Graslitz, ca. 1900, Historisches Museum Basel (1980.2715.). Photo: P. Portner (copyright HMB).

Figure 19 is from the catalogue of Leopold Uhlmann Jr., ca. 1890, however it is not certain that such a horn was ever constructed. Horns with valves adjacent to the bell were very popular with town bands in northern Italy (see below) during the second half of the nineteenth century and well into the twentieth. It is quite possible that Uhlmann was interested in that market or possibly the military, as in the case of Wieprecht.

Figure 18



Right-handed horn, unsigned. Used by kind permission of Hans Pizka.

France and England

It is well documented that the valved horn was slow to be adopted in France, where the skill level on the natural horn was very high. The horn was already regarded as fully chromatic and the addition of valves merely created a sort of blandness by eliminating the need for hand-stopping. Joseph Émile Meifred (1791-1867) was the first to champion the valved horn in France and to teach a course for the new instrument at the Paris Conservatoire. In his *Méthode*, Meifred mitigates some of the objections to the new sound by requiring that “leading tones” be partially stopped in the old manner when moving to the next higher open tone. He addresses that point specifically in a section entitled “On Abusing the Use of Valves.”¹¹² As to the manner of holding the horn, Meifred defers to the earlier *Méthode* of his own teacher, Dauprat, “with this difference, to use the left hand, the instrument must be held only with the thumb and the last two fingers to give the index and middle, placed on the valves, the freedom to move.”¹¹³

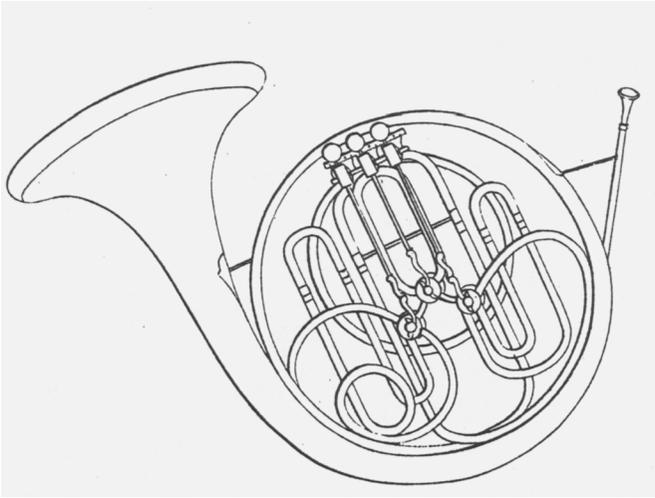


Figure 19

L. Uhlmann, horn in F, ca. 1890. From Pizka, *Horn Lexikon*, I-57. Used by kind permission of Hans Pizka.

In 1827 Meifred, in collaboration with Jacques-Charles Labbaye, improved on the valve design that had been sent to Paris earlier by Spontini in Berlin. The resulting two-valve “Meifred” horn received the silver medal at the Paris Industrial Exposition that year and became the standard valved horn in Paris for a couple of decades. The improved valve design became known as the “Stölzel” valve since it traced back directly through Spontini to the inventor, who was by this time in Berlin.¹¹⁴

In 1829 Etienne François Périnet opened a shop of his own in Paris after having apprenticed earlier with M.A. Raoux. Nine years later he developed a new valve design that would become the basis for the ultimate standard in brass-instrument piston valves, rivaling in efficiency the German rotary valve.¹¹⁵ The Périnet valve is slightly larger in diameter than the Stölzel and is less restrictive on the air column. It was quickly adopted by Adolphe Sax (1814-94) for his line of saxhorns for military band. In the second half of the nineteenth century the Périnet valve (with later improvements) became the standard on horns made in France, Belgium, and England. In those countries it was used on horns for well over the next one hundred years.

Another maker who employed Périnet valves was François Millereau. Prior to establishing himself as a brass instrument maker in his own right in Paris in 1861, Millereau worked for Besson. Within a year he was advertising saxhorns made under license, and by 1873 he was offering a full line of woodwinds as well. In 1878 he purchased the patterns of Marcel Auguste Raoux from Jacques Christophe Labbaye. Labbaye had bought the rights to the

horn patterns and Raoux name twenty-one years earlier and had continued to make horns under that name. Labbaye continued in the employ of Millereau.¹¹⁶

The Millereau horn shown in Figure 20 is built to be played using the right hand operating the valves and with the bell facing left. It is inscribed *Millereau* on the top of the bell flare next to the bell brace, which is common for this maker. The lower side of the bell is not inscribed and it possible that the space was left there for the name of a dealer or importer to be “stenciled” in later.¹¹⁷ The absence of any reference to Raoux suggests that the horn was made prior to 1878. Later Millereau horns are labeled *Raoux-Millereau* or carry the *AR* punch to capitalize on the famous name and reputation.

The components of the Millereau horn are shown in Figure 21. It features a separable valve section or *sauterelle* that is stamped *Millereau/Paris*. The *sauterelle* is removable to allow the horn to be played as a natural horn when replaced with an appropriate main tuning slide and coupling tubes. The valve section is clearly made for playing with the right hand and fits the horn only in that manner. The arrangement of the three valves is whole-tone (1), half-tone (2), and one-and-a-half tones (3), as is now standard for brass instruments. The third valve slide also has a secondary tuning slide which, in characteristic French fashion, is turned to face the second valve slide. Alternatively, in France it was popular to have an ascending third valve to raise the pitch a whole tone and most makers, including Millereau, offered their horns with that as an option.



Figure 20

Right-handed horn by Millereau with *sauterelle* valve assembly. Author's collection.

An unusual aspect of this instrument is that the tuning slide is slightly tapered, having a larger diameter on one leg than the other, thus continuing the conical bore of the horn. For most horn designs the tubing is cylindrical through the main tuning slide and the valves, tapering only in the crook and bell sections.



Figure 21

Millereau horn from Figure 20, disassembled. At the top is the corpus, to the left is the *sauterelle* valve assembly, and to the right is an E \flat terminal crook that was supplied with the horn.

The *sauterelle* was a very popular option and was offered by many French and some English makers. Three such horns are in the collection of Bruno Kampmann, Paris: one by William Brown & Sons, London, another labeled Raoux, Paris, but probably actually made by Labbaye (ca. 1860-78), and the third by Hawkes, London.¹¹⁸ A left-handed Millereau is in the collection of Hans Pizka.¹¹⁹ The collection of Edinburgh University contains several, including: J.C. Labbaye (no. 207), Millereau (no. 1124), and Buffet Crampton, Paris, ca. 1885 (no. 3160).¹²⁰ A catalogue of J. Maitre, Fonclause & Cie (1898) offered the *modèle spécial pour artistes* with 3 *gros pistons se démontant* and ten crooks for 250 francs.¹²¹ In England a very similar horn was available from Hawkes & Son (1903) with five crooks for £15, 15s.¹²² The 1910 catalogue of La Maison Herman Schoenaers featured several options for Millereau horns. Schoenaers was Millereau's son-in-law and took over the family business in 1898. The horn corresponding to the instrument shown above sold with one terminal crook at a base price of 340 francs. The Besson catalogue from the same year

competitively offered a horn quite similar to the Millereau for 350 francs, which included a full set of terminal crooks.¹²³ Both Besson and Schoenaers boasted that this was the model adopted by the Paris Conservatoire.

H. SCHOENAERS-MILLEREAU, PARIS - 7 -

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Pavillon de cor démontable, vissé 30 »

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Figure 22

Detail from the catalogue of Herman Schoenaers, Paris, 1910. *Larigot*, no. 11 (September 1992): 25. Used by kind permission of l'Association des Collectionneurs d'Instruments à Vent, Paris.

Figure 22 is a detail from the 1910 catalogue of *La Maison Herman Schoenaers*. It contains the enthusiastic endorsement of François Brémond, professor of horn at the Conservatoire National de Paris. Brémond started teaching the valved horn at the Conservatoire in 1897 following a thirty-four year hiatus after Meifred's retirement in 1863. In 1903 the class in valved horn was formally established and it became the primary instrument.

Before becoming professor of horn at the Conservatoire, Brémond had been an active player in Paris. According to Morley-Pegge, who studied with him,

Brémond was renowned for his full and beautiful tone, and for the perfection of his trills which, he used to say, took him ten years to master. He was left-handed and it was his left hand that he used in the bell, and he always tried to make his pupils, whether left- or right-handed, do the same, but, of course without success. He used a *cor-solo* by L.J. Raoux, dated 1823, for which Besson had made him a set of valves with extra slides so that he could, if he wanted to, use the valves with the lowest crooks.¹²⁴



Figure 23

François Brémond's (1844-1925) horn. By kind courtesy of Michel Garcin-Marrou.

Brémond is shown with his horn in Figure 23. The horn is clearly made for the left hand in the bell and the right hand on the valves. Note also that Brémond wore a ring on his right hand but not on the left, so as to protect the horn bell from scratches.

Birchard Coar writes,

In regard to his *Exercices journaliers*, Brémond stated that it was not a Method. He did, however, discuss one old problem and in addition advocated new ideas. Heretofore, the manner of holding the horn was considered an individual matter but Brémond attempted to settle the controversy for all time.

“An objection, relative to the holding of the horn instrument seems desirable at this time. Tutors in general advise holding it with the left hand.

Dauprat spoke wisely on the subject: ‘Some persons hold the horn with the right hand and most of the foreign virtuosi whom we have seen and heard in Paris hold it thus. So it is not a mistake, the manner of holding the horn being quite arbitrary.’

But it was then only a question of the hand horn. The adopting and use of the valve horn has ended this indecision. As all the other instruments with pistons, it ought to be held by the right hand, on which rests the operation of the pistons.”

Logical as the reasons above appear to be, his suggestions for holding the instrument were not accepted although a few manufacturers in rather recent times produced valved horns on which the valve mechanism could be reversed thus making either a right or left-handed instrument. Since the majority of great virtuosi held the horn with the left hand, the force of the older custom has prevailed and rightly or wrongly the present manner of holding it is firmly established.¹²⁵

Brémond was not alone in the practice of holding the bell to the left. Among his contemporaries,

the English player Hinchcliffe, and Emile Lamouret and Edmond Entraigue the first and third horns of the Paris Opéra, still preferred to hold their horn with their right hand toward the end of the nineteenth century, but most players preferred to learn the skill of hand-stopping with the right hand, and to give the left hand the easier job of holding the instrument. The survival of hand-stopping well into the valve horn era ensured that the horn became the only modern brass instrument whose valves are usually played with the left hand.¹²⁶

In addition to the Millereau instrument shown above there are several other known examples of right-handed horns from France and England. Another right-handed Millereau horn, but having three integral valves instead of the *sauterelle*, is in the collection of Edinburgh University (no. 2520). It is inscribed on the upper side of bell *Millereau* and on lower side with the monogram *AR*. The bell garland is inscribed *RAOUX BREVETE S.G.D.E. FOURNISSEUR DU CONSERVATOIRE 66 RUE D'ANGOULEME PARIS* and *A.W. SELMER & CO SOLE AGENTS 30 PARADISE ST BIRMINGHAM*. The middle valve casing contains the apparent serial number 9511 or 9611 and the inscription *MILLEREAU / BREVETE / PARIS*. The estimated date of this horn is between 1878 and 1887.¹²⁷ Myers reports finding mention of at least two “reverse-chirality” horns in the records of Boosey & Co: serial numbers 23780 (1871) and 29737 (1884). The archives are missing the volume which would say to whom 23780 was sold, however 29737 was entered into stock on 5 February 1884 as “French Horn, right hand N.Y. A43” and sold on 12 February 1884 to William A. Pond & Co., who was at that time the Boosey agent in New



Figure 24

Cor à pistons en Ut by Arban & Bouvet (ca. 1890). Courtesy of Bruno Kampmann.

