The Origins of the Trombone

> *What follows is a discontinuous selection of passages from Chapter 3 'The Origins of The Trombone' from Trevor Herbert's book* The Trombone *(Yale University Press, 2006). It contains an introduction to the challenges and issues encountered when dealing with this part of the instrument's history, and a section in which the relationship between the Renaissance slide trumpet and the trombone is discussed. The particular challenge here is that no examples of the slide trumpet of this period survive, so much of the debate is about the interpretation of what might be pictures of the instrument and the musical evidence that supports the idea of such an instrument. It is important to stress that this is only an extract from what is an important and very substantial chapter in the book; also, that some of the writings of other musicologists on this subject are especially interesting and revealing – leaving aside the actual content of the chapter the subject is a very good example how different historical musicologists can reach different, sometimes contradictory conclusions from the same evidential sources.*

The trombone evolved from the trumpet. Its immediate precursor was an instrument that has come to be called the renaissance slide trumpet: it had a single telescopic slide that was capable of playing the notes of about four adjacent harmonic series. The next stage was the development of the characteristic double 'U'-shaped slide. This instrument was effectively a trombone – by the mid-fifteenth century it had most of the fundamental features that we find on modern trombones. People are often surprised that such a sophisticated piece of engineering existed on a musical instrument at such an early date, but the full impact of this instrument is yet more impressive when measured against the limitations of other instruments of that time. It was theoretically possible for every note in semitone steps between the highest and the lowest points of a wide melodic compass to be played. By adjusting the slide and the embouchure, a skilful player could amend the overall pitch of the instrument or adjust the intonation of particular notes. The slide provided a remarkable facility in this regard: as is the case with competent singers, adept and musically gifted trombone players need only to think in tune to be able to play in tune.

The instrument was quickly adopted and integrated into the major cultural centres of Europe. Within a short time, trombone players were among the most celebrated musical practitioners: their skills were prized in the cities, courts and cathedrals of western civilisation, and they flourished in the sound world of the Renaissance. Not only did early instruments have a wide dynamic range compared to other instruments of the time, but players had more than one timbre at their disposal. Modern reproductions of early instruments can be blown loudly, so that they sound brassy, like a trumpet in its most declamatory mode, or quietly, so that they blend with other instruments or voices of a soft and restrained tone. A bewilderingly wide range of articulations was available – the instrument could imitate the articulations of most other ensemble instruments. Contemporary sources even suggest that trombonists could articulate in a manner that was sympathetic to the enunciation of words in vocal

music. This feature was particularly prized in the sixteenth and seventeenth centuries, and morsels of evidence suggest that it was noticed even earlier.[i]

Of course, the musical practices and conventions of the fifteenth century neither recognised nor required all of the early trombone's theoretical capabilities. We read nothing in early sources that suggests that glissandos or more stylised vocalisations were used, even though they could theoretically have been employed. A more routine piece of modern musical culture that was foreign to renaissance players was chromaticism. The tonal and harmonic framework that underpinned music-making of this era was diatonic. Musicians of the time thought diatonically – though even the term 'diatonic' owes more to our own times than to the Renaissance: trombonists, like other musicians (singers in particular), conceived of tonal relationships in a modal framework, within which consonance was achieved through instinctive or conventional adjustments of pitch, in the process to which we now refer to as *musica ficta*. Evidence for such a practice is found in explanations of trombone slide positions that exist from the late sixteenth century (see Chapter 2).

The most absorbing and sometimes puzzling questions about the trombone at this time concern the manner and the contexts in which it was played. Key sources that would cast a really vivid light on the idiom of renaissance players are wanting. No instruments survive from before the second half of the sixteenth century, and only a handful of notated music dated earlier than the seventeenth century is labelled with one of the many words meaning trombone; but neither of these factors should surprise or trouble us. It is true that the absence of instruments from the fifteenth century limits our objective knowledge significantly, but few instruments of any type have survived from this period. The fact that labelled parts for trombones do not exist from the fifteenth century or for much of the sixteenth century is even less surprising. Not only was the convention of labelling unusual until centuries later, but it is virtually certain that early trumpet and trombone players did not play from written music, or learn in a system in which notated music was central. Even if players could read music, they appear not to have depended on this skill to conduct their day-to-day professional business. This factor demonstrates rather than detracts from the accomplishments of early players. Their mode of musicianship was sophisticated and demanding precisely because it was a world in which musical instincts, the skills of improvisation and the ability to memorise from aural stimuli were routine. All evidence shows that musical literacy was less important than it was to become in the later sixteenth century, and that fifteenth-century wind instrumentalists did not require it in the same way as it appears that singers and keyboard players did. The world in which the first trombone players practised their art was driven primarily by imperatives defined by the *function* of the music they performed, and the taste, accuracy and panache with which they performed it. In the Renaissance, the main roles of trombone players were in the performance of dance music, in sacred and secular ritual, and eventually in more intricate forms of small and large ensemble.

