

Aspects of the Late Keyed Trumpet: Some New Evidence

Adrian v. Steiger

The keyed trumpet dates from the trumpet's transitional period of 1750–1850 (often also called the “era of chromaticization”). Even though there is a far greater quantity of source material for all other contemporary forms of the trumpet—the invention, stopped, slide, and valved trumpets, and the keyed bugle—more scholarship has been devoted to the keyed trumpet than to any other type of that era.¹ The reason for the wealth of research on the keyed trumpet and its performance practice is undoubtedly the popularity today of the trumpet concertos by Haydn and Hummel, both originally composed for the instrument developed and played by Anton Weidinger. By contrast, in their own time the concertos were performed by just one person, Weidinger himself, and on only very few occasions. It was only later, about twenty years after the composition and performances of Haydn's and Hummel's concertos, that the keyed trumpet came into use in southern Germany, Austria, and Italy, mostly in military bands.

The present article aims to communicate the results of new research into the late period of the keyed trumpet. An introductory discussion, concentrating on the dated sources of the keyed trumpet, offers insights into the instrument's history and the chronology of its use. Two new pieces of evidence are then presented: a nine-key trumpet and 131 pages of tutorial material. Both date from near the end of the keyed trumpet's heyday and have hitherto remained largely unknown to the scholarly community.

Table 1: Dated sources for the keyed trumpet

“Pioneer” period	
1796	Joseph Haydn: Concerto, composition
1798	Leopold Kozeluch: <i>Sinfonia concertante</i> , composition and first performance
1800	22 March, concert by Weidinger, including first performance of Haydn's Concerto
1802	Anton Weidinger's concerts in Leipzig and London
1803/04	Johann Nepomuk Hummel, <i>Concerto a tromba principale</i> , composition and first performance
1813	Weidinger plays one movement of Haydn's Concerto at court in Vienna
1815	Sigismund Neukomm, <i>Requiem</i> , composition, first performance and publication (Leipzig: Peters)
1817	I. Bauer (Prague), four-key trumpet, long single-coiled trumpet (Berlin, Musikinstrumentenmuseum)
Period of the instrument's dissemination	
1824	Jacob Cidrich (Brno, Moravia), four-key trumpet, left-handed (Linz, Schlossmuseum)

1824	Joseph Tomaschka plays a keyed trumpet solo at La Scala in Milan
1824	C. Eugène Roy, <i>Méthode de Trompette sans Clef et avec Clefs</i> (Mainz: Schott)
1827	Andreas Nemetz, <i>Allgemeine Trompetenschule</i> (Vienna: Diabelli)
1830	Benedetto Bergonzi: 24 <i>Capricci</i> (Milan: F. Lucca; Milan: Ricordi)
1831	Anton Domaschek (Bohemia?), five-key trumpet, left-handed (Prague, private collection)
1832	Roy & Müller, <i>Tutor for the Keyed and Valve Trumpet</i> (London: Cocks)
1832	Ignaz Lorenz (Linz), five-key trumpet, left-handed (Vienna, Gesellschaft der Musikfreunde)
The Italian period	
1832	Antonio Apparuti (Modena), five-key trumpet, right-handed (Vermillion, National Music Museum)
1835	Giuseppe Araldi, <i>Metodo per Tromba a Chiavi ed a Macchina</i> (Milan: F. Lucca)
1836	C. Eugenio Roy: <i>Metodo per Tromba a Squillo e Tromba a Chiavi</i> (Bologna: Cipriani)
1836	Valeriano Beni (Castello / Perugia), five-key trumpet, right-handed (London, Horniman Museum)
1837	Antonio Apparuti (Modena), five-key trumpet, right-handed (Modena, Museo Civico)
1839	Antonio Apparuti (Modena), five-key trumpet, right-handed (Modena, Museo Civico)
1843	Leonardo Masserenti (Minerbio), five-key trumpet, right-handed (Boston, Museum of Fine Arts)
1844	Giuseppe Araldi, <i>Metodo per Tromba a Chiavi ed a Macchina</i> (Milan: Ricordi)

Table 1 lists extant dated sources for the keyed trumpet.² For the “pioneer” period, up to approximately 1820, a series of significant events can be dated precisely, most of which have a connection to Weidinger. But only one dated instrument is known from this period: in 1817 one “I. Bauer” made a trumpet that today has four keys.³ This instrument offers us an insight into how a long, single-coiled trumpet can be equipped with keys. All other extant keyed trumpets, whether dated or not, are double-coiled and almost all of them were made later than this instrument by Bauer.