York. It was the *A43* model and “almost certainly” made to order for someone in North America.¹²⁸

The very unusual horn shown in Figure 24 was designed by the famous cornet virtuoso Jean-Baptiste Arban (1825-89) in collaboration with the civil engineer L. Bouvet, who was also a part-time instrument designer. The firm of Arban & Bouvet was founded in 1889, just in time for *l'Exposition universelle* in Paris, apparently for the purpose of qualifying to exhibit their instruments. Unfortunately Arban had passed away a month before the opening of the exhibition and was not present to receive the silver medal that was awarded for this horn design. It is said that their instruments were actually manufactured by Millereau.¹²⁹

Bouvet had worked out and patented a very complex system of valves for the cornet ca. 1884 and now applied it to the (right-handed) horn.¹³⁰ The horn is inscribed *Système L. Bouvet, ingénieur* on the bell, and the valve section is inscribed *No. 249/Cornet Arban/Sy^{me} Bouvet/B^{re} SGDG*.¹³¹ The Bouvet system is actually similar in structure to the modern double horn, although it has a different purpose.¹³² Arban's goal appears to have been to increase the number of chromatic notes that can be tuned individually and thus be brought perfectly in tune. The standard set of three valves has only four independent fingerings that can be tuned precisely. When the valves are used in combination they are out of tune. By adding

one more valve, Bouvet was able to have seven fingerings that can be tuned exactly. Here's how it works: The open horn is pitched in C alto using the terminal crook shown. The fourth valve ("pinky") functions similarly to the thumb valve on the modern double horn by changing the base pitch of the horn and at the same time selecting an alternate set of slides for the other three valves. Used alone it lowers the C horn a minor third to A. Valves 1 and 2 are the same as on the modern horn in that they lower the pitch by a whole tone and a semitone respectively for either the C or A horn. The third valve is unusual, however, in that with the fourth valve down (A horn), it lowers by three semitones, but with the fourth valve up (C horn), it lowers by four semitones. Once the slides of the four valves are tuned individually, the top seven semitones of the C scale can all be played perfectly in tune. The remaining notes of the chromatic scale require some combination of the first three valves and will be somewhat out of tune. Of course, the valve slide lengths are correct only for the C terminal crook. Overall it is not a very practical horn, especially with the elongated angle of the bell making it very difficult to use the left hand to adjust intonation or for stopped notes.

Italy, again

Although Italy has produced many remarkably talented horn players, it is not generally known for its role in the development of the horn. Meucci states, "The making of brass instruments in Italy is a subject on which little effort has been expended so far by scholars, so that one could probably imagine that it was a totally marginal activity, not deserving to be explored in depth."¹³³ There have been some unusual and interesting innovations, however, especially in right-handed valved horns.

On 21 December 1821 the musical amateur Luigi Pini presented to the Duchess of Parma a horn with eight keys.¹³⁴ The horn was pitched in B \flat , but could play chromatically from the high octave to the low without requiring a crook change nor removal of the mouthpiece. It is said that the tuning was "pure in any key" and that it could "move rapidly from note to note."¹³⁵ The horn was sent to the Imperial Musical Academy in Vienna for evaluation. Although it was approved by the Conservatory in Milan, there was no response from Vienna and as a result it brought Pini little honor for the expense of developing it. Keyed horns had, of course, been tried before, as early as 1766.¹³⁶ More recently, Halary had developed and patented the ophicleide in B \flat , and Pini appears to have adapted the principle to the horn. This horn has not survived.

Undaunted by the failure of his keyed horn, Pini made an improved version the following year. This improved horn was built for Pini by Lorenzo Dall'Asta, a fabricator of molds and punches for the printing trade in Parma. In 1822 the horn was "offered humbly to her majesty, Maria Luigia, Archduchess of Austria, Duchess of Parma, Piacenza, and Guastalla." It is considered the first Italian valved horn and is now in the collection of the Museo Civico Medievale, Bologna.¹³⁷

The valve design is unique in that it employs a rack-and-pinion linkage. The finger levers are two long rods that are attached to plates having teeth along both edges. Each of the two plates is situated between a pair of rotary valves such that the teeth engage half-gears on the valve spindles. Thus there are two rotors per valve, each leg of the valve being opened

by an individual rotor. It appears that the horn was designed to be played with the right hand on the valves. The finger rods are quite short, however, and it would seem awkward to play from either side.¹³⁸ The horn is significant in that it is a very early use of a rotary valve, anticipating later designs in Germany and Austria. When fitted with an appropriate terminal crook the horn can be pitched in F ($a' = 435$ Hz) or E_b with the valve slides extended.

Luigi Pini was born on 20 January 1790 at Fontanellato, near Parma. He was a contemporary of Puzzi and no doubt studied with one of the Bellolis at the same conservatory in Fontanellato. On 18 May 1828 Stefano Sanvitale wrote that Pini had been an excellent student at the Stabilimento d'Arti e Mestieri di Fontanellato, and since had become a fine horn player. In recognition of his invention of an improvement to the horn, Sanvitale now requested that the Duchess honor him with a silver medal.¹³⁹ Luigi Pini died 26 February 1848, but he is still remembered and honored in Italy as the "inventor" of the *cornò a pistonì*. In 1863, Nicomede Bianchi noted in his *Enciclopedia elementare* that the improvements to the horn had not yet "obtained favorable success," though the invention of Luigi Pini deserves special mention since it has met with some good fortune.¹⁴⁰ In 1980 the town band of Fontanellato was re-formed and dedicated in his name. Known as *Corpo Bandistico "Luigi Pini" di Fontanellato*, it actively performs in festivals throughout the region.¹⁴¹

Another right-handed valved horn with the bell to the left is in the same collection as the Pini horn. It is catalogued as inventory number 1840 at the Museo Civico Medievale, Bologna, and is estimated to date from the second quarter of the nineteenth century. The two valves are similar to the rotary design patented by Higham in 1857, having straight piston-type rods attached to the rotor spindles. Morley-Pegge states that this design was copied by Alphonse Sax, "but it cannot have been very satisfactory as it was abandoned almost immediately."¹⁴² The first valve is the semitone and the second valve is the whole tone. It has a fixed mouthpipe and is pitched in E_b with the present main tuning slide. (It could probably also be played in F with an appropriate substitute slide, however none was received with the horn.) There is no maker's name on the horn; the only inscription are the letters *CM*, presumed to be the initials of a former owner. Its proportions suggest that it was made in the Emilia region of Italy.

Both this horn and the Pini horn were donated to the Liceo Musicale di Bologna by Count Luigi Sanvitale of Parma in 1874.¹⁴³ Luigi Sanvitale (1799-1876) was the son of Stefano Sanvitale, who had earlier championed both Puzzi and Pini. He was also married to Albertina Montenovo, a daughter of Maria Luisa, Duchess of Parma, to whom the Pini horn was dedicated and presented. This certainly implies a direct descent from the earlier *virtuosi* of Parma and further strengthens the hypothesis that playing with the bell to the left was an ongoing characteristic of this region well into the valved-horn era.

Francesco Paoli (1820-70) was a horn player and teacher in the chamber and chapel orchestras of the court of Grand Duke Leopold II of Tuscany. Figure 25 is an illustration from Paoli's *Metodo teorico-pratico per il Corno a Maccina*, published by Ricordi in 1855. The horn he is playing is the same model as shown in Figure 26.¹⁴⁴ Two similar horns are in the collection of the museum of the Conservatorio "Luigi Cherubini," Florence. One of



Figure 25

Francesco Paoli, from his *Metodo Teorico-Pratico per Il Corno a Macchina*. By kind courtesy of Renato Meucci.

these instruments is described as a three-valved horn (no. 188) of Milan that belonged to the *celebre cornista*, Prof. Francesco Paoli, and the other as “similar to the previous, marked Fer.º Roth -Milano” (no. 189).¹⁴⁵ In reference to this design Meucci states,

The ... instrument had some acceptance, after about 1840, in Austria and Italy (the latter being ruled by the former in those days) and was preferred by some renowned *virtuosi*, the aforementioned hindrance to the right hand notwithstanding.¹⁴⁶

Ten years after Paoli published his *Metodo*, Henri Kling (1842-1918) wrote the following disparaging comment in his own landmark *Horn-Schule*:

Sometime since I happened upon the following passage in a “Method for the Horn”:—In the case of the Ventil Horn the right hand performs another function; the three middle fingers being employed in manipulating the valves, while the hand is only placed in the bell of the instrument when a tone requires to be stopped.

Such a procedure must indeed be productive of some “virtuosity” in horn-playing. It may be asserted with some confidence that the author of this “Method”(!!!) has in all probability never held a horn in his hand, or been within measurable distance of playing it.¹⁴⁷

It cannot be proven that Kling was referring to Paoli’s *Metodo*, but the description is fitting and probably reflects the otherwise estimable Kling’s ignorance of this Italian horn design.

The garland on the Roth horn (Figure 26) is inscribed *Premiata Fabbrica / Ferdo. Roth Milano*. Roth was born in Adorf, Germany in 1815 and died in Milan in 1898. He worked first for Pelitti, and later as a foreman in Prague and Vienna. The establishment of his *Premiata Fabbrica* in Milan is given variously as 1838 and 1842.¹⁴⁸ Roth instruments were exhibited in Florence (1861), Santiago (1875), and Milan (1881, forty-five brass instruments, and 1894). An 1878 directory for the city of Milan lists the address at via S. Giovanni in Conca 9.¹⁴⁹ A horn of this type is included in the 1877 Roth catalogue as “Corno d’armonia in La-flat con pompe di cambio sist. Paoli.”¹⁵⁰ In 1892 a one-page catalogue was issued, entitled *Premiata fabbrica d’instrumenti musicali in ottone e legno Ferdinando Roth*. In 1894 he advertised as a specialist in saxophones and claimed to be the original supplier of Aida trumpets, made according to Verdi’s instructions. In 1894, blind and in his eighties, he put his son-in-law, Antonio Bottali, in charge, and on his death in 1898 the firm became Roth & Bottali.

The late Wilhelm Bernoulli estimated that this horn was made ca. 1875.¹⁵¹ Dr. Bernoulli stated that a similar instrument made in Milan is in a collection in Bern and that the horn players of the Carabinieri Band were known to point their instruments in the air. Kurt Janetzky agreed with the 1875 estimate and stated that right-handed horns such as this were not uncommon.¹⁵² Louis Stout has made an interesting observation concerning this horn:

After 100 years of this type of subdued [natural] horn playing, the valve was invented, and the Italians in particular were so happy to have the horn sound opened up that they went so far as to make horns that could not be played with the hand in the bell. They were so very glad to get that open, clear sound of the early hunting horns again. In fact, when I was in La Scala in 1964, I saw the third horn player play an entire opera with his right hand resting up on the edge of the bell. There are many Italians yet who still play with the hand

entirely out of the bell. And they produce fine sound quality and fine intonation.... So you see, the [Roth] horn you have does represent a very definite musical feeling of a particular country.”¹⁵³



Figure 26

Corno d'armonia by Ferdinando Roth, Milan, ca. 1875 (author's collection).

