

Summary

About the scope and methodical aspects of this study

The main part of this study deals with Dutch woodwind making from the Baroque period. More precisely: research is done into all types of recorders, traversos, clarinets, oboes and *Duitse schalmeien* (*Deutsche Schalmeien*), bassoons and rackets, which were made in the Dutch Republic by 35 to 40 *fluytenmakers* ('flute makers') who started their activities in this country between 1660 and 1760.

The study concentrated on the question whether a typical Dutch style or school of woodwind making existed in this period, or whether each maker (or group of related makers) developed his own individual style.

To discover the style of each of the Dutch *fluytenmakers*, descriptions were made and measurements and photos were taken of the greater part of the 250 instruments which were tracked down in collections all over the world. During the study, it became clear that it is not possible to get a representative image of each flute maker's style if only one or two examples of one type of instrument are preserved. For the recorders, a fair to good image could be obtained of the instruments of Van Aardenberg, Beukers, Boekhout, Haka, Van Heerde, Steenbergen, Terton and to a lesser extent, also of Rijkkel and Robbert Wijne. A representative amount of traversos is preserved of Beuker, Borkens, Eerens, Van Heerde, Robbert Wijne and maybe Hemsing; for the oboes: Van Aardenberg, Beukers, Haka, Van de Knikker, Hendrik and Fredrik Richters, Rijkkel, Steenbergen and Terton. In contradistinction to the other instruments, clarinets and bassoons are preserved in very small numbers; that means that only a few general remarks about their qualities and development could be made. Attempts have been made to start a discussion about the place of Dutch woodwind making in the European context; but a great problem is the lack of publications in which results can be found of similar comprehensive studies about woodwind instruments and their makers from France, Belgium, Germany, Italy and England.

Some attention is also paid to woodwind instruments of Dutch or probably Dutch origin, made in the early Baroque (or transitional) style, mainly small recorders in one joint. Some of these instruments have no maker's marks (their origin is therefore unclear), but two ivory recorders bear the stamp of Richard Haka, who also made recorders in the new Baroque style. It is quite remarkable that only a very few of those early or transitional woodwind instruments were found, particularly because they can be seen on many Dutch paintings throughout the 17th century. The differences between the instruments in the old style and the recorders, oboes and other instruments in the new Baroque style are unmistakable: most types of instruments are made in more joints, the turned profiles are more elaborate and exuberant, the profiles of the bores of the joints are more complicated and narrow or widen more strongly and finally, we nearly always find stamps (with the full name of the maker and some additional marks) on the joints. The Dutch woodwind makers must have learned or developed the new French or Baroque style in a short time; only a very few hybrid instruments have been preserved with a combination of old and new features. The popularity of the Baroque woodwinds continued for a long time; instruments such as traversos with one key and bassoons with four keys were made in The Netherlands until late in the 18th century.

Whereas most Dutch woodwind makers between 1660 and 1760 had family or workshop connections or worked in more or less the same style and so formed a rather coherent group, this cannot be said of the small group of craftsmen who worked in the last quarter of the 18th century (up until in the 19th century) and whose instruments have some new ('late-Baroque' or 'classical') features, such as a higher pitch and more keys. Amongst these makers were Johannes Christiani, who was born c. 1745, and his sons. The Christiani family is not included in this study. Although they also worked in the last quarter of the 18th century and/or some of their instruments also show new elements, Willem Wijne, Van de Knikker and Jan (Barend) Beuker are involved in this study, because the start of their activities was before 1760.

The methodology and technique of the research into the instruments and their makers are explained in Chapter 1. This is done minutely, because of the fact that research into historical

woodwind instruments from one country was never done before on this scale. Incorporated in this chapter are some paragraphs about the history of the research into woodwind makers and their instruments, and about important publications such as the catalogues of the Gemeentemuseum in Den Haag (The Hague), of which I was one of the authors.

In two appendices the results are given of some by-products of the study. Appendix A (*Bijlage A*) deals with the historical Dutch names of woodwind instruments; Appendix B (*Bijlage B*) gives information about finds (most of them from excavations in The Netherlands) of wind instruments, dating from Roman times up to the 16th century.

