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More about Renaissance slide trumpets: fact or fiction?

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HARDLY any instruments have survived from the early Renaissance, so iconographical material from the period is of particular importance for any understanding of what those instruments might have been like. It is not enough, however, merely to give descriptions of the instruments portrayed on panels or in illuminations, frescoes and sculptures. Since an instrument and its *modus operandi* are closely connected, it is often possible to learn how it worked from a study of contemporary depictions. Conclusions about the instrument itself can then be drawn from keen observation of the special way in which an instrument is held and ‘operated’.¹

Indeed, there is one instrument that can only be distinguished from the various other brass instru-

ments by the way in which it is held: the Renaissance slide trumpet. The special handling of this instrument has already been discussed elsewhere, but up till now the existence of the slide trumpet has not been proved on the basis of iconographical material. In order to do this at the necessary level of detail, I have borne in mind the importance of looking at the best pictures by the most skilled artists. Poorer quality representations can be useful for general statistics, but are not considered here.² Also, in order to single out the Renaissance slide trumpet, I have begun by undertaking a detailed iconographical study of the handling of trumpets in general. The interpretation of depictions of the slide trumpet is difficult given that the slides are often partially or completely hidden, but the way in which the instrument is handled can help towards a reconstruction of it. Further analysis of the handling of the early Renaissance sackbut suggests that there may have been a second trumpet variant with a different slide mechanism. The question then is whether this instrument is fact or fiction.

The handling of signal instruments such as horns and the military trumpet

Illus.1 shows how to handle a horn. Gaston Phebus, portrayed here in the role of teacher seated on a chair, holds a stick in his left hand and with his right points at his pupils. Seven huntsmen are assembled, three of them blowing horns. These are each held in a distinctive way: (1) the horn is held with only one hand (either left or right); (2) the hand is beneath the horn, the palm is turned up and facing the player with the fingers grasping the instrument while the thumb is placed on the opposite side (this position is generally referred to as the supporting grip); (3) the horn is directed towards the sky; and (4) the head is thrown back and the cheeks inflated.



1 Correct handling of a signal instrument such as a horn, with the supporting grip. Detail of miniature probably from the workshop of the Master of Bedford, ‘comment on doit huer et corner’, in Gaston Phébus, *Livre de la chasse* (Paris, c.1407), possibly ordered by Jon the Fearless, Duke of Burgundy. (Cliché Bibliothèque Nationale de France, Paris, Ms. fr.616, f.54r)



2 Handling of a signal instrument such as a military trumpet, with the supporting grip. Detail of grisaille (c.1458/60) by Jean Le Tavernier, Audenarde, 'Comment le puissant Charlemaine et ses nobles princes et barons allerent assaillir les Sarrazins en leur ost et les desconfirent', in David Auberts, *Croniques et conquêtes de Charlemaine*, iii, ordered by Philip the Good, Duke of Burgundy. (Brussels, Bibliothèque Royale, Ms.9068, f.212r)

There is no doubt that the instrument depicted here is a horn. Some medieval *olifants* have survived and are to be found in museums,³ and some ethnic groups still use similar instruments.⁴ It is not out of physical necessity that the horn is held in the manner shown in illus.1; it could also be held like a blow-pipe or pointed downwards. However, the manner of blowing depicted can be assumed to be the correct one, conforming with a well-established tradition that retained its validity throughout the Renaissance.⁵ Why is the hunter's horn held in this way? First, it would have been necessary to play the horn with one hand if the hunter was riding or holding a dog leash. Second, the supporting grip is convenient because the palm and fingers snuggle up to the instrument and support it approximately at its centre of gravity. Third, the horn had to point upward so that it could be heard all over the forest, and fourth, if the head is tilted back the embouchure automatically falls into place.

In medieval and Renaissance times the horn was not used as a musical instrument, but merely as a signalling instrument, and the player sounded only the first two or three harmonics so that there was no need to change the position of the grip. This only

happened later when the horn began to be used as a musical instrument. From this picture, it can be seen that the instrument, its function, its handling and its technical use are all consistent.⁶

The military trumpet (*trompette de guerre*, *ritterliche Trompete*) was also used as a signal instrument whose calls were primarily used to direct military operations. In illus.2 the trumpets of the Christians (on the left of the battle scene) and those of the pagans (on the right) are held in the same way as the horn, that is, with the supporting grip. The fingers are placed in a slightly different position on the instrument (stretched out as the trumpet is not curved like the horn), but the palm is still facing the player and the thumb is on the opposite side. This grip gives the trumpeter the same benefits as the horn-player: the player is able to support the weight of the trumpet with only one hand, even if there are banners affixed to it, and so can hold the reins with the other. Here again the handling (supporting grip) reflects function (signal).

Trumpets, however, had a secondary purpose: to represent the glory and dignity of rulers.⁷ Trumpets were of importance to the medieval and Renaissance sovereign as legal insignia.⁸ As the signal trumpet

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became used as a musical instrument it would have been able to play fanfares and toccatas connected with a specific town or ruler.⁹ In secular ceremonial entries into a city, two or four trumpeters form an ensemble in the middle of the procession near to the magnate. Illus.3, however, shows how they still played their instruments with the supporting grip as though they were military trumpets. Here the trumpet, its sound (the fanfare was intended to have the effect of an 'audible coat of arms')¹⁰ and the banner attached to the instrument were all insignia, symbols of power. The trumpeter himself, as bearer of the insignia, forms part of it; he wears a special livery with his employer's emblem. In this context, playing the trumpet with the supporting grip invests the overall appearance of the trumpeter with other

layers of meaning: holding the trumpet up to the sky symbolizes the power of the magnate, holding it with an extended arm denotes the player's occupation, and throwing back his head in a visually striking manner lent the ruler a triumphal aspect. The bearing of the trumpeters, including the use of the supporting grip, which acoustically and visually conveyed the impression of triumph, was intentionally imperious. It was a triumphant posture, gesture, attitude and handling.¹¹

In some cases, however, the 'triumphant' handling could not be maintained. In illus.4, the Duke of Burgundy's procession has halted in front of the city gate to receive the welcome of the citizens of Dijon. The two trumpeters have pulled up their horses and are blowing their instruments. Here the triumphant



3 Triumphant posture and gesture with military trumpets. Detail of miniature by Jean Fouquet (c.1458) showing the entry of Charles V into Paris, 1364, in *Les grandes chroniques de France* (Cliché Bibliothèque Nationale de France, Paris, Ms. fr.6465, f.417r)