In 1884 the *Giornale Militare Ufficiale* published specifications for the *Corno in fa (con ritorta in mib)*. The general specifications are “Of the ancient shape; but with the bell tilted up to the left: valves placed so as to be managed by the right hand.”¹⁵⁴ The illustration accompanying these specifications is shown in Figure 27. The specifications are complete right down to the valve corks attached in “horseshoes,” but one wonders how the player is supposed to read the music in the *piccolo leggjo!*

That the Paoli/Pelitti/Roth horns were extremely popular in civic and military bands is clearly evident in the pictures shown in Figures 28 and 29. Next to opera, band music was certainly the musical genre most popular in Italy from the middle of the nineteenth century well into the twentieth. One such band is that of the town of Tolentino. Its history is more or less continuous from 1808, and the two photos in Figure 28 are of the town's lone horn player at the turn of the twentieth century. The history of the band through the period of the Paoli system horn is as follows:

TAV. VII.

Atto N° 153 - 1884

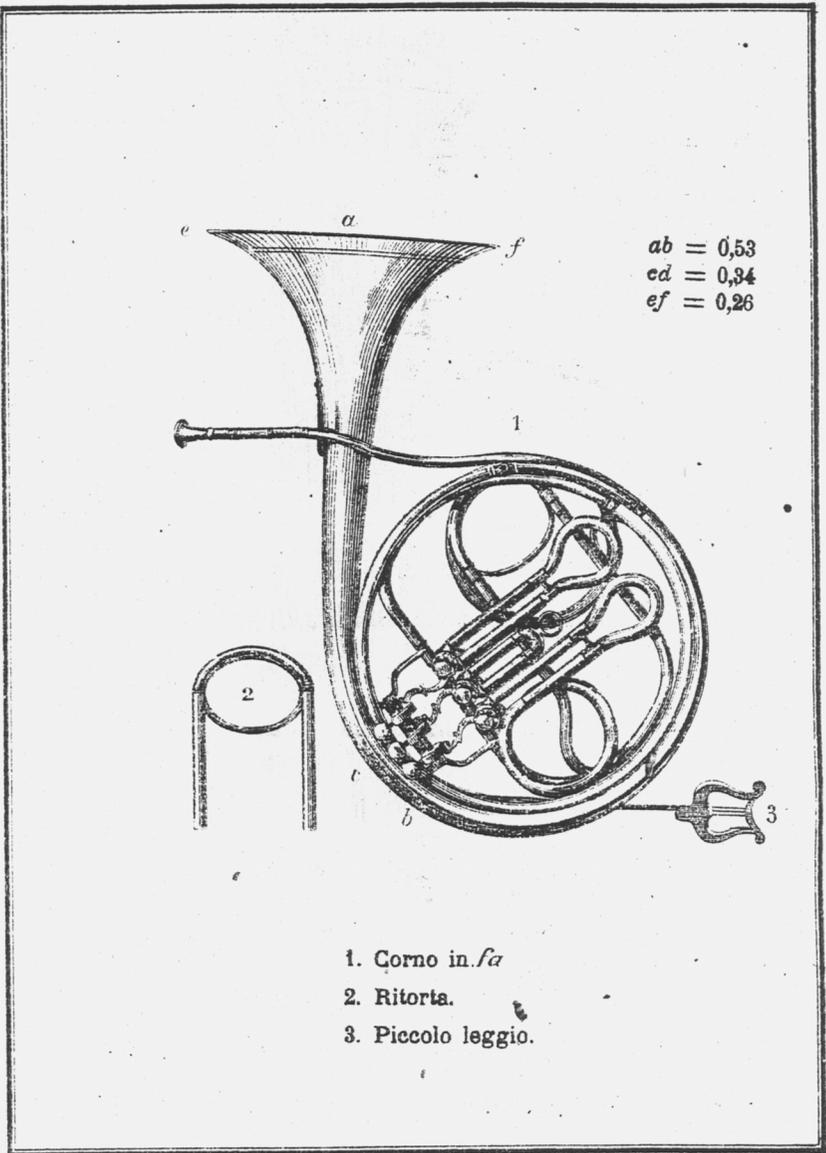
**Figure 27**Corno in Fa, *Giorno Militare Ufficiale*, 1884. By kind courtesy of Marino Anesa.



Figure 28

The horn player of Corpo Filarmonico “Giuseppe Verdi,” Tolentino (left 1901, right 1905).
By kind courtesy of Associazione Musicale “Nazareno Gabrielli,” città di Tolentino.

In 1862, after the unification of Italy, by means of a new statute the Band took the name of “*Società Filarmonica Comunale*.” The new body did not fall short of its lifelong inspiration: it involved the previous musicians and kept playing the same important role in the social life of the town. The second half of the 19th century was a thriving spell, driven by the enthusiasm of citizens and the cleverness of local musicians and bandmasters.

In 1901 [Figure 28, left] after a new revision of the Statute, the band went by name of “*Corpo Filarmonico Giuseppe Verdi*” and, with the bandmaster Umberto Nicoletti leading it, experienced its golden age. The proficiency of the ensemble was extremely high: the band performed opera pieces in the main square of Tolentino on summer Saturdays and played successfully in other towns, too.

In 1904, the Corpo Filarmonico came in fourth in a national competition in Rome, winning a long applause by the audience convened at Piazza del Popolo. In the following year [Figure 28, right], as a result of its increasing renown, the Corpo Filarmonico “Giuseppe Verdi” had the honour of performing the transcription for band of the opera “Amica”: the premiere was



Figure 29

Horn players of Corpo Musicale Nese di Alzano Lombardo, Bergamo, 1911 (left); and Corpo Musicale Parrocchiale Casazza, Bergamo, 1925 (right). By kind courtesy of Marino Anesa.

held at the “Vaccai” Theatre in the presence of the author himself, Pietro Mascagni. Guest of the town for a while, the great composer is said to have praised that exhibition a lot.”¹⁵⁵

Figure 29 shows the Paoli system horn as it was played during the first quarter of the twentieth century in the bands of Nese (1911) and Casazza (1925).¹⁵⁶ Figure 30 is a detail showing the very dapper horn player from band of Calolziocorte (1934). He is holding a right-handed horn with the bell facing left, as seen previously outside of Italy.¹⁵⁷ Horns of this pattern (note the similarity of the valve slides to Figure 26) were also shown in the nineteenth century catalogues of Pelitti and Roth. By this time the Pelitti, Roth, and Bottali firms had been absorbed into Maino & Orsi, who continued to use the earlier makers’ names.¹⁵⁸



Figure 30

Horn player in the band of Calolziocorte (Bergamo), 1934. By kind courtesy of Marino Anesa.

The Twentieth Century

Since the nineteenth century right-handed horns have been associated more usually with amateur horn players than with professionals (despite the best efforts of François Brémond). Perhaps in earlier times it was possible for a professional player of stature to choose to play opposite to the more general practice, but there have been only a few cases reported during the past fifty years and they have been as a result of physical necessity. Most right-handed horns made outside of Italy have been custom orders. Several have turned up on eBay, the Internet auction website. A right-handed horn by Hans Hoyer was seen on German eBay. A right-handed Holton, Elkhorn, *Collegiate* model single horn, made in the 1960s (serial #368580) was also sold on eBay in the United States. The latter was never a stock item in the Holton catalogue and must have been a special order. An F/B \flat compensating double horn by an anonymous maker is in a private collection in England, but for the most part, right-handed horns built in the twentieth century have been single models.

Figure 31 shows a horn in F made by Besson for a gentleman who already played E \flat tenor horn and wanted to learn to play the French horn. He had a theory that it would be difficult to play fingerings with the left hand so he had this horn made. The valves are of the modern Périnet type without the characteristic long extensions used on the earlier piston-

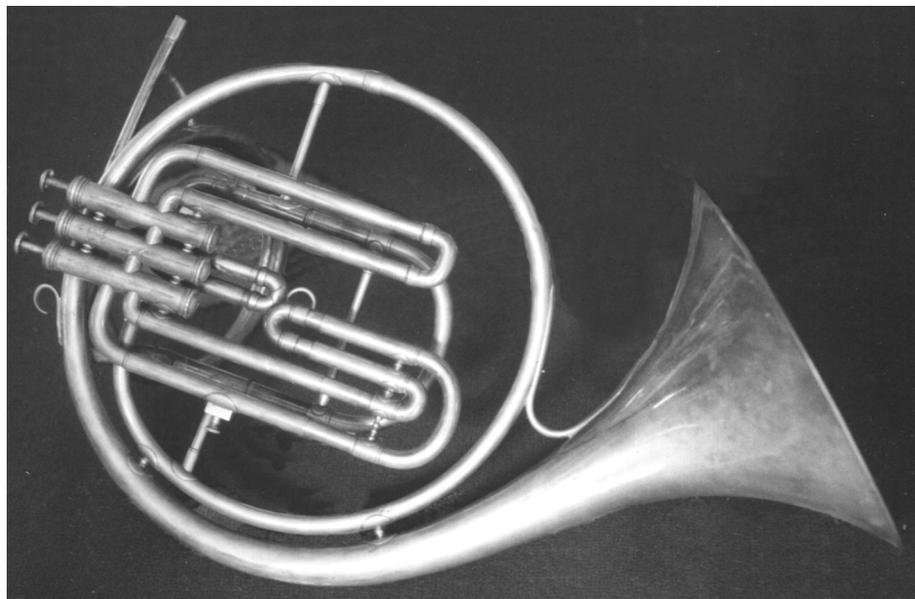


Figure 31

Besson Horn in F. By kind courtesy of John Humphries



Figure 32

Corno à pistoni by Saporetti & Capelli. By kind courtesy of Klaus Bjerre.

valve horns. Notice that it has a standard left-handed valve set that has been mounted on the opposite side of the corpus. Normally the second valve slide would be located on the front side of the valve casing. The present owner, John Humphries, says that when first

playing it one has the feeling of having gone deaf in one ear. “It also reduces horn sections to helpless giggles if you solemnly produce it in the middle of the line at a rehearsal.”¹⁵⁹

The horn in Figure 32 is an obvious copy of the Millereau pattern piston-valve horns used primarily in France and England through the first half of the twentieth century. Like the Besson shown in Figure 31, it employs modern piston valves. In this case the horn appears to be a production model (again, note the second valve slide), which is not surprising given the history of right-handed playing in Italy. Saporetti & Capelli is a retail firm in Florence, dealing in musical instruments and accessories. It was founded in 1904 and has been known also as a publisher of sheet music and method books for various instruments.¹⁶⁰

The main problem facing a horn section that includes both left- and right-handed players is the perceived “collision” of sound. Correct intonation can also be a problem, since the hand in the bell is often necessary for that. In one such case in a community orchestra the solution was to place the right-handed second horn to the left of the first such that their bells pointed in opposite directions instead of together. This was satisfactory enough in the amateur setting. There are two cases of professional players in two different BBC regional orchestras who were right-handed. Each enjoyed a long playing career and remarkably, both played right-handed from an early age.¹⁶¹ Most right-handed players would be discouraged from playing at all, much less aspiring to professional careers.