The most significant results of the research into biographical details of the woodwind makers, the lists of instruments, makers' marks and inscriptions on the instruments

The names of about 35 woodwind makers or families of woodwind makers could be traced, most of whom worked in Amsterdam. Chapter 2 deals with their biographical data. Not only information is given about the birth, marriage and death of the *fluytenmakers*, but also about last wills and about advertisements in contemporary newspapers. The amount of information about each of these makers varies greatly. Of three woodwind makers (Deppe, Roosen, Weijdemuller) no biographical data was found at all, and there is, in fact, no evidence that these three men worked in Amsterdam or in one of the other Dutch cities. On the other hand, quite some information was found about important and influential woodwind makers, such as Richard Haka, the three generations of the Van Heerde family, the Richters brothers and about some makers who worked in other cities: Bernard Hemsing in Leiden, Klaas van Hallum in Franeker and father and son Wijne in Nijmegen.

In Chapter 3 the results of the previous chapter are discussed, and a comparison is made between the history of woodwind making in Amsterdam and in other important European cities, such as Neuremberg (Nürnberg), Paris, London and Brussels.

I have classified the Dutch makers of Baroque woodwind instruments in four generations. The makers of the first generation were active mainly between 1660 and 1700. Their names: Jan Jurriaensz van Heerde, Jan de Jager, Andries Hillebrandsz, Reindert Jansen and last but not least Richard Haka. He was born in London in 1646, emigrated as a child with his parents to Amsterdam, and can be seen as the most important woodwind maker of his time in The Netherlands. But I have found no clues as to where and when Haka learned the job of making musical instruments, nor about connections he could have had with woodwind makers in other countries.

The second generation consists of woodwind makers who started their activities between 1690/1700 and 1720. Within this generation we find some makers who were pupils of the previous generation, such as Abraham van Aardenberg, Coenraad Rijkkel and Jan Steenberg who learned the trade in the Haka workshop. Other woodwind makers also became important, for instance Willem Beukers Sr., Thomas Boekhout, Michiel Parent, Hendrik Richters, Albert van Heerde and Engelbert Terton.

The woodwind makers of the third generation began with their work between 1720 and 1750. Some well-known names: Willem Beukers Jr., Philip Borkens, Jan van Heerde, Bernard Hemsing, Fredrik-I and Fredrik-II Richters and Robbert Wijne.

For the fourth generation, active from about 1750, only four woodwind makers were found: Jan Barend Beuker, Klaas van Hallum, Willem Wijne and Johannes van de Knikker. This is an indication that the heydays of Dutch woodwind making were over.

The families of Haka and Rijkkel came from England, but several woodwind makers originated from the eastern or northern parts of The Netherlands (Boekhout, Borkens, Steenberg, Terton) or from the adjacent German countries (Beuker, De Jager, Hemsing, Richters). They were attracted by the wealth of Holland, but probably also by the fact that establishment as woodwind maker was easier here than in Neuremberg, for instance, where strict guild rules were maintained. However, no evidence is available those who came to Amsterdam, were already active in woodwind making before that time; it is likely that some of them or their ancestors were wood turners (as was the father of Hendrik and Fredrik Richters).

A few families were active in woodwind making during more than one generation, and also relations were found between some families: Haka and Rijkel, De Jager and Boekhout, Van Heerde (three generations), Beukers (two generations), Richters (two brothers and a nephew), Wijne (father and son). Concerning other activities of woodwind makers: some of them were professional instrument players; Rijkel and maybe also Parent were bassoonists. Hemsing was a musician and organizer of concerts at the University of Leiden; Van Hallum had about the same job at the (former) University of Franeker in the province of Friesland. There is no evidence of contacts between woodwind makers and makers of string instruments or organs. Only a few woodwind makers became at least well-to-do people: Haka, Hendrik and Fredrik Richters and Terton; but it is not always clear if their wealth was the result of making and selling instruments, or if they had other sources of income.