From 1820 onward the keyed trumpet spread across southern Germany, Bohemia, Moravia, and Austria. Most of our sources from these years, up to 1832, are from this region. Dated instruments were made by Jacob Cidrich, Anton Domaschek, and Ignaz Lorenz. Two method books from this period include instructional material for keyed trumpet: (1) C. Eugène Roy’s *Méthode pour trompette* for the natural and keyed trumpets was printed in Mainz. Its section devoted to the keyed trumpet originates from Roy’s method for keyed bugle. Only five pages are specifically for the keyed trumpet.⁴ (2) Andreas Nemetz’s *Allgemeine Trompetenschule*, for natural, keyed, and valved trumpets, also treats the keyed trumpet on just five pages.

Two dated sources from this period document the arrival of the keyed trumpet in Italy, presumably introduced there by Austrian military musicians (Lombardy and

Venetia were part of the Austrian Empire until 1866). Joseph Tomaschka played a concert on the keyed trumpet in Milan in 1824 and Benedetto Bergonzi's 24 *Capricci* for keyed trumpet were printed in 1830, also in Milan.⁵ Furthermore, the undated eight-page keyed-trumpet method by Bonifazio Asioli has to be assigned to this period.⁶

All the dated sources for the keyed trumpet from 1832 onward are Italian: five instruments and three method books. Of the Italian keyed trumpets, one each was made by Valeriano Beni and "Leonardo Masserenti e fratelli," while three were by Antonio Apparuti. All are equipped with five keys to be operated with the right hand, which was the predominant form among Italian keyed trumpets. Masserenti's instrument is an exception in that its touchpieces are arranged for the right hand, but on the tubing opposite the bell. Three further undated keyed trumpets by Antonio Apparuti are also known. His total of six extant instruments makes him the best-documented maker of keyed trumpets. Apparuti (1797–1844) lived in Modena and was an armorer who began manufacturing brass instruments in 1831.⁷

Giuseppe Araldi published his method for natural, keyed, and valved trumpets in 1835 in Milan, where he was a regular member of the orchestra at La Scala. The section on the keyed trumpet is five pages long and consists of a fingering chart and short etudes. Araldi is the only author who discusses in detail the problem of using different crooks on a keyed trumpet. In 1836 Roy's book, published eight years earlier by Schott in Mainz, appeared in an Italian translation, published by Cipriani in Bologna. Apart from the translation of the text, the book is otherwise unchanged. Interestingly, Araldi's book and the Italian version of Roy's depict a left-handed keyed trumpet alongside their fingering charts, even though most Italian instruments were right-handed. Araldi's book was reprinted, unaltered, in Milan in 1844. To the best of my knowledge, this is the last dated written source for the keyed trumpet prior to its revival in the 1970s.

In conclusion, the dated sources make it evident that the instrument spread through Italy later than in Central Europe. The Italian sources originate from around the cities of Milan and Bologna (Apparuti in Modena and Masserenti in Minerbio were active just a few miles from Bologna). Thus, based on the evidence of surviving instruments and instruction books, the 1830s and '40s comprised the heyday of the keyed trumpet in Italy.

But when did the keyed trumpet die out in Italy? Any answer must be highly speculative, for we do not know how long the instruments remained in use. The keyed trumpet sections in the method books might also have been used for valved trumpets.⁸ Nevertheless, we can estimate the "end" of the keyed trumpet in Italy to have occurred not long after 1850, some ten years after it fell out of use north of the Alps.

Books by Giuseppe Pignieri

Two works by Giuseppe Pignieri, "Maestro del Real Collegio di Musica" ("Professor at the Royal Conservatory") in Naples, offer additional source material for this period

of the keyed trumpet in Italy. His *Metodo e Studio Completo con Variazioni, Walzer, per Tromba a chiave* (see Figure 1) is ninety pages long, while its companion etude book, *Studio per tromba a chiave*, covers forty-one pages.⁹ Taken as a whole, these 131 pages offer by far the most extensive extant material for this instrument ever assembled. They are not printed, but were copied by hand in a professional copyists' workshop in Naples, the "copisteria e magazzino di Musica strada Trinità de spagnoli N. 3" ("copyists' shop and music store, Trinità de spagnoli Street, no. 3"; see bottom line in Figure 1).

