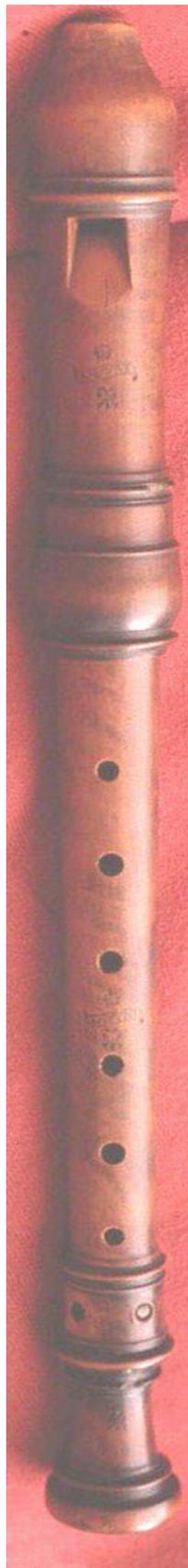


Robbert Wijne and his instruments - part 2: recorders



Part I of this series was an introduction into Robbert Wijne and his instruments (Comm. 2247 in Bulletin 172). This second part deals with three recorders that survived and were examined in the collections where they are located. A fourth instrument will be discussed later: a double recorder with a very indistinct stamp but with outlines pointing to the marks of Robbert or his son Willem Wijne.

The question that initiated my research into woodwind maker Robbert Wijne (Nijmegen, 1698-1774) was: how do his recorders, flutes and oboes compare to those of other makers, both from the Netherlands (especially Amsterdam) and abroad? As a start, I first had to measure Wijne's instruments and, if possible, to play them. Then, of course, it was also necessary to collect as much information as possible about the instruments of other Dutch woodwind makers. Thanks to the cooperation with Rob van Acht, the then curator of the Gemeentemuseum (now the Kunstmuseum Den Haag), and subsequently with the financial support from a number of cultural funds, I got the opportunity to examine approximately 250 instruments (recorders, traversos, oboes, Deutsche schalmeien, bassoons and clarinets) by Dutch makers in collections at home and abroad. The result: a collaboration on the production of three large-format catalogues of the museum in The Hague, followed by writing a dissertation on Dutch woodwind instruments and their makers, 1660-1760. And a long list of articles for the FoMRHI Quarterlies, its Dutch counterpart '*De Bouwbrief*' and some other publications.

But did I have at the end of all that work an answer to my initial question about the relations of Robbert Wijne and his instruments? No, I am afraid not quite so, or only partly regarding some minor aspects of the research. In addition, it was not possible for me to examine instruments from foreign makers in the same way as I had done with those of Dutch origin. In this series of communications for the *FoMRHI Quarterly* I try again - and for the last time - to find answers to my questions about Wijne.

I should mention a few limitations to the study here. In my early years, I primarily measured instruments with the goal of making copies. Only later did I come up with the idea of conducting comparative research, which would also include other aspects I hadn't previously considered. This means that my set of research data is not as complete as I would have liked. Then there's the issue of using data from other researchers. It's not always clear what equipment and under what conditions they measured instruments. Another problem was that comparative studies, certainly on this scale, with regard to woodwind instruments had not been carried out. This means that my research took on the character of a journey of discovery in which I didn't know where that journey should lead.

Photo: soprano recorder by Wijne. Brüggen collection.

Measurements (summarized)

head (I): Lmax 134.5, SL 94.0; socket: L 21.0, Ømax 18.8; window (WxL): 8.9 x 3.4, Øext-max at window: 25.7; labium: L 18.2, Wmax 12.1; block surface: L 40.5, W 10.8 - 8.6;

bore (Ø, Lmax, from upper end):

16- 13.6 41- 13.6/13.2* 60- 13.6/13.3 80- 13.4/13.2
 100- 13.3/13.1 112- 13.2/13.0

* there are differences between the measurements by Morgan and Bouterse;

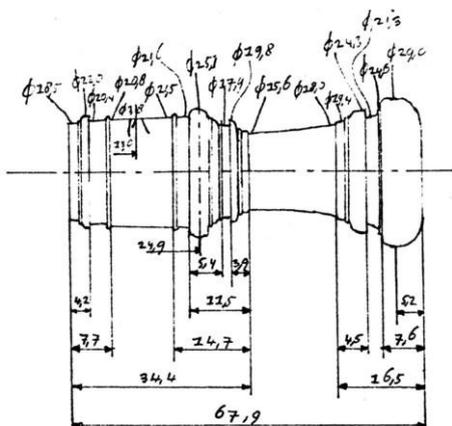
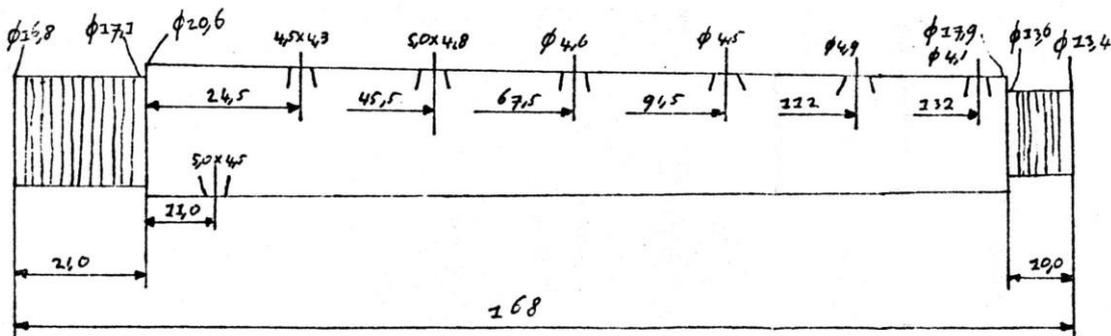
lower joint (II): L 225.5, SL 204.7; tenon: L 20.8; Øext at upper shoulder: 21.2;