Sources and hypotheses

There is sufficient documentary evidence from the sixteenth century to make it clear that the trombone was ubiquitous, and to enable us to chart the patterns of activity with which professional players engaged. It is even possible confidently to make links

between the instrument and areas of repertoire – even with some specific works. But before about 1500, in the absence of surviving instruments and a discernible written repertoire that takes us directly and unambiguously to trombone players, the sources are significantly thinner. However, even though we have to construct hypotheses for this period, it would be a mistake to confuse hypothesis with mere speculation. A quantity of source information survives: pictures and other visual representations, documents of diverse kinds, and even some musical texts offering clear signals about how and where trombonists performed. Inevitably, scholars have argued long and hard about how the fragments fit together, but many of the broad features of the story of the early trombone are the subject of wide, if not universal, consensus. So while we must recognise the difference between facts and assumptions in the history of the trombone, it is equally important to acknowledge that all histories worth the name require an imaginative use of sources. After all, the idea that an abundance of sources could allow us literally to create a comprehensive log of past events is too absurd to contemplate.[ii]

One further issue is worthy of emphasis. It is tempting to see the earliest chapter of the trombone's history as a period of primitivism. This view is perhaps especially seductive when the scarcity of sources gives rise to so much uncertainty. But to adopt a negative view of the skills of early practitioners is both to do them an injustice and to encourage a historical distortion for which there are no grounds. The instruments and players of this period were part of a well-established and thriving musical culture; there are signs that trombonists were prominent and respected. So when we think about the progress of the trombone's idiom, we should understand it in the terms in which it unfolded, rather than merely from the perspective of the time in which we live. There is every possibility that this first period of the trombone's history is one of the most vibrant. In order for it to be seen in an appropriate context, it is necessary first to consider the world of the trumpet player in the Middle Ages.

The renaissance slide trumpet

The adjective 'renaissance' is needed here, because the nomenclature 'slide trumpet' is used at least three times in other contexts to denote entirely different instruments in later periods.[iii] The renaissance instrument has been the subject of controversy. The idea of a slide trumpet is based on the assumption that, early in the fifteenth century, a single, moveable, telescopic slide was placed at a point between the mouthpiece receiver and the rest of the sounding length of a folded or 'S'-shaped trumpet. Such a slide would have allowed a player to adjust the sounding length, so as to provide access on a single instrument to the partials of more than one harmonic series. In fact, such a slide, if it were to be long enough to take advantage of the full reach of a man's arm, would provide between three and four adjacent harmonic series, each successive series being separated by a semitone.

No single piece of evidence provides conclusive proof of the existence of the slide trumpet. Not only are there no surviving instruments, neither are there contemporary descriptions of it. The evidence for its existence is found largely in iconographical sources, but the evidential value of these images rests on whether or not the viewer believes that the artist was attempting to depict part of the instrument in motion. Nomenclatures – the words that may denote the instrument – are not clear either; at

least, not without considerable contextualisation, and the term 'slide trumpet' never occurs in contemporary sources before the end of the fifteenth century. But words that denoted musical instruments remain particularly valuable; indeed, they may even provide the most convincing thread. Some, even though their use is not always entirely clear, seem to be applied in order to distinguish between one type of trumpet and another – thus it is important to bring an understanding of fifteenth-century trumpeting to the history of the trombone. What is certain is that in the fifteenth century the trumpet was not a single instrument – it was a family of instruments. A good illustration of this is found in a work by the Netherlandish painter Geertgen tot Sint Jans, dating from the mid- to late-fifteenth century and depicting *The Virgin and Child* (Rotterdam, Boijmans-van Beuningen Museum). Here, three quite different trumpets (Illustrations 1a, 1b and 1c) are seen in the hands of angel musicians. It was from one offshoot of this family of instruments that the modern trombone emerged.

Debates about the slide trumpet have centred on the interpretation of a body of evidence that has been widely known for some time – no striking new discoveries have emerged in recent years. The most vigorous debate was initiated by Peter Downey,[iv] who put forward a well-argued case for the radical and perfectly tenable idea that the slide trumpet never existed: that the evidence is inconclusive, and can be accounted for by a variety of alternatives. Downey's case rested upon a consistently pessimistic reading of the main strands of evidence that had been put forward for the existence of the instrument. Other scholars noted for their work in this field responded by marshalling the positive evidence.[v] Downey's polemic forced the most detailed debate about this subject, but it did not succeed in changing the consensus view. His was an alternative rather than a better reading of the available evidence.