The entire *Studio* and most of the *Metodo* are devoted to advanced studies—100 pages in all (see Figure 3). The *Metodo* further contains eleven pages of exercises, nineteen pages of easy studies, a six-page theme with variations, and eight pages of *Walzer*. Surprisingly, there are no duets and only a few melodies from the operatic and popular song repertoires of the time, though such pieces were otherwise common in contemporary tutors. Thus almost all the material seems to have been composed by Pignieri himself. While many studies are in the style of songs or belong to the genre of horn signals, others, entitled "Fuga," are in a more classical style. They exploit the two octaves of the instrument's main register from *g* up to *f*² (and occasionally up to *a*²).

As there is no drawing of the instrument in either book, the fingering chart on page 2 of the *Metodo* (see Figure 2), in addition to the term *Tromba a chiave* associated with both, offers the only proof that Pignieri's books were actually designed for the keyed trumpet, not the valved trumpet or the keyed bugle (for which the same term was sometimes used).¹⁰ The intended instrument had four keys. Opening key 1 raises the pitch by a semitone, keys 1+2 by a whole tone, key 3 by a minor third, and key 4 by a major third. Interestingly, the flat seventh harmonic *b b'* is to be played without opening any keys to correct the intonation. This is also the case in all other extant historic fingering charts for keyed trumpets. Unlike these other charts, Pignieri's requires opening a combination of two keys (1+2) to raise the pitch by a whole tone. While for the keyed bugle and the ophicleide, opening more than one key was common practice, this was not the case on the keyed trumpet—except for Pignieri. Several fingerings in both the low and the high registers deviate from the theoretical design. The *d*^{#2} and the *f*² are played by opening key 4 instead of 2, and *f*^{#2} is played with key 3 instead of 1+2. The fingerings for the register below *g* are merely theoretical, as Pignieri does not ask for these notes in the etudes, but only in the opening exercises of his *Metodo*. The fingerings 1 for the low *f* and 1+2 for the low *f*[#] are plausible only when the player produces "falset tones," a playing technique that forces the instrument to produce a non-resonant note. All these facts suggest that Pignieri's fingering chart was based on practical experience, related to a specific instrument.

The use of different crooks is a major challenge for the keyed trumpet in general, both for makers and players, since an instrument is in tune in only one key. For other keys, the holes are not in the correct positions. This requires the intonation to be corrected by the lips and/or by using different fingerings as a compromise. Crook



Figure 1: Title page of Giuseppe Pignieri's *Metodo e studio per tromba a chiave*.

The image displays a fingering chart for a semitone scale, titled "Scala Semitonale". It consists of seven staves of music. The top staff shows the scale in treble clef with a key signature of one sharp (F#). The subsequent six staves show the same scale with different fingering patterns indicated by numbers 1, 2, 3, and 4. A circular stamp on the right side of the page contains the text "BIBLIOTECA MUSICALE" and "MILANO".

Figure 2: Pignieri, *Metodo*, fingering chart, p. 2.



Figure 3: The last etude in Pignieri's *Metodo* (p. 76).

He notes at the bottom of the page, "Fine dello Studio.

Seguono le variazioni" ("End of the etude [part of the book]. The variations follow").

changes are mentioned in all tutors except Pignieri's. Their use obviates the need to play in remote keys, which is difficult not only in terms of fingering, but also with respect to intonation and sound. Pignieri, however, requires the player to navigate all the keys, including F minor and B major. We might therefore conclude that he wanted to avoid crook changes, or that his instrument did not lend itself to crook changes.

Who was Pignieri? We know that he played horn as well as trumpet. Two manuscript horn tutors by him, dated 1826 and 1835, survive; they are the work of the same copyists as the keyed trumpet books. The first is a tutor for beginners, while the second is a challenging horn method (referring to the author as "D. Giuseppe Pignieri").¹¹ Several recently discovered sources allow us to shed more light on Pignieri's biography. These include four letters of recommendation in support of Pignieri's appointment as professor.¹² In 1817 the general inspector of the guards recommended that the trumpet player Giuseppe Pignieri and a bassoonist fill vacancies at the Real Collegio di Musica, the Naples conservatory.