finger-holes (L from upper shoulder to centre of hole; ØWxL; Øext):

hole 0- 11.0; 5.1 x 4.9; ca 20.8
 hole 1- 24.4; 4.7 x 4.6; 20.3
 hole 2- 45.4; 5.4 x 5.3; 19.6
 hole 3- 67.7; 5.2 x 5.0; 19.2
 hole 4- 91.3; 4.0 x 4.0*; 18.6 * this hole is possibly enlarged, and later filled in with wax
 hole 5- 112.1; 5.1 x 5.1; 18.5
 hole 6- 132.2; 4.2 x 4.4; 18.2
 hole 7- 150.2; 4.2 x 4.0; ca. 21.8

boring - bore (Ø, Lmin/max, from upper end):

13.3/13.4- 0 13.2- 2 13.0- 4/ 6 12.6- 10/ 18 12.2- 25/ 31
 12.1- 32/40 12.0- 73 11.9- 80 11.6- 80/ 90 11.2- 107
 10.8- 119 10.0- 143/149 9.0- 173/179 8.6- 191 8.2- 196
 7.8- 200 7.6- 202/206 7.4- 208 7.3- 212/ 216 7.25- ->
 7.8- end



Plan of the soprano recorder for making a copy in three parts (head, middle part and foot), by Peter van der Poel. For a copy in a-415 Hz, I made the middle part ca. 8 mm shorter.

Finally, there is one aspect, which I must admit is not my strongest point: it is strongly recommended that you can play yourself the instruments of your study at an above-average level. If you are unable to do this, or only partially able to do so, cooperation with an experienced player is required. That brings us to another question: how good were Robbert Wijne and all those other makers as players of the instruments? We know of only a few makers who also earned a part of their living as a performing artist (Coenraad Rijkel, Michiel Parent), but they were probably exceptions.

Back to the question at the beginning. It was important to establish two sets of criteria: key points that determine the instruments' acoustical properties and a typology of their external 'artistic' characteristics. Is it possible to distinguish Robbert Wijne's instruments from those of other makers? And then there is also the question how Wijne's instruments of several types are related to each other (recorders, traversos and oboes).

These are the recorders:

1- 2-piece descant (soprano) recorder in c1, brown-stained European boxwood, collection of the family of Frans Brüggen, Amsterdam (ex collection professor Friedrich Schmidtman, who found this instrument in an antique shop in The Hague). A drawing by Fred Morgan of this recorder is published in 1981 in *The recorder collection of Frans Brüggen'* (Zen-On, Tokyo).

2- 3-piece recorder in a1 (third flute), brown stained European boxwood, Kunstmuseum (formerly Haags Gemeentemuseum) The Hague, no. Ea 323-1933 (ex collection Scheurleer). A drawing with photos and measurements of this recorder is published in 1991 in Rob van Acht, Vincent van den Ende en Hans Schimmel: *Niederländische Blockflöten des 18. Jahrhunderts - Dutch recorders of the 18th century* (Moeck, Celle).

3- 3-piece alto recorder in f1, foot not original, in brown-stained European boxwood, Bate Collection, Oxford, no. 0111 (ex collection Edgar Hunt). For a description, measurements and photos see Jan Bouterse: *Dutch woodwind instruments and their makers, 1660-1760* (Utrecht 2005).

4- double recorder in c2/e-flat2 (a ca. 440 Hz) or d2/f2 (if the a is approximately one tone lower) in stained boxwood, Kunstmuseum (formerly Gemeentemuseum Den Haag) The Hague, no. Ea 622-1933 (ex collection Scheurleer). For a description, measurements and photos see Jan Bouterse: *Dutch woodwind instruments and their makers, 1660-1760* (Utrecht 2005).

In Part I (FoMRHI Comm. 2247) I mentioned two recorders by Wijne in catalogues of 18th century auctions. In 1748 in Rotterdam: a *kleine fluyt doux* (a small recorder) by R. Wyne and in 1801 a *fluit doux*, made by Wynen was auctioned in Leiden. But there was a third instrument: in 1788 a *fluit douz* by R. Wyne (flauto dolce, recorder) was reported at an auction in The Hague. Finally, and interesting in connection with the surviving double recorder (No. 4-) is the mention in 1768 in Middelburg of a *dubbelde fluyt door R. Wyne* (double flute by R. Wyne). It is possible that one or two of these reported instruments might be the same as mentioned in the list of those that survived. However, the lack of provenance information on the recorders and the very limited information on historical reports makes such attributions virtually impossible. Not many conclusions can be drawn from these historical records, except that Wijne's instruments were found in the large cities in the west of the Netherlands, far from, the place of residence of Wijne.

The condition of the recorders

All three of them are made of European boxwood that was stained and/or painted in a brown

colour. The soprano was not in playable condition when purchased by the previous owner, but it has been restored in 1961 by American flute maker Friedrich von Huene. The main problem was the labium which was severely damaged and had to be reconstructed. Amongst some other smaller damages were two socket cracks which were glued or filled in by Von Huene. When I inspected the instrument, I saw that two cracks had opened a bit. The lower joint is slightly crooked. The third flute is preserved well. The alto recorder was not complete when it was found by Edgar Hunt. It was he or Jeremy Montagu, the curator of the Bate Collection, who asked instrument maker Robert Goble to make a replacement for the missing foot.

