

EARLY TROMBONES IN AMERICA'S SHRINE TO MUSIC MUSEUM

Stewart Carter

Introduction

America's Shrine to Music Museum of the University of South Dakota, Vermillion, is one of the largest and most comprehensive collections of historical musical instruments in the United States. Its collection of trombones is particularly rich, comprising some 300 items, of both slide and valved types. Most of these trombones date from the late-nineteenth and early-to-mid-twentieth centuries, yet there are some very important earlier specimens, which serve as the focus of this article.

There is no catalogue of the entire collection of the Museum, though catalogues of certain segments are available.¹ The Museum's trombones were examined by Larry Kitzel between 1982 and 1984 and catalogued in his D.M.A. document,² which contains descriptions and photographs of virtually every trombone that was in the Museum's possession at that time. In the ensuing years, however, the Museum has acquired several more trombones, including three additional pre-1800 instruments, one of them added to the collection as recently as 1996. The purpose of this article, then, is to describe and illustrate the five earliest trombones in the Museum's collection: one alto, three tenors, and one buccin-tenor. All but the last were made prior to 1800. The instruments are presented in chronological order. The Museum's accession number precedes the description of each instrument. All measurements are given in millimeters.

The Instruments

#3592. Slide tenor, Michael Nagel, Nuremberg, 1656 (Fig. 1a)

INSCRIPTION, MARKINGS: On bell garland: "MACHT ° MICHAEL [master's mark] NAGEL ° NVR 1656"; on bell [later stamp]: "BOHLAND & FUCHS / GRASLITZ / 8"; master's mark is shield with bird and initials "MN" (see Fig. 1b).

OTHER PHYSICAL FEATURES, DECORATION: Slide section probably later, perhaps early eighteenth century; tabbed seam visible in bell (positioned at 3 o'clock from player's viewpoint); one flat bell-stay with hinge-pin (on bellpipe side), decorated on both surfaces with a picture of a young woman picking a flower, flanked by floral pattern; one eyelet (Fig. 1c); no slide stockings; both slide-stays tubular; moveable slide stay telescopic; ring in slide-bow. The instrument is supplied with a tuning shank of modern manufacture, 93mm long, that fits between slide and bell sections (stamped on collar: "440 Hz"). Several repairs visible in bell section, including new sleeve (41mm long) applied at bell receiver; and another new sleeve (30mm long), beginning 210mm above bell receiver; solder patches in

bell-pipe. Decorative patterns on slide stays (particularly immovable stay) show considerable wear, and are almost obliterated in spots. There are three highly decorative ferrules in the bell section, each with a dragon-scale pattern in the middle (Fig. 1e); an intricate pattern resembling the top of a crown terminates one end of each of these three ferrules. There are eight ferrules in the slide section (three in adjacent to slide-stays on falling tube, three adjacent to slide-stays on rising tube; three each at junction of slide-bow with falling tube and rising tube. These ferrules are much simpler in design than those in the bell section, and they have rings in groups of three or four.

DIMENSIONS:

int. diam. of mouthpipe	11.3
slide bore	9.8/9.5 ³
int. diam. of slide receiver	10.0
int. diam. of bell receiver	11.9
ext. diam. of neckpipe at junction with bell-bow	12.3
ext. diam. of bell-pipe at junction with bell-bow	11.9
diam. of bell	109.0
diam. of throat (140 from bell opening)	33.0
width of garland	31.0
length of air column in slide section (without mouthpiece)	1641.5
length of air column in bell section	1051.5
overlap, slide sec. to bell section	33.5
total sounding length of instrument (without mouthpiece)	2659.5
conical portion of bore	653 (=24%)

BELL THICKNESS:

distance from bell opening	at seam	90°	180°	270°
31 (at garland)	.20	.19	.19	.19
100	.26	.25	.30	.30

MOUTHPIECE: Modern manufacture, marked on shank "M / U [Ursula Menzel] R 1984." Mouthpiece is constructed in "early" style, with shallow bowl and sharp-edged throat. Dimensions: external diameter of bowl, 38.4; internal diameter of bowl, 25.5; depth of bowl, 11.6; throat, 5.3; exit, 8.6; total length, 81.6.

PITCH: B_♭ + 20 cents @ a¹=440 Hz, slide closed; B_♭ - 10 cents with slide extended approx. 44mm.⁴

POSITION OF BELL RELATIVE TO SLIDE: Slightly beyond fourth position.

PLAYING CHARACTERISTICS: The instrument has a muffled quality, apparently the result of an air leak. Harmonics are out of tune in first position.

HISTORY: Once owned by Factory Museum, Bohland & Fuchs, Graslitz (now Kraslice, Czech Republic). Restored by Ursula Menzel, Munich, 1984. Purchased by the Museum from H. von Hünerbein in 1985.

LITERATURE: Margaret Downie Banks, "17th- and 18th-Century Brass Instruments at the Shrine to Music Museum," *Brass Bulletin* 58 (1987): 52-56; Kitzel, *Trombones*, pp. 234-35 (including photo); *The Shrine to Music Museum: A Pictorial Souvenir* (Santa Barbara: Companion Press, 1988), p. 7 (photo); William Waterhouse, *The New Langwill Index: A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), p. 278; Willi Wörthmüller, "Die Instrumente der Nürnberger Trompeten- u. Posaunenmacher," *Mitteilung des Vereins für Geschichte der Stadt Nürnberg* 46 (1955): 456-57.

REMARKS: Michael Nagel (1621-64) is the only member of his family known to have made instruments. The son of a leather-worker, he apprenticed with the brass-instrument maker Conrad Droschel (1596-1644) in Nuremberg and served as a journeyman under Hans Müller (fl. 1618-30) in Vienna.⁵ Nagel returned to Nuremberg in 1646, took over Droschel's shop, adopted the latter's mark (Fig. 1b), and married his still relatively young widow.⁶ He stood as godfather to Paul Hainlein's son Michael.⁷

Wörthmüller regards Nagel's work as the high point of Nuremberg brass craftsmanship in the seventeenth century.⁸ Nagel's decoration shows a high artistic sense, as does his engraving technique. In addition to the the tenor trombone in the Shrine to Music Museum, there exist an alto trombone dated 1663 in the Horniman Museum in London⁹; a tenor trombone dated 1656 in the Bayerischen Nationalmuseum, Munich¹⁰; and another tenor dated 1661 in the Národní Museum, Prague (#885E).¹¹ A trumpet in C by Nagel exists in the Musikinstrumentensammlung of the Historisches Museum in Vienna.¹²

The slide section of this trombone is almost certainly not the work of Nagel, as indicated by a comparison of the ferrules in the bell section of the instrument (Fig. 1d) with those in the slide section (Fig. 1h).

#4649. Tenor, Johann Karl Kodisch, Nuremberg, 1701 (Fig. 2a)

MARKINGS: On garland: "MACHT ° IOHANN CARL ° KODISCH ° NV:RNB 1701 [master's mark]" (Fig. 2b). Master's mark is prancing horse with initials "ICK."