4 Trumpets played by supporting grip and two fingers of the other hand touching the mouthpiece. Detail of miniature (before 1430) showing Philip the Good, Duke of Burgundy, being welcomed at Dijon. (Dijon, Centre Hospitalier Régionale, Ms. du St Esprit, f.18r)

handling has been sacrificed in favour of using the second hand to keep the embouchure in place. Two fingers touch the mouthpiece, if only with the tips, to prevent the trumpet sliding from their lips. Illus.5 shows a better way to keep the mouthpiece in place. In this allegorical picture, four champions (*comedies, tragedies, massala* and *cassius*) are fighting one another, represented by four warriors in a ring, while two trumpeters are encouraging or heralding the combat. They hold their short, straight trumpets with the supporting grip together with the 'cigarette-style' grip.¹² The forefinger and middle finger grasp the mouthpiece as if smoking a cigarette, and the thumb is placed on the cheek (as modern trombonists do). This handling enables the position of the embouchure to be arranged and varied, possibly for playing some of the higher harmonics which are difficult to produce with short instruments.

The trumpet in loud ensembles

In the late Gothic period the trumpet was also played in loud ensembles. At this time, the loud ensemble (*la musique haute, das starke Spiel*), as depicted in illus.6) generally consisted of several loud instruments such as the trumpet, drum, bagpipe and shawm. Here the Markgraf Otto IV of Brandenburg, a talented *Minnesanger*, is playing chess with his lady



5 Trumpets played by supporting grip and the 'cigarette style' grip. Detail from illumination (c.1420–35) from the workshop of Master Guillebert de Metz, in St Augustin, *De civitate Dei* (French version by Raoul de Presles). (Brussels, Bibliothèque Royale, Ms.9005, f.32v)

6 Trumpets in a Gothic loud music ensemble played with the supporting grip. Detail of South German miniature (c.1310–20), 'margrave otto vo[n] brande[n]b[er]g mit dem pfile', in a song collection. (Heidelberg, Universitätsbibliothek, Ms. cpg.848, f.13r)



seated on a cushioned bench. In front of them, four minstrels (drawn to a similar scale), and in typical minstrel attire, are playing two straight trumpets (busines), a drum (with a rattle cord) and a bagpipe (with one bordun pipe). The two busine players are wearing the same outfits and have not yet put their instruments to their mouths (nor has the bagpipe-player). One of the players seems to be about to take hold of the mouthpiece in order to put it to his lips; the other is using both hands to carry the instrument. Both are clearly holding their instruments in the supporting grip already seen in the military trumpets and horns, although there is no political reason for using it. The instruments are being held in the triumphant manner, but this is not as pronounced as in pictures of ceremonial entries. These minstrels are playing in honour of the *Minnesanger* and his lady, they are not making a symbolic entrance into a town. Although the musical and social context has changed—they no longer function as a signal to announce the ruler's presence, but play for the entertainment of the ruler—the handling remains the same, and can therefore be assumed to be using the same notes available to the military trumpeters.

The use of the supporting grip in this context suggests that the two busine players are possibly playing a (rhythmically structured ?) bordun, perhaps at the fifth since the two busines are not the same length. They are probably using not more than three or four harmonics because the other hand is not positioned according to the 'cigarette'-style grip at the mouthpiece. The rhythmical drone is provided by the drum player, and a further bordun and a melody by the bagpipe minstrel. The structure of the ensemble suggests dance music like *estampies*, *ductiae* and *saltarelli*.¹³

By the beginning of the 15th century, say around 1420–30, the busines, drum and bagpipe have disappeared from the loud ensemble; only the shawm and one trumpet remain. The loud band from this time onwards comprises a shawm, bombarde (a bigger shawm with a key covered by a fontanelle) and a trumpet of a special kind, as Johannes Tinctoris mentions in his treatise *De inventione et usu musicae* of about 1487.¹⁴ As the musical structure of the Renaissance changed, so did the loud ensemble; it

became primarily a shawm band with various different sizes of shawm. (This is why numerous 15th-century pictures show purely shawm bands without any trumpets.) These instruments are named according to their pitches: *suprema*, *tenor*: *quem vulgo bombar-dam vocant* and *contratenor*. The music of the shawm band was similar to vocal music, based largely on a tenor *cantus firmus*.¹⁵

With this new musical structure the drone instruments disappeared, but the trumpet continued to be included because of its significance with regard to the triumphal attitude. According to Tinctoris, it could play the lower contratenor part or generally substitute the contratenor shawm. It played neither the treble nor the tenor *cantus firmus*. This trumpet was called *trompone* in Italy and *sacque-boute* in France.¹⁶ In order to be able to play a low contratenor voice, it could not have been a normal trumpet; rather, it resembled a kind of trombone. Although Tinctoris describes the shawm, he unfortunately never mentions the sackbut, but by the 1480s it must already have been a fairly common instrument. In theory we are faced with three possibilities as to the nature of this instrument: a single-slide trumpet; a sackbut; and a double-slide trumpet. I shall consider all three possibilities.

The classical handling of the single-slide trumpet

The following lines are taken from the verses added to the portrayal of the children of Luna in *illus.7*:

Luna ...
 Der sterne wurcken geet durch mich.
 Ich pin vnstet vnd wunderlich.
 Mein kint man kaum geczemen kan,
 Nymant sein sie gerne vnttertane.
 Ir anlucz ist plaich vny runt;
 Brawn, grausam zene, ein dicken munt.
 Obersichtig, schele, einen engen ganck,
 Gern hoffertig, treg, der leib ist nit lanck.
 Leusser, gauckler, fischer, marnen,
 Farnschuler, vogler, maler, pader
 Vnd was mit wasser sich ernert,
 Dem ist des monats schein beschert.¹⁷

'Luna' is personified in the upper part of the picture riding a horse. On her left hand is Scorpio, and on her right is the waning moon. In the middle are scenes showing the professions described in the poem: fishermen on a lake, two mills (a windmill



7 Classical handling of a single-slide trumpet with a put-in slide (see detail; compare fig.1 below). Pen and ink drawing by the Hausbuchmeister (Heinrich Maug, 1470–c.1510, Ulm), showing the planet Luna and her children, in the ‘Mittelalterliches Hausbuch’ of the Goldast family (private collection of the Fürsten Waldegg-Wolfegg-Waldsee)

and a water-mill), a forest with birds flying and bird-catchers and people bathing. In the foreground are scenes that relate to the character of Luna's children: a magician and a juggler playing a sort of trumpet. The monkey on his shoulder denotes his profession. These people do not like authority ('Niemand sind sie gerne untertanig'); there is no castle on the hill, only a windmill. Their professions are lowly, but they are 'free'. They do not like too much activity (their character is 'trage'), and prefer leisurely jobs that are not too strenuous. Basically, they are loiterers. Luna's children like leisurely activities like swimming and are attracted by a juggler's performance. Their lives are unsteady ('unstet') and strange ('wunderlich')—and so is the instrument of the trumpet player.