I am aware that it was possible to assess the playing qualities of the soprano and alto recorder thanks to their restoration and completion. Due to the increasing reluctance of museums to undertake such interventions, such research would be very much more difficult today. There is then only one way to overcome the problems: making reconstructions. But as anyone involved in making copies of historical instruments will know, it is not easy to approach the qualities of the original. Various test pieces must be made to discover whether certain characteristics are inherent to the intrinsic properties of the model, or rather to variations in the quality of the wood, or the copier's way of working.

About the maker's marks

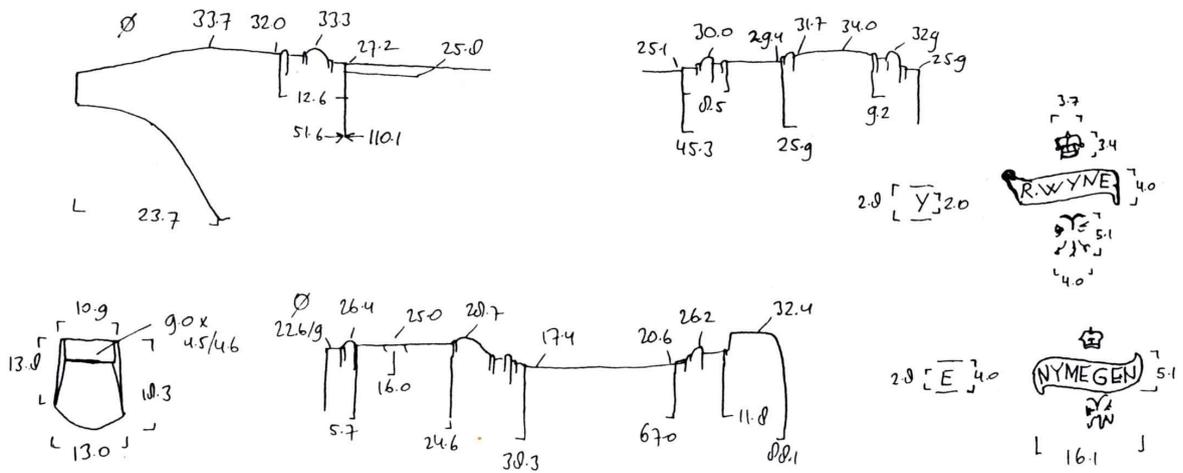
In Part I I stated that the distribution of the stamps on Wijne's recorders does not differ from the practice of other Dutch makers. Probably because there was not much room on the feet of the smaller recorders, Wijne stamped only a double eagle on their front sides. Wijne did that on the foot of the third flute in such way that he expected that the recorder was preferably played with the right hand down. For the soprano recorder is that not a question: the foot section has a right and a left 7th hole. The left hole was filled with wax, apparently quite some time ago. This suggests that the last player of this instrument also played with the right hand down. The third flute had on its middle joint on the name of the maker but that of his town Nijmegen (Nimwegen). Did Wijne do that as advertising, to draw the attention of anyone who got their hands on the recorder to the fact that you could buy very good instruments in Nijmegen?

I have seen no other Dutch recorders where the makers stamped place names, but on some traversos from the second half of the 18th century it was done (I. Beuker in Amsterdam, F. Eerens in 's-Hertogenbosch and Utrecht, and also Robbert and Willem Wijne). On the back of the head joint of the third flute a single crown has gone astray. But unlike on some of his traversos and his tenor oboe I have seen no six-pointed stars (asterisks) on the recorders. Perhaps we shouldn't attach too much significance to the design (such as the use of scrolls) and the placement of the stamps. On the other hand, these aspects might provide clues to the traditions Wijne felt connected to.

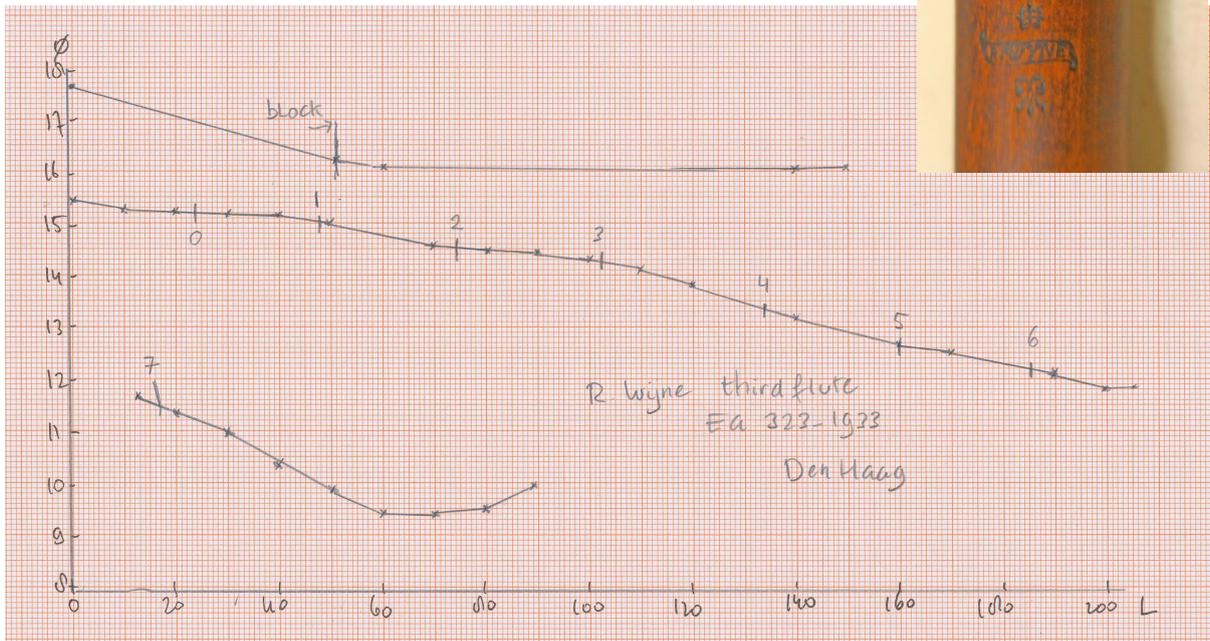
Photo: third flute by Wijne, Kunstmuseum Den Haag.