OTHER PHYSICAL FEATURES, DECORATION: One flat bell-stay, highly decorated (floral pattern), hinged connection to bell-pipe, with pin (Fig. 2c); sleeve on neck-pipe side of stay stands loose from neck-pipe; tabbed seam in bell visible at 3 o'clock from player's viewpoint; rim-wire decorated with cord motif; garland elaborately engraved (Fig. 2b); garland terminates at upper end with a ring of raised shells (*repoussé*); saddle in bell-bow may once have supported a ring; patch in bell-bow; considerable terminal flare in bell.

DIMENSIONS:

int. diam. of mouthpipe	11.7
slide bore	10.3/10.1 ¹³
int. diam. of slide receiver	9.8
int. diam. of bell receiver	12.0

ext. diam. of neckpipe at junction with first ferrule	11.7
ext. diam. of neckpipe at junction with bell-bow	12.3/12.6
ext. diam. of bell-pipe at junction with bell-bow	11.6/12.5 ¹⁴
diam. of bell	123/126
diam. of throat (140 from bell opening)	30.5
width of garland	50.0
length of air column in slide section (without mouthpiece)	1635.0
length of air column in bell section	1005.0
overlap, slide sec. to bell section	30.5
total sounding length of instrument (without mouthpiece)	2619.5
conical portion of bore	623 (=24%)

BELL THICKNESS:

distance from bell opening	at seam	90°	180°	270°
50 (at garland) ¹⁵	.36	.30	.40	.30

PITCH: B₁ -40 cents @ a' = 440 Hz with slide closed (with associated mouthpiece); B₂ + 30 cents with slide extended approx. 44mm.

PLAYING CHARACTERISTICS: Breathy tone, probably the result of a small air leak. Fifth partial quite flat.

POSITION OF BELL RELATIVE TO SLIDE: Between third and fourth position.

MOUTHPIECE: Modern replacement, made in antique style; no markings. Dimensions: external diameter of bowl, 38.0; internal diameter of bowl, 26.2; depth of bowl, 9.8; throat, 6.5, exit, 8.4; total length, 85.8.

HISTORY: Restored and lacquered at some point prior to acquisition.¹⁶ Purchased by Museum from Ernst W. Buser, 1989.

LITERATURE: Lyndesay G. Langwill, *An Index of Musical Wind-Instrument Makers*, 6th ed. (Edinburgh: the author, 1980), p. 93; Howard Weiner, "The Trombone: Changing Times, Changing Slide Positions," part 2, *Brass Bulletin* 36 (1981): 59-60; Wörthmüller, "Instrumente," pp. 451-53.

REMARKS: This instrument is richly decorated. Perhaps its most singular feature is the high degree of terminal flare in the bell, unusual for a trombone of this early date, but also seen on J.C. Kodisch's trumpets.¹⁷ Diagonal strips of decoration on slide-stays (Fig. 2d) are perhaps a Kodisch trademark.

Johnn Carl Kodisch (1654-1721; admitted as master in 1681¹⁸) was the most important brass-instrument maker of this family; he is also well known for his trumpets. The Kodisch family had a short history as brass-instrument makers in Nuremberg; Johann Carl's ancestors were mostly bakers, and his son Daniel may have been the last member of the family to make instruments.¹⁹ His master's mark, seen on the trombone described here, is a prancing horse, with the initials "I C K" (see Fig. 2b). Wörthmüller noted the similarity of Kodisch's instruments to those of Hainlein family. In particular, the engraved tendrils and five-petaled flowers, like a waterlily, on the bell-stay and bell garland resemble

the work of Michael Hainlein, while the hatching pattern on the bell section at the point where the bell-stay joins it resembles that of Hans and Paul Hainlein. These similarities, again according to Wörthmüller, suggest that Kodisch either apprenticed with one or more of the Hainleins, or served in the capacity of co-worker with them.²⁰ Wörthmüller further notes a high quality in Johann Carl Kodisch's work, equivalent to that of Johann Wilhelm Haas.²¹

Kodisch left behind a considerable estate on his death. His son Daniel married Margareta Hainlein, daughter of Michael Hainlein. Daniel was made master in 1710, and took over the family business on his father's death.²²

Seven further trombones by Johann Carl Kodisch are reported by Wörthmüller: the bell section of an alto (dated 1694; formerly in the Adam Carse collection; now in London, Horniman Museum); five tenors (one each in Basel, Historisches Museum [dated 1721²³], Bern, Historisches Museum [dated 1700], and Munich, Bayerische Nationalmuseum [dated 1683], and two in Schloss Burgdorf, Switzerland [both dated 1697]²⁴); and one Quart-bass (in Salzburg, Museum Carolino-Augusteum [dated 1687]).²⁵ In addition Langwill reports yet another tenor in Nuremberg, Deutsches Nationalmuseum (dated 1693).²⁶ In terms of extant instruments, Kodisch and Paul Hainlein (1626-86) rank as the most prolific makers of trombones before 1750. Four trumpets by Kodisch also survive.²⁷

#4896. Tenor. Johann Paull Franck, Hildburghausen, 1744 (Fig. 3a)

MARKINGS: “* MACHT * IOHANN * PAULL * FRANCK * IN * HILDBURG * HAUSSEN * ANNO * 1744” (inscribed so as to be read from an observer's—rather than the player's—perspective).

OTHER PHYSICAL FEATURES, DECORATION: Silver-plated garland on bell (Fig. 3b), engraved in a festoon pattern between legend and rim; rim wire (also silver) 3.5mm thick, decorated with highly detailed floral pattern; spinning marks visible inside and outside bell; tabbed seam in bell visible, located at 3 o'clock from player's viewpoint; flat silver-plated bell-stay (Fig. 2c), embellished on both sides with floral ornament; on bell-pipe side of stay, hinge and hinge-pin are silver-plated, as is saddle, which unusually encloses the entire circumference of the bellpipe; on neckpipe side, bell-stay is attached to silver ferrule, which is flanked by two similar silver ferrules; no eyelet in bell-stay, ring in bell-bow encloses entire circumference of tube; lower slide-stay is telescopic.

DIMENSIONS:

int. diam. of mouthpipe	10.2
slide bore	9.4
int. diam. of slide receiver	10.4
int. diam. of bell receiver	12.3
ext. diam. of neckpipe at junction with first ferrule	12.8
ext. diam. of neckpipe at junction with bell-bow	12.7
ext. diam. of bell-pipe at junction with bell-bow	12.3

diam. of bell	120.0
diam. of throat (140 from bell opening)	34.5
width of garland	31.5
length of air column in slide section (without mouthpiece)	1659.5
length of air column in bell section	1046.5
overlap, slide sec. to bell section	28.5
total sounding length of instrument (without mouthpiece)	2677.5
conical portion of bore	653 (=24%)

THICKNESS OF BELL:

distance from bell opening	at seam	90°	180°	270°
31 (at garland)	.25	.30	.27	.30
100	.30	.30	.30	.30

PLAYING CHARACTERISTICS: Small but well-focused sound; free-blowing; harmonics generally well in tune.

MOUTHPIECE: Modern replacement, made in “early” style, with relatively flat rim and sharp-edged throat. No markings. Dimensions: ext. diam. of rim, 32.9; int. diam. of rim, 22.8; depth of bowl, 26.5; throat, 5.2; exit, 8.4; overall length, 82.0.

PITCH: B_♭ + 30 cents @ a¹ = 440 Hz (with associated mouthpiece). With slide extended approx. 44mm, B_♭ + 10 cents.

