The Salem Cornetts[1]

Stewart A. Carter

Among the most interesting instruments in the collection of the Wachovia Museum (Old Salem) in Winston-Salem, North Carolina, are two cornetts, one curved and one straight, bearing identical signatures: "GÜTTER / NEUKIRCHEN / 1805." My objective in this article is to offer a detailed description of these two instruments and then place them in their historical context, with regard to the late history of the cornett in general and the use of the instruments in the Moravian community of Salem (now Winston-Salem) in particular.

The instruments

Like other instruments in the Wachovia Museum in the restored village of Old Salem in Winston-Salem, the two cornetts are assumed to have been acquired and used by the Moravians of the Salem community,[2] perhaps to accompany music in church, but more likely for extra- and paraliturgical use: for the accompaniment of hymn-singing out of doors, and perhaps also for secular use in the Collegium Musicum Salem.

The curved cornett (#Z-102)

The curved cornett appears at first glance to be a rather standard design (see Figure 1)– octagonal in its outer cross-section (Figure 2), but with a circular bore, expanding conically through the length of the instrument. Unlike most instruments of its type, however, it is made of a single, uncut piece of wood, rather than two halves glued together. It is covered

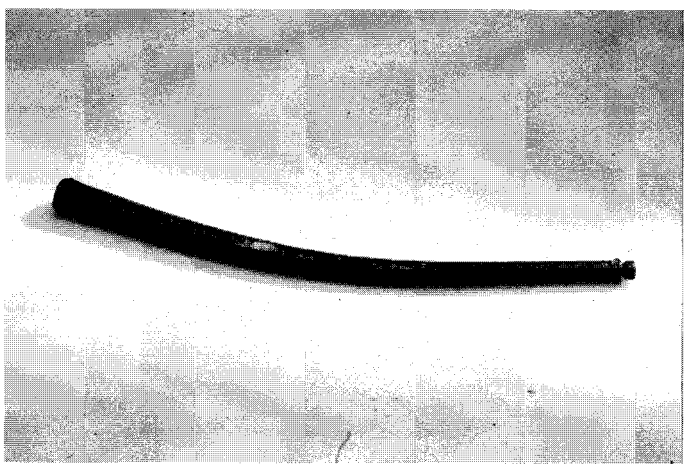


Figure 1
Curved cornett, Gütter, Neukirchen, 1805, Winston-Salem NC, Collection of the Wachovia Historical Society, #Z-102. Courtesy of Old Salem Inc.

Figure 2
Detail of Figure 1. Longitudinal lines reveal octagonal outer cross-section.

Figure 3
Mouthpiece for instrument in Figure 1.
Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

with brown leather. Its mouthpiece, which is stuck fast in the instrument, has deteriorated to such an extent that it is difficult to obtain a seal (Figures 3-4); some of this deterioration is visible in Figure 3. The instrument is thus essentially unplayable and cannot be tested properly for pitch.

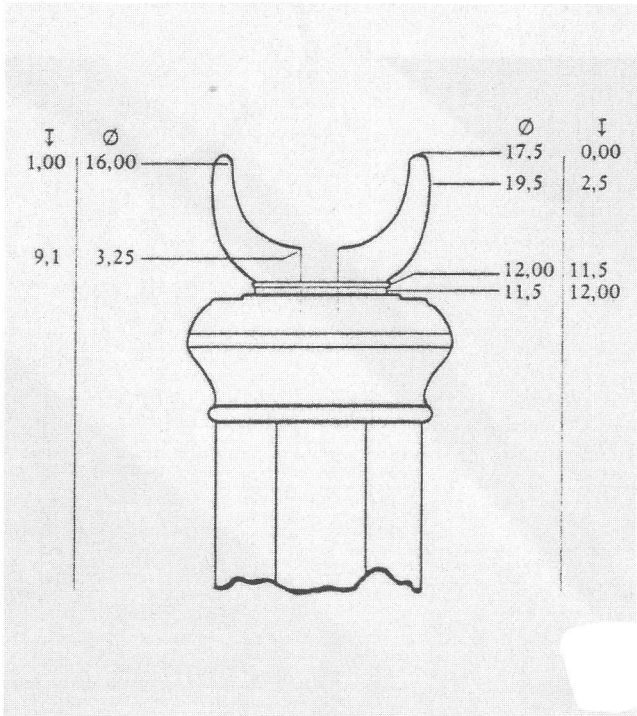


Figure 4
Mouthpiece for instrument in Figure 1. Drawing by Graham Nicholson, after measurements by John McCann. Reproduced by permission.

Nicks in the curved cornett, visible in X-ray photographs (Figures 5-7), indicate that the maker drilled the bore prior to bending the wood. According to John McCann, "The instrument was probably reamed out on a lathe using at least two conical reamers, profiled externally, nicked, steam-bent, and the nicks glued while the instrument dried in a form."[3] The wood is nicked at thirteen points, somewhat unevenly spaced, along the central portion of the instrument. Each nick traverses all or part of five of the eight facets of the octagonal outer cross-section (and penetrates approximately two-thirds of the depth of the wooden shell), beginning on the top facet of the instrument and working inward from an imaginary line even with the outer extremity of the fingerholes and proceeding perpendicularly to the axis of the instrument through adjacent facets all the way to the bottom of the instrument.

Continuation of the nicks onto the bottom surface of the instrument can be seen in the X-ray photograph taken from the bottom of the instrument (Figure 7).[4] The three facets on what was to become, after bending, the outer curve of the instrument were not nicked. A thin strip of wood, not visible in the X-ray, may have been glued to the inside facet in order to maintain the proper curvature after the instrument dried.[5]

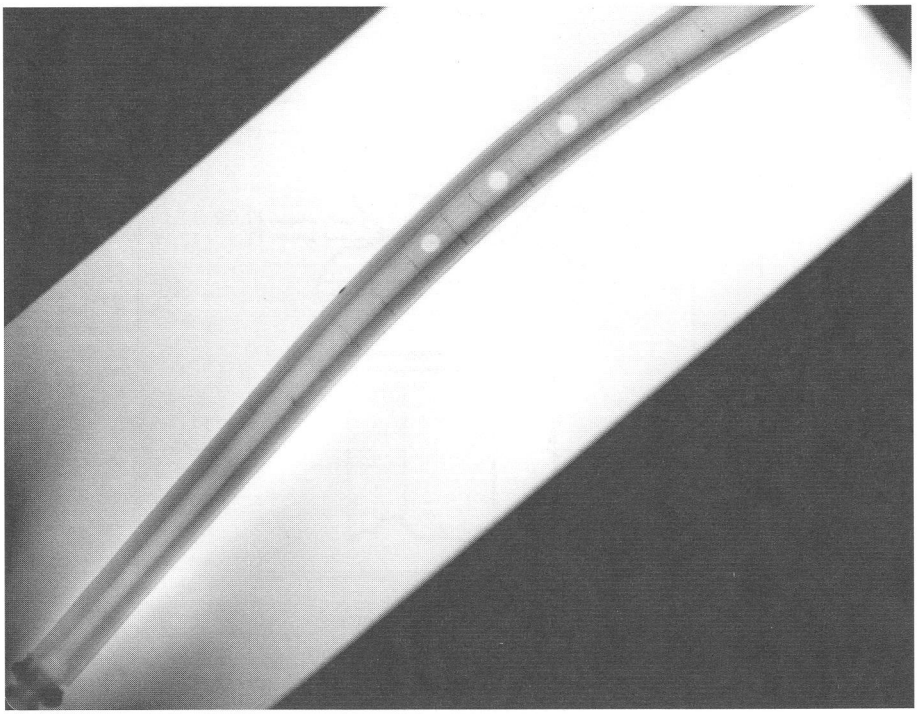


Figure 5
X-ray photograph of curved cornett, #Z-102; top view.
Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

Gütter's methodology may have made certain aspects of construction more difficult, while at the same time simplifying others. For one thing, it eliminated the carving problem; as John McCann says of the construction of a two-piece cornett, "In cutting the wood and gouging it out, different grain stresses are released and one finds that the two halves often don't quite match up. One has to be prepared to match the two parts up during the gluing process."[6] This step obviously does not apply to the manufacture of a one-piece instrument.

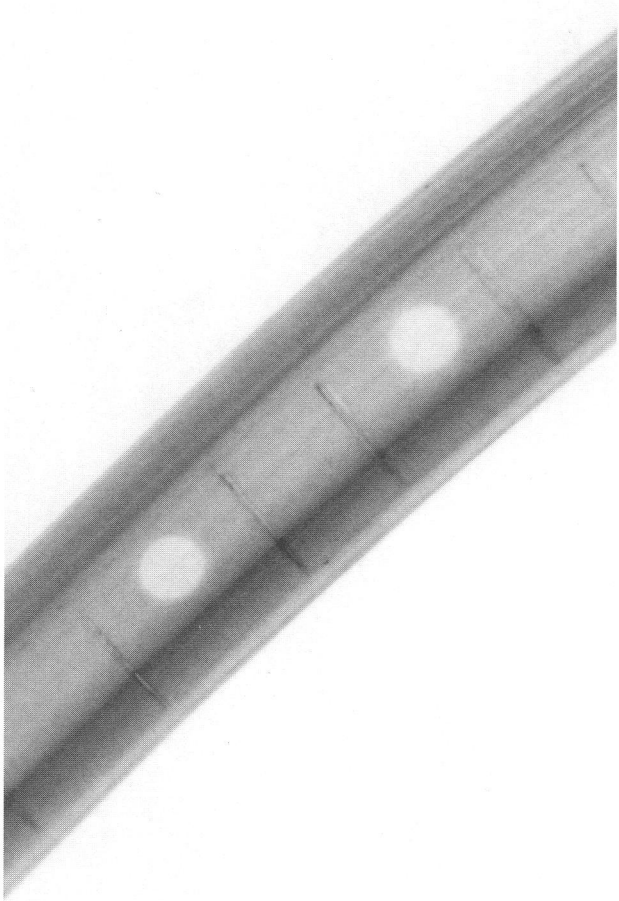


Figure 6
Detail of Figure 5.