Everything in the picture is connected with something moving: the moon constantly changes its shape and keeps the water in motion; the planet Luna governs the changing moods of the people; and the trumpet glides up and down. Indeed, the cowering dog is clearly astonished by the trumpeter's movements. The juggler is playing a slide trumpet: 'one hand, close to the lips, supports the mouthpiece with two fingers; the other hand, almost as far down as possible, grasps ... the tube with the palm facing the player'.¹⁸ The single-slide trumpet, its sound and the way it is handled provide another visual—and acoustic—realization of the qualities attributed to Luna. While the trumpet moves along the slide, the notes are changed and the pitch varied. The single-slide trumpet is visibly and acoustically 'unstet' and 'wunderlich' and can hardly be managed ('kann kaum gezahmt werden'). To depict a triumphantly held military trumpet in this context would be ridiculous; to show a normal trumpet held in the wrong way would not be consistent with the character of Luna's children. The slide trumpet is itself consistent to them, and here again handling follows function.¹⁹

The slide trumpet player is nevertheless still using two familiar positions: the supporting grip (right hand: see illus.1, 2 and 3) and the 'cigarette'-style grip (left hand: see illus.5). Yet the whole appearance of this musician is diametrically opposed to the triumphant attitude and handling of military trumpets; the slide trumpet is directed to the floor and the

head is inclined forward. Both hands are used. Why is the slide trumpet being handled in this way? The player is obliged to use the supporting grip because this is the only way to extend his arm full length if there is no cross-stay fitted (as would be the case with sackbuts and 16th-century slide trumpets). Furthermore, the player must use the full length of his arm if he wishes to produce more than two semi-tones. (If he held the whole tube sideways and the back of the hand was facing the player, he would not be able to extend his arm without affecting the embouchure.)

The slide trumpet player is using the 'cigarette'-style grip since this would have been a well-trying technique adapted from the signal trumpet. Whereas the signal trumpet player uses the 'cigarette'-style grip to position and perhaps to influence his embouchure in introduce more harmonics, the slide trumpet player uses it above all to fix his embouchure and press the mouthpiece to his lips while pointing the instrument to the ground. The 'cigarette'-style position is the best method to avoid sacrificing vital centimetres needed for the slide while fixing the mouthpiece to the lips. Thus, the 'cigarette'-style grip used together with the supporting grip is the most economic way of utilizing the greatest length of the slide possible for human arms.

There is no question as to why the trumpet should not be directed to the sky (although this would theoretically be possible). Pointing the trumpet at the sky would be very strenuous for the player and harmful to his lips if his arm became weak and the trumpet fell straight down along the slide. It is safer and less exhausting to point the trumpet towards the ground; this causes the head to be inclined in the same direction. All four elements together (supporting grip, 'cigarette'-style grip, trumpet and head tilted downwards) guarantee the best way of handling a single-slide trumpet, and this is the classical manner as described by Curt Sachs.

Although both kinds of trumpet use the same grips, the 'operation' of the slide trumpet is iconographically quite distinct from that of the triumphant military trumpet. The instruments are structurally related. A military trumpet provided with a telescopic slide theoretically becomes a single-slide trumpet without any problem. So it is not surprising

that early Renaissance slide trumpet players should have transferred the grips already familiar from the military trumpet to the 'new' instrument. However, they had to alter completely the 'operation' of this instrument. The single-slide trumpet was invented in order to retain the trumpet in the loud band, and together with the different shawms it could also play chansons, basses dances and motets for the mag-nate's entertainment.

There are numerous pictures in which the slide trumpet is being played with a shawm and bom-barde in the manner suggested by Tinctoris, many of them dating from well before 1487. Clear-cut pic-tures of the slide trumpet date from about the mid-15th century as, for example, the famous depiction in illus.8. As early as 1439 a description of a triumphal entry into Ferrara mentions a 'tuba ductilis ... trom-bonus vulgo dictus',²⁰ but this trombone reference, as well as Tinctoris's *sacque-boute* and *trompone*, may not exclude the single-slide trumpet. A search for the first reference to the slide trumpet in the Bur-gundian court records puts the date back to 1422

when a new instrument is mentioned: the *trompette des menestrels*.²¹ The player is listed as Evrard Janson. I have already noted that a military trumpet could very easily be changed into a slide trumpet by adapt-ing a telescopic mouthpiece to it. It is clear from the way that the 'trompette des menestrels' is listed immediately after the 'trompettes de guerre' that it represented an intermediate stage between a min-strel's instrument (capable of playing together with shawms) and a fanfare instrument (capable only of playing with other trumpets and kettledrum). The 'trompette des menestrels' must have been a slide trumpet.

Evrard Janson is listed as 'trompette des men-estrels' until 1426. No records survive for 1427, 1429 and 1430, and no 'trompette des menestrels' is listed for 1428 and 1431. From 1432 Hannequin Janson is listed while from 1433 Evrard becomes 'trompette de guerre'. Clearly, then, he knew how to play both instruments, a fact that underlines the close relation-ship between the two.²² This archival evidence sug-gests that a slide trumpet was in use from the early



8 Single-slide trumpet played in a Renaissance loud music band (compare fig.1 below). Detail of miniature by Taddeo Crivelli (1455–61), showing dancing at the court of King Solomon, in the Bible of Borso d'Este of Ferrara. (Modena, Biblioteca Estense, Ms. (v.g.12) lat.422, f.280v; by permis-sion of the Ministero per i Beni e le Attività Culturali)



9 Possibly a slide trumpet played by the Burgundian *trompette des menestrels*. Early 16th-century copy after a panel by Jan van Eyck (1430/31), showing a feast at the court of Philip the Good, Duke of Burgundy. (Versailles, Musée du Château, Inv.-No.5423; © Photo RMN – Gérard Blot)

years of the 15th century at the Burgundian court. Illus.9 may provide iconographical confirmation of this. This is not the original panel by Jan van Eyck, but it probably is an exact and reliable copy.²³ The whole court is assembled: Philippe 'le Bon', his wife, even his fool (in a red outfit) are present, as are some singers, some dancers and an *alta* of the kind described by Tinctoris. The minstrels are playing a shawm, a bombarde and a trumpet. Behind them is another minstrel who has his shawm under his arm; he is moistening a reed. They might well be playing a basse dance for the courtiers. They wear uniforms, with the court badge, so they are clearly the Duke's employees and the trumpet player is therefore the 'trompette des menestrels'.