POSITION OF BELL RELATIVE TO SLIDE: fourth position.

HISTORY: Restored by R. Egger, 1989. Acquired by the Museum from E. Buser in 1990.

LITERATURE: Karl-Heinz Ross, letter to E. Buser, 16 February 1990; Waterhouse, *New Langwill Index*, p. 121.

REMARKS: This instrument is a particularly fine specimen, well constructed, with silver-plated fittings. An unusual feature is the spun bell—a feature usually associated with instruments of a much later date. While the bell was joined in the conventional way, with tabbed seams, the surface of the bell, both inside and out, clearly shows spinning marks.²⁸ As Franck was brass-founder for the local court, it is entirely possible that this instrument was commissioned by Duke Ernst Friedrich II. The silver-plated embellishments bespeak a commission from a wealthy patron. The delicate floral pattern on the silver-plated rim-wire indicates that considerable care that was invested in the construction of the instrument. The decoration on the rim-wire is so fine that it can be represented only in a schematic way in the scale drawing.

The present instrument is the only trombone by Johann Paull Franck known to exist, though a horn by him, dated 1722, is in Nuremberg, Germanisches Nationalmuseum (W 3014)²⁹; and another, dated 1746, is in the Stadtmuseum, Hildburghausen. Hildburghausen is a small town approximately 100 kilometers north of Nuremberg, near Coburg. From 1680 to 1826 it was the seat of the dukes of Sachsen-Hildburghausen. Our trombone maker is identified in local records as Johann Paul Joseph Frank.³⁰ His date of birth is

unknown. On 10 October 1716 he married Dorothea Rögner; he was buried 30 June 1747. He is further identified as a brass founder and maker of Waldhorns and trumpets from 1724 to 1745, under Duke Ernst Friedrich II.³¹ Franck's father (no Christian name given) came from Steinheyd in Thuringia. His brother, Hieronymus Heinrich Franck, died 9 September, 1736.³² From Hieronymus we have a parforce horn dated 1716, in Nuremberg, Germanisches Nationalmuseum, W 3014.³³ Like his brother Johann, Hieronymus was brass-founder to the local court. The latter was arrested for minting false coins and spent a considerable amount of time bound in chains. He gained his release only when his daughter Anna, a chambermaid to the duchess, vouched for him.³⁴

No relationship between our trombone-maker and any other brass-makers named Franck (Frank) can be established. Hannß Franck of Nuremberg (fl. 1425-27) is one of the earliest recorded brass-makers.³⁵ Three other brass-makers named Frank (Franck), identified by Waterhouse as the "very last representatives of the Guild of Nürnberg B[rass] I[nstrument] makers,"³⁶ were active in Nuremberg between 1757 and 1857, but there is no known connection between the Franks of Nuremberg and the Francks of Hildburghausen.

#5946. Alto. Johann Christoph Fiebig, Berngrund, 1771 (Fig. 4a)

INSCRIPTION, MARKINGS: On garland (Fig. 4b): "IOHANN CHRISTOPH FIEBIG MACHTS IN BERNGRUNDT 1771" (NB: Letters in this legend are of different sizes and positioned irregularly. The two letter "N's" in "IOHANN" are backwards.) Double fleur-de-lis stamped on bell is Fiebig's workshop symbol.³⁷

OTHER PHYSICAL FEATURES, DECORATION: Tubular slide stays, immovable stay dented, moveable stay telescopic; no slide stockings; rings in bell- and slide-bow, both made of thin strips of brass rather than wire; each ring attached to saddle; upper branch of inner slide shows repair: it is in two sections, upper 44.6mm, lower 380mm; inner slide tubes are of differing lengths as a result of this repair; bell-stay is more or less square in cross-section (Fig. 4c), soldered on neckpipe side, hinged on bell-pipe side, attached with a pin; rim-wire has cord or braid pattern; ferrules have ring pattern: each ferrule has four or five sets of rings; most of these sets are double; a few are triple. Dents in outer radius of slide bow (Fig. 4d); opened soft solder patch on front of bell sec. closed during restoration. Bell-stay and immovable slide-stay dented and apparently bent.

DIMENSIONS:

int. diam. of mouthpipe	11.3
slide bore	9.6
int. diam. of slide receiver	10.4
int. diam. of bell receiver	11.9
ext. diam. of neckpipe at junction with first ferrule	11.8/12.4
ext. diam. of neckpipe at junction with bell-bow	12.4
ext. diam. of bell-pipe at junction with bell-bow	12.6
diam. of bell	102.0

diam. of throat (140 from bell opening)	20.5
width of garland	20.5
length of air column in slide section (without mouthpiece)	1229.0
length of air column in bell section	772.5
overlap, slide section to bell section	41.5
total sounding length of instrument (without mouthpiece)	2001.5
conical portion of bore	587 (=29%)

THICKNESS OF BELL:

distance from bell opening	at seam	90°	180°	270°
20.5 (at garland)	.30	.30	.30	.33
60	.27	.33	.29	.29

PITCH: $E_b + 30$ cents @ $a^3 = 440$ with slide closed; $E_b - 20$ cents @ $a^3 = 440$ with slide extended approx. 33mm.³⁸

POSITION OF BELL RELATIVE TO SLIDE: second position.

PLAYING CHARACTERISTICS: Breathy sound; harmonics not in tune; possible air leak.

HISTORY: Purchased by the Museum in 1996 from Boguslaw Wojnar, whose father purchased it from an unidentified source approximately twenty years earlier.³⁹

BIBLIOGRAPHY: Herbert Heyde, *Musikinstrumenten-Museum der Karl Marx-Universität, Leipzig, Katalog*, vol. 3: *Trompeten, Posaunen, Tuben* (Leipzig: VEB Deutscher Verlag für Musik, 1980); Curt Sachs, *Sammlung alter Musikinstrumente bei der staatlichen Hochschule für Musik zu Berlin* (Berlin, 1922), p. 230; Gary Stewart, restoration report on Fiebig alto trombone, dated 1997, in Shrine to Music Museum files.

REMARKS: Fiebig was a miller as well as an instrument maker. The only other surviving Fiebig instruments known to this writer are a trumpet in the Leipzig collection (#1803) and a bell section from a bass trombone in the Berlin Musikinstrumenten-Museum (#3053). Berggrundt is situated on the River Müglitz, not far from Dresden.⁴⁰

The instrument is much plainer in decoration than the tenors described above. Saddles on the slide-bow, bell-bow, and at point of attachment of bell-stay to bell-pipe are not decorated, nor is the bell-stay itself. Also, the haphazard appearance of the inscription in the cartouche on the bell garland—particularly the position of the letter “H” at the end of the word “Chistoph”—is perhaps evidence of workmanship—in the engraving, at least—that is not of the highest rank. The instrument was conservatively restored by Gary Stewart in 1997.⁴¹

#1277. Buccin-tenor. Unsigned (?French), ca. 1820 (Fig. 5)

INSCRIPTION, MARKINGS: none

OTHER PHYSICAL FEATURES, DECORATION: Bell in shape of dragon's head; slide may be a later replacement.