McCann further observes that making a one-piece cornett in this way involved skills quite different from those required for making a two-piece instrument. "The shop that made these instruments may not have been capable of carving them in the traditional manner. Makers of straight instruments were basically turners, not carvers."[7] In this connection it is significant that Johann Georg Gütter, possibly the maker of this instrument (see below), is described in his marriage record of 15 October 1772 as a *Kunstdrechsler* ("artistic turner").[8]

This technique of nicking or "kerfing" was also used to bend the body of the curved model of English horn (see Figure 8), the "sickle-shaped" form of basset horn, and the oboe da caccia.[9] According to oboe-maker Sand Dalton,

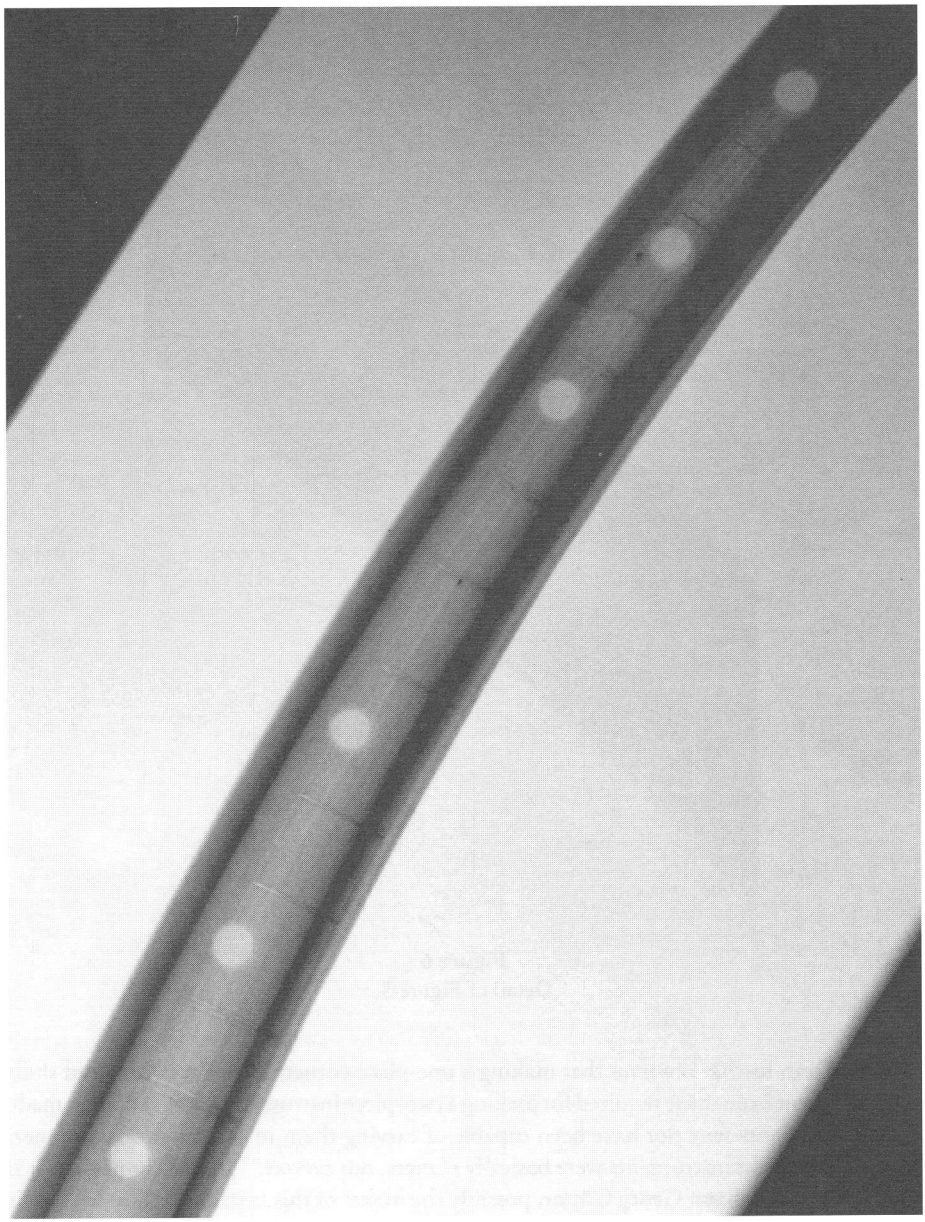


Figure 7
X-ray photograph of curved cornett, #Z-102; bottom view.
Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

The cut is begun on what will become the inside of the curve and tapers, creating little wedge-shaped gaps. When the instrument is bent, the instrument is kept in its new curved configuration by the use of U-shaped staples driven into the wood between the kerfs or a long metal (sometimes wood) reinforcing strip applied to the inside of the curve. ...

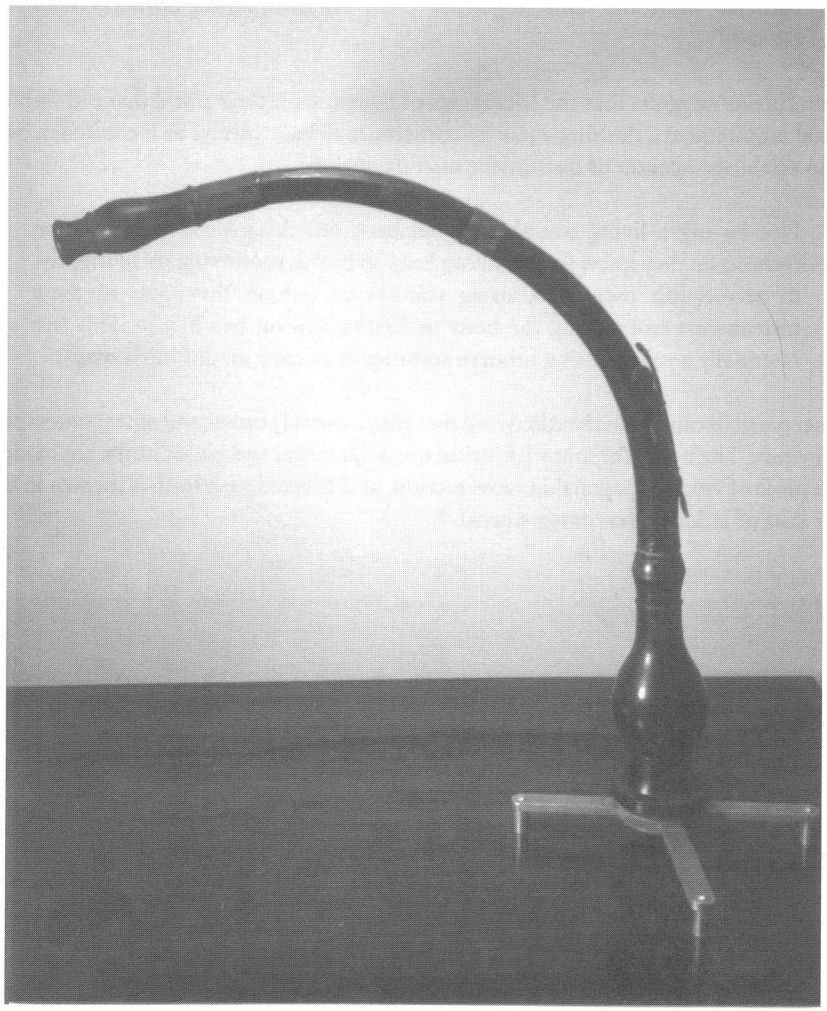


Figure 8

English horn by August Grenser, Dresden, ca.1760.
Kenneth G. Fiske Museum of Musical Instruments at the Claremont Colleges, no. W122. Facets, revealing the octagonal form of the body of the instrument, can be seen in the upper part of the instrument. Photo courtesy of Albert Rice.

> The technique used by Gütter was exactly like that used to curve contemporary English horns, with one important difference: whereas the nicks on English horns were always cut in from the side opposite the tone holes, those of this cornett were cut from the side that is ninety degrees to the tone holes. When bent, then, the plane of the fingerholes remains flat on the cornetto while the same fingerhole plane on the English horn becomes curved.[10]

Dalton further suggests that the Moravians of Salem, with their somewhat old-fashioned musical requirements, desiring a pair of cornetts, may have turned to Neukirchen, which was an established center of instrument manufacturing.

> Not having a living tradition to fall back on, the makers used modern techniques they knew from making English horns, modifying them slightly, to accomplish their goal, using reamers to fashion the bores of these instruments and kerfing the body to facilitate steam-bending it. This was essentially a case of using modern techniques to copy an old instrument![11]

Further parallels can be observed between the Gütter curved cornett and other contemporary woodwinds. The bodies of many historical oboes da caccia and basset horns are made of a single piece of wood, octagonal in cross-section, and covered with leather (brown in color, in the case of at least a few basset horns).[12]

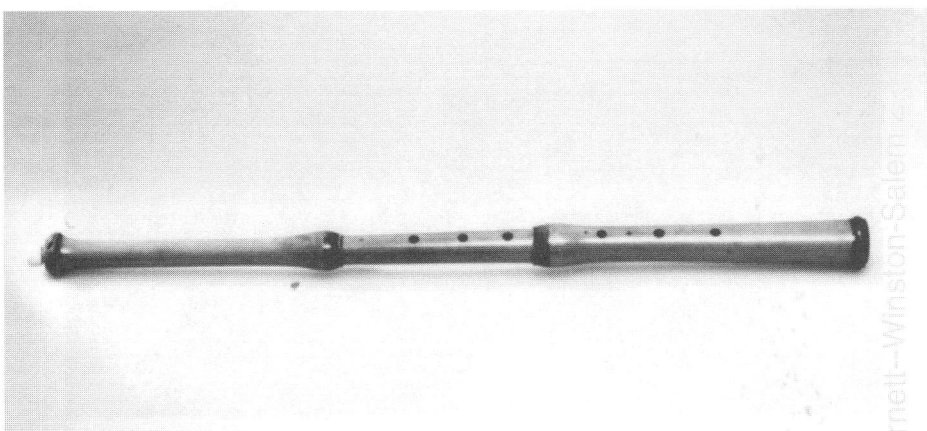


Figure 9
Straight cornett, Gütter, Neukirchen, 1805. Winston-Salem, NC,
Wachovia Historical Society, #Z-101. Collection of the Wachovia Historical Society.
Courtesy of Old Salem Inc.