However, is his instrument a slide trumpet? It is clearly not being held in the typical manner for the slide trumpet outlined above, nor, even though a banner is attached, is it being held in triumphant fashion. The minstrel holds the trumpet with his right hand in the supporting grip but does not point

it straight down to the ground, but holds it on a slight diagonal. Unfortunately, the left hand, which should show the cigarette'-style grip, is not visible. So is this a normal trumpet held in a less triumphant manner because a court feast is correspondingly less formal than a ceremonial entry? The banner provides a further detail. Banners are only rarely seen attached to slide trumpets, but often to military trumpets. A banner would hamper the pull and push of the player and make it difficult to move the slide. Usually, however, in the case of military trumpets, banners are only fixed to the instrument itself, while here the banner is fastened on rings which can glide along the tube and one end is fastened to the minstrel's shoulder. The player is holding the instrument by the middle tube so that if he pushed the trumpet, the banner would slide along the other tube without getting crumpled because it is also fixed to his shoulder. If he pulled the trumpet, the banner would be able to glide down easily because the instrument is held on a slightly downwards diagonal. In this way, the banner can be seen to be influencing the 'operation' of the slide trumpet causing it to be held in a less typical manner. It is possible, then, that this is a slide trumpet, although without being able to see the other hand this remains open to doubt.

The alternative handling of a single-slide trumpet

Illus.10 shows an *alta* band playing at a wedding. Three musicians are sitting on a bench playing two shawms and a slide trumpet. Another shawm player is just sitting, having a rest. In the background, there is a lutenist, presumably waiting his turn to perform. The slide trumpet player has a remarkable instrument. The second fold of the tube is directed backwards over his shoulder. At the other end of the trumpet near the bell, the player is grasping two tubes with the supporting grip. The other hand does not hold the slide 'cigarette' style, but 'dart' style with the palm at an angle of 90 degrees to the body.²⁴ The player holds the tube quite a long way from his lips. If the slide were inserted, the minstrel would lose at least one semitone and, besides, a slide trumpet cannot be easily played while the player remains seated.

So, what kind of slide trumpet is it? It has to be assumed that in Florence in 1450 the instrument that



10 Alternative handling of a single-slide trumpet with a put-on slide (compare fig.2). Cassone panel by the Master of the Adimari (c.1450), showing the wedding of Boccaccio Adimari at Florence. (Florence, Galleria d'Arte Antica Moderna, Inv.-No.147; by permission of the Ministero per i Beni e le Attività Culturali)

would have been played in this context, with the two shawms, would have been a slide trumpet. It cannot be a sackbut because the player is still using his right hand to grasp the tube pointing backwards as well as the tube with the bell. There are some indications, however, which suggest that the instrument is a slide trumpet: (1) one hand using the supporting grip; (2) the inclined head; (3) the trumpet being directed to the ground. The most surprising feature is that the instrument is not being held 'cigarette style', especially given that it is longer than other slide trumpets. Is it, then, possible to draw some conclusions from the handling of this trumpet as to the instrument itself? What is the reason for the 'dart' style position, and what is the characteristic form of the instrument itself?

This trumpet is longer than those other slide trumpets using the 'cigarette' grip. A longer slide trumpet (for *contratenor bassus* parts, for example) cannot be pushed downwards indefinitely since the

length of the player's arm is limited. This would be one more reason to use the 'cigarette' grip. If one part of the slide trumpet could be pushed back over the shoulder while pulling and pushing, the whole length of the trumpet could be increased. However, this would explain only one aspect of its form: the three-dimensional sackbut-like shape. The structure must therefore be connected to the 'dart' style grip. A fully extended slide can be held 'dart' style if the slide is not inserted into the instrument (see fig.1), but the instrument is inserted in the slide, or, in other words, if the slide is put onto the trumpet (see fig.2). In this manner, the trumpet can be pulled back again up to the mouthpiece.

This bigger slide trumpet can be held 'dart' style in a more relaxed way because, first, the other hand is also supporting part of the weight of the instrument and, second, because the thumb can balance the whole instrument while one part of it is gliding over the shoulder. Third, 'dart' style handling does not

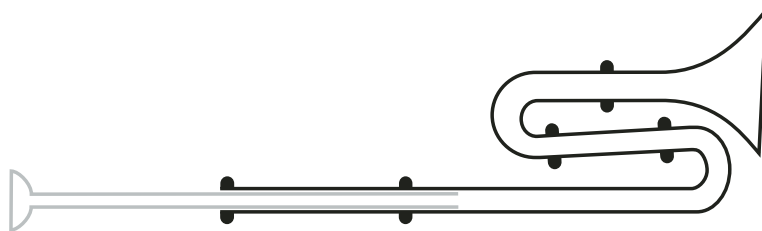


Fig.1 Trumpet with an inserted slide used for two-dimensional straight, folded and S-shaped slide trumpets (compare illus.7, 8)

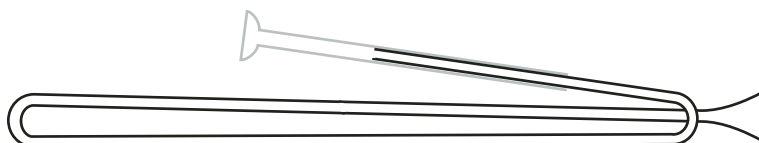


Fig.2 Trumpet with a suggested put-on slide, possibly invented for three-dimensional trombone-like slide trumpets (compare illus.10)

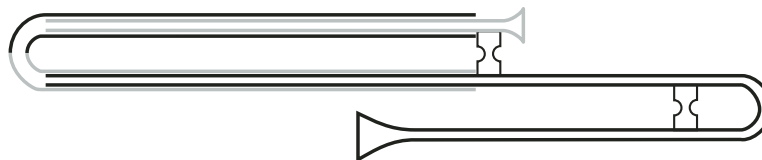


Fig.3 Sackbut using put-in slide (mouthpiece tube is put in the U-bow) and put-on slide (U-bow is put on the bell tube) in the same instrument (compare illus.11, 12)

affect the aim of gaining every important inch of the slide, especially with longer trumpets (like the *trombone*, a longer *tromba*), and the minstrel can sit happily on his bench. The 'cigarette' style handling (with inserted slide) had to be substituted by the 'dart' style handling (with put-on slide) as the slide trumpet began to get longer during the early Renaissance period. The form of the trumpet was conceived in this manner so that one part of it could be pushed over the shoulder.