The slide trumpet and the trombone

What is the positive evidence for the slide trumpet, and why is it important to the history of the trombone? The iconographical evidence is based on a number of fifteenth-century representations of trumpeters playing 'S'-shaped or folded instruments in which the players seem to be manipulating a slide. The left hand of the player appears to be consistently static, holding the instrument near the mouthpiece against the lips, while the right hand supports the main body of the instrument. Importantly, a comparison of different pictures suggests that the right hand is not static, but that it is extending or contracting the instrument along a slide. The right hand is not always in the same position: sometimes it is extended, and in other pictures it is nearer the mouthpiece. Some have even read into such depictions the idea that a moveable slide contributes to the narrative element of a picture. Anthony Baines, for example, suggests that in an image from the late 15th-century *Mittelalterliches Hausbuch* (Illustration 2a), a player is shown pushing a slide out mischievously to frighten a dog.[vi] In fact, a more convincing depiction of such an incident occurs in another illustration from the *Hausbuch* (Illustration 2b).[vii]

A more interesting and consistent feature of such representations is the context in which the players of such instruments appear. Leaving aside certain allegorical images, the players of these instruments are usually shown with other wind players – particularly double-reed instrument players – forming a loud instrument band of the *alta* type – the kind that would play for dances and secular feasts (Illustration 3).

Indeed, so consistent is the content of these representations, and so diverse are their regional origins, that it seems likely that they indicate common practices and conventions. As such, they point not just to the usual musical role of the slide trumpet and the instrumental groups with which it was most closely associated, but also to the characteristic repertoire it was used to perform. It seems that the development of the slide mechanism was in parallel with, and probably prompted by, the development of the wind band. Around 1400 there are many references to types of trumpets being incorporated with wind instruments in ensemble. These references clearly point to the embryonic *alta* band, and are found in Italy, France, the Low Countries and Germany. In French-language sources (for example, those relating to the Burgundian court) the players of this instrument were often designated as minstrel trumpeters – the significance of this designation is explained below.[viii]

Pictures of fifteenth-century dance bands never show the performers to be playing from written music. This is consistent with the widely-held view that fifteenth-century dance band players performed without reference to written texts. However, this does not mean that their performances were entirely improvised. There was undoubtedly an element of improvisation, but players rehearsed and performed in the context of a shared understanding of musical conventions and other social and cultural rules that related to their musical duties. Our understanding of dance band repertoire is based on transcriptions and arrangements of dance music that were compiled somewhat later in the century. Most of the written sources are keyboard arrangements that appear to be based on wind instrument music,[ix] but one Italian source – the writings of an itinerant Venetian musician known as Zorzi Trombetta (of whom more is said in Chapter 5) – seems to be an attempt by a wind player to write down what was actually played.

The dances played by *alta* bands had features that seem to have been consistent and to have prevailed in both northern and southern musical centres. The dances were based on the polyphonic decoration of a relatively small number of *cantus firmus* melodies derived from popular songs. The melody was played as sustained notes in the tenor, each note synchronising with stages in the choreography of the dance. A more florid decorative treble line was played on a treble shawm, with a contra-tenor filling in between the other two lines – much less static than the tenor, but somewhat less florid than the treble.

Neither the *cantus firmus* tenor of such pieces nor a reasonably interesting contra-tenor line could have been provided by a trumpet with access to just one harmonic series. Certainly the tenors of the most popular *cantus firmus* tunes such as '*La Spagna*' and '*Filles á marrier*' would have been inaccessible to a fixed-length instrument, but it also seems unlikely that the contra-tenor could have been accommodated on such a limited instrument. So what type of instrument was a slide trumpet, and what would its melodic capacity have been?

To imagine the slide trumpet, one has to visualise (for example) an 'S'-shaped instrument similar to the one depicted in Illustration 4. The left hand grips the instrument at a point slightly beyond the mouthpiece, while the right hand grips another part of the instrument in a manner that enables the player to pull and push the instrument towards and away from him as it glides upon the single telescopic slide. The melodic capability of this instrument would depend on the proportion of the total sounding length of the instrument taken up by the slide section with the slide closed.

This would, in turn, be conditioned by another entirely practical factor: the length of the arm of the player. The ‘positions’[x] on a single-slide instrument would have been about 120-130mm apart – twice the distance needed to alter the pitch of a trombone by a semitone. It therefore takes only a minor calculation to deduce that it would require a player of freakish proportions to manipulate the slide beyond the distance necessary to obtain about four adjacent semitones.