The straight cornett (#Z-101)

The straight cornett is jointed, unlike most instruments of its type, particularly earlier ones (Figures 9-12). This instrument is in excellent condition and bears little indication of use. Its ivory mouthpiece (Figures 13-14) is also in excellent condition, and the instrument plays with a clear tone at approximately a^1 = 465 Hz. It has horn fittings, and each of its joints is contoured, rather like contemporary flutes and oboes. (Details of the construction of both instruments are given in Table I.)

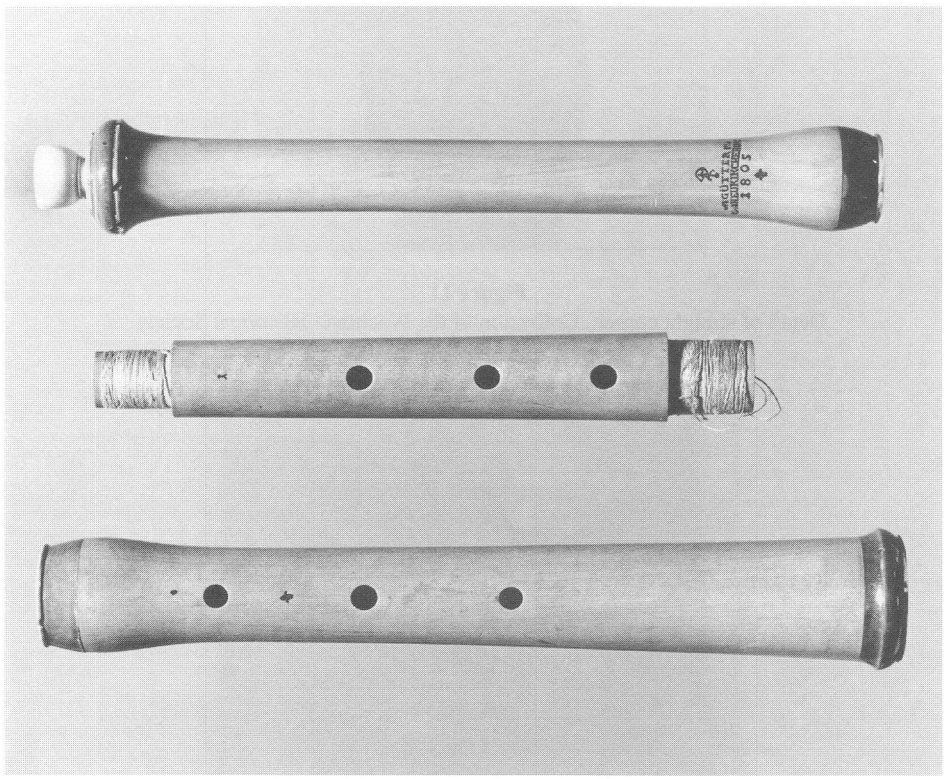


Figure 10
Gütter straight cornett, disassembled.
Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

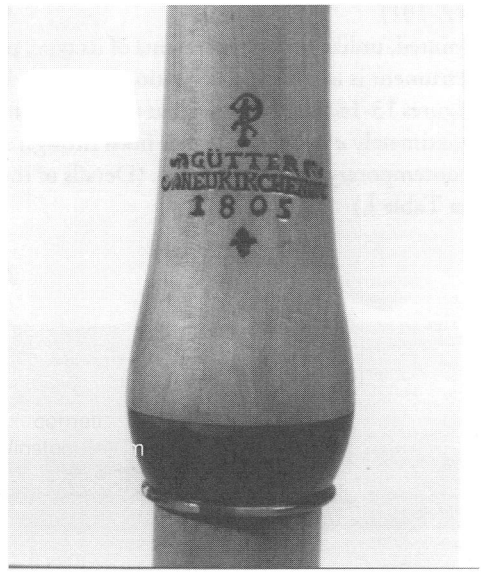


Figure 11
Detail of straight cornett. Collection of the Wachovia Historical Society.
Courtesy of Old Salem Inc.

Figure 12
Close-up view of Figure 11.

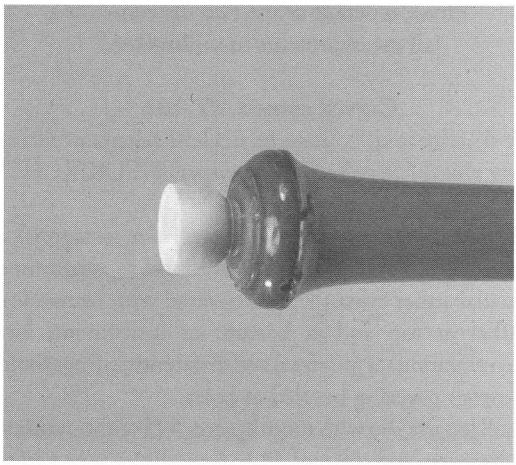


Figure 13
Detail of straight cornett. Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

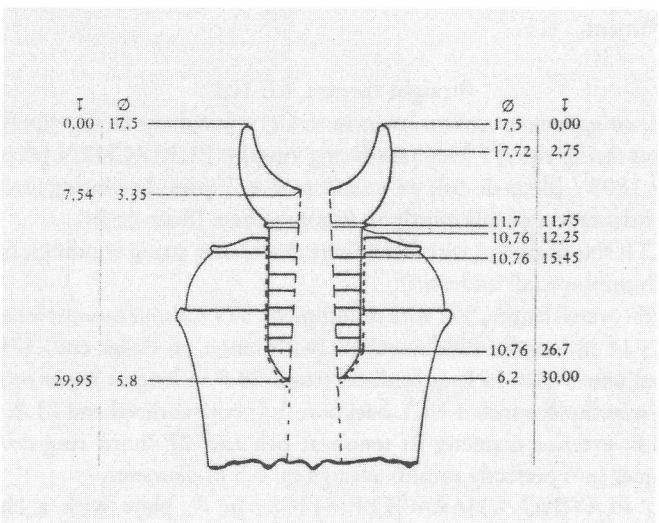


Figure 14
Mouthpiece for instrument in Figure 5. Drawing by Graham Nicholson, after measurements by John McCann. Reprinted by permission.

TABLE I
Physical details of the two instruments
(all measurements in millimeters)

Curved cornett, #Z-102

SIGNATURE (badly deteriorated)[13]: [man in sickle] / [elephant facing viper] GÜTTER [elephant facing viper] / [elephant facing viper] NEUKIRCHEN [elephant facing viper] / 1805 / [fleur-de-lis].

CONSTRUCTION: one piece, type of wood uncertain, octagonal outer cross-section (except for last 13.5 at distal end, which is round to accommodate attachment of horn ring), circular inner cross-section; covered with brown leather; 3 black rings dyed into leather at top and at bottom of instrument; horn rings (showing considerable deterioration) at proximal and distal ends; 6 fingerholes and 1 thumbhole, all undercut; leather covering beveled at holes.

DIMENSIONS: overall length 586 with mouthpiece, 575 without mouthpiece; bore at bell 21.8; exterior diameter at distal end 34.6; fingerholes (not perfectly round) average ca. 6.5 in diameter.

PITCH AND PLAYING CHARACTERISTICS: difficult to determine–damage to mouthpiece makes it impossible to obtain a seal; in A; pitch is higher than a^1 = 440 Hz, and judging from its length, probably approximately a^1 = 465 Hz

CONDITION: fair; leather covering and horn rings show considerable deterioration.

MOUTHPIECE: horn (considerable deterioration); see Figure 4 for dimensions; stuck fast in instrument.

Straight cornett, #Z-101

SIGNATURE: *on uppermost section:* [man in sickle] / [elephant facing viper] GÜTTER [elephant facing viper] / [elephant facing viper] NEUKIRCHEN [elephant facing viper] / 1805 / [fleur-de-lis]; *on middle section:* [upward-pointing arrow, to show proper orientation of this joint]; *on bottom section:* [fleur-de-lis].

CONSTRUCTION: boxwood with horn rings; 3 sections; string windings; 6 fingerholes and 1 thumbhole (all undercut).

DIMENSIONS: overall length, 594 with mouthpiece, 579 without mouthpiece; uppermost section 214 in length; middle section (with tenon on either end) 179 in length, proximal tenon 21.6 in length, distal tenon 23.8 in length; lower section 231 in length; mouthpiece socket 10.3; backbore 5.5; bore at distal end 21.8; bore at bell end 21.8; exterior diameter of tenon at bell end 27 (horn ring covers tenon); fingerholes (not perfectly round) average ca. 6.5 in diameter.

PITCH AND PLAYING CHARACTERISTICS: In A; plays with a clear tone at approximately a^1 = 465 Hz.

CONDITION: excellent; few signs of wear.

MOUTHPIECE: ivory; see Figure 14 for dimensions. The mouthpiece has seven recessed lines, intended to facilitate the winding of string around the mouthpiece stem in order to secure the mouthpiece in its socket.

Markings

The maker's mark on both instruments is adorned with several ornaments, which can be seen in part in the detail of the straight cornett in Figures 11-12. Above the maker's name is a design that appears to be a male figure enclosed in a sickle (see Figure 15). Flanking the words "GÜTTER" and "NEUKIRCHEN" are mirror images of a figure that looks like an elephant facing a viper (Figure 16). Finally, below "NEUKIRCHEN" is a fleur-de-lis (see Figure 12; in this photo the edges of the fleur-de-lis are blurred to such an extent that the ornament resembles an arrow). The last is a common enough ornament on musical instruments, but the other two emblems seem to be unique to Gütter's instruments and their significance is unknown to me. Both the man-in-sickle and elephant-facing-viper motifs appear on a bassoon in the Moravian Historical Society, Nazareth, Pennsylvania, stamped simply "GÜTTER," with no place-name or date[14]; while the elephant-facing-viper motif appears on a flute, also marked simply "GÜTTER," in the Wachovia Museum (# F-115; see Figure 17).[15]

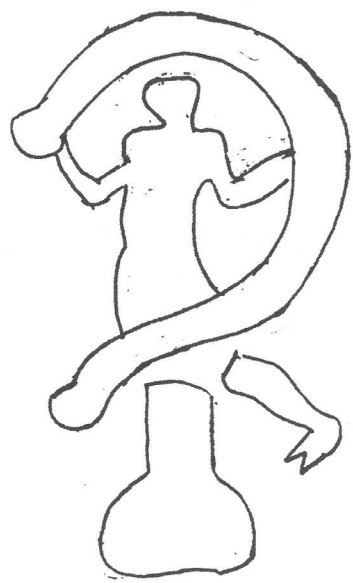


Figure 15
Man-in-sickle ornament.