The alternative handling of the slide trumpet is defined by a supporting grip and the 'dart' style grip of the slide. The trumpet is directed diagonally towards the floor and the head is bent slightly forward.²⁵ This position is used with a longer trumpet so that one bend of the tube is behind the shoulder near the ear. But this works only if the instrument is no longer two-dimensional, but rather three-dimensional. To sum up: the *Gestalt* of a slide trumpet handled 'dart' style is determined by three conditions: (1) it is constructed three-dimensionally; (2) one part of the instrument can be pushed behind the shoulder; and (3) the slide is put on the trumpet. The Adimari wedding is one of the earliest pictures showing this kind of trumpet together with an alternative slide trumpet handling. This instrument is very important because it already shows two characteristics of the sackbut: (1) the U-tube pointing backwards,²⁶ which has the additional advantage of balancing the whole trumpet as well as being a more convenient position; and (2) here, for the first time, the slide being put on a trumpet.²⁷

The handling of the Renaissance sackbut

About 1500 the Renaissance sackbut was introduced into the *alta* band. It appears to have been invented in its characteristic form (illus.11).²⁸ Strictly speaking, the sackbut is an S-shaped trumpet in which the U-bend pointing backwards is lengthened so that it projects over the shoulder. Furthermore, the tubes are connected by two cross-stays. One cross-stay stabilizes the bell's tube by attaching it to the middle tube. The other cross-stay connects the middle tube with the tube of the mouthpiece, so that a double-slide in the form of an U-bow can be put on the two inner tubes. To reach this instrument, two inventions were necessary: first, a double-slide calls for two parallel tubes for it to slide properly; second, the tube with the mouthpiece has to be connected to the middle tube in some way so that the mouthpiece part of the instrument does not fall down. The first condition was fulfilled by the S-shaped trumpet, in which two exactly parallel tubes were already established; the second came about by the connection of these two tubes (on which the slide glides) with a cross stay. In addition, because of its length, the S-shaped trumpet expanded into a three-dimensional instrument and became a real sackbut. (Theoretically, a double-slide could also be put on Virdung's *Feltrumet* if the tube with the mouthpiece was fixed in some way by a clamp to the rest of the trumpet without using any stay.)

The sackbut has at least three great advantages: (1) in a slide trumpet the whole instrument has to be



11 Renaissance sackbut and military trumpet (compare fig.3). Anonymous woodcut from Sebastian Virdung, *Musica getutscht vnd außgezoge[t]*. (Basle, 1511) f.8v

moved along the telescopic slide, while in the sackbut only the slide has to be moved on a part of the instrument, the weight of which can now be supported by both arms; (2) the use of a double-slide means, above all, that the distances between the position of the semitones are halved and the minstrel can play faster and with more virtuosity; and (3) the number of positions was increased so that the sackbut could play up to seven semitones—the gap between the second and third harmonic was filled, and it became a fully chromatic instrument. The instrument was so complete on invention that it has not been improved to the present time, although it does not have exactly the same characteristic form as the modern trombone, and is consequently handled in a different manner.

In illus.12 three *Stadtpeifer* from Nuremberg are playing a sackbut and two bombardes at the butchers' carnival dance. The sackbut depicted here is sim-



12 Renaissance sackbut handled with the underhand grip, using both arms (compare fig.3). Detail of anonymous watercolour and ink drawing (after 1539), showing the butchers' carnival dance in 1519. (Nuremberg, Germanisches Nationalmuseum, Ms.5664, f.66r)

ilar to Virdung's woodcut of a *Busaun*, but the stabilizing cross-stay between the bell tube and the middle tube is lacking and there is one cross-stay connecting the middle tube and the mouthpiece tube, and another to stabilize the U-bow.²⁹ Above all, the handling of the sackbut is completely different from that of a modern trombone. In a trombone, the index finger of the left hand is placed near the mouthpiece, while the thumb touches the left cheek and the three other fingers grasp one cross-stay. The right hand serves the U-slide, the thumb pushing the slide at its cross-stay and the index and middle fingers pulling the slide while the other two fingers are curled inward. In the trombone the U-slide is moved parallel to the forearm because the U-slide section and bell section of the trombone are approximately rectangular to one another, while in a sackbut the U-slide and bell section are not right-angled in the same way. Here, the U-slide is held approximately at a right angle to the chest, while the bell section can be turned in any direction, as other pictures show. Both hands grasp the two cross-stays in exactly the same way, with all four fingers and the thumb, and both grasp the sackbut in an underhand grip.³⁰ The left hand presses the mouthpiece to the lips while the right hand moves the slide. The underhand grip is similar to the supporting grip, with palm facing the player and the thumb being placed on the opposite side to the fingers. It would appear that the well-tried grips of Renaissance slide trumpets for pulling and pushing have been transposed to the sackbut. With this handling, the sackbut is only slightly pointed towards the ground, and the head no longer needs to be inclined.³¹

The handling of the early Renaissance sackbut at the beginning of the 16th century is characterized by the underhand grip using both arms, because its form is different to that of a trombone, and, once again, the instrument and its 'operation' are closely related.

The handling of a double-slide trumpet

The handling of the double-slide trumpet is now discussed with reference to Hans Memling's well-known 'Najera Tryptich' (illus.13). In the right hand panel (illus.13a), the two angels are playing slide trumpets (straight and double folded), employing



13 (a) Straight and folded single-slide trumpets held with the classical handling; (b) 'knotted' trumpet with a double-U bow? Details from Hans Memling, Nareja Tryptich (c.1480) (Antwerp, Musée des Beaux-Arts)

the standard slide trumpet handling: the 'cigarette' grip at the mouthpiece to hold the telescopic inserted slide, and the supporting grip of the trumpet itself to draw it back and forth, with the trumpet pointed to the ground and the head inclined. In the left hand panel (illus.13b), the two angels play a shawm and a 'knotted' trumpet which is not being handled like a slide trumpet, nor is the angel using the alternative handling discussed above.