Figure 33

Herbert Buchner and Friedhelm Pütz (1998). By kind courtesy of Mr. Buchner (photo copyright KVG Kissinger).

A very successful right-handed horn player is Herbert Buchner, who started his career as a left-handed player and became a member of the Radio Symphony Orchestra Stuttgart as second horn. He explains,

About 25 years ago health forced me to switch over. In 1977 I had a provisional interim solution fixed to my instrument. Later on I had a right-hand double horn (F/B \flat) built by Engelbert Schmid. My playing position within the horn-players' group did not change. I still sit at the right side of the first horn-player although with an increased distance. Experience did show that it is not good if the bells point toward each other. The sound suffers because of the friction or of the interference between the two instruments. It is better if the bells point backward and are parallel to each other. The colleagues even were pleased about this new situation, as they now could hear the second horn-player much better.¹⁶²

Mr. Buchner is pictured in Figure 33, performing with the Philharmonische Bläservereinigung of Stuttgart, a chamber orchestra conducted by Willy Freifogel. This performance took place on 6 July 1998 as part of the Bad Kissinger Sommer concerts.

Conclusion

It is now clear that the horn has been held many different ways in its three-century history as a musical instrument. This is due to many individual, technical, and cultural factors. Meucci has summed it up very well:

Both historical and technical perspectives are therefore obligatory, so that we may avoid misunderstanding surviving instruments as well as related sources. The mere survival of a specific item in fact does not always accurately reflect the diffusion of that instrument in the past; an experimental instrument may survive, while one that enjoyed a remarkable degree of popularity may have disappeared completely. Moreover, the ingenuity of an invention is not sufficient to guarantee its acceptance and success; it must also appear at the appropriate moment (i.e., when there is a need for it) and its potential must be recognized by prospective users. Furthermore, since different countries have different musical traditions, what was valid in one place might not be so in another.¹⁶³

During the Baroque period it was fashionable to have horns built in mirrored pairs, to be held symmetrically, purely for visually aesthetic reasons. With the spread of hand-stopping, the bells were of necessity pointed downward. Fröhlich advocated cultivating the technique with either hand, especially among principal players. His reasoning was more for acoustical purposes than visual aesthetics. At the same time there appear to have been regional preferences for holding the bell to the left. In northern Italy this is proven in direct physical

evidence in the horn known to have been played exclusively by Giovanni Puzzi and further suggested in iconographic evidence of earlier players in the region. Dauprat states specifically that German players held the horn to the left, and none of the method books of the period condemns the practice. Numerous examples of right-handed valved horns from throughout the nineteenth century have been found, from virtually all regions. There is also graphic evidence showing some orchestral horn sections seated in reverse order, suggesting that the bells were pointed to the left. The natural handedness of the player seems to be less of a factor, although it might have been a point of preference among some early virtuosi. Both hand and fingering technique seem to be relatively easily transferred from one hand to the other. For example, it is common among modern students to begin study on the trumpet before taking up the horn. Similarly, many students and amateurs play both right-handed alto horns and left-handed French horns.

That the horn is now universally a left-handed rotary-valved instrument certainly does not reflect its varied history. Overall, it seems immaterial which way it is held so long as the result is musically pleasing. In the case of the natural horn, to loosely paraphrase Dauprat, it can be said that “left is as right as right.” In the case of the valved horn, left is not always right (although according to Brémond, left was never right). Right?

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NOTES

¹ For purposes of this paper, “horn” refers to what is commonly called the “French horn” and is limited to natural and valved horns nominally nine feet or greater in length (B \flat alto or lower), of circular corpus and held with the bell toward the player’s side. Mellophones, ballad horns, and other similar instruments are not included.

² In the *Catalogue of the Edinburgh University Collection of Historic Musical Instruments*, Vol. 2, Part H, Fascicle i: “Horns and Bugles” (Edinburgh: Edinburgh University, 1997), 10, Arnold Myers prefers a definition strictly from the point of view of the natural instrument: “Handedness, in French horns, relates to hand-stopping (normally with the right hand) rather than to valve manipulation (normally with the left hand), which was a later development.”

³ M.K. Holder, of the Handedness Research Institute, Indiana University, states, “Arguably 2 to 30 percent of any human population is left-handed or ambidextrous, with most estimates hovering around 10%, depending upon the criteria used to assess handedness.” M.K. Holder, “Hand Preference Questionnaires: One Gets what One Asks for” (M.Phil. thesis, Rutgers University, 1992).

⁴ For example, see “Rewarding the Hounds,” from Johann Elias Ridinger’s *Der Fürsten Jagd-Lust* (Augsburg, 1729), reproduced on p. 18 of Horace Fitzpatrick’s book, *The Horn and Horn-Playing and the Austro-Bohemian Tradition from 1680 to 1830* (London: Oxford University Press, 1970). On the same page is shown a mounted huntsman playing a large parforce horn hooped over his right shoulder from Ridinger’s *Jäger und Falkoniers*. Another example by Ridinger is found in Bernhard Brüchle and Kurt Janetzky, *Kulturgeschichte des Horns, Ein Bildsachbuch/A Pictorial History of the Horn* (Tutzing: Hans Schneider, 1976), 114, fig. 102, labeled “Detail from an engraving (1729).” In this illustration four dismantled parforce horn players are shown. Two are holding the bell to the left and two are

holding to the right, the latter with bells lifted into the air.

⁵ Steven Gross, "The 1997 American Horn Competition," *Horn Call* 20 no. 1 (November 1998): 39. Bartels is the author of *Das Fürst-Pleß-Horn und seine Tradition* (Hanover: Landbuch Verlag, 1999).

⁶ See Fitzpatrick, *The Horn and Horn-Playing*, 52ff, for a discussion of the first uses of the horn in operatic and orchestral settings.

⁷ Bröchle and Janetzky, *Kulturgeschichte*, 73. On the same page is also cited another early solo work for horn, the *Sonata da Caccia con un Cornu* by an unknown Bohemian composer, dated ca. 1670.

⁸ Ibid. The nineteenth-century horn and posthorn made for the Beer Concerto are pictured on plate 64, p. 77. It is not stated, however, that these are intended to be true reproductions of seventeenth-century instruments. They are in the collection of the Bayerische Stadtmuseum, Munich.

⁹ Thomas Hiebert, "The Horn in Early Eighteenth Century Dresden: The Players and their Repertory" (D.M.A. diss., University of Wisconsin-Madison, 1989), 14, quoting Johann Mattheson, *Das Neu-Eröffnete Orchestre* (1713), as reproduced in Bröchle and Janetzky, *Kulturgeschichte*, 79.

¹⁰ Bröchle and Janetzky, *Kulturgeschichte*, 128, fig. 117, and also *The New Grove Dictionary of Music and Musicians*, ed. Stanley Sadie (London/New York: Macmillan, 1980), s.v. "Horn," by Reginald Morley-Pegge, Frank Hawkins, and Richard Merewether. One of these illustrations probably has been printed in reversed form, since the former shows the horns at the left end of the pit and the latter shows them at the right.

¹¹ Fitzpatrick, *The Horn and Horn-Playing*, plate VII(a), facing p. 82. Fitzpatrick (83ff) states his dissension from the view held by Morley-Pegge and Janetzky, based upon contemporary artwork, that the horn was customarily held vertically.

¹² *New Instructions for the French Horn Containing The most modern and best methods for Learners to Blow, To which are Added all the Hunting notes, and a Collection of Tunes, Marches, Minuets, &c. purposely adapted for that Instrument by an Eminent Performer* (London: Monro & May, ca. 1830), 3. This is a reprint from the second quarter of the nineteenth century of an earlier tutor published by Longman & Lukey, ca. 1770. The author wishes to thank Andrew Clark for providing this and other quotations from this tutor. With the exception of the "long s," original spelling, capitalization, and punctuation are retained.

¹³ Fitzpatrick, *The Horn and Horn-Playing*, 32-33.

¹⁴ There are several extant examples by the London maker Nicholas Winkings in museum collections: Edinburgh 2627, horn in Eb, ca. 1740; Edinburgh 2492, horn in D, ca. 1760; Edinburgh 2493, horn in Eb, ca. 1740. Also a horn in F, ca. 1750, in the Norwich Castle Museum, illustrated in Anthony Baines, *European and American Musical Instruments* (New York: Viking, 1966), pl. 720; and in Reginald Morley-Pegge, *The French Horn* (London: Ernest Benn, 1973), pl. II, 5. Two additional examples are found in the Horniman and Bate collections: William Bull, 1699 (Horniman 14.5.47/307), and Bennett, ca. 1700 (Bate 603). Baines (133) states, "The strong and handy three-coil model, supported on the one raised arm while blowing, became very popular in most countries by 1750, as illustrated by the English example of Winkings, who in 1740 was maker to the royal hunt." That these were used for simple musical purposes and not exclusively in the hunt is attested by Figures 1 and 2. In fact Morley-Pegge (75) states that in England the hooped hunting horn "found many and varied uses, although it was never generally adopted in the hunting field," and goes on to describe its musical adaptation. Fitzpatrick (*The Horn and Horn-Playing*, 76) builds the case, however, that the solo and concert horn players in England during this period, including those employed for the operas and oratorios of Handel, were probably Austro-Bohemians playing on crooked instruments.

¹⁵ Anthony Baines, *Brass Instruments, Their History and Development* (New York: Charles Scribner's Sons, 1976), 157. Certainly he refers to extant examples and does not deny that crooked horns were known in England and the continent. A pair of right-handed Waldhorns in F with crooks dated ca.

1750 and owned by Prof. Hans Pizka are pictured in Brüchle and Janetsky, *Kulturgeschichte* (1976), 144, fig. 133.

¹⁶ *New Instructions*, 11.

¹⁷ Arnold Myers in correspondence to the author, citing Catherine Frew and Arnold Myers, "Sir Samuel Hellier's 'Musical Instruments,'" *Galpin Society Journal* 56 (2003), in press; Raymond Parks, Workshop Drawing of EUCHMI (3297), Orchestral hand horn (Hofmaster, London, ca. 1760) (Edinburgh: EUCHMI, 2003); and Paul Lewis, Arnold Myers, and Raymond Parks, *Horns and Bugles: Catalogue of the Collection*, Volume 2, Part H, Fascicle i, 2nd edn. (Edinburgh: EUCHMI, 1997).

¹⁸ Rainer Weber, "A Symmetrical Pair of Clarinets in the City Museum of Ingolstadt, GDR," *The Clarinet* 17 no. 2 (February/March, 1990): 31.

¹⁹ Baines, *Brass Instruments*, 158. Both horns are shown in Baines, *European and American*, figs. 724 and 725.

²⁰ *New Instructions*, 3-4. Andrew Clark suggests that pointing the bells toward one another might cause unwanted beats and standing waves if held too close. Similar adverse effects have been reported in twentieth-century orchestral settings where a left-pointing bell has been placed next to a right-pointing bell. Barry Tuckwell relates, "In my experience sitting on the left of a right-handed horn player is awful. The sounds collide and it just doesn't work. I have no experience of the two bells going outwards, but I can only think that would be unsatisfactory too" (personal communication to the author, 28 April 2002). Still, it appears to have been an accepted performance practice at one time.

²¹ Morley-Pegge, *The French Horn*, 72.