DIMENSIONS:

int. diam. of mouthpipe	11.7
slide bore	not measurable
int. diam. of slide receiver	10.6
int. diam. of bell receiver	13.7
diam. of bell	103/213
length of air column in slide section (without mouthpiece)	1660.0
length of air column in bell section	1235.0
overlap, slide section to bell section	65.5
total sounding length of instrument (without mouthpiece)	2829.5

PITCH: not measurable

PLAYING CHARACTERISTICS: Tone extremely breathy due to air leak. Slide frozen.

LITERATURE: Kitzel, *Trombones*, pp. 87, 90 (photograph), 243.

REMARKS: Water key (port filled in with metal); slide sockets; screw joint, slide-to-bell-sec.; three bell-stays, one semicircular; undecorated oval saddles on bell-stays; no saddles on slide-stays; undecorated ferrules at lower end of slide; dragon's-head bell is made as a separate piece, attached to the coiled expanding tube with a sleeve; dragon's head painted red, gold, and black; a tube-shaped support 582mm long is mounted parallel to the axis of the initial section of the bell.

Buccin-trombones were occasionally used in military bands, beginning ca. 1790 and continuing through much of the nineteenth century. The dragon's-head bell is a common embellishment of such instruments. More than sixty buccin-trombones, almost all of them tenors, exist in museums in Europe and the United States. Few of them are signed, and none are dated, though most appear to be from the first half of the nineteenth century; many appear to have replacement sides. The dragon's-head bell is sometimes found on other types of instruments.

Comparisons

Leaving aside the buccin-trombone for the moment, the four pre-1800 instruments offer a cross-section of German trombone making between 1656 and 1771. As for the makers themselves, both Nagel and Kodisch are prominent representatives of the Nuremberg school of the seventeenth and early eighteenth centuries, when the tradition was at its zenith. Franck and Fiebig, on the other hand, represent a later phase of trombone-making. Both worked at a time when use of the instrument was in decline, prior to its revival in the nineteenth century. Significantly, neither Franck nor Fiebig was a full-time instrument builder.

The three pre-1800 tenor trombones invite some specific comparisons. The Kodisch instrument, chronologically the of the three specimens, has the largest slide bore, 10.1-10.3mm, while the Nagel and the Franck, at 9.5-9.8 and 9.4mm respectively, are quite similar in this dimension—and also comparable to the Fiebig alto, at 9.6mm. All three

tenor instruments are roughly similar in throat diameter,⁴² the Kodisch instrument being smallest at 30.5mm, the Franck the largest at 34.5, and the Nagel only slightly smaller at 33.5. In terms of bell diameter, the instruments of Kodisch and Franck, at 123-126 and 120mm respectively, are considerably larger than the earlier Nagel, at 96mm. The trend toward wider bells in the eighteenth century is discernible here. And while the Kodisch instrument has a larger bell than the later Franck instrument, the anomalous nature of the former's bell design has already been observed. In terms of sounding length, the Franck instrument, at 2677.5mm, is the longest, while the Kodisch shortest at 2619.5, and the Nagel represents a median position at 2659.5. Given these measurements, it is hardly surprising that the Kodisch trombone has the highest pitch of the three (see under "PITCH" for each instrument, above).⁴³

The Nagel instrument, with its superb construction and finely detailed engraving, is a "classical" specimen of Nuremberg craftsmanship. The Kodisch instrument is also handsomely decorated in the finest Nuremberg style; its flaring bell, uncharacteristic for the time, is something of Kodisch trademark, and may represent an early experiment in bell design that was not fully realized until several decades later. The Franck instrument is unusual for its spun bell, and while little specific data is available, it is quite possibly one of the earliest extant trombones with this type of bell.

Conclusion

The historical value of the early trombones in the Shrine to Music Museum can hardly be overestimated. Each of the instruments is an important specimen in its own right. Moreover, collectively the four pre-1800 trombones represent the largest number of such instruments to be found in any single location in the western hemisphere.

Stewart Carter is Professor of Music at Wake Forest University and Executive Editor of the Historic Brass Society Journal. In the spring of 1997 he was Visiting Research Professor at America's Shrine to Music Museum.

FIGURE 1: #3592. tenor trombone, Michael Nagel, 1656

- a) full-length view
- b) bell garland, with master's mark
- c) bell-stay
- d) bell-bow, with ferrules
- e) ferrule on bell section
- f) scale drawing
- g) scale drawing, detail: garland
- h) scale drawing, detail: slide stays and adjacent ferrules

Figure 1a.

No. 3592. Trombone, slide tenor, by Michael Nagel, Nürnberg, Germany, 1656. Ex. coll.: Bohland & Fuchs, Graslitz, Bohemia. Board of Trustees, 1985.

America's Shrine to Music Museum
University of South Dakota
Vermillion, SD





Figure 1b



figure 1c



Figure 1d



Figure 1e

Figure 1b, 1c, 1d, 1e

No. 3592. Trombone by Mchael Nagel, Nürnberg, Germany 1656. Purchase funds gift of Mr. & Mrs. Clifford E. Graese, Saddle River, New Jersey, 1985.

America's Shrine to Music Museum
University of South Dakota
Vermillion, SD

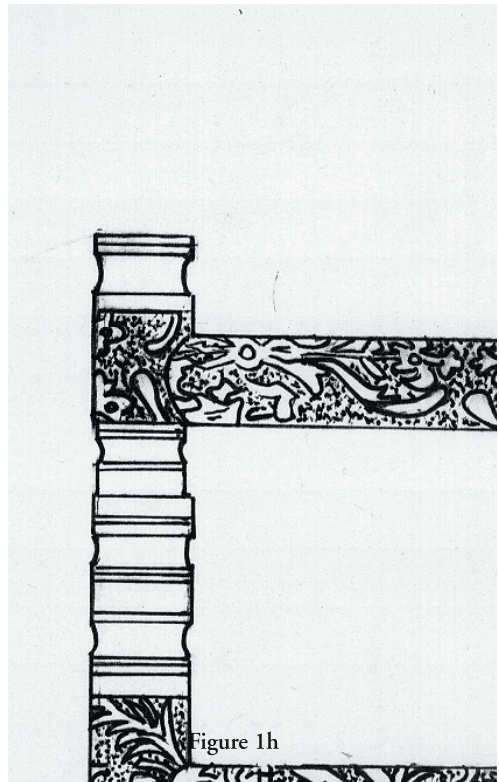
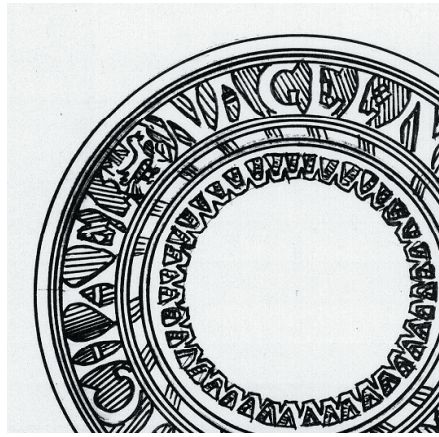
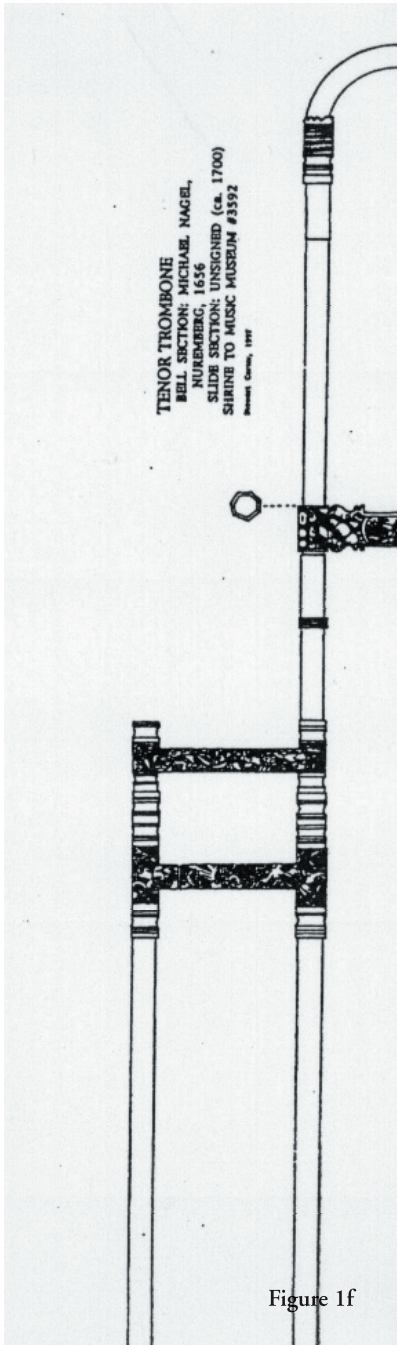