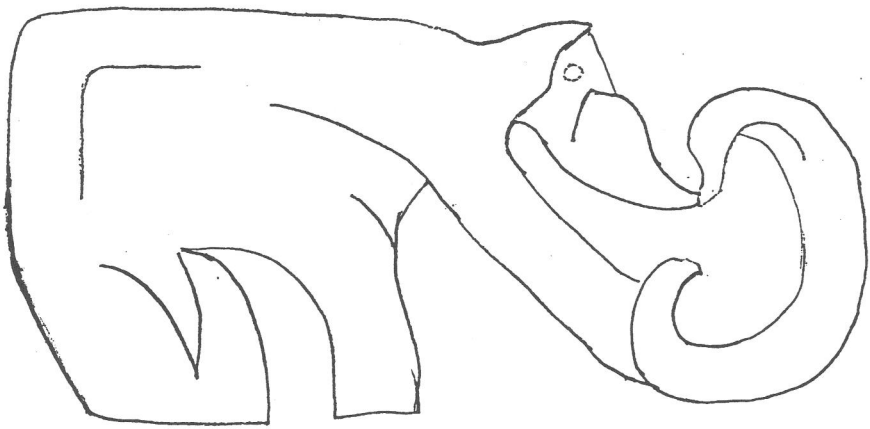


Figure 16
Elephant-facing-viper motif

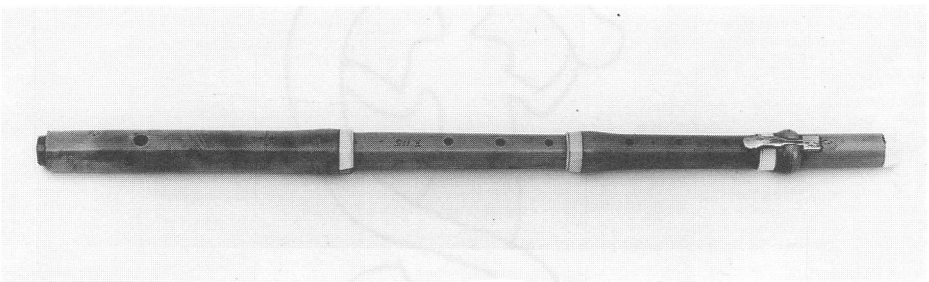


Figure 17
Flute in D, #F115, boxwood; stamped "GÜTTER."
Collection of the Wachovia Historical Society. Courtesy of Old Salem Inc.

The Gütter family of Neukirchen—and Bethlehem

As mentioned above, both cornetts (as well as the bassoon in Nazareth and the flute in Winston-Salem) bear the "Gütter" signature, with no Christian name. The Gütters were a prominent instrument-making clan in the village of Neukirchen in the Vogtland region of Saxony; in my article in *JAMIS,* I identified Johann Georg Gütter (1752-1826) as one of

the first (and one of the best-known) makers of woodwind instruments in the region.[16] Johann Georg Gütter thus seems a logical candidate for the maker of the two cornetts. But if he was a prominent maker, why did he not add his Christian name to the signature? The answer, I think, lies in the nature of the instrument-manufacturing industry in Neukirchen in the early part of the nineteenth century. In my earlier article I argued that Johann Georg Gütter's grandson, Heinrich Gottlob Gütter (1797-1847), emigrated to Bethlehem, Pennsylvania, in 1817 in order to establish an American branch of the family musical-instrument business, which seems to have been involved in the wholesaling and retailing of musical instruments as well as manufacturing. According to Karel Jalovec there was a Neukirchen instrument-manufacturing concern known as "H.F. Gütter & Söhne," whom he describes as "19th cent[ury] makers of good instruments."[17] Jalovec's "H.F. Gütter" surely must be Heinrich Ferdinand Gütter (1773-1843), son of Johann Georg Gütter and father of Heinrich Gottlob Gütter–hence the latter, as one of the former's "Söhne," must have been a junior partner in the firm as well as its "regional manager" for the United States. Another Gütter, Johann Heinrich (b. 20 October 1800), may have been Heinrich Gottlob's brother; probably he was also a partner in the family firm. Jalovec cites Johann Heinrich Gütter as "One of the organisers of the export of musical instruments to the U.S.A."[18]

Thus the Gütter family of Neukirchen must have established a firm for the wholesaling of musical instruments. The fact that four instruments in American collections bear the simple family name "Gütter," with no Christian name, suggests that these might have been constructed by various family members; alternatively, the Gütters may have outsourced the instruments to independent craftsmen in the area, stamping on them the name of the family firm, as was clearly done by other Neukirchen wholesalers later in the century.[19] In an important essay on maker's marks, Herbert Heyde says that independent makers had little choice but to consign their goods to wholesalers, who frequently marked up the price by as much as 100 percent. The German market at the time was in a very depressed state, and approximately half of Neukirchen's production was shipped to America.[20]

In 1805, when the two cornetts were constructed, Johann Georg Gütter was fifty-three years old, and most likely still active as a maker. Probably the family firm did not assume the name "H.F. Gütter & Söhne" until after the retirement or death of Johann Georg, who may have been the family patriarch. Possibly the simple "GÜTTER," stamped on the cornetts, served as the name of an embryonic family firm prior to the "formal" establishment of "H.F. Gütter & Söhne."

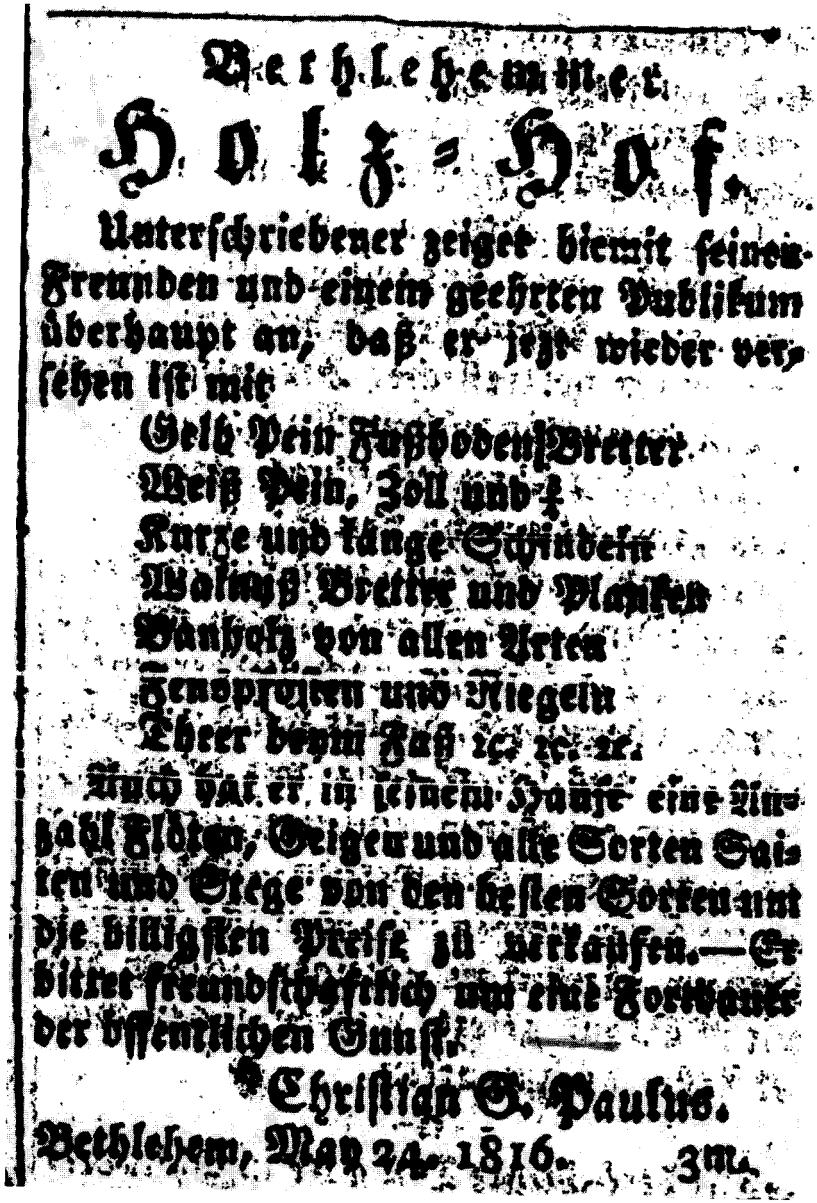
Heinrich Gottlob Gütter was active in the musical instrument trade and other commercial activities in Bethlehem from approximately 1819 until his death in 1847.[21] He was able to enter the closed Moravian community of Bethlehem through the sponsorship of his uncle, Christian Gottlob Paulus (see below), who had joined the sect earlier. Gütter himself joined the *Unitas fratrum* (Moravian Brethren) in 1819, and subsequently seems to have capitalized on church connections to further his commercial activities: seven instruments bearing both his name and the designation "BETHLEHEM" can be found in the various Moravian-related collections in Pennsylvania and North Carolina.[22]

Christian Gottlob Paulus

As mentioned above, the sponsorship of his uncle, C.G. Paulus, paved the way for young Heinrich Gottlob Gütter's entry into the closed Moravian community of Bethlehem.[23] And Paulus himself has possible connections to the two cornetts in Winston-Salem, as we shall see presently. Backtracking for a moment to the village of Neukirchen, we find that in 1796 Heinrich Ferdinand Gütter, Heinrich Gottlob's father, married Johanna Christiana Paulus[24]–an auspicious union, linking two prominent Neukirchen instrument-making families. Like the Gütters, members of the Paulus family were also engaged in the instrument-making trade; Johanna Paulus' father, Johann Georg Paulus, was a maker of violin strings.[25] Her brother, Christian Gottlob Paulus (1764-1821), left Neukirchen in 1787 for Neuwied, a village on the Rhine, near Coblenz, inhabited largely by members of the Moravian faith; here in 1788 he joined the *Unitas fratrum*.[26] In 1795 he emigrated to Bethlehem, the principal community of the Moravians in North America. As mentioned above, Neukirchen instrument makers were eager to establish foreign markets in the late eighteenth and early nineteenth centuries, and there are indications that Paulus–like his nephew, Heinrich Gottlob Gütter–emigrated to America for that reason.[27]