Hans Memling was one of the most skilful artists of his time; all the instruments depicted on this altarpiece are given a very detailed and realistic portrayal, both in appearance and handling. If Memling showed an angel handling a trumpet in a different way, he was depicting either a third way of handling a kind of slide trumpet, or a new type of instrument from around 1480.³² The angel is holding the tube below the mouthpiece with his left hand in the 'dart' style grip, with the palm at an angle of 90 degrees to

the body. Three fingertips are placed without pressure on the tube, the little finger elegantly extended, and the thumb touches the mouthpiece tube on the other side. This grip is primarily intended to fix the mouthpiece. The angel's right hand grasps the 'knotted' trumpet not with the supporting grip, but sideways, with the palm at a right angle to the body, in a sidehand grip. The thumb is placed on the upper tube of the folded 'U', and the index, middle and ring fingers are squeezed between the bell tube and the other tube, while the little finger is positioned on the other side of the folded U-tube.

What kind of trumpet could have been handled like this? Which instrument functions in such a way and needs this handling? This is not a standard slide trumpet, because (1) the 'dart' style grip is not convenient when playing with an inserted slide as it prevents the use of the full extension of the tube, and (2) the U-bow which is next to the left hand would come

into contact with that hand and the cheek before the right hand had pulled back to its closest position. An alternative slide trumpet (with a put on slide) is out of the question because: (1) the right hand (especially the thumb and index finger) would be in the way of a proper put-on slide on the trumpet (slide and trumpet have to be three-dimensional to make it work); (2) the upper U-bow would reach the left hand before it could be pushed behind the shoulder (as remarked on in the case of alternatively handled slide trumpets); and (3) the trumpet's upper U-bow would produce an ugly screeching sound as it would scrape along the put on slide while playing.

So could it be a U-slide trumpet? In order to place a U-slide on a trumpet, two conditions have to be met: the two tubes have to be absolutely parallel so that a U-bow can be put on two other tubes, and the mouthpiece tube and the rest of the trumpet have to be connected in some way. (The cross-stays, which were invented for the sackbut about 1500, would be only one possibility.) Here the first requirement is met. The 'knotted' trumpet is constructed in such a way that a parallel U-slide could be added to the instrument. The U-slide is held in the sidehand grip and is guided by the thumb and little finger on the U-bow, with the three other fingers in the U-bow. Furthermore, 'dart' style handling at the mouthpiece is even better than 'cigarette' style because the player has to make sure that the mouthpiece (and not only an inserted slide) stays fixed at the lips while using the U-bow. However, the second requirement does not appear to be met; the two parts of the trumpet would fall apart. However, they could be fixed together at the upper U-bend by a clamp or clip, by soldering or other devices. This is even suggested in this picture because no slide could be properly used with a 'knotted' trumpet, although the way in which it might have been fixed is not clear from the picture. (Possibly there were some experiments with cross-stays on sackbut-like trumpets before the sackbut proper was invented.)

One further depiction might be considered, although it is not by one of the best artists (illus.14), and it is possible he was confused by the complicated 'knotted' trumpet. This picture comes from the *Histoire de Renaud* which was commissioned in 1462 by Philip the Good, Duke of Burgundy. When he died

five years later, the five volumes of the commission were still to be completed. It was thus during the reign of his son Charles the Bold (1467–77) that the volumes were illuminated between 1468 and 1470 by the Flemish artist Loyset Liedet and his workshop, which illuminated numerous books for the Burgundian library.³³ Renaud and his bride, Clarissa, accompanied by the wedding guests, process through a hall where three minstrels are playing the combination of two shawms and a minstrel's trumpet. The trumpet player also has a 'knotted' trumpet which he holds with his right hand in the 'dart' style grip at some distance from the mouthpiece. His left hand is positioned in a sidehand grip, the thumb hooked in the U-bow and the four fingers slightly touching the bell tube.

This handling rules out every kind of slide trumpet. However, it does suggest the likelihood of a U-slide trumpet.³⁴ The thumb is used to pull the U-slide down, and the index finger pushes it back up while the other fingers glide along the bell tube in order to provide better guidance for the slide proper. The instrument could possibly already achieve more than four semitones because of its double-slide. If there were only five positions, with this more



14 Handling of a double-slide trumpet? Detail of miniature by Loyset Liédet (c.1468), showing dancing at the court of King Yon, in Huon de Villeneuve, *Histoire de Renaud de Montauban*, ii (Paris, Arsenal, Ms.5073, f.117v)

economical slide (taking into consideration the length of the human arm), the gap between the third and fourth harmonics could be filled, and ‘lipping’ would no longer be necessary.³⁵

One U-slide trumpet made by Michael Saurle (dating from c.1800) has survived in the Musik-instrumentenmuseum in the Stadtmuseum in Munich.³⁶ It is a four-times folded trumpet fitted with a U-slide and a cross-stay. A similar instrument is depicted as early as 1595 in an etching by Adrian Collaert (Berlin, Staatliches Institut für Musikforschung),³⁷ and I am inclined to believe that the U-slide trumpet was already well known during the early Renaissance, even before 1500. In 1468, the Burgundian court chronicler Olivier de la Marche mentions the ‘trompette saicqueboute’ for the first time in his description of the wedding festivities of Charles the Bold and Margaret of York.³⁸ Liedet’s picture of the wedding procession of Renaud and Clarissa shows what is not yet a sackbut, but possibly a double-slide trumpet which is rather trombone-like because of that double-slide. Moreover, in 1468 Jacques de Rectres is still listed as *trompette de menestrels* in the Burgundian court records.³⁹ So it seems unlikely that Tinctoris, writing in 1487, meant a Renaissance sackbut when he refers to *sacque-bout* and *trompone*; these terms may well indicate any kind of slide trumpet or an U-slide trumpet.⁴⁰

Conclusions

Although all these types of trumpet seem to be quite similar, they can be clearly distinguished by the way in which they are handled. Signal instruments such as horns and military trumpets are held with the supporting grip and, especially in the case of trumpets, in a triumphant attitude. Trumpets formed part of the *alta* band from the beginning of the 14th century; they continued to be held triumphantly. At the beginning of the 15th century, the trumpet of the *alta* band was remodelled into a slide trumpet with

the insertion of a telescopic slide. This slide trumpet called for a completely different handling to that of the military trumpet: the classic slide trumpet handling, with one hand positioned ‘cigarette’ style at the mouthpiece and the other hand holding the instrument in the supporting grip. The sackbut was invented in about 1500, but it was still handled in a different manner to the modern trombone, with both hands in the underhand grip at least at the U-slide.