Chapter 4 includes the lists of instruments. Firstly, these lists give data about instruments which I have seen personally in public and private collections, or (for only a small number of instruments) of which I have reliable information about their presence in collections. Secondly, I have compiled data about historical and recent reports of instruments (which have vanished or were destroyed in later times). The records of instruments are compared with the information in Ph. T. Young's *4900 Historical Woodwind Instruments* (London 1993); some of his records appeared to be incorrect. Thirdly, information is collected about the history of the instruments in the collections. Of only a very few instruments do we know something more than the name of the previous owner, or where the instrument was found or purchased. Very interesting was the rediscovery of a specification of a delivery by Richard Haka of 40 woodwind instruments in 1685 to the Swedish Navy; not only the original names of those instruments, but also prices and pitch indications are mentioned. Only two other specifications of Dutch woodwind instruments have been found, both written by Hemsing for a delivery of recorders and traversos to two well-to-do students in Leiden.

Chapter 5 is mainly a discussion of the results of Chapter 4. Most recorders which survived were made by the first and second generation woodwind makers, traversos became popular from the second generation onwards, oboes and bassoons were made throughout the four generations of craftsmen. Most woodwind makers were versatile; manufacturing recorders, traversos and/or double reed instruments. Van Aardenberg, father and son Beukers, Boekhout, Borkens, Van Hallum, the Van Heerde family, De Jager, Terton and Robbert Wijne made recorders, traversos and double reed instruments. But there are no recent or historical records of traversos by Rijkel and Steenbergen, and in the fourth generation, the making of recorders seems almost extinct. The Richters brothers and probably Rijkstijn specialized in oboe making. They were unique in this at that time in Holland (and perhaps also in Europe).

An interesting question concerns the representativeness of the number of instruments found. Over 90 oboes (by 22 makers) have survived, but only three bassoons (by 14 makers). There is no obvious reason for this disproportion. Apart from the instruments by Johann Christoph Denner from Neuremberg, early Baroque bassoons made before 1750 by other European makers are also very rare.

Most of the Dutch woodwinds were found in The Netherlands and by Dutch or Belgian collectors, such as Scheurleer, Broers and Snoeck. Several instruments were found at excavations, for instance of wrecked ships or in the moats of some old towns and castles in Holland. The history of only a few instruments can be traced back until the 18th century; some of them may have been used in court ensembles in Germany (Darmstadt, Sondershausen).

Chapter 6 deals with the makers' marks and inscriptions on the instruments. No comparative research has been done before on the marks of Dutch woodwind makers, whereas those marks are highly important in attributing an instrument to a particular maker. An extensive comparative study was carried out not only into the name stamps of the makers, but also into devices as heraldic marks, place-name marks, numbers of *corps de réchange* of traversos, and asterisks and some other indications such as serial numbers or check marks. Subsequently I have tried to find correlations between these marks and the style in which the *fluytenmakers* designed their instruments.

The name stamps on the instruments of Borkens, Haka, Van de Knikker, Parent, Rijkel,

Steenbergen, Terton and Robbert Wijne are each very consistent. The stamps of Van Aardenberg are not all the same, which probably has to do with alterations in the design of his instruments. The stamps of Beukers and Van Heerde show some variation, probably depending on which generation of the family made the instruments. The problem is that father and son Willem Beukers used the same initial letter, and that within the Van Heerde family no initials at all were used in the name stamps. On the instruments of Boekhout, two or three types of name stamps exist (T.BOEKHOUT, BOEKHOVT and T.BOCHOVT), but biographical data was found of only one maker (Thomas Boekhout).

The problem of forgeries does not seem to be very important for the woodwind instruments. One alto recorder by Rijkel also bears the stamp of his uncle Haka, and we know about the quarrel between these two, Haka being angry that Rijkel abused a copy of his stamp.

The name stamps on the instruments of Haka, Rijkel, Van Aardenberg, Steenbergen, Parent and Robbert and Willem Wijne are placed in a scroll, which always has a curl at left top and right bottom. This type of scroll is not entirely unique for Holland, but is further used by a few German makers.