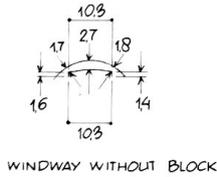
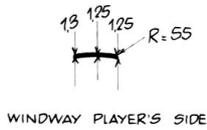
Third flute Robbert Wijne, Kunstmuseum Den Haag



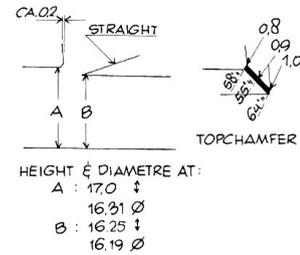
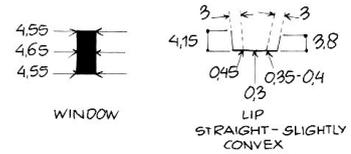
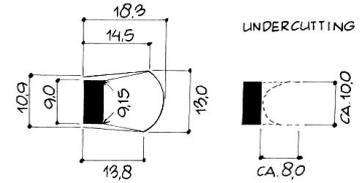
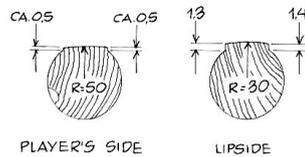
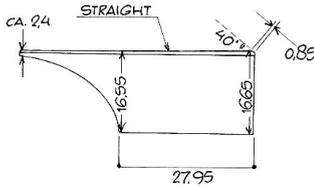
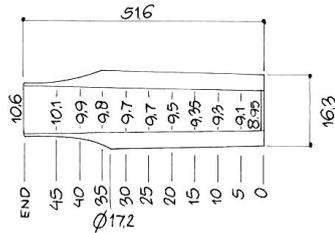
bore profile



R. WYNE THIRD FLUTE
 HAAGS GEMEENTEMUSEUM
 DEN HAAG
 EG 923-1933



LENGTH WINDWAY : 51,6



from the catalogue by Van Acht, van den Ende & Schimmel

Measurements (summarized)

head (I): L 161.7; SL 110.1; socket: L max 21.5, Ømax 20.9; window (WxL): 9.0/9.15 x 4.55/4.65; Øext-max at window: 27.2; labium L 18.5, Wmax 13.0; block surface: L 50.6, W 10.5 - 9.0

bore (Ø- Lmax, from upper end):

17.1- 22	16.8- 35	16.3- 51	16.2- 58
16.1- 63	16.0- 131	15.8- 136	15.6- →

middle joint (II): L 204.0; SL 171.5; upper tenon: L 21.0; lower tenon: L 11.5; Øext of shoulders: 24.2 and 20.6;

finger-holes (L from upper shoulder to centre of hole; ØWxL; Øext):

hole 0-	11.9; 5.0 x 5.3; 23.8	hole 3-	81.0; 5.2 x 5.4; 22.1
hole 1-	26.6; 4.8 x 5.0; 23.3	hole 4-	112.3; 5.1 x 5.3; 21.5
hole 2-	53.1; 5.2 x 5.3; 22.6	hole 5-	138.8; 5.0 x 5.2; 20.4
		hole 6-	163.8; 4.6 x 4.7; 20.5

bore (Ø, Lmax, from upper end):

15.5- 0	15.3- 29	15.0- 52	14.6- 72	14.5- 89
14.4- 98	14.2- 108	13.8- 122	13.2- 140	13.0- 148
12.6- 168	12.2- 180	12.0- 192	11.7- 202	11.8- end

foot (III): L 88.1; socket: Lmax 11.8; Ømax 17.1; hole 7 at L 16, Ø 4.5 x 4.6;

bore (Ø, Lmax, from upper end):

11.6- 12	11.3- 20	10.4- 39	9.8- 50	9.4- 60
9.3- 66	9.4- 70	9.5- 74	9.7- 82	9.8- end

Design and finishing of the wood

The three recorders are different in the way that Wijne positioned the front of the parts in the wood. The third flute shows the radial surface (the 'stripe') at the front side. That is also the case with the lower part of the soprano recorder (on its head the radial plane is slightly off center). On the alto, however, the tangential surface (the 'flame') is visible at the front of the head and middle joint. We don't see that usage very often, the only Dutch instrument maker who did it with any consistency was Willem Beukers (a father and son with the same name); the radial surface of the wood at the front of the instruments was much more common on baroque recorders. Robbert Wijne must have had his reasons to use the wood as he did. From my own experience as a flute maker I can say that it is often best that you adapt to the physical properties of individual pieces of wood, rather than imposing your will and aesthetic principles to them.

Fred Morgan about the soprano recorder in his drawing: *boxwood, stained a dark brown colour, more reddish than usual, very rich. Very fine turnery detail, with an attractive crudity in overall proportion.* He gives no information in his drawings about how he measured internal and external diameters, so we don't know about their minimum and maximum values. Morgan doesn't mention warping of the wood, but I found a bit of warping of the lower part of the instrument.