But Paulus seems merely to have dabbled in the music trade in Bethlehem. He was, however, an entrepreneurial sort who engaged in a variety of business activities, including shoemaking, millinery, paper-box making, and the sale of lumber and coal. He was also innkeeper at the Sun Inn in Bethlehem from 1805 to 1811.[28] Secondary sources on the history of Bethlehem do not mention any involvement by Paulus in the music trade, but recently I uncovered two documents that attest to such activity. The first is a receipt that survives in the Moravian Archives, Southern Province, in Winston-Salem. It reads, "Bot. Of C.G. Paulus (Bethlehem) 2 rolls of silver wire á $2, [net] $4; 1 Clarinetto, 4.50, Salem June 21st 1808."[29] The items were purchased by Frederick Meinung for the Salem congregation.[30] The second is an advertisement placed by Paulus in the German-language newspaper *Der Unabhängige Republikaner,* in Allentown, Pennsylvania, near Bethlehem (Figure 18). The ad is devoted primarily to the promotion of his lumber yard, and offers such items as boards, planks, and fenceposts; but it further states that "He also has in his house a number of flutes, violins, and all types of strings and bridges of the best quality, for sale at the lowest prices."[31]

Thus we know that Paulus was engaged in the sale of musical instruments and related items and that in 1808 he negotiated a business transaction involving a musical instrument with the Moravian congregation in Salem. It is therefore easy to believe that he might have acted as agent for the sale of the two cornetts in 1805—particularly since he had a marital connection to the family that made the instruments. Moreover, a member of his own family was known to make cornetts. In a private collection in Basel there is a straight cornett, made in three pieces, very much like the one in Winston-Salem, signed "C.F. PAULUS / NEUKIRCHEN" (see Table II). The exact identity of C.F. Paulus and his relationship to C.G. Paulus have not been established.[32]



Bethlehemer
Holz-Hof.

Unterschriebener zeiget hiemit seinen Freunden und einem geehrten Publikum überhaupt an, daß er jetzt wieder versehen ist mit

Gelb Pein Fußboden-Bretter
Weiß Pein, Zoll und ¼
Kurze und lange Schindeln
Waling Bretter und Planken
Bauholz von allen Arten
Sensprossen und Riegeln
Theer beym Faß ꝛc. ꝛc. ꝛc.

Auch hat er in seinem Hause eine Anzahl Flöten, Geigen und alle Sorten Saiten und Stege von den besten Sorten und die billigsten Preise zu verkaufen.—Er bittet freundschaftlich um einen Fortgang der öffentlichen Gunst.

Christian G. Paulus.

Bethlehem, May 24. 1816. 3m.

Figure 18
Advertisement in *Der Unabhängige Republikaner,* Allentown, PA, 24 May 1816.
Reprinted by permission of Allentown Public Library.

The use of the cornetts in Salem

Lack of documents pertaining to the purchase of these instruments notwithstanding, it seems probable that the Salem cornetts, like most of the instruments in the collection in Old Salem, were purchased by the Moravians of Salem for use by members of their community. In my earlier article in *JAMIS,* I suggested that since the Duirrschmidt soprano trombone in Winston-Salem (#T-108) was made in Neukirchen in the same year, 1805, it may have been acquired as part of the same order, and that the Salem Moravians might have been experimenting with the uppermost voice in what was at that time their premier wind-instrument ensemble, the trombone choir.[33] Certainly the cornett-and-trombone ensemble had ample precedent in the seventeenth and eighteenth centuries, including, perhaps most famously today, a number of cantatas by J.S. Bach. Many of the Moravians in Salem had roots in central Germany, and they must have been familiar with this tradition, even if they were not directly acquainted with the music of Bach. Music in Salem was archaic in several respects, one of which was the very existence of the Collegium musicum, a type of organization that flourished in Moravian communities in America in the late eighteenth and early nineteenth centuries long after its virtual demise–in name, at least–in Europe.

Evidence from musical sources yields little information on the use of the cornetts in Salem. The Moravians of Salem left behind a rich body of vocal and instrumental music in the Moravian Music Foundation in Winston-Salem, but to the best of my knowledge, there is but a single source in the Moravian Music Foundation that contains a part for cornett. This is an aria entitled "Mein stiller Abend ist gekommen," from the oratorio *Lazarus,* by Johann Heinrich Rolle (1716-85).[34] The aria in question is contained in an extensive collection of manuscript scores copied by Johannes Herbst (1735-1812), pastor and music director at Salem in the early nineteenth century. Herbst brought most of the collection with him from Germany when he emigrated to America in 1786, and subsequently added to it. He was named pastor at Home Church in Salem in 1811, but died after serving just eight months. The aria by Rolle was never performed in Salem.[35] Given the dearth of musical scores in Salem with parts for cornetts, my hypothesis that these instruments were used to play the top voice of chorales, with trombones on the lower voices, gains credence.

Observations on the late history of the cornett

The popularity of the cornett began to wane as early as the 1630s, and its decline continued, at different rates in different regions, into the early eighteenth century.[36] The instrument persisted longest in German-speaking regions: J.S. Bach used a cornett to double the soprano line in twelve of his cantatas,[37] and G.P. Telemann, in four of his.[38] C.W. Gluck used it in his opera *Orfeo ed Euridice* (1762), and we have observed its appearance in Rolle's *Lazarus,* which was performed in Magdeburg in 1778.[39] Among the last pieces of music with a cornett part to be written must have been Ferdinand Fischer's (1723-1805) cantata for the birth-festival of Duke Carl August of Weimar, the manuscript of which is dated 1801.[40] But the last gasp of the instrument seems to have occurred in the cornett-and-trombone ensemble. In Italy such ensembles survived into the late eighteenth century, notably in Bologna, where the ensemble known as the Concerto Palatino ceased operation only in

1779, and Rome, where the Concerto Capitolino survived until 1798.[41] Among several bits of evidence attesting to the instrument's continued use in the nineteenth century, I shall cite two. The first comes from the *Kirchenmusik-Ordnung* (1828) of Franz Xaver Glöggl, which includes several references to the use of cornetts in church music, mostly in conjunction with trombones.[42] The second appears in the supplement (1844) to Jean-Georges Kastner's treatise on instrumentation:

> Also in our times this instrument is used in some towns in Germany, notably at Stuttgart, where we have heard it. Each day, at the stroke of noon, four musicians come to the platform of the tower to play a chorale. The first part is taken by the cornett (*Zinke*) and the other three by three trombones, alto, tenor, and bass.[43]

Significantly, both of these nineteenth-century accounts of the cornett concern German-speaking regions.

Surviving instruments also help to tell the story of the late history of cornett, and in this regard we are fortunate to have Edward H. Tarr's "Katalog erhaltener Zinken,"[44] which provides details of construction for virtually all known extant historical cornetts. It is significant that the two specimens in Winston-Salem represent both the curved and straight varieties of the instrument, for the two types are roughly equally represented among surviving instruments of the late eighteenth and early nineteenth centuries. As mentioned above, the three-piece instruments resemble other woodwinds, such as flutes, in a general way. The Gütter flute in Figure 17 may be compared with the straight cornett in Figure 9. The instruments are of course quite different, but one notices the contoured profile, expanding near the end of each joint, as well as the fittings (ivory in one case, horn in the other) at the end of each joint. And it is easy to believe that as the cornett declined in popularity, woodwind makers who continued to build the instrument adapted techniques they applied to other woodwinds to the construction of cornetts.

Except for the two Gütter instruments, none of these late cornetts is dated, so it is difficult to paint an accurate picture of the instrument's development in the late eighteenth and early nineteenth centuries from a chronological point of view. Table II lists surviving cornetts that purportedly date from this period. Two important generalizations emerge from this list: (1) that the straight and curved varieties are roughly equally represented; and (2) that the makers–those who can be identified–are concentrated in a relatively small area of southern and central Germany (see Figure 22).

The three-piece straight cornett by C.F. Paulus is of particular interest for the present discussion; not only was the instrument made in Neukirchen, but we have observed a marital connection between the Paulus and Gütter families. The Paulus instrument is shown in Figures 19-21; Table III compares this instrument with the Gütter instrument as well as other contemporary straight cornetts.

Table II
Surviving cornetts, late eighteenth-early nineteenth centuries[45]

Maker	date	Type of instrument	location
Anonymous[46]	c. 1750	curved	Los Angeles, University of Southern California, Gale Collection
Anonymous[47]	18th cen.	curved	Braunschweig, Stä disches Museum, 65
J.W. Hoe, Hof an der Saale	c. 1765	straight, 3 joints	Nuremberg, Germanisches Nationalmuseum, MI 113
Anonymous	late 18th cen.	straight, 3 joints	Nuremberg, Germanisches Nationalmuseum, MIR 33
Anonymous	1794	curved	Göttingen, Sammlung des Musikwissenschaftlichen Seminars, 273
Wolfgang Thoma, Bayreuth	mid-18th cen.	straight, 3 joints	Stuttgart, Württembürgisches Landesmuseum, 1981-76
C.F. Paulus, Neukirchen	18th/19th cen.	straight, 3 joints	Basel, private collection
Anonymou[s] (?German or Austrian)[48]	18th/19th cen.	curved	Vermillion, SD, America' s National Music Museum, 10136
Gütter, Neukirchen	1805	curved	Winston-Salem, NC, Wachovia Hist. Soc., #Z-102
Gütter, Neukirchen	1805	straight, 3 joints	Winston-Salem, NC, Wachovia Hist. Soc., #Z-101
C.F. Hetsch, Urach	c. 1840	straight, 3 joints	Nuremberg, Germanisches Nationalmuseum, MIR 34
Anonymous	19th cen.	straight, 3 joints, 1 key	Munich, Bayerisches Nationalmuseum, Mu 101
Anonymous[49]	19th cen.	bass cornet, S-shaped	New York, Metroplitan Museum of Art, 89.4.1669

The cornett by J.W. Hoe of Hof-an-der-Saale also is worthy of close scrutiny, since a connection may exist between this maker and Johann Georg Gütter. F.W. Crasselt, in his history of Neukirchen, states that Johann Georg Gütter learned the art of woodwind making in Leipzig and Hof before returning to his native village.[50] William Waterhouse specifically states that J.G. Gütter learned to make clarinets and flutes in Leipzig and Hof.[51] In Hof his likely teacher or master was Hoe, whose activity as a maker of woodwinds in that city can

be documented during the years 1762-72.[52] As he was born in 1752, Johann Georg could easily have served as an apprentice or journeyman during the latter years of this time span. Like J.G. Gütter, Hoe is identified as a *Kunstdrechsler* in local records.[53]

Another interesting comparison can be made between the Gütter curved cornett and the anonymous curved cornett recently acquired by America's National Music Museum, University of South Dakota, Vermillion (#10136). Like the curved cornett by Gütter, its body is constructed of a single piece of wood—though unlike the Gütter instrument, it has no covering and no thumbhole.