On some paintings from the middle of the 17th century, recorders of the early or transitional type are depicted with the outlines of the same type of scroll. This is one of the few clues that other woodwind makers were active in Holland before Haka and his colleagues of the first generation. Other woodwind makers (Boekhout, Beukers, Van Heerde, Borkens, Terton) didn't have stamps with scrolls; perhaps some of these makers had workshop connections as well.

There seems to be no special meaning in the use of devices such as heraldic marks by the makers: the *fleur de lis*, the crown, *lion rampant*, a deer and clover leaf are used by several makers and are common signs, not having any relation to the names of makers or the places where they lived. However, the double headed eagle of the stamps of Robbert and Willem Wijne very likely comes from the coat of arms of the city of Nijmegen. Typically Dutch is a low type of *fleur de lis*, used by Haka, Rijkel and Beukers. I don't think that this device is a heraldic sheaf of wheat, as suggested by Ph. T. Young.

Place-name stamps were mainly used by woodwind makers who lived outside Amsterdam: Robbert and Willem Wijne in Nijmegen, Eerens in 'S:BOSCH' ('s-Hertogenbosch) and Utrecht, Van de Knikker in Tilburg. Jan Barend Beuker was the only maker who stamped 'Amsterdam' on the feet of his traverso's; but he lived at the end of the 18th century, when it became common in other countries for woodwind makers to stamp a place-name and sometimes their complete address on the instruments.

Inscriptions with year dates, names or initials of owners/players are mainly found on metal mounts or keys of oboes, and not on other woodwind instruments. This may be because of the different status of the oboe: this instrument was also used in army bands and other official ensembles.

Finally: the position of the stamps on the foot joints may give an indication of how some instruments were supposed to be held. Most recorders and traversos were designed to be played with the right hand below.

The most important results of the research into the technical aspects of the instruments

Chapter 7 concerns the Dutch recorders. First, six early (or transitional) instruments in one joint are discussed, two of these recorders by Haka and one with the stamp 'I.V.H', probably Jan (Jurriaensz) van Heerde. Interesting is the pitch of these instruments: very close to a-440 Hz. About 90 Baroque recorders (not all of these instruments are complete) of c. 15 makers are preserved. Apart from a small number of walking stick recorders (by Haka and Eerens), double recorders (most of them by Parent) and a few French flageolets, most of the instruments are of the common Baroque recorder type: sopraninos in f^2 (5 instruments), sixth flutes in d^2 or e^2/e^{b2} (3), sopranos in c^2 (14), third flute in a^1 (1), alto recorders in f^1 (44), voice flutes in d^1 and/or tenor recorders in c^1 (4) and bass recorders in f^0 (13). Boekhout, Haka and Steenbergen are among the makers with the widest assortment of surviving instruments: Haka made all sizes in f and c from sopranino to bass recorder.

Not only the sizes of the recorders, also their design and finishing show considerable variety;

that includes turned profiles, bore of the joints, size and direction of the windway, window and labium, the materials of which the instruments were made, the pitches and other acoustical aspects. Boxwood (*Buxus sempervirens*) was often used, but some makers made fine recorders in ebony (Boekhout, Haka, Van Heerde, Parent). Ivory recorders were made by Beukers, Haka, I.V.H, Rijkel, Steenbergen and Terton, but most of these instruments are now in bad condition, due to cracks which developed in the windway and in the bore of the joints.

With only a few exceptions, most of the Dutch Baroque recorders could be played at pitches between a-400/405 and a-415 Hz. It is obvious that Haka made instruments in about a-440 Hz (his transitional recorders), and also in at least two lower pitches of about a-405/410 and about a-415 Hz (his Baroque recorders). Terton and Steenbergen also made their alto recorders in more than one size and pitch, Boekhout did the same with his basses.

Interesting are the differences between recorders with short and long feet. Short foot recorders (made by Borkens, Haka, Rijkel, Steenbergen, Terton, R. Wijne) can be played with fingerings after Hotteterre (published in his *Principes de la Flûte*) for the third register; instruments with relatively long feet (Van Aardenberg, Beukers, Van Heerde and also some instruments by Boekhout) need some alternative fingerings.

Because of the wide variety of damage as well as other problems, it was difficult to determine the precise fingerings, pitch and/or tuning system (mean tone or equal temperament) of the recorders.