FIGURE 2: #4649; tenor, Johann Carl Kodisch, 1701

- a) full-length view
- b) bell garland, with master's mark
- c) bell-stay
- d) slide-stays
- e) scale drawing
- f) scale drawing, detail: garland



Figure 2a, 2b, 2c, 2d
No. 4649. Trombone by Johann Carl Kodisch, Nürnberg, Germany, 1701. Ex. coll.: Ernst Buser, Binningen, Switzerland, Purchase funds gift of Mr. & Mrs. Clifford E. Graese, Orlando, Florida, 1989. America's Shrine to Music Museum University of South Dakota Vermillion, SD



Figure 2b

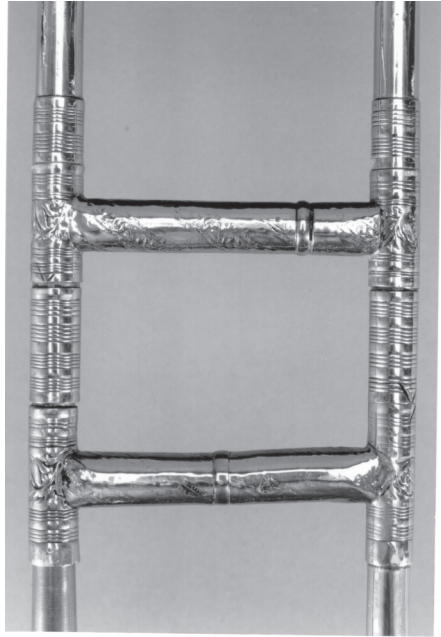


Figure 2d

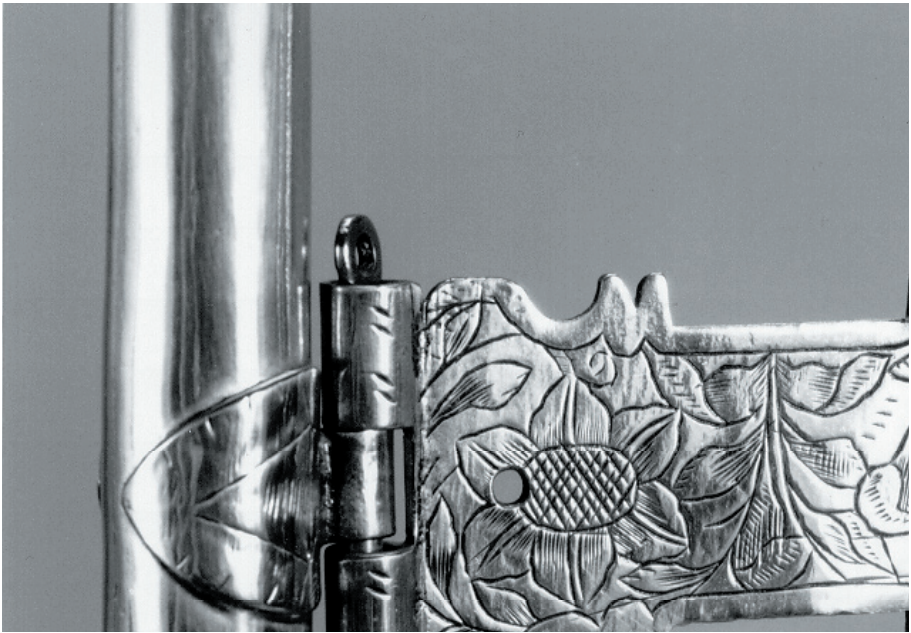


Figure 2c

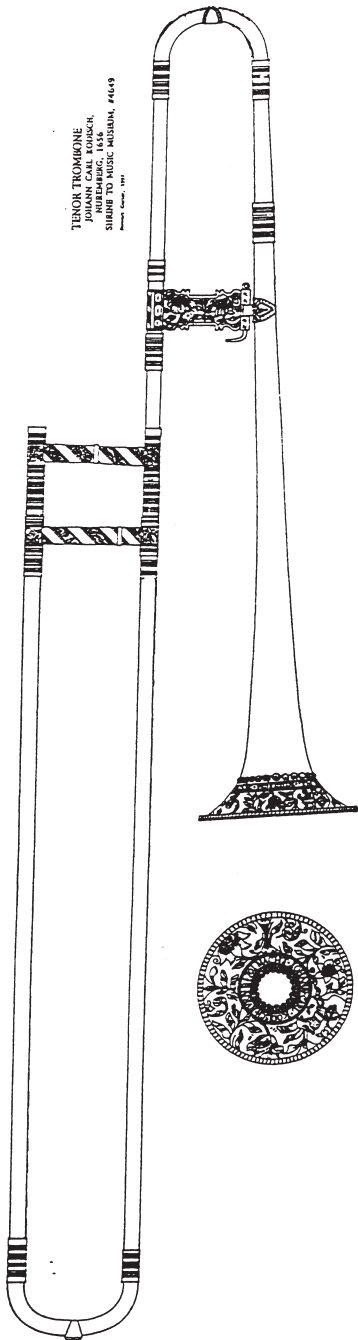


Figure 2f



Figure 2e

FIGURE 3: #4896; tenor, Johann Paul Franck, 1744

- a) full-length view
- b) bell garland
- c) bell-stay
- d) slide-stays
- e) scale drawing
- f) scale drawing, detail: garland