Looking again at Table II, we see that only six of the late cornetts identified here are signed with maker's name and place of manufacture. Of these six, three were made in Neukirchen, one in Hof (Hof-an-der Saale), one in Bayreuth, and one in Urach. The map in Figure 22 reveals that five of these six instruments were made in three towns clustered relatively close together, in the Vogtland region of Saxony and adjacent northeastern Bavaria. The remaining instrument, an "outlier," was made in Urach, a few hundred kilometers away, near Stuttgart.

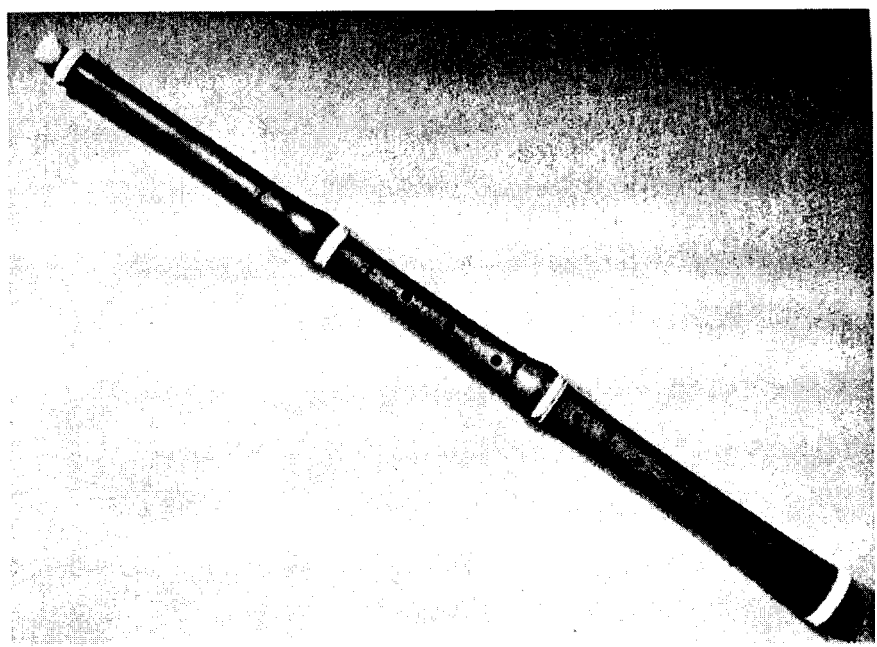


Figure 19
Straight cornett by C.F. Paulus, Neukirchen. Basel, private collection.
Photo courtesy of Edward H. Tarr.

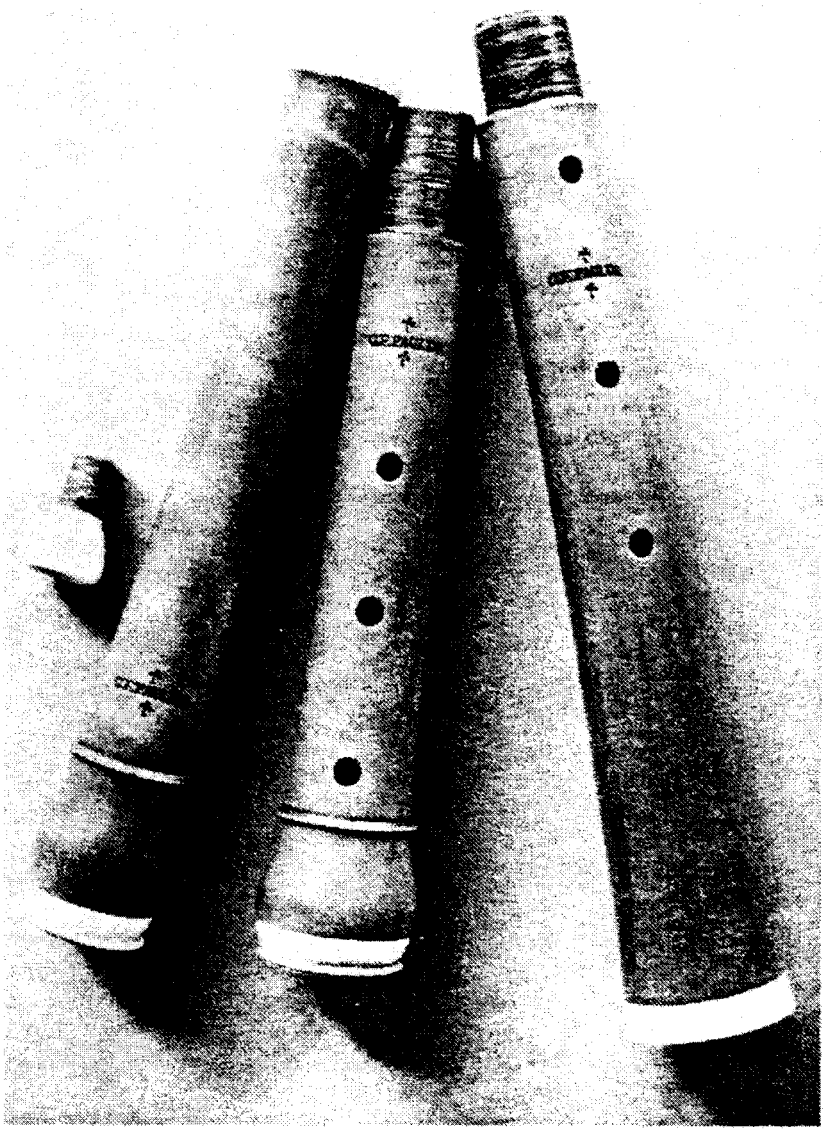


Figure 20
Instrument in Figure 19, disassembled. Photo courtesy of Edward H. Tarr.

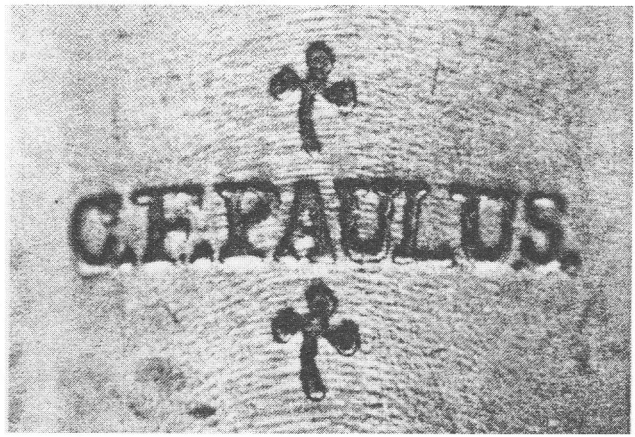


Figure 21
Detail of instrument in Figure 19. Photo courtesy of Edward H. Tarr.

Table III compares seven three-piece cornetts constructed after ca. 1765. Noteworthy here are the similarities in dimension, as well as pitch. The Paulus and Gütter instruments are quite similar in length and bore at the proximal end, though the distal bore of the Paulus instrument is somewhat larger. Significantly, the instruments in the table for which information on pitch is available are all roughly in the vicinity of $a^1 = 465$, corresponding to late Baroque *Chorton* or *Cornett-ton.*

Table III
Comparison of straight cornetts[54]
(dimensions in millimeters)

Instrument	Pitch	Length without mouthpiece	Bore at proximal end	Bore at distal end
Hoe	??	589	9.8	23.7
Anon. (Nuremberg, MIR 33)	??	565	9.8	21.8
Thoma	a^1=476	576	10.1	23.0/22.9
C.F. Paulus	a^1 = 460	581	10.1/10.05	23.7
Gütter[55]	a^1 = 465	579	10.3	21.8
Hetsch	??	597	9.1	21.2
Anon. (Munich)	a^1=460	568	9.5	21.2

Figure 22
Map of present-day Germany. Capital letters and italic type identify towns where cornetts are known to have been made, ca. 1765-1840.

Conclusion

The two cornetts in Winston-Salem are quite significant for the history of the instrument. First, they are the only cornetts known to have been used in North America prior to the early-music revival of the twentieth century. Second, they are the latest dated cornetts known to exist anywhere; the straight cornett by Hetzsch of Urach likely was constructed after the Gütter instruments, and the unsigned instrument in Munich as well as the one in the Utley Collection may have been also–but none of these instruments bears a date. Third, the curved cornett in Winston-Salem may be the latest surviving instrument of its sub-type, whether dated or undated–again, prior to the early-music revival.[56] Fourth, these instruments–as well as the others listed in Table II–attest to the persistence of the cornett in German-speaking regions (as well as transplanted German-speaking communities in North America) into the late eighteenth and early nineteenth centuries. This persistence is confirmed also by documentary evidence.

As to the use of these instruments by the Moravians in Salem, no documentary evidence of their employment has come to light. I have speculated above that they were acquired for the purpose of playing the uppermost voice in chorales, with trombones on the lower voices. And although the straight cornett in particular shows little sign of wear, these were practical, frugal people; they would not have acquired an instrument they did not intend to use.

Among several knowledgeable and helpful colleagues who assisted me in the research for this article, the author in particular wishes to thank John McCann, cornett maker; Sand Dalton, maker of reproduction historical oboes; Paula Locklair, Curator at the Museum of Early Southern Decorative Arts (Old Salem, Inc.); and Ken Kreitner, Albert Rice, Sabine Klaus, and James Tyler.