About the third flute: the wood was probably stained with acid and/or painted with a dark brown colour, which has largely worn off. The wood of the top two sections is straight-grained and knot-free; the wood of the foot shows a few small knots. There are few, and insignificant, signs of damage to the recorder. The stain on the head shows a few scratches and dents, and the colour has clearly worn off at some places. The middle section is in cross-section slightly oval, while the head and foot show hardly any ovality. About the profiles: the lower baluster of the head has a strong profile with well-defined and carefully turned beads.

The cut-out of the beak of the third flute is long and slopes downwards to over the thickest point of the baluster. What puzzled me was the profile of the lower foot ring: rather thick with a broad flat top; was that the original design? There are, however, no signs of damage and repairs. The colour of the stained wood is on the ring the same as on other parts of the instruments.

About the alto recorder: the dark brown colour has partly worn off. The profile of the head of the alto recorder has some of the same features as the third flute and also the soprano: no flowing, continuous bulge here, for the profile performs a characteristic skip or twist (difference in height) on either side of the beadings. This might be a characteristic element of Wijne's recorders. All smaller elements of the profile of the alto recorder are neatly finished. Just like the third flute is the beak long and obliquely cut.

In terms of color and sheen, none of the three recorders have a particularly striking appearance. But don't let that deter you: the finish of the turned profiles is very good and demonstrates that Wijne employed his own distinctive style. I have not seen similar baluster profiles on the instruments of other Dutch makers.

Windway, block, window and labium

Together these elements form the 'generator' of the recorder, where the sound wave of the instrument begins. Fred Morgan writes in his drawing of the soprano recorder that its windway is beautifully cut, very regular, the roof in length direction almost straight with a slight concavity of 0.1 to 0.2 mm. The windway is in cross section slightly curved (see drawings). Morgan gives no information about the general direction of the windway roof, but when I inspected the instrument in 1991, it seemed to me slightly rising.

According to Morgan the block is made of a piece of dark coloured hardwood, maybe mahogany, with pores visible on the windway surface. In length direction is the block almost flat, with two concave areas not deeper than 0.1 to 0.2 mm. At the player's end is the height of the opening of the windway 1.5 mm (1.7 mm at the far left side). Morgan measured 0.85 mm for the step (the effective height of the windway). The chamfers are clearly cut, block chamfer ca. 1 mm, the top chamfer seemed to me a bit smaller. The labium edge and ramp have been completely restored (in fact: replaced) by Friedrich von Huene. The window looks now very neat, the size is 8.9 x 3.4 mm. The walls at both sides of the labium are a bit thicker (25.7 mm) than those of the other two soprano recorders which were in 1991 in the Brügger collection, Haka (23.4 mm) and Steenbergen 24.6 mm).

The third flute: the windway is beautifully cut and in fine condition. In cross section it is only slightly curved, and in length direction, just as the block, almost flat. From the bore measurements in the 1991 catalogue it is possible to calculate the general direction of the windway roof, which is almost axial. The block is made of soft wood (cedar) and has a chamfer of 0.85 mm; the top chamfer is 0.9 mm. At the player's end is the height of the opening 1.25 mm, with a short chamfer at the top. The height of the block at the window is quite a bit more (16.65 mm) than the vertical diameter at the labium rim, which means that looking through the windway the top of the labium rim is not, or only just, visible. That might explain that the top notes of the recorder do not speak so well. Remarkable on this recorder is the window, with 9.1 x 4.5/4.6 mm very long for the size of the instrument, but it seems to be original and is preserved very well.

The alto recorder: the windway is in cross section almost flat and seems to be slightly rising in length direction. The window is rather small, it is only 10.7 mm wide with a length of about 4.0 mm. The 'north face' of the window is clearly (about 1.5 mm) sloping back, maybe that Wijne wanted to make more space here to rise the pitch a bit and make the sound more free, this as compensation for the side walls of the window which are - compared to the bore diameter of about 18.8 mm - rather thick. The distance from the block line to the end of the labium is with max. 21 mm short as well. I don't know of any other Dutch alto recorders with comparable characteristics. When I made a copy of the instrument, I discovered that the sound projection was different from what I was used to, being more forward. I had to play the recorder in a corner of the workroom where there was enough reflection to get a good impression of the sound. Projection is an acoustic property that is difficult to



Photo: alto recorder by Wijne, Bate Collection, Oxford.

measure. This is similar to a related property, called carrying capacity: the distance that the sound can be heard, which should not be confused with the loudness of the sound. Organ makers know about these aspects, they are more than other instrument makers used to adapt the design of the organs to the size and acoustics of the churches or concert halls or wherever the organs are installed.

I have only a few measurements and no pictures of the block of Wijne's alto recorder. But when inspecting the block, I had the impression that at the window's end the surface of the block had been lowered a bit, resulting in a slightly irregular block chamfer. The top chamfer, however, is nicely cut and with about 1.5 mm rather large. The height of the window is 1.6 mm at the player's end, for the size of the step I not have enough information. I also have no information about another aspect, which concerns the thickness of the edge. That is always a difficult value to measure, unless the edge is very thick. The problem with this recorder is its instability: after only a few minutes of playing the sound is deteriorating quickly. This might be caused by the block becoming higher due to the influence of moisture and rising temperature, or by the labium of which the edge begins to sag due to the same elements. Very thin edges are especially unstable, but as said, I have no information to prove that a thin edge plays the biggest role here.