²² Fitzpatrick, *The Horn and Horn-Playing*, 167, quoting the London critic Charles Burney. Fitzpatrick first credits Spandau as introducing London audiences to the new horn sound in 1773, but then also describes the earlier appearance by Punto. It was actually the critic Hawkins who witnessed Spandau's performance (See *Grove's Dictionary of Music and Musicians*, 5th edn. (London: Macmillan, 1954), s.v. "Horn," by Reginald Morley Pegge; and also John Humphries, *The Early Horn: A Practical Guide* (Cambridge: Cambridge University, 2000), 12ff.

²³ *New Instructions*, 3-4. Baines (*Brass Instruments*, pl. IX) reproduces the same frontispiece from Longman & Lukey and cites the date of publication as ca. 1770, which is too early, given the reference to Punto. Morley-Pegge (*French Horn*, 72) estimates the date of the tutor to be between 1772 and 1779, when Lukey left the firm.

²⁴ Fitzpatrick, *The Horn and Horn-Playing*, 227.

²⁵ Hiebert, "The Horn in Early Eighteenth Century Dresden," 21.

²⁶ See *ibid.* for a more complete account of the mutual influence between Lotti and Vivaldi, and the court of Dresden. Johann David Heinichen (1683-1729) was "discovered" by the Elector of Saxony, Frederic Augustus, who encouraged him to relocate to Dresden when the two crossed paths in Venice in 1716. It is interesting to note that the Italian term *corno da caccia* is "almost always" used to designate the instrument in the works of Heinichen and other Dresden composers instead of the native *Waldhorn* or *Jagdhorn*.

²⁷ Fitzpatrick, *The Horn and Horn-Playing*, 190-91.

²⁸ Morley-Pegge, *The French Horn*, 89-90. See also François-Joseph Fétis, *Biographie universelle des musiciens et bibliographie générale de la musique*, 2nd edn. (Paris: Didot Frères, 1866), s.v. "Rodolphe."

²⁹ Camillo Ferrarini, *Iconoteca del Liceo comunale di Musica in Bologna* (n.d.), entry 86, provided by Civico Museo Bibliografico Musicale, Bologna.

³⁰ The image has appeared on several record jackets but the player is not identified. It is not certain that it is Luigi Brizzi but it has long been presumed by the Civico Museo Bibliografico Musicale, Bologna, to be of him.

³¹ A set of four such horns with miscellaneous terminal crooks made by Andrea Coin in 1770 is part of the collection of the Istituto Provinciale per L'Infanzia "S. Maria della Pietá," Venice. See Marco Tiella and Luca Primon, *Strumenti Musicali dell'Istituto della Pietá di Venezia* (Venice: Istituto Provinciale per L'Infanzia "S. Maria della Pietá" e del Centro di Coordinamento Culturale di Venezia, 1990), 78-79.

³² The portrait is very suggestive that Brizzi might have played the horn left-handed, although it is quite possible that this is a case of an artistic compositional device in which the unknown painter has posed his subject to emphasize the music in the right hand and horn in the foreground.

³³ Ferrarini, *Iconoteca*. All six children of Luigi and Anna (Neri) Brizzi became accomplished musicians and dedicated themselves to musical careers. Perhaps the most famous was Antonio Brizzi, who had a very distinguished career as a tenor at all of the major opera houses in northern Italy before relocating to Munich. See Fétis, *Biographie universelle*, s.v. "Brizzi, (Antoine)." Ludovico Brizzi attained similar fame as a tenor and both he and Antonio are to be found in the records of La Scala Opera, Milan. Orsola Brizzi was a violinist, Maria Brizzi was a pianist, and Ignazio Brizzi was a trumpet player.

³⁴ It is not certain that this is a portrait of Luigi Belloli. The museum catalogue *Il Museo Teatrale alla Scala*, Giampiero Tintori, ed. (Milano: Electa, 1975), 3: 130, item 484, describes the painting as follows: "Suonatore di corno. Olio su tela, cm. 55 x 41. Il dipinto è riferibile alla fine del secolo XVIII o agli inizi del successivo: non è escluso—le date, anzi, sembrerebbero confermarlo—che il personaggio raffigurato possa essere Luigi Belloli (1770-1817), famoso suonatore di corno. Acquistato forse, come indicano gli inventari, alla vendita della raccolta Sambon (1911), nel cui catalogueo tuttavia il dipinto non appare registrato." "The painting dates from the end of the eighteenth century or to the beginning of the next. It cannot be ruled out—indeed, the dates would seem to confirm—that the person represented could be the famous horn player Luigi Belloli (1770-1817). Acquired perhaps from the sale of the collection Sambon (1911) as indicated in the inventories, however the painting does not appear in that catalogue." (Translation by Richard J. Martz.)

³⁵ Biographical information on Belloli is compiled from the following two sources: Gaspare Nello Vetro *Dizionario della musica e dei musicisti dei territori del Ducato di Parma e Piacenza*, (<http://biblioteche.comune.parma.it/dm/>), v.s. "Belloli"; and from Fétis, *Biographie universelle*, s.v. "Belloli (Louis)." Nello Vetro gives the date of birth as 1 February 1769, but Fétis states 2 February 1770, which is the one most often quoted.

³⁶ The several sets of difficult etudes for horn by Agostino Belloli have been issued in many editions and remain standard in the horn method literature. See Fétis, *Biographie universelle*, s.v. "Belloli (Augustin)."

³⁷ Humphries, *The Early Horn*, 19. "It [hand-horn technique] was also adopted by Punto's pupil, Luigi Belloli, who, as first horn at La Scala, Milan, was the leading Italian player in the early years of the century, and whose concertos demonstrate the high degree of hand stopping and the narrow range which are typical of the style."

³⁸ Nello Vetro, *Dizionario*, s.v. "Belloli": "Non sappiamo a chi si rivolga quanto riportato nell'*Indice* (p. 1200): Roma, 7 apr. 1795: 'I signori fratelli Belloli di Parma, professori di corno di caccia, hanno sonato due concerti di detto istromento.'" "We do not know who submitted this report to the *Indice* (p. 1200): Rome, 7 April 1795 . . ." etc., as quoted in the text. (Translated by Richard J. Martz.)

³⁹ Jean-Pierre Mathez (with Gianmario Bonino), "The Milan Conservatory," *Brass Bulletin* 106 (1999): 60.

⁴⁰ According to Renato Meucci (personal communication, October 2002), an extensive but ultimately unsuccessful search was conducted to locate the manuscript of the Belloli method.

⁴¹ OPAC (Online Public Access Catalogue), SBN database (<http://opac.sbn.it/>), lists the following manuscripts formerly owned by Alessandro Vessella (1860-1929) and now in the collection of

Biblioteca di archeologia e storia dell'arte, Rome: *Concerto per Corno da Caccia / Di Me Luigi Belloli*, dated 9 September 1807 (Mss.Vess. 399); *Concerto per Corno da Caccia / del Sig.r Luigi Belloli*, n.d. (Mss.Vess. 285); *Concerto per Corno da Caccia / Del Signor Luigi Belloli* (Mss.Vess. 288); *Gran Concerto/Per corno da Caccia/Del Celebre Maestro Luigi Belloli* (Mss.Vess. 301). Also listed in various library collections are numerous copies of quartets for horns published by Ricordi, Milan. Belloli's pieces were often performed by Giovanni Puzzi, and several Belloli manuscripts including three concertos, were found in Puzzi's library. See Elizabeth Bradley Strauchen, "Giovanni Puzzi: His Life and Work, A View of Horn Playing and Musical Life in England from 1817 into the Victorian Era (c. 1855)," (D.Phil diss., Somerville College, University of Oxford, 2000), 120.

⁴² *Allgemeine musikalische Zeitung* (hereafter *AMZ*) 20 no. 5 (4 February 1818), col. 91. The Italian correspondent reported that Belloli's death, due to *Schlagfluss*, occurred in October.

⁴³ OPAC/SBN, catalogued as NA0059, Biblioteca del Conservatorio di Musica S. Pietro a Maiella-Napoli-NA-Rari 10.6.15/4 and Rari 10.5.18/2.

⁴⁴ Once again the possibility has to be considered that the artist has exercised some "compositional license" in order to balance the shapes in the painting. It would be quite unexpected (and illogical to presume), however, that a figure as prominent as Luigi Belloli would accept a portrait that did not accurately portray his playing practice. That the horn is not constructed in "reversed" fashion probably indicates that Belloli considered it to be a good instrument as found and saw no need to go to the expense of having a custom horn built. Indeed, his student Giovanni Puzzi, who played left-handed, owned at least two "standard" horns.

⁴⁵ *AMZ* 16 no. 15 (13 April 1814), col. 252: "4 Waldhörnern (abwechselnd) . . . Sie stehen in zwey Reihen: in der einen die Saiteninstrumente, in der andern die Blas- und Schlaginstrumente; die Contrabässe und Violoncelle stehen an beyden Extremitäten."

⁴⁶ That Puzzi was a pupil of Belloli is affirmed by Dauprat: "Among the numerous pupils he [Belloli] has had, those whose names are most honored nowadays are Belloli (his son), first horn at the King's Chapel of Sardinia; Puzzi, of the Italian Opera in London, and of the King's Music, and Bellonci." Louis-François Dauprat, *Method for Cor Alto and Cor Basse*, transl. and ed. Viola Roth (Bloomington, IN: Birdalone Music, 1994), 362, n. 2.

⁴⁷ Nello Vetro, *Dizionario*, s.v. "Puzzi Giovanni," citing *Journal de Paris*, 17 and 21 October 1815.

⁴⁸ For a comprehensive study of Puzzi's orchestral playing career in London, see E. Bradley Strauchen, "Giovanni Puzzi and Horn Playing in London's Orchestras in the 1820s," *Historic Brass Society Journal* 11 (1999): 37.

⁴⁹ The distinction between the *cor d'orchestre* and the *cor solo* needs to be stated. The former employs terminal crooks that fit between the mouthpiece and the corpus of the horn. They are made as single coils as distinct from the crook-and-coupler combinations found on the earlier eighteenth-century Bohemian and English instruments, and run the full range of tonalities of the horn from *C alto* to *Bb basso*. The instrument shown in the portrait of Belloli (Figure 6, right) is a clear example. By contrast the *cor solo* has a fixed mouthpiece and a set of interchangeable crooks for the main tuning slide. The tonalities of crooks fall only in the middle range of the instrument commonly used in solo repertoire. The crooks supplied with the M.A. Raoux horn shown in Figure 7 are in the keys of G, F, E, Eb, and D. In both cases the position of the mouthpiece determines the perceived "handedness" of the horn.

⁵⁰ Morley-Pegge, *The French Horn*, 161. The horn is said to have been given to Puzzi by Louis XVIII, who reigned from 1815 to 1824 following the final defeat of Napoleon and the restoration of the monarchy. Based on the workmanship of the instrument, however, Morley-Pegge concludes it was given by Louis' brother and heir to the throne, Charles, who had also been a patron of Punto.

⁵¹ Strauchen, "Giovanni Puzzi: His Life and Work," 133-34. Another horn that had once belonged

to Puzzi is by Lucien-Joseph Raoux, dated 1821. It is a *cor d'orchestre* that Puzzi would have used during his brief orchestral career in London. The horn was subsequently fitted with three Périnet valves and used by Friedrich Borsdorf throughout the greater part of his career (see Morley-Pegge, *The French Horn*, 167; and Strauchen, "Giovanni Puzzi: His Life and Work," 186-87); hence any wear pattern in the bell that would indicate a left-handed player has been obliterated. That horn is now in the Horniman Museum.