Anthony Baines has put forward an hypothesis for how such an instrument would work.[xi] As Murray Campbell has pointed out, it is dangerous to make assumptions about pitch changes on slide instruments purely on the basis of fractional changes to the length of tube, because an increase of the ratio of cylindrical tubing to flare on such an instrument will also have the effect of lowering the instrument’s pitch by a factor depending upon the instrument’s bore profile.[xii] But Baines’s hypothesis provides a helpful illustration of how such an instrument might have worked. I deal here with just one of Baines’s models: the one based on the idea of an ‘S’-shaped trumpet with a single telescopic slide – a type similar to that shown in Illustration 4 .

Baines established proportions by taking points of reference from several pictures. He divided the main body of the instrument into three parts and ascribed to each a hypothetical length:

1. Bell section 64cm
2. Middle section 38cm
3. Slide section 63cm (the mouthpiece – with inner slide – fits into this section)

To these measurements he added an extra 25cm for the two bows, and a further 8cm for the static area of tube near the mouthpiece where the player’s left hand grips the instrument. He also accommodated the need for an ‘over-run’ of the inner and outer slide with an additional 5cm portion of tube, but of course, this over-run would not contribute to the overall sounding length of the instrument.

Such an instrument would have a sounding length of about 190cm, consistent with a nominal pitch (in modern terms) between low F and E. The single slide on such an instrument could be extended by some 50cm. A 50cm moveable slide length would produce an extension equal to the distance required for the lowering of the overall pitch of the instrument by two tones. Thus the instrument could produce four adjacent harmonic series. This assumes that the instrument was held at the upper end of the slide section, but for reasons of balance it is likelier that it was held more in the middle of the instrument. This would have limited the distance to which the instrument could be extended. But not withstanding such considerations, if the instrument were in F (for example), it could obtain all or some of the notes in the series of F, E, E flat and D. The slide expansion for such a range could reasonably be handled by a player of average height and proportions.

We do not know what the pitch of these instruments was, neither do we know their exact design or proportions; but taking the iconographical evidence and Baines’s entirely sensible extrapolations into account, it seems certain that these instruments were played in the lower range – probably equating to the modern tenor register. Such an instrument could be played using the notes of up to four adjacent harmonic series. It could easily adjust to the intonation of other instruments and obtain notes required by the conventions of *musica ficta*. Furthermore, modern experiments with

instruments based on hypotheses such as the one given above have shown that they were entirely practicable. Cumbersome and limited they may seem if compared to trombones, but in their heyday they were played day in and day out by specialists who probably exercised skills the level and manner of which were lost early in the sixteenth century.

---

[i] Later in this chapter I discuss the entry of the English delegation to the Council of Constance in 1415, when the ‘prusenen’ (presumably slide trumpets) were said to have played in a singing style. The same association between singing and trombone playing was mentioned by Mersenne (see Chapter X).
[ii] For a more detailed discussion of this theme, see T. Herbert, ‘Social history and music history’ in *A Cultural Study of Music: A Critical Introduction*, M. Clayton, T. Herbert & R. Middleton (eds), (New York; London: Routledge, 2003), pp. 146-56.
[iii] The seventeenth-century slide trumpet (properly called the flatt trumpet) is discussed in Chapter 6. A slide trumpet was also popular in England in the nineteenth century, and was championed by the great trumpeter Thomas Harper. The term has also been used very loosely to describe certain species of soprano trombone.
[iv] See P. Downey, 'The renaissance slide trumpet: fact or fiction?' *Early Music,* 12, no. 1 (1984), 26-33.
[v] See K. Polk, 'The trombone, the slide trumpet and the ensemble tradition of the early renaissance', *Early Music,* 17, no. 3 (1989), 389-397: R. W. Duffin, 'The *trompette des ménestrels* in the 15th-century alta capella', *Early Music,* 17, no. 3 (1989), 397-402: H. Myers, 'Slide trumpet madness: fact or fiction?' *Early Music,* 17, no. 3 (1989), 383-389; and E. A. Bowles, 'Blowing a trumpet', *Early Music,* 18, no. 2 (1990), 350-351.
[vi] A. Baines, *Brass Instruments: Their History and Development*, 1976 (London: Faber, 1980), p. 94.
[vii] See also Patrick Tröster, ‘More about renaissance slide trumpets: fact or fiction?’, *Early Music* (May 2004), 252-68.
[viii] The sources are discussed in some detail in K. Polk, ‘The invention of the slide principle and the earliest trombone, or The Birth of a Notion’, in *Perspectives in Brass Scholarship: Proceedings of the International Historic Brass Symposium, Amherst, 1995*, ed. by S. Carter, (Stuyvesant, NY: Pendragon Press, 1997), pp. 19-27.
[ix] Strohm, *Rise of European Music* pp.550-7
[x] The concept of ‘positions’ is strictly an ahistorical one in this context.
[xi] Baines, *Brass Instruments*, p. 97.
[xii] Campbell and Greated, *Musician’s Guide*, pp. 378-9.