All in all, the dimensions of the generator part of the alto recorder are remarkable and different from what I have seen in other Dutch recorders and perhaps also from flute makers in other countries. But there are some similarities between Wijne's alto and his other recorders: the windways which are nicely made, without complications such as domed roofs and blocks.

Bore profiles and tone holes

There is not so much to tell about the bore profiles of the soprano recorder and the third flute: both have the common shape which we find in many baroque recorders: in the head joint from the block line almost cylindrical or very slightly conical, in the lower joint narrowing with a regular parabolic shape towards the lower end. Fred Morgan gives no information about the undercutting of the tone holes. But he mentions an issue on hole 4 of the soprano recorder: that hole was according to him reduced from a larger size which itself was so rough that he thought it was originally smaller. I noticed myself also the rough edges of hole 4, but further that both holes 2 and 5 are not only larger, but have sharper rims than the other holes. Were these holes enlarged by a player, making modern baroque fingering (after Dolmetsch) possible? The tone holes of the third flute differ only slightly in diameter and are not far, but in all directions regularly undercut. The values of the bore profile lie pretty much right between those of a soprano and an alto recorder, but as I have not found other Dutch third flutes that survived, there is no comparative material to draw further conclusions.*

More can be said about Wijne's alto recorder. The bore of the head is compared with other Dutch altos with about the same pitch relatively narrow (ca. 18.8 mm). The bore of the middle joint is interesting: up to hole 5 it has the same shape (more or less straight conical, after hole 4 a bit more narrowing) and values as some upper middle joints of traversos of this maker. It is likely that Wijne has used the same reamer for this section, only needing an extra reamer for the lowest 50 mm of the bore. The diameter at the lower end of the bore is 14.0 mm, which is rather wide in comparison with the relatively narrow bore of the head. We can only guess about the dimensions of the original lost foot, but Robert Goble did a good job making a new one. He was asked to turn the wood in such a profile that no misunderstandings could occur about the originality of this foot. When I made a copy of the recorder, I made the foot only a few millimeters shorter, turning the exterior in a more historically correct shape, but not

changing the bore profile very much. About the tone holes of the alto: they are all regularly undercut, equally strong to the sides as up- and downwards. Holes 4 and 5 do not differ much in size.

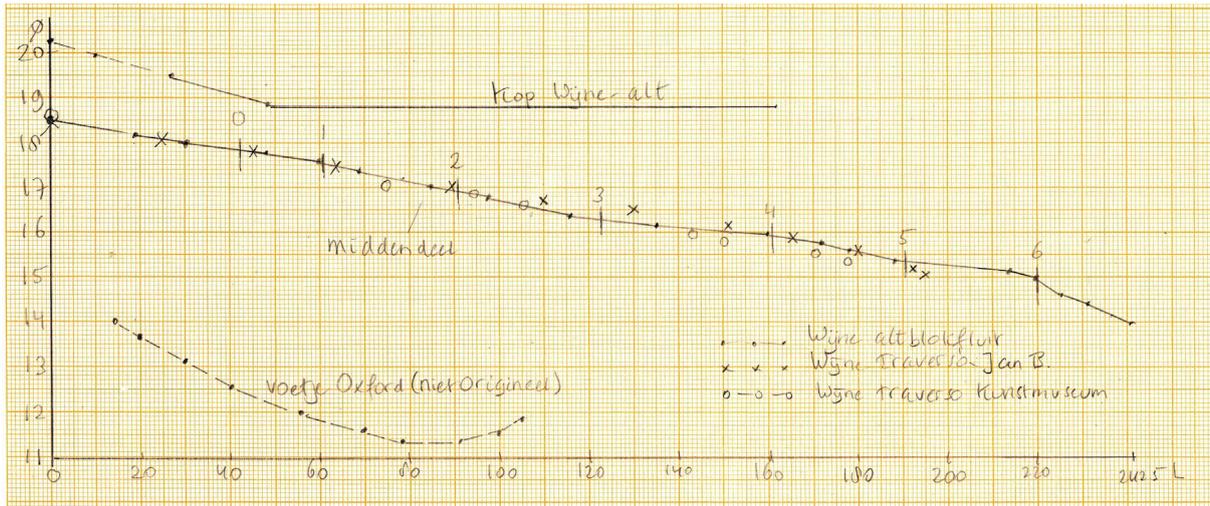
* Curt Sachs lists under 2787 a three-piece, brown-varnished *Diskantflöte in g1* by Steenbergen in the catalogue *Sammlung alter Musikinstrumente bei der staatlichen Hochschule für Musik zu Berlin* (Berlin 1922). It was made of boxwood and had an ivory band. With a total length of 42.5 cm this instrument had approximately the same length as Robbert Wijne's third flute. Unfortunately Steenbergen's recorder was lost in World War Two, which means that it is no longer possible to establish whether the two instruments were related.

Playing Wijne's recorders

A short introduction: as a recorder maker and as a player, you want to make the sound of your instrument as clean and clear as possible, avoiding unnecessary or high levels of noises. But it is complicated stuff. At first: it is difficult to describe sounds in words. Fourier analyses of the tones of an instrument give information about their harmonics, but don't capture the complete soundscape. There is for instance always the occurrence of a collection of inherent background noises (sound elements without a frequency of their own), which play a role in that. Without those background noises, the sound of a recorder would be in our ears very meagre and artificial. In other words: the background noise carries the sound of the instrument. As a recorder maker, you must recognize several types of noise and try to discover whether these are inherent in the design of the instrument or in imperfections in its finishing. Playing historic recorders is each time a voyage of discovery: are you as player sensitive and patient enough and is the instrument cooperating and revealing its secrets? I know from my own experience and that of other players who have extensively studied historical instruments that the sound characteristics only become apparent after a longer playing-in period. It's also true that some instruments sound better and better as they are played, while others after some time, deteriorate.