Figure 3a



Figure 3b

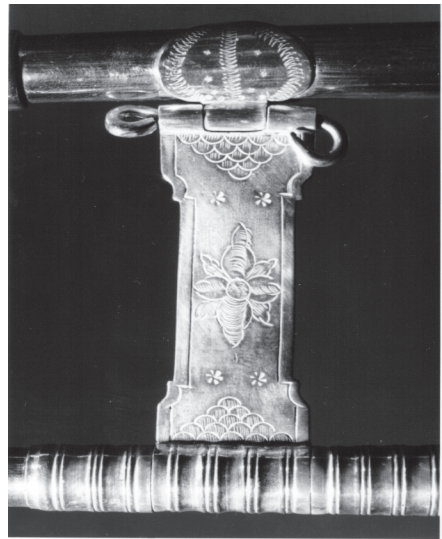


Figure 3c

Figure 3a, 3b, 3c, 3d

No. 4996. Trombone by Johann Paul Franck, Hildburghausen, Thuringia (Germany), 1744. Ex. coll.: Ernst Buser, Binningen, Switzerland. Purchase funds gift of Mr. & Mrs. Clifford E. Graese, Orlando, Florida, 1990. America's Shrine to Music Museum University of South Dakota Vermillion, SD



Figure 3d

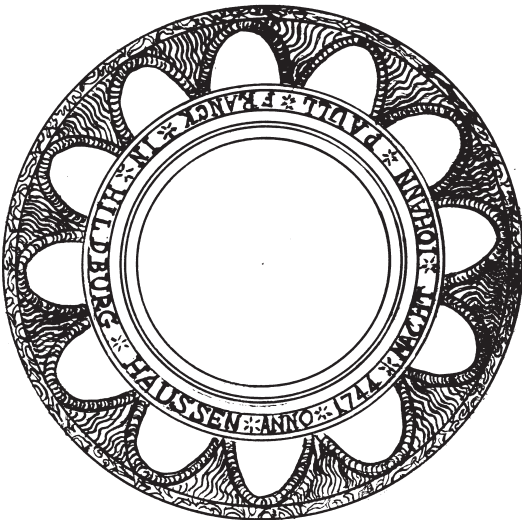


Figure 3f

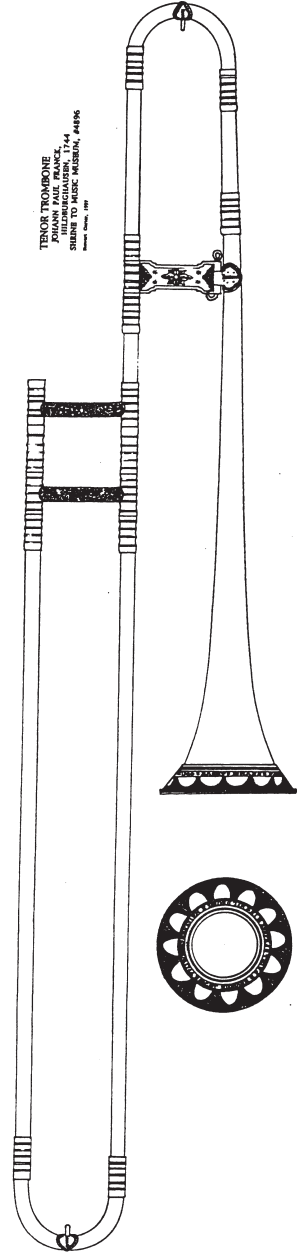


Figure 3e

FIGURE 4: #5946; alto, Johann Christoph Fiebig, 1771

- a) full-length view
- b) bell, with garland
- c) bell-stay and upper slide-stay
- d) slide-bow, end view, showing dents
- e) scale drawing
- f) scale drawing, detail: bell garland

Figure 4a, 4b, 4c, 4d

No. 5946. Alto trombone by Johann Christoph Fiebig, Saxony, Berngrundt (Germany), 1771. Board of Trustees, 1996.

