

On the Skill of the Viennese Brass Instrument Makers – A Tribute
FoMRHIQ 43, April 1986, Comm. 722

When I wrote the catalogue entries for the instruments in the recent Hallelujah Handel exhibition at the National Portrait Gallery (see Comm. 670 for a review of the Catalogue), there were a few instruments which I had to describe without having seen them because they were not accessible. Among them were the two Leichamschneider horns (no.81), which had been sold from the Tredegar Collection at Christie's in Switzerland in 1976 and which were lent to the Exhibition by the present owner, whose identity I still do not know.

After the exhibition closed, I was permitted by the kindness of Jacob Simon of the National Portrait Gallery, who had been responsible for arranging the exhibition, to have a look at these horns, and to blow them, and there are some details which are worth recording here.

Both are exactly in modern E (ie in twelve-foot F at A=415) and both play superbly, though one has a small hole in the tubing where a seam may have blown out, which has to be covered with a thumb; it is NOT a harmonic finger hole. From the written middle C upwards:

4th harmonic: exactly E (modern pitch)

5th harmonic: G sharp minus 14 cents (ie exactly in tune as a natural major third)

6th harmonic: B

7th harmonic: D minus 40 cents

8th harmonic: E

9th harmonic: F sharp

10th harmonic: G sharp (ie slightly sharp)

11th harmonic: A sharp minus 30 cents (ie also slightly sharp from the natural 11th harmonic)

12th harmonic: B

Any differences between the pair are more likely to be me than the instruments, and it is possible that the slightly sharp 10th and 11th harmonics were due to my mouthpiece; their own mouthpieces do not survive.

As is noted in the Catalogue, both are solid silver, and I can add that the bells are silver-gilt. What astonished me, and this is the reason for writing this Comm., is the way in which they were made. There is a lead-pipe 23.7cm long, and the rest of the instrument, some four metres of tubing, is in two conical joints, and only two. I have no equipment which will measure the internal diameter of such tubing, but the outside diameter of the narrow end of the first body tube is 8.35mm; the outside diameter of the wider end, some two metres away, is 10.28mm (stupidly I had not taken a long non-metallic tape with me, and therefore I have no linear measurements of these instruments). As far as one could judge in the time available, the expansion is reasonably even; certainly there were no sudden jumps in conicity nor in diameter. This implies the use of a steel mandrel two or more metres long which is conical, expanding from between 6 and 7mm to between 8 and 9mm over that distance – a knitting needle some six or seven feet long.

There was then a ferrule which covered the joint with the bell-yard, which is 11.4mm in outside diameter, expanding to the bell at 248mm, again over a length of some two metres. Again a *tour de force*, though somewhat less so in view of the greater diameter and the bell throat and flare.

This skill in manufacture, not only of the horns but of the mandrels on which they must have been made, contrasts with the normal English and French technique at this period of taking fairly short lengths of cylindrical tubing, each of a slightly larger diameter than the one before, and setting one into the next, so producing a stepped cone with between four and six cylindrical sections.

Of the early horns in the Bate Collection, the Carlin trompe de chasse has a short lead-pipe, then a conical section expanding from 7.4mm outside diameter to 10.00mm, followed by five cylindrical sections, each set into the next, followed by the conical bell section. The two early English horns, the Bennett and the Winkings, appear to be made in the same fashion, but since both are leather covered it is not possible to count the cylindrical sections. Certainly on none of the three are there any visible ferrules covering joints; each is simply telescopic and presumably soldered internally.

We have only one Nürnberg horn in the Bate, a brass instrument marked Johann Wilhelm Haas but presumed to be by Ernst Johann Conrad Haas from the attitude of the hare, the common rebus for all the instruments made by the Haas family. This is not in original condition, for it now has a removable lead-pipe, a straight shank which fits into a socket. The rest of the tubing, however, is again in two and only two sections. The first section is 2.68m long and expands from 7.9mm to 12.7mm OD. The second section is 1.11m long and expands from 13.8mm to the bell diameter of 230mm. The joint is covered by a ferrule, as on the Leichamschneiders. Thus the method of construction is very similar, though there is a considerable difference in the quality. The pitches, using the same mouthpiece as on the Leichamschneiders, are as follows:

4th harmonic: E minus 10 cents (ie 12-foot F at almost 415)

5th harmonic: G sharp minus 10 cents (ie 14 cents sharp)

6th harmonic: B plus 10 cents (ie 18 cents sharp)

7th harmonic: D minus 15 cents (again sharp)

8th harmonic: E plus 40 cents (wildly sharp)

9th harmonic: F sharp plus 20 cents

10th harmonic: G sharp plus 10 cents

11th harmonic: A sharp minus 20 cents

12th harmonic: B plus 35 cents

These pitches were obtained by trying to keep the embouchure the same all the way; it would have been possible to lip all the notes into tune, but that was not the purpose of the exercise; the Leichamschneiders didn't need any pulling with the lip. The comparatively poor intonation is almost certainly due to the non-original lead-pipe, with perhaps some help from the various dents in the tubing. This instrument is in the same tradition as the Leichamschneiders and was made with similar skill. It is noteworthy that not until John Christopher Hofmaster (whom I presume to have started life as Johann Christoph) arrived in London, did the English instruments begin to show a comparable skill; one of our two Hofmasters (portrayed in the Sharpe Family painting in the National Portrait Gallery) is made in a single piece from the crook socket to the bell; the other has a short first section, followed by a single piece. The skill required is not so great, since the crook socket is of much wider diameter than the lead-pipe of the Viennese and Nürnberg instruments, and the instruments are much shorter because of the use of crooks and couplers, but it does show a considerable advance over the older English tradition.

If anyone can produce measurements of other one-piece horns of similar date, I should be very interested to compare them with the figures given here, but on what I know at present, the Viennese and Nürnberg makers seem to show skills undreamed of by all their contemporaries in other horn-making centres.