Stewart Carter is Executive Editor of the Historic Brass Society Journal and General Editor of Bucina: The Historic Brass Society Series. A resident of Winston-Salem, North Carolina, he is Professor of Music at Wake Forest University, where he teaches music history and theory and directs the Collegium Musicum. Recent editorial efforts include Perspectives in Brass Scholarship: Proceedings of the International Historic Brass Symposium, Amherst 1995 *(Stuyvesant, NY: Pendragon, 1997),* A Performer's Guide to Seventeenth-Century Music *(New York: Schirmer Books, 1997), and* Isabella Leonarda: Twelve Sonatas, Opus 16 *(Madison, WI: A-R Editions, 2001).*

NOTES

[1] This article is in some respects a sequel to Stewart A. Carter, "The Gütter Family: Musical Instrument Makers and Dealers to the Moravian Brethren in America," *Journal of the American Musical Instrument Society* 27 (2001): 48-83. Several of the illustrations in the present article (Figures 9, 11, and 13-18) appeared in the *JAMIS* article, and the biographical information on the Gütter family included herein is largely based on that found in the earlier publication. The scope of the present article is, of course, narrower, as it focuses on the two cornetts by Gütter in Winston-Salem. It includes some new information on the curved cornett, however, as well as comparative data on other cornetts of the late

eighteenth and early nineteenth centuries.

[2] Purchase records for some of the instruments in the Wachovia Museum survive, but I have been unable to locate any such records pertaining to the two cornetts. Interestingly, an entry from the Salem Board Minutes, records of the *Aeltesten Conferenz* (Board of Elders) for 25 May 1803, states, "Four trombones, two trumpets, two clarinets, and one bassoon shall be ordered from Germany" (*Records of the Moravians in North Carolina,* vol. 6, *1793-1808,* ed. Adelaide L. Fries [Raleigh: The North Carolina Historical Commission, 1943], p. 2742). This entry may bear some connection to the statement of Donald McCorkle, Director of the Moravian Music Foundation in Winston-Salem from 1956 to 1964, that "In 1805, the Collegium musicum Salem was enlarged by two trumpets, two clarinets, and a bassoon–the first woodwinds, other than flutes, to be used in Salem. Of particular interest are the trumpets, for they were evidently *Zinken* made by the Moravian instrument maker, Gütter, of Neukirchen in 1805. Just exactly why the Moravians in Salem should have ordered instruments theoretically extinct by a century is not clear. Nor is the fact that Gütter was making them!" (McCorkle, "The *Collegium musicum Salem:* Its Music, Musicians, and Importance," *The North Carolina Historical Review* 33/4 (October 1956): 483-98, here 489-90). McCorkle apparently assumed that the Board of Elders, having limited knowledge of cornetts, considered them to be "wooden trumpets."

[3] Personal communication, July 2002.

[4] I am grateful to John McCann and Sand Dalton for assistance in interpreting the x-ray photographs.

[5] Sand Dalton, personal communication, October 2002.

[6] John S. McCann, "Forty years in the Cornett Mines," in *Zur Geschichte von Cornetto und Clarine: Symposium im Rahmen der 25. Tage Alter Musik in Herne 2000,* ed. Christian Ahrens and Gregor Klinke (Munich / Salzburg: Katzbichler, 2001), pp. 76-82, here 79.

[7] John S. McCann, personal communication, September 2002.

[8] Markneukirchen, Pfarramt, *Kirchenregister,* 1748-1800, marriage register, 15 October 1772, p. 51. The term *Kunstdrechsler* is generic, and thus while we know that Johann Georg Gütter "turned" woodwind instruments, he may turned other objects as well.

[9] See Anthony Baines, *Woodwind Instruments and Their History* (New York: Norton, 1962), pp. 305-06; and Bruce Haynes, *The Eloquent Oboe: A History of the Hautboy, 1640-1760* (Oxford: Oxford University Press, 2001), p. 381. Concerning the oboe da caccia, Haynes remarks, "The leather covering (which acted as a kind of bandage to disguise and seal the kerf-cuts made along one side, for the sake of the curve) tended to dampen the sound."

[10] Personal communication, October 2002.

[11] Sand Dalton, personal communication, September 2002.

[12] Concerning the oboe da caccia, see Baines, *Woodwind Instruments,* pp. 305-06. Three "sickle-shaped" basset horns, dating from ca. 1770, by Anton and Michael Mayrhofer of Passau (Bonn, Beethovenhaus ex. Zimmermann 154; Nuremberg, Germanisches Nationhalmuseum, MI 133; and Passau, Oberhausmuseum ex Hamburg Museum für Hamburgische Geschichte 1727.159) have one-piece bodies, octagonal in cross-section, and two of these (the Bonn and Nuremberg exemplars) are covered with brown leather. See Nicholas Shackleton, "The Earliest Basset Horns," *Galpin Society Journal* 40 (1987): 2-23, here 15; a photograph of the Nuremberg examplar appears in Philip T. Young, *The Look of Music: Rare Musical Instruments, 1500-1900* (Vancouver: Vancouver Museums and Planetarium Association, 1980), no. 185. A bass clarinet of ca. 1770 by the same makers (Munich, Städtliches Musikinstrumentensammlung, 52.50) is similarly curved, though its main tube is in two sections and a tight coil of wooden tube intervenes between the lower of the two main sections and the bell. It too appears from the photograph (Young, *The Look of Music,* no. 244) to be octagonal in outer cross-section (except for the coil adjacent to the bell), though this information is omitted from

the associated description (ibid., p. 198).

[13] Enough of the signature, which is stamped into the leather covering, is visible to warrant the assumption that it is identical to the signature on the straight cornett, Z-101.

[14] See Carter, "The Gütter Family," pp. 70-72 and Figure 15; and Curtis S. Mayes, "A Descriptive Catalogue of Historic Percussion, Wind, and Stringed Instruments in Three Pennsylvania Museums" (M.M. thesis, Florida State University, 1974), pp. 46-47. The bassoon has no inventory number.

[15] See Carter, "The Gütter Family," pp. 67-70 and Figure 12; and Ernest Wayne Pressley, *Musical Wind Instruments in the Moravian Musical Archives, Salem, North Carolina: A Descriptive Catalogue* (D.M.A. diss., University of Kentucky, 1975).

[16] Carter, "The Gütter Family," p. 74. In that article, I stated–erroneously, as it turned out–that the curved cornett is unsigned. Subsequent examination of the instrument revealed that the curved instrument bears the same stamp as the straight cornett, albeit extremely faint; it is stamped into the leather covering of the instrument, which has deteriorated considerably over the years. The signature has eluded detection by several who have examined the instrument in recent decades. In this connection, however, I must correct an observation made in my *JAMIS* article (ibid., p. 79, n. 73): Pressley, who catalogued the wind instruments in the Old Salem collection in his DMA document (see n. 15), was indeed correct in stating that both instruments bore Gütter's signature and the date 1805. Pressley, however (pp. 73-76), erroneously assigned the same inventory number–Z-101–to both cornetts, and stated that the straight cornett "was ordered from the Moravian instrument maker, H. Georg Gütter, Neukirchen, Germany. ... Another *Zink* was received at the same time." As he was born in 1797, H[einrich] Georg Gütter is an unlikely candidate for maker of either instrument.

[17] Karel Jalovec, *Encyclopedia of Violin-Makers* (London: Hamlyn, 1965), 1: 359. Jalovec's entry for the firm contains a transcription of a label from an unidentified instrument: "H.F. Gütter & Söhne / in Neukirchen bëy Adorf in Voigt."

[18] Ibid. However, Jalovec is surely mistaken in reporting (following Willibald Leo von Lütgendorff, *Die Geigen- und Lautenmacher vom Mittelalter bis zur Gegenwart* [6th edn., 1922; reprint, Tutzing: Schneider, 1975], 2: 189-90) that this member of the Gütter family "d[ied] in the U.S.A.," perhaps confusing him with Heinrich Gottlob.

[19] Regarding the Markneukirchen firm of Paul Stark, see Herbert Heyde, "Maker's Marks on Wind Instruments," in William Waterhouse, *The New Langwill Index* (London: Tony Bingham, 1993), pp. xiii-xviii.

[20] See Carter, "The Gütter Family," p. 66.

[21] He also ran a flourishing business in lumber and coal in South Bethlehem. See ibid., pp. 57-60.

[22] See ibid., pp. 50-51, Fig. 1. The instruments stamped merely "GÜTTER" with no place name–a flute (Winston-Salem, Wachovia Museum #F-115) and a bassoon (Nazareth, Moravian Historical Society, no inventory number) are not included among the seven instruments mentioned here, though it is quite possible that they were made in Neukirchen by members of the Gütter family and sold by Heinrich Gütter in Bethlehem. All nine instruments, as well as the two cornetts in Winston-Salem, are thought to have been acquired by Moravian communities (in Bethlehem, Nazareth, Lititz, and Salem) for congregational use, except for the flute in Bethlehem (Moravian Museum B532), which was given to the museum by a private individual.

[23] H.G. Gütter arrived in Bethlehem in 1817, but probably did not open his music shop until late 1819. See Bethlehem, Moravian Archives, *Protocol Aufseher Collegium,* as reported in Robert Rau, *Notebooks* (in Bethlehem, Moravian Archives), 5: 117. The original German text of the *Protocol Aufseher Collegium* does not identify Paulus' nephew, but Rau inserted the name "G. [i.e., H. G.] Gütter" in his English translation. See also Gütter's death notice in Bethlehem, Moravian Archives, Church Register, vol. IV, 1838-1854, p. 204.