During the 15th century the sizes, shapes and ‘operation’ of slide trumpets varied to a great extent. The instruments grew longer and the classical shape of straight, S-shaped or double folded instruments changed into experimental forms such as three-dimensional sackbut-like or ‘knotted’ trumpets. These two experimental shapes of trumpets are linked to two different ways of handling them, consideration of which has determined two distinctive characteristic forms of them.

1 A three-dimensional trombone-like slide trumpet in which the slide is put on the instrument and in which one part of the trumpet could be pushed over the shoulder, connected with the alternative handling (‘dart’ style grip at the slide and supporting grip at the trumpet). This instrument appears in pictures from about 1450 onwards.

2 A ‘knotted’ trumpet which is provided with a U-slide (like the sackbut), connected with the sidehand grip at the U-bend and ‘dart’ style grip near the mouthpiece tube. This instrument appears in pictures from about 1468.

These two kinds of slide trumpet can only be reconstructed from iconographical study. Further research might resolve the question as to whether they are fiction or fact. If fact, they would fill the missing links between the single-slide trumpet at the beginning of the 15th century and the Renaissance sackbut that emerges by 1500.

Special thanks go to Renate Schlenker and Helen Schoop, Tübingen, for their help in writing this article in English.

spectators, who are familiar with how it is typically handled, will have the illusion of seeing the real thing.

zur Hochrenaissance (1300–1550): eine musikikonografische Studie (Tübingen, 2001).

1 For example, a performer in a pantomime may make the gestures associated with playing an instrument; the

2 The statistical material is presented in P. Tröster, *Das Alta-Ensemble und seine Instrumente von der Spätgotik bis*

3 Three olifants are shown in Georg Kinsky, *Geschichte der Musik in Bildern* (Leipzig, 1929), pl.43.

4 Some peoples still use the horn in a similar way as in the Middle Ages: see A. Buchner, *Musikinstrumente der Völker* (Hannau/Main, 1968), fig.97 (Argentine with horn and drum), fig.119 (Bolivian Indians with horns, called *Pututú*), fig.231 (Polish shepherds' trumpet). At least, there is always one hand using the supporting grip.

5 For some medieval iconographical examples of playing a horn in this manner see Kinsky, *Geschichte der Musik in Bildern*, pl.32, fig.1 and pl.35, fig.6, and P. Collaer, A. van der Lindern and F. van den Brecht, *Bildatlas zur Musik* (Gütersloh, 1963), fig.132 (two players play horns; another two play horns with fingerholes, an ancestor of the cornett) and fig.135. The horn is stereotypically handled like this with almost no exceptions.

6 To borrow a phrase from the architect Louis H. Sullivan ('form follows function'), we can say 'handling follows function'.

7 S. Zak, *Musik als 'Ehr und Zier' im mittelalterlichen Reich* (Neuss, 1979), pp.7–21.

8 Zak, *Musik als 'Ehr und Zier'*, pp.51–66.

9 Zak, *Musik als 'Ehr und Zier'*, pp.55, 60 (n.48).

10 Zak, *Musik als 'Ehr und Zier'*, p.55 (and n.19).

11 This manner of holding a trumpet has two variants: (1) if the instrument is not too heavy, the hand is not held near the trumpet's centre of gravity but is put near the mouthpiece; (2) if the trumpet is very long and heavy, the other hand is placed on the instrument in the supporting grip, too. Nevertheless, the supporting grip is never given up. For the first possibility see, for example, E. A. Bowles, *La pratique musicale au moyen âge/Musical performance in the late Middle Ages* (Geneva, 1983), p.43 and pl.36; for the second see pl.17.

In addition, there is yet another possibility for holding a trumpet: one hand is positioned in the supporting grip and the other placed on the instrument as if playing a flute. See, for example, Bowles, *La pratique musicale*

au moyen âge, pl.68, or Bowles, *Musikleben im 15. Jahrhundert*, pl.133, 136, 139. This position can only be observed in single trumpet players unaccompanied by any other instrumentalists during official enactments of a town. This position of the hand seems to be reserved for trumpet players when announcing something in their capacity as watchmen (see pl.133), or when proclamations were being made public (pl.136, 68) or when punishments were being carried out (pl.139). It may be that the imperious triumphant attitude and handling remained the prerogative of noble and royal trumpet players and that the inferior town watchmen were not permitted to handle their trumpets in the same way.

12 This very apt term was coined by Ross Duffin: see R. W. Duffin, 'The *trompette des menestrels* in the 15th-century *alta capella*', *Early music*, xii (1989), p.398.

13 Unfortunately only a few pieces of purely instrumental Gothic music have been preserved: see, for example, London, British Library Harl. 978 and Add. 29987, likewise the Codex Montpellier H196.

14 What follows is based on the explanations of Tinctoris concerning the *alta*: see K. Weinmann, *Johannes Tinctoris (1445–1511) und sein unbekannter Traktat 'De inventione et usu musicae'* (Regensburg, 1917), p.37. An English translation is given in A. Baines, 'Fifteenth century instruments in Johannes Tinctoris' *De inventione et usu musicae*', *Galpin Society journal*, iii (1950), pp.20–21.

15 'Vocal and instrumental ensemble improvisations had common theoretical ideas. Both viewed the cantus firmus as the fundamental voice. Categorical formulas and rhythmic and melodic ideals are the same in both. In fact, distinctions between vocal and instrumental style are difficult to make—the theorists make no firm commitments as to the destination of their treatises. And instrumentalists, to judge from the few preserved comments on the subject, stressed the similarity between instrumental performances and singing.' K. Polk,

Flemish wind bands in the late Middle Ages: a study of improvisatory instrumental practices (PhD diss., U. of California, Berkeley, 1968), pp.3–4.

16 There are two good reasons why this 'new' instrument is used for contratenor parts: (1) newly developed instruments play the newest voice; in the 1420s this is the contratenor; half a century later it is the low contratenor (*contratenor bassus*); (2) the structure of an early Renaissance contratenor voice fits best to an early trombone-like instrument.

17 These verses are given in H. T. Bossert and W. F. Storck, *Das mittelalterliche Hausbuch* (Leipzig, 1912), p.xi. My thanks to Paul Sappeler for the interpretation of these verses.

18 C. Sachs, 'Chromatic trumpets in the Renaissance', *Musical quarterly*, xxxvi (1950), p.64.

19 The moon has the same meaning in modern astrology. It is 'the function of growth and development' and 'a continual flow of organic events'; physically it is connected with water, growth and rhythmic development: T. Ring, *Astrologische Menschenkunde*, iii (Freiburg im Breisgau, 3/1969), pp.61, 63; i (1956), p.125.