⁵² Strauchen, "Giovanni Puzzi: His Life and Work," 279ff.

⁵³ Most of the information on Tully that follows has been generously provided by John Humphries in personal correspondence to the author.

⁵⁴ Joseph (1755-?) and Peter (1766-?) Petrides were both born in Prague and achieved great fame as duetists in the major cities throughout Europe. They were brought to London in 1802 by impresario Johann Peter Salomon for a concert in 1802 and stayed on to become first and second horns of the Italian Opera. When Salomon founded the Philharmonic Society Orchestra in 1813, the Petrides were engaged as the original first and second horns. They appeared as soloists no less than ten times before the arrival of Puzzi in 1817.

⁵⁵ See also Strauchen, "Giovanni Puzzi and Horn Playing in London's Orchestras," 55-56, for Philharmonic Society seating order, pay rates, and number of services for the years 1820 to 1829. It should be noted that Tully sat second to Puzzi and ahead of the Petrides in their last years (1824 and 1825) in the orchestra.

⁵⁶ Humphries, *The Early Horn*, 54.

⁵⁷ Quoted by John Humphries in private correspondence to the writer.

⁵⁸ Strauchen, "Giovanni Puzzi and Horn Playing in London's Orchestras," 46; and "Giovanni Puzzi: His Life and Work," 27.

⁵⁹ Puzzi's successor as principal horn in the Philharmonic Society Orchestra was Henry (or Edward; see Strauchen, "Giovanni Puzzi and Horn Playing in London's Orchestras," 64, n. 9) Platt (1793-1861). It is not known how he held the horn.

⁶⁰ William Waterhouse, *The New Langwill Index, A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), 68.

⁶¹ The Bate Collection catalogue entry for item 63, available through the Performing Arts Data Service (<http://www.pads.ahds.ac.uk/batemain.html>), states: "Orchestral hand horn, made by Smith & Sons, perhaps of Wolverhampton, and sold by Key, London, c.1815. Left-handed and with mouthpipe and bell almost parallel, which compels a very high position of the right arm." Morley-Pegge (*The French Horn*, pl. III, 2) suggests that the horn might have been made near the end of the eighteenth century.

⁶² Morley-Pegge, *The French Horn*, 22-23. Bate no. 63 is shown in plate III, 2 of the same work.

⁶³ This date is given by Waterhouse (*New Langwill Index*, 140) for that address. Morley-Pegge (*The French Horn*, pl. IV, 6) estimates the date as ca. 1835 and the Bate Catalogue entry states "c.1840."

⁶⁴ Morley-Pegge, *The French Horn*, pl. IV, 6.

⁶⁵ Bate Collection Online Catalogue. Describing it as an *Inventionshorn*, the catalogue entry specifically lists only six crooks for the middle range keys (although it also makes the quoted statement concerning all crooks).

⁶⁶ Frédéric Duvernoy, *Méthode pour le Cor* (Paris, 1803; rpt. edn., Rock Hill, SC: Thompson Edition, 1987), 8.

⁶⁷ Heinrich Domnich, *Méthode de Premier et Second Cor* (1805 [*sic*, 1808]; rpt. edn. with English translation by Darrel G. Poulson, Kirchheim: Hanz Pizka Edition, 1985), part II, 35. According to Morley-Pegge (*The French Horn*, 97) the *Méthode* of Domnich was approved by the Inspectors of Musical Training in France in 1807, adopted forthwith as the official Paris Conservatoire tutor, and published in 1808.

⁶⁸ Dauprat, *Méthode*, Part I, 14, n.1

⁶⁹ See Morley-Pegge, *The French Horn*, 98.

⁷⁰ Joseph Fröhlich, *Vollständige theoretisch-practische Musikschule* (Bonn: Nicholas Simrock, 1811), 6: “Par. 3 Haltung des Instrumentes und Stellung des Bläasers. Es ist zwar gleichgültig, mit welcher Hand man das Horn hält, allein es ist doch gewöhnlicher, dass dasselbe mit der linken Hand gehalten und die rechte in den Becher des Instrumentes gesetzt wird, wie es die Figur D anzeigt. Eigentlich sollte derjenige, der sich zum Primarius bildet, sich angewöhnen, das Horn mit der rechten Hand zu halten, damit bei Duetten die Becher der beiden Hörner zusammen kommen und jeder den andern besser hören kann.” (Translation by Richard J. Martz.)

⁷¹ J.H. Goeroldt, *Ausführliche theoretische praktische Hornschule vom ersten Elementarunterricht an bis zur vollkommensten Ausbildung* (1822; rpt. edn., Kirchheim: Hans Pizka Edition, 1987): “Gewöhnlich hält man das Horn zunächst dem Mundstücke mit der linken Hand, und an der Öffnung (Becher, Trichter, Sturz) mit der rechten Hand, die man auch zum Stopfen der Öffnung bei Hervorbringung verschiedener Töne gebraucht.... Jedoch kann man das Horn auch umgekehrt halten was aber nicht gewöhnlich ist, ob dies gleich, wenn man sich daran gewöhnt hat,—den Vortheil gewährt, dass die beiden Hornisten sich besser hören können, indem die Öffnungen beider Hörner gegen einander kommen, wenn der Primarius die linke Hand, der Secundarius aber die rechte zum Stopfen gebraucht.” (Translation by Richard J. Martz.)

⁷² Hans Pizka, private communication. Pizka was able to identify the maker of the horn by comparison with a similar horn by Saurle in his collection. He notes that the artist’s intention might have been only to create an interesting composition. The sketch is also reproduced in *Hornisten-Lexikon/Dictionary for Hornists* (Kirchheim bei München: Hans Pizka Edition, 1986), 344.

⁷³ A method book for natural horn (*Übungen für Naturhorn zum täglich Studium* [Kirchheim: Hans Pizka Edition, 1989]) was written by the great Munich horn player Franz Joseph Strauss (1822-1905) and later revised by his son, Richard Strauss, and Hugo Rüdell. Another late natural horn method (*Naturhornschule: 160 Übungen für Naturhorn oder Jagdhorn* [Kirchheim: Hans Pizka Edition, 1985]) was written by the famed Viennese horn virtuoso Gottfried Freiberg (1908-62).

⁷⁴ This is made quite clear by Adam Carse, throughout *The Orchestra from Beethoven to Berlioz* (Cambridge: W. Heffer & Sons, 1948). The notable exception was in Leipzig, with its Gewandhaus Orchestra and relatively weak opera theater.

⁷⁵ *Ibid.*, 240.

⁷⁶ *Ibid.*, 268.

⁷⁷ *Ibid.*, 22.

⁷⁸ Daniel J. Koury, *Orchestral Performance Practices in the Nineteenth Century: Size, Proportions, and Seating* (Ann Arbor: UMI Research Press, 1986), 251. Koury shows two versions of the plan from 1825, citing *AMZ* 27 (1825), cols. 131-32, and *Harmonicon* 3 (1825): 140. As in the 1814 description, the horns are once again annotated “alternately” in both diagrams; see n. 45.

⁷⁹ *Ibid.*, 247ff.

⁸⁰ *Ibid.*, 252-55.

⁸¹ Carse, *The Orchestra from Beethoven to Berlioz*, 473.

⁸² Koury, *Orchestral Performance Practices*, 259, fig. 72, copied from Hans-Joachim Nösselt, *Das Gewandhausorchester* (Leipzig: Koehler & Amelang, 1943), 269. In the same plan, horns 1 and 2 are shown in the standard order but located in a separate row from the other pair. Later plans on the same page for the same venue show both pairs of horns in the usual arrangement, with the higher horn to the left of the lower.

⁸³ Perhaps the clearest expositions of the subject are given by Morley-Pegge (*The French Horn*, 30ff) and Baines (*Brass Instruments*, 206ff). Certainly the most complete and detailed study is found in

Herbert Heyde, *Das Ventilblasinstrument: Seine Entwicklung im deutschsprachigen Raum von den Anfängen bis zur Gegenwart* (Wiesbaden: Breitkopf & Härtel, 1987), chapter 1. A summary is to be found in John Q. Ericson, "Heinrich Stölzel and Early Valved Horn Technique," *Historic Brass Society Journal* 9 (1997): 63.

⁸⁴ For quotations of both articles see Kurt Janetzky and Bernhard Brüchle, *The Horn* (London, B.T. Batsford, 1988), 73ff, transl. James Chater from the same authors' German edition, *Das Horn* (Bern and Stuttgart: Hallwag Verlag, 1977), 65ff, where they appear in facsimile of the original.

⁸⁵ Heyde, *Das Ventilblasinstrument*, 43, quoting *AMZ* 21 no. 24 (16 June 1819), col. 416: "an der Seite angebracht sind, wodurch die den Hornisten zeither gewöhnliche Haltung des Instruments beybehalten werden kann."

⁸⁶ Friedrich Schneider, *Elementarbuch der Harmonie und Tonsetzkunst* (Leipzig, 1820), reproduced in Brüchle and Janetzky, *Kulturgeschichte*, 194-95: "Eine ungleich bessere Einrichtung hat Hr. Stöltzel in Breslau ersonnen und ausgeführt, indem er durch Ventile, die leicht mit dem Fingern der linken Hand niedergedrückt werden, Veränderung, ohne dass dabey die Luft auch nur im mindesten verloren geht, bewirkt, und so eine vollkommene Gleichheit aller Töne hergestellt hat." (Translated by Richard J. Martz.) The context is in comparison to relatively leaky keys that were formerly employed to make brass instruments "chromatic." Note that there is an implication that placing the valves on the left was due to Stöltzel.

⁸⁷ Heyde *Das Ventilblasinstrument*, 43.

⁸⁸ Ericson, "Heinrich Stölzel," 72.

⁸⁹ *AMZ* 19 no. 50 (10 December 1817), cols. 857-58: "Die sehr wesentliche Verbesserung des Waldhorns durch Hrn. Stölzel aus Breslau, welche in No. 48 dieser Zeit. von Hrn. Musikk. Schneider in Leipzig genau beschrieben und gewürdiget worden, hat sich in allem dort Gerühmten, erst vor sämtlichen hiesigen Sachkundigen, dann auch im öffentlichen Concerte vor einem sehr zahlreichen Publicum, vollkommen bewährt."

⁹⁰ Wolfram Eschenbach, *Friedrich Wilhelm Berner, Ein Beitrag zur Breslauer Musikgeschichte* (Inaugural-Diss., University of Breslau, 1935), 137.

⁹¹ *AMZ* 20 no. 33 (19 August 1818), cols. 597. The program also included a concerto for horn and bassoon by Georg Abraham Schneider (1770-1839), performed by horn virtuoso Ernst Bliesener of the Berlin National Theater.

⁹² Robert M. Ostermeyer, in notes accompanying *Concerto für 4 Hörner und Orchester* by Georg Abraham Schneider (Es-Dur Fassung, Erstdruck, Klavierauszug, ROM 39b, 2000). Ostermeyer also publishes the piece in the original key of E. Andreas Schunke, Heinrich Lenss, and the horn player known as Pfaffe, all said to be friends of Schneider, played the natural horn parts. Perhaps the high tessitura of the solo part precluded Stölzel from playing it himself, but he was no doubt gratified to have the endorsement in the form of performances by Bode and Bliesener.