America's Shrine to Music Museum
University of South Dakota
Vermillion, SD



Figure 4a

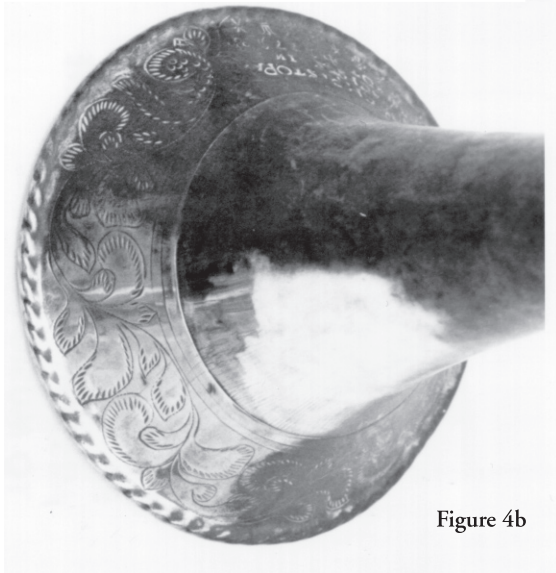


Figure 4b

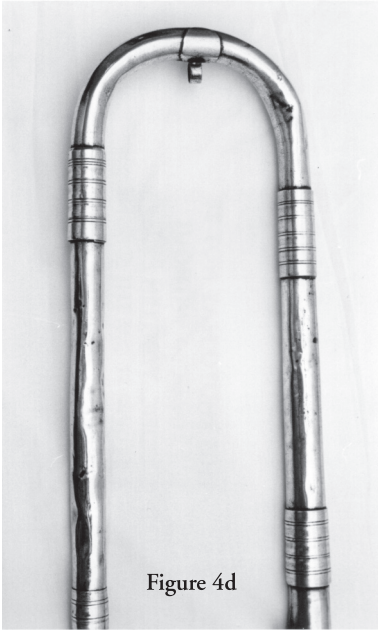


Figure 4d

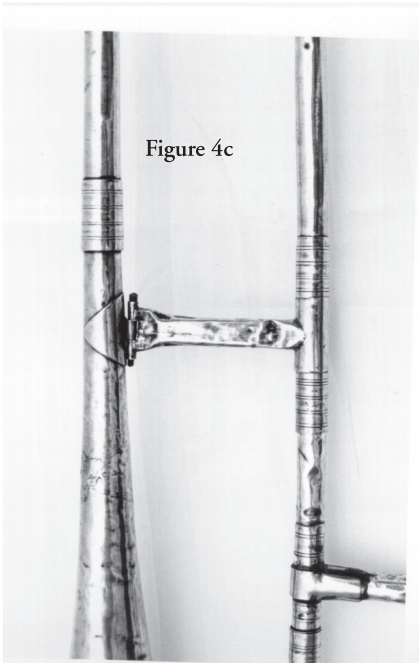


Figure 4c

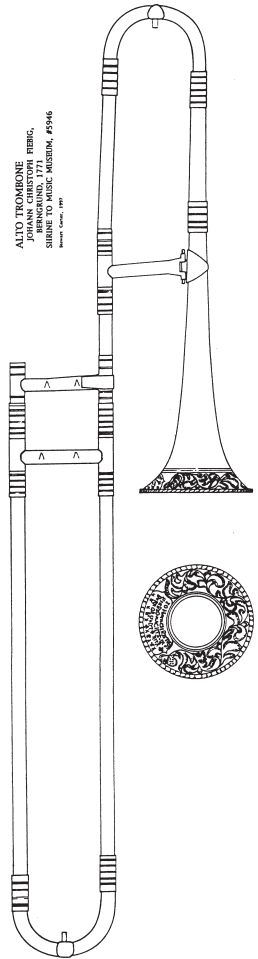


Figure 4e

Figure 4f



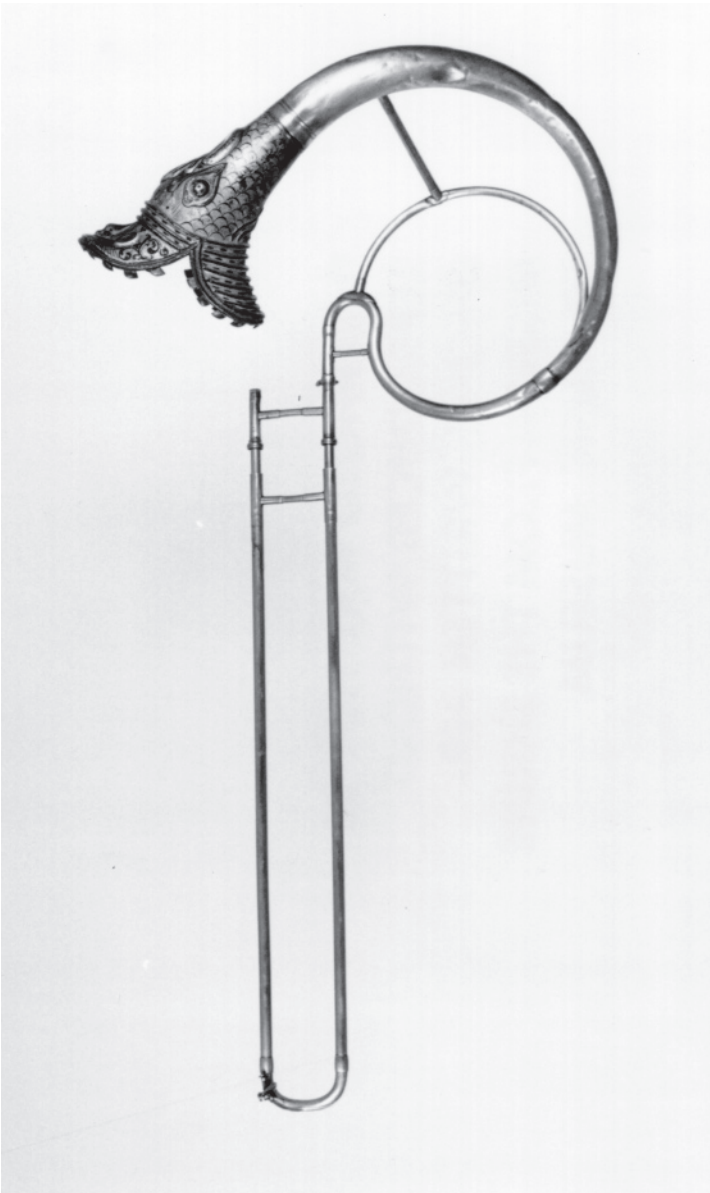


FIGURE. 5: #1277; buccin-tenor, unsigned, early nineteenth century

No.1277 Trombone, unmarked, France, early 19th century. Arne B. Larson Collection, 1979.
America's Shrine to Music Museum
University of South Dakota
Vermillion, SD

NOTES

¹ Of particular interest to readers of the *Historic Brass Society Journal* are the following: Gary M. Stewart, *Keyed Brass Instruments in the Arne B. Larson Collection* (Vermillion, SD: Shrine to Music Museum, 1980); David Wayne Knutson, *A Catalogue of the European Cornets and Trumpets at the Shrine to Music Museum* (D.M.A. diss., University of Illinois, 1992); Marshall Lynn Scott, *The American Piston Valved Cornets and Trumpets of the Shrine to Music Museum* (Ph.D. diss., University of Wisconsin, 1991); and John Swain, *A Catalog of the E-flat Tubas in the Arne B. Larson Collection at the University of South Dakota* (Ph.D. diss., Michigan State University, 1985). For a catalogue of the trombones in the Museum, see n. 2.

² Larry Kitzel, *The Trombones of the Shrine to Music Museum* (D.M.A. document, University of Oklahoma, 1985).

³ The first dimension is the bore of the falling inner slide tube, the second, the bore of the rising inner slide tube. It is unclear whether the discrepancy is a function of design, or of changes in the instrument over time, perhaps from damage or wear.

⁴ Extending the slide by approximately 44mm is suggested by Howard Weiner, who tested two of the Shrine to Music Museum's trombones before they were transferred to the United States. This adjustment relates to Michael Praetorius, who says in his *Syntagma musicum*, vol. 2, *De Organographia* (c.1619; facs. reprint, Kassel: Bärenreiter, 1958), p. 232, that one can obtain the true choir pitch from a trombone, especially one of Nuremberg make, with the slide drawn out "two-fingers' width" ("2. Finger breit").

⁵ William Waterhouse, *The New Langwill Index: A Dictionary of Musical Wind-Instrument Makers and Inventors* (London: Tony Bingham, 1993), p. 278. Müller had earlier (c.1614-after 1618) worked in Nuremberg.

⁶ *Ibid.*

⁷ Willi Wörthmüller, "Die Nürnberger Trompeten- und Posaunenmacher des 17. und 18. Jahrhunderts," *Mitteilung des Vereins für Geschichte der Stadt Nürnberg* 45 (1954): 208-325; here, 262.

⁸ *Idem*, "Die Instrumente der Nürnberger Trompeten- u. Posaunenmacher," *Mitteilung des Vereins für Geschichte der Stadt Nürnberg* 46 (1955): 372-484; here, 456.

⁹ Formerly in the Adam Carse collection. See *Catalogue of the Adam Carse Collection of Old Musical Wind Instruments* (London: London County Council, 1951), p. 68.

¹⁰ Wörthmüller, "Instrumente," p. 457; Henry George Fischer, *The Renaissance Sackbut and its Use Today* (New York: The Metropolitan Museum of Art, 1979), p. 41.

¹¹ *Národní Museum. Hudební Oddelení. Catalogue*. Prague: n.p., n.d.), p. 41.

¹² Wörthmüller, "Instrumente," p. 457.

¹³ The first dimension is the diameter of the falling inner slide tube, the second, of the rising inner slide tube. It is unclear whether the discrepancy is a function of design, or of changes in the instrument over time, perhaps from damage or wear.

¹⁴ Discrepancy in measurement due to repair.

¹⁵ The configuration of the bell on this instrument made it difficult to measure thickness farther into the bell.

¹⁶ Repairs and lacquering had already been accomplished when the instrument was examined by Rainer Egger at the time of acquisition. See restoration report for #4896, by R. Egger (letter to Ernst W. Buser, 19 January 1989), Shrine to Music Museum. After commenting on the restoration of #4896, Egger says, "This instrument [i.e., #4649] did not require restoration. Two patches on the bell bow were already present They were, roughly estimated, applied around the turn of the century. The

trombone is lacquered and in very good condition" (translation by Howard Weiner).

¹⁷ Compare Robert Barclay, *The Art of the Trumpet-Maker* (Oxford: Clarendon Press, 1992), p. 23.

¹⁸ Waterhouse, *New Langwill Index*, p. 209.

¹⁹ One Johann Reinhard Kodisch (c.1710-1745) was admitted as master in Nuremberg in 1731, but according to Waterhouse, he died before registering his mark. Probably he was the son of Daniel Kodisch, though no records exist to support this assumption. No instruments by him are known to survive. See *ibid.*, and Wörthmüller, "Nürnberger," p. 247.