The general inspector of the grenadiers of the guards recommends to His Majesty's judgment the trumpet player Giuseppe Pignieri and the bassoon player Giacomo Moritz; they wish to move from the band of the grenadiers, where they are currently, to serve as teachers at the Collegio di Musica, where two professors are needed at present.

He assures [His Majesty] that these two subjects, above and beyond their highest artistic skills, have provided long, loyal, and uninterrupted service. He states further that they are ready to undergo examination and that they merit being preferred to two foreigners.¹³

A second letter, dated 12 March 1818, also espoused Pignieri's application. He is now identified as "capobanda del primo [Regimento dei] Granatieri della Guardia," i.e., leader of the band of the guards. The sender emphasized that if there should be other native Italian applicants of equal ability, Pignieri should be preferred due to his service in Sicily, far away from his home.

But Pignieri's bid was obviously not successful, since in 1820 he was still *capobanda* in the army, as documented by two more letters of recommendation, both dated June 1820.¹⁴ This time, the envisaged appointment was as professor of *corno da caccia* at the Real Liceo del Conservatorio Musicale di San Sebastiano in Naples. Again, one of the letters is signed by the inspector of the guards; the other is by a private person, not an official. The former states that Pignieri had also taught during his service in Sicily in 1819. We do not know whether he received this post or not.

In sum, these letters inform us that Pignieri was initially a trumpet player and from 1818 had been a *capobanda* in the army of the Kingdom of the Two Sicilies. He came originally from the region of Naples, then served in Sicily. Since no information about his year of birth has come to light, and since the above-quoted letter of 1817 says that he had served for a long time, we can estimate Pignieri's year of birth to have been around 1790. At some point between 1833 and 1836 he was finally appointed horn professor at the Real Collegio di Musica in Naples.¹⁵ The covers of both of his trumpet books refer to this position, so they must date from 1833 or later. Further evidence of their date of origin comes from the fact that the study given on page 15 of the *Studio* is based on the aria "Tu non sai con quei begli occhi" from Bellini's *Sonnambula*, which premiered in 1831 in Milan.

The fact that the *copisteria* that produced two of the copies of Pignieri's books was active only up to about 1835 provides us with the latest possible date for their compilation.¹⁶ For this reason, the extant versions of the trumpet method may be dated "ca. 1835." They could have been copied on the occasion of Pignieri's appointment at the Conservatory. Pignieri died in January 1849 in Naples, at which time his widow was granted one month's salary.¹⁷

We can therefore conclude that, besides his horn professorship, Pignieri also taught and wrote for the keyed trumpet. Since the clientele of the Real Collegio di Musica

consisted principally of military musicians, his pupils were quite possibly members of army bands. With this extensive pedagogical material, Pignieri contributed to the late heyday of the keyed trumpet in Italy in the 1830s and '40s, contemporary with the work of Araldi in Milan, and others in Bologna, such as the instrument maker Apparuti, and the publisher of the Italian translation of Roy's method.

Nine-key trumpet by Carl Gottlob Schuster

A trumpet with nine keys, in the holdings of the Burri Collection in Bern (No. 67, see Figure 4), was previously unknown to most scholars. It is signed "Carl Gottl. Schuster / in Neukirchen" (Figure 5). Neukirchen, today Markneukirchen, was and still is a center of instrument manufacturing in Saxony. Carl Gottlob Schuster (1788–1862) was a member of the extended Schuster family active in that region from the late eighteenth century. He was registered as a maker of brass instruments in Neukirchen in 1816 and began dealing in instruments in around 1824. Five other instruments by him are known to be extant, but none of these is a trumpet; he appears to have concentrated on horns. In the 1830s he offered for sale an improved invention horn for orchestral use.¹⁸



Figure 4: Nine-key trumpet signed "Carl Gottl. Schuster in Neukirchen."
Bern, Burri Collection.

Following Heyde's terminology, the basic design of this trumpet is that of a wide-bore—and therefore early—Saxon invention trumpet; it probably was made around 1830.¹⁹ Its tuning slide is marked "F 2." Its bore is 1763 mm long and it plays at a high pitch ($a^1 = 460$ Hz). It may have had additional tuning slides at one time, but these are no longer extant. Schuster or another maker added nine keys to this invention



Figure 5: Detail of trumpet in Figure 4 showing Schuster's signature on the bell.

trumpet, either when the instrument was first built or at some later date. No other extant historical trumpet has nine or more keys.