⁹³ August Philipp Jahn, *Anweisungen zum Gebrauch des Waldhorns* (Anhalt-Bernburg, ca. 1827; rpt., Kirchheim: Hans Pizka Edition, 1988). That the valved horn was initially employed as a solo instrument is evident from the number of solo compositions written for or performed on the new instrument in comparison to its relatively late incorporation into the orchestral literature. The first orchestral work actually to request valved horns would appear to be Halévy's opera *La Juive* in 1835. It was not until the 1840s that valved-horn writing really started to proliferate with the demands of Wagner, Schumann, Berlioz, et al. (A notation in the *Symphonie fantastique* mentions the use of valved horns, but it is not clear whether it dates from the year of composition (1830) or publication (1845). It is unlikely that rank-and-file section horn players could afford to purchase the new horns for which there was nothing written. In contrast, by 1835 there had been numerous new compositions and solo performances on valved horns in addition to those already cited of Berner and Schneider. In

performances of the cited Schneider quartet, hornists F. Bode (1818), Bliesner (1818), and Andreas Schunke (1825) performed the solo valved-horn part. Each was a well-known virtuoso and probably used the instrument for other solo work. In 1826 E.C. Lewy and J.R. Lewy performed together on valved horns. See John Q. Ericson, "Joseph Rudolph Lewy," *Horn Call Annual* 9 (1997): 24; and Theodore Albrecht, "Elias (Eduard Constantin) Lewy and the First Performance of Beethoven's Ninth Symphony," *Horn Call* 29 no. 3 (May 1999): 87. Ericson ("Beethoven's Symphony No. 9, Schubert's *Nachtgesang im Walde* and *Auf dem Strom* and the Horn Technique of the Lewy Brothers in the 1820s," *Horn Call Annual* 8 [1996]: 8ff), also with reference to the Lewys, suggests that Schubert's *Nachtgesang im Wald* and *Auf dem Strom* were intended for valved horn without actually requiring or specifying valves. In 1828 Meifred performed his own composition for valved horn (Jeffrey Snedeker, "The Early Valved Horn and its Proponents in Paris 1826-1840," *Horn Call Annual* 6 [1994]: 7). Carl Czerny composed the *Introduction and Concertante Variations* (ca. 1830), probably for or with Joseph Lewy; see Andrew Clark, "The Heyday of the Hand Horn and the Birth of the Valved Horn: A Study of Nineteenth-Century Horn Technique as Revealed in the Solo Works for Horn by Carl Czerny," *Historic Brass Society Journal* 13 (2001): 118. Additional examples include compositions by J.W. Kalliwoda (1834), Friedrich Sendelbeck (1837), Franz Lachner (1838), and Carl Eisner (1843).

⁹⁴ John Henry Van Der Meer, *Verzeichnis der europäischen Musikinstrumente im Germanischen Nationalmuseum, Nürnberg*, Bd. 1, 63. A very similar horn (left-handed) is shown in the *Prospectus* of J. Kämpfens Söhne, Markneukirchen, ca. 1833, reproduced in Heyde, *Das Ventilblasinstrument*, 264.

⁹⁵ See the article by Joe Utley and Sabine Klaus, in this issue.

⁹⁶ 27.5cm for the half-tone valve and 49cm for the whole-tone. Pizka (*Hornisten-Lexikon*, 264) gives the standard lengths for the F horn as 195mm and 44.5mm respectively, leading one to conclude that this horn is intended for use with an E or E \flat terminal crook. Horns in C *alto* are rare but not unheard of. For example, Heyde (*Das Ventilblasinstrument*, 78) lists "Preußische Infantiermusik, um 1825, Ventilwaldhörner in C mit Stimmbogen."

⁹⁷ See Heyde, *Das Ventilblasinstrument*, 44.

⁹⁸ See *ibid.*, 46, for Uhlmann's description of the components and mechanism of his improved valve.

⁹⁹ *Ibid.*, 131, foto 34. The horn is in the collection of Hans Pizka and is shown in Pizka, *Hornisten-Lexikon*, 523.

¹⁰⁰ Hermann Mendel, *Musikalisches Conversations-Lexicon* (Berlin: Robert Oppenheim, 1879), 11:4. Morley-Pegge (*French Horn*, 39) asserts that Strauss introduced the Vienna valve to Berlin in 1835. Heyde, *Das Ventilblasinstrument*, 32, quotes from a letter by Joseph Riedl (1836), presumably in reference to instruments employing his newly patented rotary valve, in which he boasts that they are called "Strauß-Lannersche Maschinen-Instrumente" because they were "used first in the dance halls by Joseph Lanner [1801-43] and Johann Strauss (father)" (translation by Richard J. Martz). Interestingly, Strauss did not start composing for the chromatic horn until many years later. It was not until sometime after 1838 that the chromatic horn in F appeared, replacing the horns crooked in the native key of the composition. Max Schönhen and Karl Reinöhl, in *Johann Strauss, Vater* (Vienna/London: Universal Edition, 1954) note that in the *Original Parade Marsch*, composed 16 June 1838, the horns are in G and D. Of the eight compositions included in *Denkmäler der Tonkunst in Österreich* (Vienna: Universal Edition, 1928), Bd. 68, *Johann Strauss Vater, Walzer*, ed. Hans Gal, the first six (all composed before 1838) employ horns in native keys with crook changes and require little hand technique. The earliest piece in this sample to clearly employ valved horns is *Maskenlieder*, Op. 170 (24 November 1844), for two horns in F. The first horn has a repeating melodic line in G (concert) clearly intended for valved horn. The two pieces that follow, *Die Adepten*, Op. 216, and *Die Sorgenbrecher*, Op. 230 (both from 1848), also use valved horns in F.

¹⁰¹ Hans Pizka (*Hornisten-Lexikon*, 323) lists the following as the horn section in the Munich Hofkapelle at this time (1840): Jacob Seebach, Johann Fastlinger, Friedrich Sendelbeck, Carl Ernesti, Theodor Moralt (aspirant), Eduard Moralt (aspirant), Carl Niest, and Friedrich Moralt. (The great hornist Franz Josef Strauss was not engaged in Munich until 1847 and thus would not have been included in the seating plans shown here.)

¹⁰² Robert Ostermeyer, <http://www.corno.de/leipzig/1800-1849.htm>. Richard Lewy performed Lachner's *Concertino* on 17 September 1838 at a Lewy family concert at the Leipzig Gewandhaus.

¹⁰³ This horn is catalogued as follows by Sabine Klaus in "Jagd- und Waldhörner in der Musikinstrumenten-Sammlung des Historischen Museum Basel," in *Historisches Museum Basel: Jahrsbericht 1999* (Basel: Historisches Museum Basel, 2000), 27: "Ventilwaldhorn in D1, München, Mitte 19. Jh. Saurle, Michael sen. (1772-1845), oder Michael jun. (1801-1862), Michael Saurle in München, (Gravur, Kranz) Messing fünfeinhalbwindig, zwei Drehventile mit Trommeldruckwerk für Halbton und Ganzton L. 4390 (Rohr); H. 417; Dm. 325 (Kreis), 297 (Stürzenrand); L. Wilhelm Bernoulli-Preiswerk." ("Valved horn in D, Munich, mid-nineteenth century. Saurle, Michael, Sr. [1772-1845], or Michael, Jr. [1801-1862], Michael Saurle in München, [engraved on the garland], brass, five and one-half coils [or turns], two rotary valves with clockwork springs for half-tone and whole-tone. Length of tubing: 4390 mm, height: 417 mm; corpus diameter 325 mm, bell diameter 297mm. Legacy of Wilhelm Bernoulli-Preiswerk." Translation by Richard J. Martz.)

¹⁰⁴ Heyde, *Das Ventilblasinstrument*, 111: "Rechtsgrieffige Waldhörner ... bürgerten sich allgemein auch in Bayern nicht ein. Ansonsten schloß man sich in Süddeutschland und Bayern oft den österreichischen Hornmodellen an." (Translation by Richard J. Martz.)

¹⁰⁵ Ibid. "Da in Böhmen mehr als anderswo rechtsgrieffig gespielt wurde, bat die Firma V.F. Červený & Sohn in der *Preis-Liste in österreichischer Kronenwährung* noch um 1898 ihre Kunden: 'Man beliebe stets vorschreiben [vorzuschreiben], mit welcher Hand das Waldhorn gespielt werden soll'." (Translation by Richard J. Martz.)

¹⁰⁶ This horn is catalogued as follows by Sabine Klaus, in "Jagd- und Waldhörner in der Musikinstrumenten-Sammlung des Historischen Museum Basel," 29: "Ventilwaldhorn in F1, Graslitz (Böhmen), um 1900, Wenzel Stowasser's Söhne W. STOWASSER'S SÖHNE / GRASLITZ (Schlagstempel, Schallstück); Doppeladler, Königskrone (Schlagstempel, Schallstück), 2 (Schlagstempel, Ventil-Schubstangen) Messing (Korpus), Neusilber (Zwingen, Stützenplättchen, Teile der Maschine) Dreieinhalbwindung; drei Drehventile in Form von Kreuzventilen mit Trommeldruckwerk; L. 3725 (Rohr); H. 423; Dm. 320 (Kreis), 300 (Stürzenrand) L. Wilhelm Bernoulli-Preiswerk." ("Valved horn in F, Graslitz, Bohemia, ca. 1900. Wenzel Stowasser's Sons, W. STOWASSER'S SÖHNE / GRASLITZ [stamped on the bell]; double-headed eagle, king's crown [stamped on the bell], 2 [stamped on the valve lever], brass [corpus], nickel-silver [braces, ferrules, bell plate, valve machine parts], three and one-half coils [or turns], three rotary valves in cross [or triangular] array with clockwork springs. Length of tubing: 3725 mm, height: 423 mm; corpus diameter 320 mm, bell diameter 300 mm. Legacy of Wilhelm Bernoulli-Preiswerk." Translation by Richard J. Martz.)

¹⁰⁷ See Heyde, *Das Ventilblasinstrument*, 136, foto 36 (Uhlmann) and p. 303 (Glassl).

¹⁰⁸ A photo of the Strauss horn quartet from 1869 with Schantl holding such a horn appears in *Horn Call* 14 no. 2 (April, 1984): 97. The photo is in the collection of Hans Pizka and also appears in his *Hornisten-Lexikon*, 407.

¹⁰⁹ Brüchle and Janetzky, *Kulturgeschichte*, 262. The photo in Figure 18 is reproduced with the very kind permission from both the owner of horn, Hans Pizka, and the publisher Hans Schneider. Dimensions given are: bell diameter 28.8cm; diameter of corpus ("width"), 28cm; outer diameter of the start of the bell tail, 17mm. The mouthpipe diameter of the G crook is 12.4mm and that of the F crook is 9.1mm.

¹¹⁰ Waterhouse, *New Langwill Index*, 272.

¹¹¹ Baines, *Brass Instruments*, 211ff.

¹¹² See Jeffrey Snedeker, "Joseph Meifred's 'Méthode pour le Cor Chromatique ou à Pistons' and Early Valved Horn Performance and Pedagogy in Nineteenth-Century France" (D.M.A. diss., University of Wisconsin-Madison, 1991), 106 and 152. Snedeker also presents an excellent and concise summary of what is known about the early development and application of the valve technology.