Conclusion: what are my sound observations and descriptions worth? It is quite a long time ago that I saw the instruments: the third flute and the alto in 1989, the soprano in 1991. I could play the instruments also only for short times and my annotations are short as well.

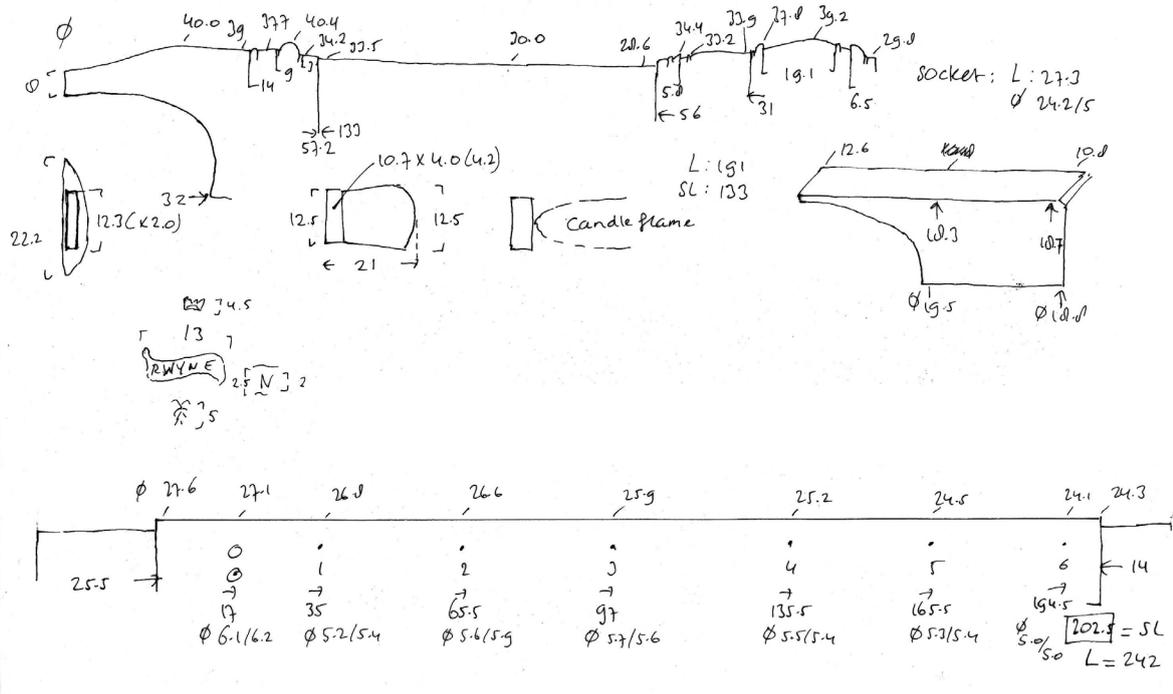
Fortunately, however, there is more information available. Fred Morgan writes in his drawing of the soprano recorder: *general style, as a soprano compared to an alto by the same maker, is similar to the Steenbergen soprano. But this is a much more modest instrument in its tone, very soft, sweet, full and pure.* The tuning is 40 cents below a-415 Hz. Because of the dimensions of fingerholes 4 and 5, it does not surprise that the soprano can be played with Dolmetsch fingerings (also called 'English baroque fingerings', with the b-flat in the lower register is fingered with hole 7 closed). Long ago I made a few copies of this recorder, in three parts so I could swap the middle part for a slightly shorter one for playing in a-415 Hz. That worked very well, maybe because the lower-joint bore is a little narrow for a Dutch soprano recorder. The third flute has other playing characteristics. When we take the a' as fundamental, this tone is very low, close to a-400 Hz, also found on one of the traversos of Wijne. The sound is charming, though: slightly muffled and tender, with a slightly 'spuckende' attack. The topnotes of the third register didn't speak easily, but on my copy these notes gave no problems. On that copy, I had to cope with low, but audible levels of noise. That is inherent to the dimensions of the window and is comparable to the sound of a tin whistle. It took me a while to get used to it, but I discovered the sound is actually quite pleasant and doesn't tire my ears. The question is also whether the noise components are audible at a greater distance from the player.



Bore profiles of the alto recorder and two traversos of Robbert Wijne



Alto recorder Robbert Wijne, Bate Collection Oxford



Measurements (summarized)

head (I): L 190.2, SL 133; socket: Lmax 27.3, ϕ max 24.5; window (WxL): 10.7 x 4.0/4.2; ϕ ext at window: 33.5; labium L 21, Wmax 12.5; block surface: L 57.2, W 12.6 - 10.8;

bore (ϕ , Lmax, from upper end):
 19.0- 30 18.8- 57/end

middle joint (II): L 242, SL 202.5; upper tenon: L 25.5; lower tenon: L 14; ϕ ext of shoulders: 27.6 and 24.3;

finger-holes (L from upper shoulder to centre of hole; ϕ WxL; ϕ ext):

hole 0- 17;	6.1 x 6.2;	27.1	hole 4- 135.5;	5.5 x 5.4;	25.2
hole 1- 35;	5.2 x 5.4;	26.8	hole 5- 165.5;	5.3 x 5.4;	24.5
hole 2- 65.5;	5.6 x 5.9;	26.6	hole 6- 194.5;	5.0 x 5.0;	24.1
hole 3- 97;	5.7 x 5.6;	25.9			

bore (ϕ , Lmax, from upper end):