The positions of the holes are exceptional when compared with those of other keyed trumpets. While holes 1, 2, and 3, counting from the bell end, raise the pitch in chromatic order by a semitone, a whole tone, and a minor third respectively, as is customary, holes 4 through 9 are spaced at about half the distance one would expect, producing something close to quarter-tones.²⁰

The touchpieces are organized in two levels in the manner of a keyboard, with keys 3, 4, 6, and 8 on a higher level (see Figure 6). These might be intended as alternatives: 4 or 5 for the major third, 6, or 7 for the fourth, and 8 or 9 for the tritone or special cases. If a short crook is employed, the player may use the touchpieces of the higher level; if a longer crook is used, s/he may play on the lower level. This is a unique solution for a basic problem of the keyed trumpet, namely that the holes can be in acoustically correct positions for only one nominal pitch of the instrument. This particular trumpet offers alternatives.



Figure 6: Detail of trumpet in Figure 4 showing the nine touchpieces, organized in the manner of a keyboard.

Two arguments lead us to the conclusion that this instrument is an experiment or a prototype. First, the positions of the holes are striking. For the present instrument in the key of F, none of the holes is really perfectly placed. Hole no. 1 in particular is too close to the bell end, so when this hole is opened, all the notes sound too low. When the instrument is pitched lower, this defect is even more noticeable. Furthermore, holes 4 through 9 seem to be positioned as an experimental arrangement only. If 4, 6, and 8 are really intended as alternatives for a higher nominal pitch of the instrument and 5, 7, and 9 as the alternatives for a lower pitch, then the pairs 4–5, 6–7, and 8–9 would have to be closer together.

Second, on a keyed trumpet most music can be played using only keys 1, 2, and 3. It is for these holes that alternatives would be helpful, and not the others, which are rarely required. A solution with alternative holes is found on other historic instruments, for example on two trumpets by the Prague instrument maker Eduard Johann Bauer.²¹ These each have two keys for raising the pitch by two slightly different semitone steps (Figure 7). Jaroslav Rouček reports that he uses these alternative semitone keys in connection with different crooks.



Figure 7: Keyed trumpet by Eduard Johann Bauer, Prague. National Music Museum, Vermillion, SD (NMM 10525). The first and second holes from the bell end raise the pitch by a small and a large semitone, respectively.

Conclusion

Schuster's instrument can best be understood as an experiment in keyed-trumpet making, and in trying to determine the positions and diameters of the holes. It is an attempt to overcome the basic challenge of the keyed trumpet by adding extra holes. But this attempt seems to have been unsuccessful, as there are no sources suggesting that this idea was pursued further. Today, as it happens, the Bernese maker Konrad

Burri is experimenting with pairs of holes on his keyed trumpets, and consequently employs as many as eleven keys.

Pignieri, in contrast, illustrates a different approach to resolving the same problem by writing extended pedagogical material for a specific, apparently crookless, instrument. His pupils might have played the keyed trumpet for a long time in the military bands of southern Italy, or they may also have switched eventually to the valved trumpet.

Neither Schuster's experiment nor Pignieri's extensive tutorial material was able to halt the downfall of the keyed trumpet. It was an instrument type that was "born in acoustical imperfection and remained there."²² According to the dated sources listed above, its decline might well have begun earlier in Central Europe than was the case in Italy.

Adrian v. Steiger is a Swiss musician and musicologist. He completed his Ph.D. in 2013 on the wind instrument collection of Karl Burri in Bern, of which he is now the manager. At the Bern University of the Arts he conducts research projects, mostly on wind instruments. His work includes organology, repertoire, conservation, and the materials of historical brass instruments, as well as facsimile editions, including J.N. Hummel's Trumpet Concerto for Editions Bim. He has published essays in the Historic Brass Society Journal, the New Grove Dictionary of Musical Instruments, the Galpin Society Journal, the ITG Journal, and elsewhere.