¹¹³ *Ibid.*, 154, quoting Meifred's *Méthode*, 5. (Translation by Snedeker.)

¹¹⁴ See Morley-Pegge, *The French Horn*, 32ff, for a description and drawings of the Meifred horn and Stölzel valve. It is somewhat ironic that, since Stölzel's original horn was right-handed and also had only two valves, there are no known right-handed Stölzel-valve horns, though many left-handed examples survive. This is certainly due to the fact that right-handed natural horn technique continued to be taught by Dauprat and others at the Paris Conservatoire.

¹¹⁵ Apparently Périnet developed his valve independently of any involvement by Meifred, since the latter makes no reference to it in his *Méthode* (1840). Instead he includes an engraving of a new horn with two rotary valves by Halary with the comment, "My Method was barely engraved when my predictions about the hoped for improvements to the valved horn were accomplished" (Snedeker, "Joseph Meifred's 'Méthode,'" 144). Halary's horn is in the collection of the Historisches Museum Basel (1962.64) and is pictured by Sabine K. Klaus in "Outstanding Trumpets, Trombones, and Horns in the Musical Instrument Collection of the Historical Museum, Basel," *Historic Brass Society Journal* 12 (2000): 16.

¹¹⁶ Waterhouse, *New Langwill Index*, 263

¹¹⁷ A later Millereau horn, dated ca. 1898, in the collection of Bruno Kampmann, Paris, is described in *Larigot* no. 9 Spécial (September 1998): 36. That horn is inscribed *Millereau* on the top side of the bell, but also bears the inscription on the lower side: *Offert par M^r H Schoenaers/Succ^r de Millereau/à Mr. Pénable fils/l' Prix du Conservatoire de Paris/1896.*

¹¹⁸ *Larigot* no. 1 Spécial (September 1991): 38-39; and *Larigot* no. 9 Spécial (September 1998): 37. Kampmann gives the approximate date of manufacture for the horn by Brown as 1860-78; however, according to Waterhouse (*New Langwill Index*, 46) the address on the garland of the horn implies a date of 1894-1911. Waterhouse adds that Brown was known for his conversions of natural horns to valved, and the eminent English player Franz Paersch played a horn by Brown.

¹¹⁹ Bruchle and Janetzky, *Das Horn*, 62-63 (pictured); or *The Horn*, 76.

¹²⁰ Myers, *Catalogue of the Edinburgh University Collection*, 29ff, 37ff, and 39ff.

¹²¹ *Larigot* no. 23 (August 1999): 21.

¹²² *Larigot* no. 5 Spécial (November 1995): 19.

¹²³ *Larigot* no. 5 (May 1989): 23; "cor à 3 pistons mobiles, tous les tons."

¹²⁴ Morley-Pegge, *The French Horn*, 165-66.

¹²⁵ Birchard Coar, *A Critical Study of the Nineteenth Century Horn Virtuosi in France* (Dekalb, Illinois: the author, 1952). 133-35, quoting Brémond, 252 *Exercices pour le cor de Dauprat*, preface, and 252 *Exercices pour le cor à pistons*, 1. Note that the word "foreign" is substituted here in Dauprat's original phrase "des Virtuoses allemands."

¹²⁶ Humphries, *The Early Horn*, 54. In private correspondence to the author, Mr. Humphries gave the full quotations: "On 22 October 1924, Morley-Pegge wrote 'There are several Frenchmen who played right-handed, notably Lamouret 1st horn at the Opéra ... and Entraygues [*sic*] 1st horn of the Colonne Orchestra and 3rd horn at the Opéra.' In a letter from Morley-Pegge to Blandford dated 20 June 1939: 'One of the older players I recollect, Hinchcliffe, played with the bell on the left'."

¹²⁷ Myers, *Catalogue of the Edinburgh University Collection*, 38. As stated in note 2, above, Myers prefers to describe this horn as "left-handed."

¹²⁸ Arnold Myers, personal correspondence to the author.

¹²⁹ Waterhouse, *New Langwilt Index*, 10. The Exposition ran from 5 May to 31 October 1889 and featured the Eiffel Tower as its centerpiece. Arban died on 5 April of the same year.

¹³⁰ Both the present horn and a corresponding cornet are part of the collection of Bruno Kampman, Paris. They are fully described in *Larigot*, no. 1, Spécial Bis (December 1986): 9-10 and 19. Kampman has included a detailed diagram, fingering chart, and analysis of the valve system common to both instruments. The horn is inscribed as having won the silver medal but the cornet is not.

¹³¹ *Breveté sans garantie du gouvernement*. The patent claimed is probably #171296 (1885), "Arban-Bouvet cornet."

¹³² Strictly speaking, the Bouvet system does not anticipate the modern double horn developed by Kruspe some eight years later. The double horn combines into a single instrument the high-register security of the B \flat horn with the traditional sound of the F horn. The fourth (thumb) valve sets the horn in F or B \flat by changing its basic length and selecting one of two ranks of slides for the other three valves. The Bouvet system does the same thing and for purposes of clarity it is described here in comparison with the double horn.

¹³³ Renato Meucci, "The Pelitti Firm: Makers of Brass Instruments in Nineteenth-Century Milan," *Historic Brass Society Journal* 6 (1994): 304.

¹³⁴ Gaspare Nello Vetro, *Dizionario*, s.v. "Pini, Luigi." Pini's invention was also noted in *AMZ* 24 no. 19 (17 April 1822), col. 260.

¹³⁵ Carlo Schmidl, *Dizionario Universale dei Musicisti* (Milan: Casa Editrice Sonzogno, [1928?-29]), 2:233.

¹³⁶ See Baines, *Brass Instruments*, 190, for a history of keyed brass Instruments.

¹³⁷ The author is indebted to Daniel Lienhard for calling this horn to his attention, citing a catalogue to the 2002-03 exhibition "Le stanze della musica: Artisti e musicisti a Bologna dal '500 al '900," published by Silvana Editoriale.

¹³⁸ John Henry van der Meer, *Strumenti musicali europei del Museo Civico Medievale di Bologna con Appendici dei fondi strumentali delle Collezioni Comunali d'Arte, del Museo Davia Bargellini e del Civico Museo Bibliografico Musicale*, Bologna (Bologna: Nuova Alfa Editoriale, 1993), 78ff and photo 84. Van der Meer describes the first valve as being the semitone and the second as the whole tone, however it is obvious from the photograph that this is in error. The first valve (index finger) would correspond to the longer valve slide no matter how the horn is held. The author is indebted to Renato Meucci for providing the text and illustrations of this horn.

¹³⁹ Gaspare Nello Vetro, *Dizionario*, s.v. "Pini, Luigi," quoting from the files of the Office of the Secretary, 1828 (Segreteria di Gabinetto, b. 311, fasc. 1828).

¹⁴⁰ Nicomede Bianchi, *Enciclopedia elementare: dizionario di cognizioni utili specialmente alla studiosa gioventù italiana d'ambo i sessi* (Turin: Unione tipografico-editrice, 1863), vol. 3, s.v. "Corno": "L'invenzione delle chiavi e i miglioramenti finora proposti nel corno non sembrano avere ottenuto un favorevole successo. Merita però menzione particolare il corno inventato a Parma nel 1822 da Luigi Pini. Pare eziandio che il corno detto a macchina (piston) vada incontrando fortuna." ("The invention of keys and the proposed improvements in the horn do not seem to have received favorable success up to now. The horn invented in Parma in 1822 by Luigi Pini, however, deserves particular mention. It seems that this horn with piston valves is meeting with good fortune." Translation by Richard J. Martz.)

¹⁴¹ See the band's web site at <http://www.bancaigb.it/bandal.pini/>

¹⁴² See Morley-Pegge, *The French Horn*, 41-42.

¹⁴³ Van der Meer, *Strumenti musicali europei del Museo Civico Medievale di Bologna*, 79-80 and photo 85.

¹⁴⁴ According to Renato Meucci, a horn similar to the one in Figure 26 is in the collection at the Galleria dell'Accademia, Florence.

¹⁴⁵ Vinicio Gai, *Gli strumenti musicali della Corte medicea e il Conservatorio "L. Cherubini" di Firenze* (Florence: Licosa, 1969), 236-37. Renato Meucci, in correspondence to the author, describes them as being the same as pictured in Figure 26. See Meucci, "The Pelitti Firm," 306 and 316 for illustrations of the Pelitti model.

¹⁴⁶ Renato Meucci, "On 'Organology': A Position Paper," *Historic Brass Society Journal* 11 (1999): ix.

¹⁴⁷ Henri Kling, *Horn-Schule: A Method for the Natural and the Ventil Horn* (Leipzig, 1865; rpt. edn., Rochester, NY: Wind Music, 1973), 76. The original date of Kling's publication is given by Morley-Pegge (*The French Horn*, 122), with the same quotation on the page following.

¹⁴⁸ Waterhouse, *New Langwill Index*, 336. The earlier date appears on the letterhead of Roth & Bottali, while the later date is given by Pelitti.

¹⁴⁹ Renato Meucci, in private correspondence to the author, cites the following addresses for Roth in Milan: contr. de' Ratti 3187 (1856), Fuori Porta Nuova 120 E (1877), and via Galileo 13 (1893-95). In 1911 the address of the firm of Roth and Bottali was Piazza Andrea Doria 6.

¹⁵⁰ "Band horn in A-flat with Paoli system valves." Renato Meucci, correspondence to the author and author's translation to English.

¹⁵¹ Wilhelm Bernoulli, correspondence to the author, 18 October 1978.

¹⁵² Kurt Janetzky, correspondence to the author, 16 July 1987.

¹⁵³ Louis Stout, University of Michigan, correspondence to the author, 27 April 1971.

¹⁵⁴ *Giornale Militare Ufficiale*, dispensa 38, parte 1, 1884, p. 599. The illustration is TAV. Vii, Atto No. 153, 1884 (courtesy of Marino Anesa). "Dell'antica forma; ma col padiglione in alto inclinato à sinistra: macchina collocata in modo da essere maneggiata colla mano destra." (Translation by Richard J. Martz.)

¹⁵⁵ See the web pages of current Tolentino band at the web site of Associazione Musicale "Nazareno Gabrielli," <http://www.associazionemusicalegabrielli.it>.

¹⁵⁶ Marino Anesa, *Il tempo, le bande: Itinerari musicali bergamaschi* (Bergamo: Delegazione Provinciale Anbima, 1989), 234 and 116, respectively.

¹⁵⁷ *Ibid.*, 20.

¹⁵⁸ Waterhouse, *New Langwill Index*, 28.

¹⁵⁹ John Humphries, correspondence to the author.

¹⁶⁰ Current address: via dei Conti, 50213 Firenze, Tel. 055.214223. Publications include Bimboni, *Metodo per trombone*; Frosali, *Nuovi Metodi Pratici per Strumenti a Fiato*; and various pieces for flute. A straight trumpet in C is in the Bate Collection (x73) marked: *Saporetti & Cappelli / Fabbrianti / Firenze* / [Florentine fleur-de-lys].

¹⁶¹ Paul Kampen (who is not one of the players or in one of the orchestras involved), related in correspondence to the author.

¹⁶² Herbert Buchner, correspondence to the author.

¹⁶³ Meucci, "On 'Organology'," ix.