18.4- 0	18.2- 19	18.0- 31	17.8- 48	17.6- 59
17.4- 69	17.2- 77	17.0- 85	16.8- 98	16.6- 106
16.4- 118	16.2- 137	16.0- 160	15.8- 172	15.6- 177
15.4- 188	15.2- 212	15.0- 218	14.8- 220	14.6- 225
14.4- 232	14.0- end			

foot (III, not original): L 108.7; hole 7 at: L 22, ϕ 4.8;

bore (ϕ , Lmax, from upper end):

14.0- 14	13.8- 19	13.0- 31	12.6- 41	12.2- 52
11.6- 96	11.4- 76	11.3- 80/90	11.6- 100	11.8- 108

The secrets of Wijne's alto recorder

Of the three recorders, the alto gave me the most trouble understanding the tuning and other matters. The instrument was in playable condition in 1989, but not without some problems, the pitch 10 to 30 cents below a-415 Hz. And I wondered why Frans Brüggen had chosen just this alto for his famous recordings of 17 historic recorders in 1971 (released by Telefunken, and in 2012 incorporated in the 'Frans Brüggen Edition', a 12-CD set, published by Warner Classics). Forty years after Frans Brüggen, Wijne's alto recorder was again played for a recording, this time by Peter Holtslag, for his CD 'Awakening Princesses' (with some other recorders from the Bate Collection, released by Aeolus). In the booklet to the CD he writes about the recorder: *the tuning is fiendishly problematic and deteriorates after only a few minutes of playing. The labium has curved downwards over time and the block, conversely, has done the very opposite. Consequently, though the instrument's sound is magical, it can be played for a very short time, needing the rest of the day to recover.* But Holtslag mentions a higher pitch for Wijne's alto: a-415 Hz, which indeed matches the pitch that I heard on the CD. Moreover: I listened again to the recording by Frans Brüggen, and there was also the a at 415 Hz. Thus: both higher pitches than my measurements from 1989. How could I have been so wrong? Jeremy Montagu gave me copies of other pitch measurements of the instrument (made by John Edwards) and these were just as mine in average also 20 cents below a-415 Hz. These lower values were certainly not caused by a low ambient temperature, as the measurements by Edwards were carried out at 25 degrees Celsius. I couldn't find an explanation for the measured differences. The differences are too great to be caused solely by the fact that for the recordings the instrument had been played by Brüggen and Holtslag for a longer period of time. The anomaly confused me when I tried to make a copy of the recorder. The first attempt went wrong, mainly because I based that on my own low pitch measurements from 1989. But for the next copy I accepted the a-415 Hz as the correct pitch, and that instrument played well.

There is another issue as well. Peter Holtslag mentioned the 'fiendishly problematic tuning' of the alto. How he solved that when playing the instrument for his recordings, I don't know. But for my copy, I had to change the dimensions of some tone holes to get the tuning right. Especially hole 2 was too small for the tones that are dependent of its size. I can't explain that; I should see the original instrument again (difficult now, the Bate collection is due to a relocation temporarily closed). About his other statement, the 'magical sound' of Wijne's alto recorder: what exactly is a magical sound? Is it especially refined, or full, or flexible? Is it like the sound of Wijne's soprano recorder 'very soft, sweet, full and pure'? And can I hear any of the magic on the CD recordings of Holtslag (Johann Christian Schickhardt, sonata in a, opus 17 No. 3) and Brüggen (Robert Carr, 'Divisions upon an Italian ground', a piece that demands much less of the recorder and its player)? On both recordings, the alto sounds clear (you could also call it pure or clean), without audible noise, not (or not disturbingly) out of tune, and with a precise attack. But these characteristics often have more to do with the player's skill than with the intrinsic properties of the instrument. I also couldn't really hear - as Peter Holtslag told me - that the instrument had more problems in the fast movements than in the adagio of Schickhardt's sonata. With Frans Brüggen, the alto may sound a bit rounder and I hear more diverse timbres, but he also seems to have played a bit closer to the microphone. The acoustics of the recording room also play a significant role; with Holtslag, that room seemed larger.

I don't think a musical instrument can be magical in itself; magic is about interaction, between the player and the instrument and between the player and the audience. And with a CD like this, no matter how well it's recorded, there are always limitations to that interaction.

About my copy of Wijne's alto recorder (I actually made three, in boxwood and in rosewood, with single and double lowest fingerholes): they have a beautiful sound, play very smoothly, and, unlike the original, are actually very stable. Perhaps they are missing that last bit of refinement that could be the reason for the magical sound of the original. However, I also know that such refinements in the sound of a recorder often require not only perfect finishing, but that also very small margins in adjustment can destroy the sound. What do you prefer as a player: stability in combination with enough flexibility to influence (within certain limits) the sound, or an instrument that gives you an experience of the magic, no matter how short-lived that magical feeling might be?

Three recorders, so different in length, pitch and character: what conclusions can you draw from this? Each of these instruments has its own special qualities and is clearly the product of a skilled maker. But at the same time they are not innovative in design. Robbert Wijne likely worked from around 1720, experiencing the recorder's heyday in his early years, up to around 1770 when the instrument had declined sharply in popularity. In that light it is plausible that the three recorders that survived were made before 1750. But it is impossible to say which of the three is the oldest.

I surely do not have the impression that I have solved all secrets of Wijne's recorders, but the journey of discovery was interesting, and I became even more impressed by his qualities as instrument maker. In the next part of this series I will discuss the three oboes of Robbert Wijne.

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