Notes

¹ See, for example, Reine Dahlqvist, *The Keyed Trumpet and Its Greatest Virtuoso, Anton Weidinger* (Nashville: The Brass Press, 1975); Friedrich Anzenberger, "Method Books for Keyed Trumpet in the 19th Century: An Annotated Bibliography," *Historic Brass Society Journal* 6 (1994): 1–10; *Johann Nepomuk Hummel: Concerto a tromba principale, Facsimile with a Historic Introduction*, ed. Edward H. Tarr (Vuarmares: Bim, HKB Historic Brass Series 4, 2012); Sabine K. Klaus, "The Keyed Trumpet," in idem, *Trumpets and other High Brass*, vol. 2 (Vermillion: National Music Museum, 2013): 158–91, Bryan Proksch, "Reassessing Haydn's Friendship with Anton Weidinger," *Historic Brass Society Journal* 26 (2014): 1–12; idem, "Anton Weidinger's Repertoire for the Keyed Trumpet," *Historic Brass Society Journal* 27 (2015): 1–20; *Romantic Brass. Ein Blick zurück ins 19. Jahrhundert*, ed. Claudio Bacciagaluppi and Martin Skamletz (Schliengen: Edition Argus, 2015). The last-mentioned book includes essays concerning the keyed trumpet by Reine Dahlqvist, Sabine K. Klaus, Edward H. Tarr, Rainer Egger, Krisztián Kováts, Jaroslav Rouček, Roland Callmar, and Adrian v. Steiger. Recordings of performances on keyed trumpets by Friedemann Immer (1987), Reinhold Friedrich (1995), Crispian Steele-Perkins (2001), Markus Würsch (2014), and others are available.

² For more details concerning the instruments, see the chapter on the keyed trumpet in Klaus, *Trumpets and other High Brass*, vol. 2; concerning the events listed, see Reine Dahlqvist, "Die Trompetentradition und die Trompete als Soloinstrument in Wien 1800–1850," in *Romantic Brass*, 11–39; with regard to the method books, see Adrian v. Steiger, "Von der *trompette avec*

clefs, der Klappentrompete und dem *flageolet*. Neue Recherchen zu den Schulen für Klappentrompete und deren Autoren,” in *Romantic Brass*, 92–111.

³ The original state of the instrument is unknown; see Klaus, *Trumpets and Other High Brass*, 2:164.

⁴ A facsimile edition with a historical essay by the present author was published in 2009 by Editions Bim, Vuarmarens, Switzerland.

⁵ For Tomaschka’s concert, see *Allgemeine Musikalische Zeitung* 26, No. 33 (August 1824): 537. For Bergonzi, see the present author’s article in *International Trumpet Guild Journal* (October 2016): 78–81.

⁶ Asioli’s method consists of a general introduction to music with only a small amount of musical material for the keyed trumpet. It was published sometime between 1821 and 1825 by Bertuzzi in Milan; see the present author’s article in *Romantic Brass*, 94–95.

⁷ The six keyed trumpets by Apparuti are: 1) dated 1832, in the National Music Museum in Vermillion (ex Carreras private collection, Pisa); 2) dated 1837; and 3) dated 1839, both in the Museo Civico di Modena; 4) undated, in the Accademia Filarmonica Bologna; 5) undated, in the Musical Instrument Museum in Phoenix, AZ (ex Fiske Museum); 6) undated, formerly of the Musikinstrumentenmuseum Leipzig, lost during World War II; see Herbert Heyde, *Trompeten, Posaunen, Tuben* (Leipzig: VEB Deutscher Verlag für Musik, 1980), 137. I am grateful to Francesco Carreras for this information (personal communication, 14 August 2015). See also Albert Rice, “An Italian Translation of Eugène Roy’s Method for Keyed Trumpet,” *Historic Brass Society Journal* 18 (2006): 44. For a biography of Apparuti, see [www.treccani.it/enciclopedia/antonio-apparuti_\(Dizionario_Biografico\)/](http://www.treccani.it/enciclopedia/antonio-apparuti_(Dizionario_Biografico)/) (accessed May 2016).

⁸ A page in Pignieri’s *Studio* illustrates this practice. Subsequently added fingerings on p. 5 show that this etude was also played on a valved trumpet.

⁹ All known copies are held by the library of the Milan Conservatory, the Biblioteca del Conservatorio di Musica Giuseppe Verdi, Collezione Noseda: O 37–13 (*Metodo*; waltzes mentioned in the title but pages missing at the end), O 37–14 (*Metodo*; slightly different sequence of etudes in comparison to O 37–13; waltzes included), O 37–12 (*Metodo*; shorter version), and O 37–11 (*Studio*). The Noseda Collection was compiled 1860–66 by Gustavo Adolfo Noseda of Milan, who bought collections of music during his journeys to Naples and elsewhere.