[24] Markneukirchen, Pfarramt, *Kirchenregister* 1749-1800, marriage register, p. 125.
[25] *Saitenmacher.* See ibid.
[26] See Paulus' *Lebenslauf,* in Bethlehem, Moravian Archives, Memoirs, C.G. Paulus.
[27] See Carter, "The Gütter Family," p. 65. Theodor Berthold and Moritz Fürstenau describe Paulus as a Neukirchen shoemaker who left for America around 1805 [*sic*], joined the Moravian Church, and soon established a small trade in musical instruments, which were sent to him from Neukirchen. See Berthold and Füstenau, eds., *Die Fabrikation musikalischer Instrumente und einzelner Bestandtheile derselben im Königl. sächsichen Vogtlande* (Leipzig: Breitkopf & Härtel, 1876), p. 3. See also Erich Wild, *Geschichte von Markneukirchen: Stadt und Kirchspiel* (Plauen: Vogtländischer Heimatverlag Franz Neupert, 1925), p. 243.
[28] See Grethe Goodwin, *Moravian Innkeepers at the Sun Inn, Bethlehem, Pennsylvania, 1760-1830* (Bethlehem: the author, 1982), pp. 24-25; cited in Carter, "The Gütter Family," p. 54, n. 17. Paulus also helped to establish his nephew, H.G. Gütter, in the music business in Bethlehem, building a shop for the latter next to his own house. Gütter may also have taken over his uncle's lumber and coal business. See ibid., pp. 55-56.
[29] Receipts folder 1808-09. Cited in ibid., pp. 53-54 and n. 16.
[30] Frederick Meinung was bookkeeper for the Wachovia Land Company in Salem. His duties probably involved bookkeeping for the Salem congregation as well. Personal communication from Richard Starbuck (Archives of the Moravian Church, Southern Province), October 2002.
[31] "Auch hat er in seinem Hause eine Einzahl Flöten, Geigen, und alle Sorten Saiten und Stege von den besten Sorten unt [sic] die billigsten Preise zu verkaufen."
[32] The church records in Markneukirchen for the late eighteenth and early nineteenth centuries show more than one member of the Paulus family with the initials "C.F."
[33] See Carter, "The Gütter Family," p. 81. If my theory is correct, the pitch of the Salem cornetts should agree with that of the Salem trombones. But the Duirrschmidt soprano, the only trombone that survives complete in Winston-Salem, is in B♭ at approximately a^1 = 440 Hz. The discrepancy is puzzling, but it might be explained as follows: B♭ at a^1 = 440 Hz is very nearly the same frequency as A at a^1 = 465 Hz. If the Salem performers on soprano and tenor trombones considered their instruments to be in A with slide fully (or almost fully) closed, they easily could have played with the Salem cornetts without recourse to transposition. And while we know from more than one source that by 1805 most trombonists in Europe considered the tenor trombone to be nominally in B♭, Salem was musically conservative, and trombonists there might have followed the earlier practice of tenor trombone in A. In this connection it is worth noting that as late as approximately the 1780s, alto trombonists in the Moravian community of Zeist in the Netherlands might have regarded their instruments as being either in D♯ (= E♭) or D, as is indicated by a crudely drawn diagram from a collection of manuscript trombone sonatas from that community, now in Utrecht, Reijksarchief (Inventaris 47). On the pitch of the trombone in the late eighteenth century, see Louis-Joseph Francoeur, ms. additions (ca. 1785) to *Diapason général de tous les instrumens à vent* (Paris: Le Marchand, 1772); [André] Braun, *Gamme et Méthode pour les Trombonnes Alto, Tenor et Basse* (Paris: Jean-Georges Sieber, n.d. [ca. 1795]; 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; and idem, ""André Braun's *Gamme et Méthode pour les trombones* Revisited," *HBSJ* 11 (1999): 93-106. On the transition of the tenor trombone from A to B♭ in the course of the eighteenth century, see Stewart Carter, "Trombone Pitch in the Eighteenth Century: An Overview," in *Posaunen und Trompeten: Geschichte, Akustik, Spieltechnik,* ed. Monika Lustig, Michaelsteiner Konferenzberichte 60 (Blankenburg: Stiftung Kloster Michaelstein, 2000), pp. 53-66.
[34] Winston-Salem, NC, Moravian Music Foundation, Ms. #XXXIV. The aria is for soprano, alto,

tenor (solo), and bass voices, cornett, three trombones, two bassoons, two violins, viola, and basso continuo. The piece is listed in Michael Collver and Bruce Dickey, *A Catalog of Music for the Cornett* (Bloomington: Indiana University Press, 1996), p. 156, which erroneously states that the manuscript is the property of the Folger Shakespeare Library in Washington, DC. I wish to thank Michael Collver for explaining in a personal communication (July 1999) that a typographical error changed the library siglum for the Moravian Music Foundation (US-WS) to that for the Folger Shakespeare Library in Washington, DC (US-Ws).

[35] See *The New Grove Dictionary of Music and Musicians,* 2nd edn., ed. Stanley Sadie and John Tyrrell (New York: Macmillan, 2001), s.v. "Herbst, Johannes," by Karl Kroeger and Nola Reed Knouse. My thanks to Nola Reed Knouse, current Director of the Moravian Music Foundation, for additional information on the Johannes Herbst collection and its use. McCorkle states that, with few exceptions, Herbst brought scores with him to Salem, but left the parts in Lititz, Pennsylvania, where he had been pastor prior to moving to Salem. "There is scant possibility of this music having been performed in Salem" (McCorkle, "The *Collegium musicum Salem,*" p. 491).

[36] Dickey and Collver, *Catalog,* pp. 11-15.

[37] See ibid., pp. 86-87. Bach also called for the instrument in his partially autograph arrangement of Palestrina's *Missa sine nomine,* as well as a Sanctus in D Major (BWV 238).

[38] Ibid., p. 178.

[39] Ibid., p. 156.

[40] Ibid., p. 105.

[41] See Bruce Dickey, "Cornett and Sackbut," in Stewart Carter, ed., *A Performer's Guide to Seventeenth-Century Music* (New York: Schirmer Books, 1997), pp. 98-115, here 99-100.

[42] Franz Xaver Glöggl, *Kirchenmusik-Ordnung: Erklärendes Handbuch des musikalischen Gottesdienstes* (Vienna, 1828).

[43] Jean-Georges Kastner, *Supplément au Traité général d'instrumentation* (Paris: Prilipp, n.d. [1844]), p. 42. "Encore de nos jours cet instrument est usité, dans quelques villes d'Allemagne, notamment à Stuttgard ou nous l'avons entendu. Chaque jour, au coup de midi, quatre musicians viennet sur la plate-forme de la Tour jouer un Choral dont la première partie est rendue par le Cornetto (Zinke) et les trios autres par les trois Trombones Alto, Ténor, et Basse." Bruce Dickey says the date of Kastner's visit to Stuttgart was 1840 ("Cornett and Sackbut," p. 100), which is certainly plausible, since Kastner does not mention having heard the cornett at all in his earlier *Traité général d'instrumentation* (Paris: Prilipp, 1837), though he does discuss the instrument.

[44] In *Basler Jahrbuch für historische Musikpraxis* 5 (1981): 11-262.

[45] Dates and locations are according to Tarr, "Katalog," except where indicated otherwise.

[46] According to personal communications from Albert Rice (October 2002) and James Tyler (idem). Rice says that the instrument was for some years on loan to the Fiske Collection in Claremont, California, but has since been returned to the University of Southern California. Rice also says that Herbert Heyde examined the instrument in 1998, and suggested the date given in Table II. Tyler informs me that the instrument had an associated mouthpiece of ivory when it was acquired by the university in 1946, but the mouthpiece has since disappeared. See "Catalogue of the Albert Gale Collection," ms, Los Angeles, University of Southern California; and Philip J. Norvell, "A History and a Catalogue of the Albert Gale Collection of Musical Instruments" (M.A. thesis, University of Southern California, 1952). The instrument is not mentioned in Tarr, "Katalog."

[47] See Tarr, "Katalog," pp. 77-78. The date is from John McCann, as cited by Tarr. The catalogue of the Braunschweig Städtische Museum (Hans Schröder, *Verzeichnis der Sammlung alter Musikinstrumente im Städtischen Museum Braunschweig* [Braunschweig, 1928; cited by Tarr], p. 24) says "um 1600."

[48] Recently acquired by the Joe and Joella Utley Collection of Historic Brass Instruments of America's Shrine to Music Museum. Thanks to Sabine Klaus, curator of the Utley Collection, for information on this instrument (personal communication, 25 June 2002). The instrument, which is not listed in Tarr's "Katalog," is made from a single, uncut piece of wood. It is described in *Die Klangwelt Mozarts*, ed. Gerhard Stradner (Vienna: Kunsthistorisches Museum, 1991), p. 295. In this catalogue it is dated "18th or 19th century." It has six fingerholes, but no thumbhole, and no covering. Sounding length is 580mm.

[49] Possibly a reconstruction or a fake; see Tarr, "Katalog," p. 169. Two other cornetts in the Metropolitan Museum of Art, 89.4.2581 and 89.4.2582, were made in the nineteenth century (see ibid., pp. 172-73), but they are reproductions.

[50] F.A. Crasselt, *Versuch einer Chronik von Neukirchen im königlich-sächsischen Vogtlande* (Schneeburg: August Friedrich Fulde, 1821), p. 77; cited in Erich Wild, *Geschichte von Markneukirchen: Stadt und Kirchspiel* (Plauen: Vogtländischer Heimatverlag Franz Neupert, 1925), p. 240. See also Waterhouse, *New Langwill Index*, p. 150. At the time Crasselt published his book (1821), Johann Georg Gütter was still living. It is reasonable to suppose that Crasselt derived his information from a personal interview with Johann Georg.

[51] Waterhouse, *New Langwill Index*, p. 150.

[52] No other woodwind maker can be documented in Hof during the early years of Gütter's life. See ibid., p. 460.

[53] Ibid., p. 178. See also Josef Zimmermann, *Von Zinken, Flöten und Schalmeien: Katalog einter Sammlung historische Holzblasinstrumente* (Düren: A. Bezani, [1967]).

[54] Information from Tarr, "Katalog," except as noted.

[55] Measurements of the Gütter instrument are my own. Tarr, following measurements by McCann, gives the following dimensions: length 582, bore at proximal end 10.76, bore at distal end 21.6/22.0

[56] Two cornettinos (*Sopranzinken*) in the Brussels collection (Ea 4–1947 and Ea 3—1942), built by J. and V. Mahillon, probably in the early twentieth century, must be considered "early" representatives of the early-music revival. See Tarr, "Katalog," p. 107. Friend Robert Overton (*Der Zink: Geschichte, Herstellung und Spielweise eines historischen Musikinstruments* [Mainz: Schott, 1981]) suggests "3. Drittel des 19. Jh.?" ("last third of the nineteenth century?") for these instruments (cited in Tarr, "Katalog," p. 107).