20 Quoted after K. Polk, 'The trombone, the slide trumpet and the ensemble tradition of the early Renaissance', *Early music*, xvii (1989), p.390. *Tuba ductilis*, however, has a second meaning, too. 'The words, which apparently occur first in the Vulgate (4th century AD), are a translation of the Septuagint (*Salpinx elate*), which means a trumpet made of metal drawn out by the hammer, as distinct from trumpets of wood, horn, or a cast metal.' G. B. Lane, *The trombone in the Middle Ages and the Renaissance* (Bloomington, IN, 1982), p.6. In the middle of the 15th century the metal trumpet drawn out by the hammer was already very well known. It was no longer necessary to indicate this by a special expression. *Tuba ductilis* is now the Latin expression for a slide trumpet.

21 J. Marix, *Histoire de la musique et des musiciens de la cour de Bourgogne sous le règne de Philippe le Bon (1420–1467)* (Strasbourg, 1935), p.264.

A similar term, *trompeta minorum*, was used three years earlier in 1419 at the ducal court of Savoy: J. Höfler, 'Der "Trompette de menestrels" und sein Instrument', *Tijdschrift van Vereniging voor Nederlandse Muziekgeschiedenis*, xxix (1979), p.95.

22 See Marix, *Histoire de la musique* ..., pp.264–75.

23 P. Post, 'Ein verschollenes Jagdbild Jan van Eycks', *Jahrbuch der preussischen Kunstsammlungen*, lii (1931), pp.120–31.

24 This expression is borrowed from Duffin, 'The *trompette des menestrels*', p.398. His explanations for handling a slide trumpet 'dart style' are not convincing. While holding the trumpet straight to the floor in order to draw a slide inwards does not put much pressure on the lips. The player has only to prevent the mouthpiece from sliding off his lips.

25 For more examples of the alternative handling of a slide trumpet where one bend can be pushed behind the ear, see Bowles, *La pratique musicale au moyen âge*, fig.59; Bowles, *Musikleben im 15. Jahrhundert*, p.46, figs.30, 56; R. Goldron, 'Triumph der Polyphonie', *Illustrierte Musikgeschichte*, iii (Lausanne, 1965), figs.3, 15; J. Meurgey, *Les principaux manuscrits à peintures du Musée Condé à Chantilly* (Paris, 1930), fig. xcvi; M. Sauerland, *Die Musik in fünf Jahrhunderten europäischer Malerei* (Königstein im Taunus, 1922), figs.9, 19 (in this picture the angel is playing 'cigarette style' a rather small trombone-like slide trumpet with a suggested inserted slide).

26 This is one reason why Besseler regarded this instrument as a sackbut: see H. Besseler, 'Die Entstehung der Posaune', *Acta musicologica*, xxii (1950), pp.30–32.

27 With a trombone the mouthpiece tube is *inserted* in the U-slide and the U-slide itself is *put on* the next tube (see fig.3).

28 The earliest known depiction of a slide trombone is from Filippino Lippi, a fresco with *The Assumption of the Virgin* (late 15th century) in the church of S Maria sopra Minerva (Capella di S Tommaso d'Aquino), Rome,

depicted as illus.3 in A. C. Baines, 'Trombone', *New Grove*.

29 I think that Virdug's *Busaün* is not absolutely correctly depicted concerning the cross-stays. There should be one cross-stay at the mouthpiece and another at the U-bow (see illus.12).

30 This term is borrowed from Keith McGowan: see *HBS newsletter*, iii (Summer 1991), p.21.

31 Some other pictures showing the Renaissance sackbut handling using the underhand grip: Filippino Lippi's sackbut, see n.32 above; Zak, *Musik als 'Ehr und Zier'*, fig.10; R. Wangermée, *Die flämische Musik in der Gesellschaft des 15. und 16. Jahrhunderts* (Brussels, 1965), figs.65, 66; W. Salmen, 'Musikleben im 16. Jahrhundert', *Musikgeschichte in Bildern*, ed. W. Bachmann, iii/9 (Leipzig, 1976), fig.29.

On many occasions it can also be noticed another varying handling of the sackbut: one hand using the underhand grip at the U-slide and the other using the 'dart style' grip at the mouthpiece section. In any case underhand grip at the U-slide is given up in the 16th century. The tradition of holding the slide with a supported grip for pulling and pushing seems to be very strong.

32 In addition, I suggest that if the sackbut had already been invented in 1480 Memling would have depicted it as an alternative to the slide trumpet. In spite of the invention of the sackbut the slide trumpet, of course, was still in use during the whole 16th century, especially in south-west Germany.

33 'Loyset Liédet', *Allgemeines Lexikon*

der Bildenden Künstler von der Antike bis zur Gegenwart, xxiii, ed. H. Vollmer (Leipzig, 1929), pp.204–5.

34 Peter Downey, indeed, cannot believe in slide trumpets at all: see P. Downey, 'The Renaissance slide trumpet: fact or fiction?', *Early music*, xii (1984), pp.26–33. This provocative thesis is explained in his *The trumpet and its role in music of the Renaissance and early Baroque* (PhD, Queen's U. of Belfast, 1983), ch.2–3.

35 The 'lipping' is discussed, for example, in E. H. Tarr, *Die Trompete* (Bern and Stuttgart, 2/1978), p.44, and D. Smithers, *The music and history of the Baroque trumpet before 1721* (London, 2/1988), p.45.

36 This instrument is shown in E. H. Tarr, 'Slide trumpet', *New Grove*, fig.2b. Dr Manfred Herman Schmid, formerly director of the Munich Musikinstrumentenmuseum, told me that this trumpet dates from the late 18th century.

37 See Salmen, *Musikleben* ..., fig.129.

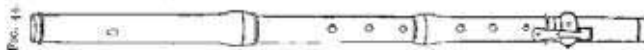
38 Lane, *The trombone* ..., p.27 and n.68. See also O. Cartelieri, 'Theaterspiele am Hofe Harzog Karls des Kühnen von Burgund', *Germanisch-Romanisch Monatsschrift*, ix (1921), p.177.

39 Marix, *Histoire* ..., p.274.

40 Moreover, in Gaffurius, *De harmonia musicorum* (Milan, 1518), where two loud bands are shown in each border of a representation of musical proportions, a sackbut is not depicted.

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