¹⁰ Coletti’s *Metodo elementare e graduato di Tromba a chiavi* (Milan: Ricordi, 1844), for example, was written for keyed bugle.

¹¹ (1) *Studio per bene imparare a suonare il corno da caccia*, Biblioteca del Conservatorio di Musica, Milan, MI0344 Noseda O 37–10, dated 1826, is a short and elementary tutor; (2) *Studio per Corno da Caccia. Composto dal Sig.r D. Giuseppe Pignieri. Proprietà di Pasquale Palmieri*. Archivio dell’Accademia Filarmonica di Bologna, fondo antico 2311. The 29 pages of no. 2 are handwritten and dated 1835. The content and musical style are similar to that of the keyed trumpet tutor. I am grateful to Romano Vettori of Bologna for providing a copy.

¹² Held by the Archivio di Stato Napoli, inventario 335, buste 81–111: 654–58.

¹³ “L’Ispettore generale di Granatieri della guardia raccomanda alla giustizia die V[ostra]. E[ccellenza], il Tromba Giuseppe Pignieri ed il Fagotto Giacomo Moritz, i quali vorrebbero passare dalla Banda di Granatieri, ove si trovano, all’impiego di Maestri nel Collegio di Musica, cha abbisogna attualmente di due Professori.

Egli assicura che in questi due Soggetti, oltre della somma perizia nell’arte, vi concorre un lungo, fedele e non interrotto servizio. Dice ch’essi sono pronti a sottoporsi ad un esame, e che meritano di esser preferiti a due forestieri.”

¹⁴ His name also does not appear in the payroll accounts of the conservatory during this period.

See Teresa Chirico, "La Musica nel Reale Albergo dei Poveri di Napoli e negli istituti dipendenti (1817–1861)," *Atti del Convegno Francesco Florimo e la musica nel suo tempo* (Reggio Calabria: Jason, 1999), 2:827–59. I am grateful to Teresa Chirico for this information.

¹⁵ The exact year is not reported, and the registers for the years between 1832 (when Pignieri was not listed) and 1836 (when Pignieri was listed) are lost. See Annamaria e Paolo Sullo, *La Scuola di Musica nel Reale Albergo dei Poveri di Napoli* (Grottaminarda: Delta3, 2007), 61, 72, 80.

¹⁶ The Copisteria e Magazzino di Musica strada Trinità de spagnoli N. 3 in Naples, whose signature is on the front page of the copies of the *Metodo* O 37–12 and O 37–13, was active from ca. 1810 to 1835. I am grateful to Prof. Licia Sirch, head of the Biblioteca del Conservatorio di Milano, for providing this information by e-mail.

¹⁷ Chirico, "La Musica," 847.

¹⁸ Enrico Weller, *Der Blasinstrumentenbau im Vogtland von den Anfängen bis zum Beginn des 20. Jahrhunderts* (Markneukirchen: Geiger, 2004): 244–45.

¹⁹ Heyde, *Trompeten, Posaunen, Tuben*, 127.

²⁰ Measurements: bell diameter, 125 mm; bore diameter, 11.3 mm, cylindrical throughout to ferrule between holes 8 and 9; distance between centers of the holes: bell end to 1, 168 mm; 1 to 2, 160 mm; 2 to 3, 100 mm; 3 to 4, 45 mm; 4 to 5, 50 mm; 5 to 6, 53 mm; 6 to 7, 47 mm; 7 to 8, 42 mm; 8 to 9, 46 mm.

²¹ In the collection of Jaroslav Rouček and in the National Music Museum, Vermillion, SD, Utley Collection, NMM 10525, respectively. Further instruments with two semitone keys are a five-key trumpet by Meindl (No. 1836) and an anonymous six-key trumpet (No. 1843), both in the Museum für Musikinstrumente Leipzig; an anonymous five-key trumpet, attributed to the local maker Carl August Bauer, in the Musikinstrumenten-Museum Markneukirchen (No. 0011); and an anonymous five-key trumpet in the Technisches Museum Wien, inventory No. 15570, currently on display in the Sammlung alter Musikinstrumente in Vienna.

²² The opinion of Reinhold Friedrich, as communicated to the present writer.