²⁰ Wörthmüller, "Instrumente," p. 451. The Kodisch and Hainlein families were closely linked. According to Waterhouse, Johann Carl's son Daniel Kodisch (1686-1747) married a daughter of Michael Hainlein. "It may be assumed that he was Hainlein's apprentice, and, after his death in 1713, his successor, his mark [a hen] bearing the same attribute" (*New Langwill Index*, p. 209).

²¹ Wörthmüller, "Nürnberger," p. 246.

²² *Ibid.*

²³ Wörthmüller ("Instrumente," p. 452) reports 1727 as the date of this instrument (with a parenthetical comment, "possibly 1777" [!]), but remarks in a footnote that the date is probably 1717, as Kodisch died in 1721. Henry G. Fischer (*The Renaissance Sackbut and Its Use Today* [New York: Metropolitan Museum of Art, 1979], n. 127) remarks that according to Dr. Veronika Gutmann, Curator of the Collection of Ancient Instruments, Historisches Museum, Basel, "the date is difficult to read and might be either 1721 or 1726, but the first alternative is evidently correct because . . . Kodisch did not live beyond that year."

²⁴ I have been unable to confirm the existence of these two trombones at Schloss Burgdorf.

²⁵ *Ibid.*, pp. 452-53.

²⁶ Lyndesay G. Langwill, *An Index of Musical Wind-Instrument Makers*, 6th ed. (Edinburgh: the author, 1980), p. 93. Langwill is probably mistaken regarding the existence of a trombone by Kodisch in Nuremberg, as the instrument does not appear in John Henry van der Meer, *Verzeichnis der europäischen Musikinstrumente im Germanischen Nationalmuseum Nürnberg*, vol. 1: *Hörner und Trompeten, Membranophone, Idiophone* (Wilhelmshaven: Hinrichshofen, 1979).

²⁷ Wörthmüller, "Instrumente," pp. 451-52.

²⁸ Richard Seraphinoff remarked (response to presentation, 13th Early Brass Festival, Bloomington, IN, July 1997) that he has seen a horn with a spun bell from around 1720. On the technique of spinning, see Geert Jan van der Heide, "Brass Instrument Metalworking Techniques: The Bronze Age to the Industrial Revolution," *Historic Brass Society Journal* 3 (1991): 122-150; here, 142. Van der Heide says that "Nowadays almost all bells for brass instruments are spun. . . . After the Industrial Revolution, spinning became the main technique used in bell-making. Earlier, it was employed only in the last stages of finishing the bell."

²⁹ William Waterhouse, *The New Langwill Index* (London: Tony Bingham, 1993), p. 121.

³⁰ This spelling of his name is given in Karl-Heinz Ross, letter to E. Buser, dated 16 February 1990. In Ross' letter, the family name is always spelled "Frank."

³¹ Hildburghausen, Kirchengemeinde, Schriften des Vereins f.S. Meiningsche Geschichte und Landeskunde, Kirchenbücher, Heft 65 S.370. Cited in *ibid.* The date of 1746 on the horn in the Stadtmuseum, Hildburghausen, necessitates a slight revision of the proposed terminal date of Franck's activity in that city.

³² Schriftens des Vereins f.S. Meiningsche Geschichte und Landeskunde, Heft 65, S. 373. Cited in *ibid.*

³³ Waterhouse, *New Langwill Index*, p. 121.

³⁴ Ross, letter to Buser.

³⁵ Waterhouse, *New Langwill Index*, p. 121. See also Ekkehard Nickel, *Der Holzblasinstrumentenbau*

in der Freien Reichstadt Nürnberg (Munich, 1980); and Martin Kirnbauer, "Die Nürnberger Trompeten- und Posaunenmacher vor 1500 im Spiegel Nürnberger Quellen," in *Musik und Tanz im Zeitalter Maximilians I (1740-1520)*, ed. Walter Salmen (Innsbruck: Heibling, 1989).

³⁶ Waterhouse, *New Langwill Index*, p. 122. No trombones by the Nuremberg Franks are extant, however.

³⁷ See Herbert Heyde, *Musikinstrumenten-Museum der Karl-Marx-Universität, Katalog*, vol. 3: *Trompeten, Posaunen, Tuben* (Leipzig: VEB Deutscher Verlag für Musik, 1980).

³⁸ The figure of 33mm was obtained by dividing 44mm, the distance used to extend the slide for "first position" on the tenor trombones (see n. 3) by $4/3$, the ratio of a perfect fourth, which represents the difference in fundamental between the Fiebig alto trombone and the tenors.

³⁹ According to André P. Larson, Director, Shrine to Music Museum.

⁴⁰ André P. Larson, "A Unique Alto Trombone from 18th-Century Saxony," *America's Shrine to Music Museum Newsletter* 25/2 (February 1998): 8.

⁴¹ Restoration report in Museum files, dated 1997.

⁴² The configuration of the dragon's-head bell complicates the taking of bell measurements, and renders them perhaps acoustically insignificant. Measuring from the inside, I estimate the opening to be approx. 104.5 x 116 at the approximate point of the effective termination of the air column.

⁴³ The slide is stuck in a position approximately 32mm from the fully closed position. The length of the air column in the slide section in its fully closed position has been estimated accordingly.

⁴⁴ "Throat diameter" represents the opening in the bell 140mm from its termination. This parameter of measurement is borrowed from Robert Barclay, who used it in comparing trumpets. See Barclay, *Trumpet-Maker*, p. 23.

⁴⁵ The pitch of early trombones raises several issues too complex to address in detail here. Henry Fischer (*Renaissance Sackbut*) has observed that most extant tenor trombones from the sixteenth and seventeenth centuries have a first-position pitch in the neighborhood of modern B \flat . We know from Michael Praetorius (*Syntagma musicum* II [1618-19; reprint, Kassel: Bärenreiter, 1958]) and Daniel Speer (*Grundrichtiger Unterricht* [1687; reprint, 1974]) that the *nominal* pitch of the tenor trombone in the seventeenth century was A; Fischer's B \flat must therefore represent *Chorton* A, that is, $a^1 = \pm 465$. By the late eighteenth century, however, the trombone was reckoned to be in B \flat , at least in some circles. This is confirmed by J.J. Francouer's (autograph additions made, probably during the 1780s, to a copy of his *Diapason général de tous les instruments à vent* [Paris, 2 1772] in Paris, Bibliothèque Nationale) and André Braun (*Gamme et méthode pour les trombones* [Paris, ca.1795]; see Howard Weiner, "André Braun's *Gamme et méthode pour les trombones*: The Earliest Modern Trombone Method Rediscovered," *Historic Brass Society Journal* 5 [1993]: 288-308). It seems, however, that the sounding length of the trombone did not change significantly. We have data on length and pitch for only a distressingly small percentage of extant seventeenth- and eighteenth-century trombones, yet an examination of the data we do possess reveals no significant change. It seems likely, then, that changing pitch standards account for the change in the instrument's nominal pitch. This change in the trombone's nominal pitch was the subject of a presentation by the present author at a study session on early brass instruments at the meeting of the American Musicological Society, November, 1996; and a paper entitled "Something Old, Something New: Trombone Pitch in the Eighteenth Century," Historic Brass Society Symposium, Royal Academy of Music, London, Aug. 13, 1997.