I have found indications that some recorders were tuned with a number of pure thirds.

The result of all these differences in design, size and other technical aspects, is that there was clearly not only one Dutch style of (Baroque) recorder making. The instruments of Haka are easily recognizable by their characteristic turned profiles, and so are (with other features) most recorders by Beukers, Steenbergen, Terton and Robbert Wijne. The recorders by Boekhout and Van Heerde are less consistent. Especially the bass recorders by Boekhout show great variety, an indication that this woodwind maker experimented with this type of instrument. His bass recorders with two keys (not only on hole 7, but also on hole 3) can be played with the same fingerings as an alto recorder, a fact of which he mentioned in an advertisement that he was the inventor.

The most deviating recorders are in many aspects made by Van Aardenberg. Not only the turned profiles are very characteristic, also the shape of the labia, the bore of the joints and aspects of the fingerholes are different from all recorders by Dutch and foreign woodwind makers. The preservation of his smaller instruments (in the Gemeentemuseum in The Hague) is very fine; the sound of these recorders is sophisticated, but playing in tune is not easy, perhaps alternative fingerings is required.

The finishing of the instruments by Van Aardenberg, and also of those by Robbert Wijne and of most recorders by Van Heerde is in all aspects (turning, windway, block, tone holes) very fine. Most recorders by Haka suffer from some damage and are not in a good, playable condition. The quality of turning is however excellent, just as of the instruments by Steenbergen. The alto recorders of this maker all have different bore designs; some of their windways are not of the finest quality, but the instruments generally play well. The recently discovered ivory alto by Steenbergen is the only recorder by a Dutch woodwind maker with double drilled fingerholes 6 and 7; with a small window and a relatively narrow bore, it has a much more modest character than the well-known Steenbergen alto in the Frans Brüggen collection. Most recorders by Willem Beukers have no original blocks; the sopranos and one alto are probably made by the father (they are stamped with a short *fleur de lis*) and consistently have the tangential face of the wood at the front side of the joints; one alto and two voice flutes are stamped with a crown and are turned in a different style, maybe by his son. Some of the alto recorders by Terton are excellent instruments, but most famous is his soprano recorder with silver mounts, one of the few recorders which are in excellent playable condition. But perhaps even better is another Dutch soprano, made by Borkens, and now in a Japanese collection.

Chapter 8 deals with the Baroque traversos. These instruments (about 40 were investigated) show a less wide variety than the Dutch recorders. Most traversos are instruments with the fundamental d^1 ; of one piccolo in d^2 (by Robbert Wijne) only two upper middle joints survived; one 'fourth' or 'fifth' traverso in g^1 or a^1 was made by Van Aardenberg, 3 *flûtes d'amour* in b^0 by Haka,

Van Heerde and Hemsing did survive, and also 2 bass traversos by Beuker, made at the end of the 18th century. The *flûte d'amour* by Haka is made in 3 joints and is probably one of the earliest traversos with one key: the bore of the middle joint narrows only slightly, the head joint is designed without end cap, the mouthhole has an old-fashioned shape (slightly oval, in cross section longer than in the other direction), the key on the foot has the shape of an e^b-key from an oboe. It is possible that the development from the traverso in 3 to 4 joints started in Holland. Three instruments, a short traverso (a fourth or a fifth above d¹) by Van Aardenberg and two flutes in d¹ by Beukers and Terton, are likely amongst the earliest traversos with four joints. The lower middle joints of these instruments by Beukers and Terton are relatively short, the bore of these instruments is rather irregular. Dutch woodwind makers used not only boxwood, but also ebony (always with ivory rings) for the traversos: Van Aardenberg, Beuker, Eerens, Van Heerde and Robbert Wijne. Ivory traversos were made by Beuker, Beukers, Borkens, Eerens, Hemsing and Robbert Wijne.

Most traversos by Borkens, Eerens, Van Hallum, Van Heerde, Hemsing, Robbert and Willem Wijne have several common characteristics, such as a wide bore (>19.0 mm in the head joint, 13.0/13.5 mm at the narrowest point, near the socket of the foot), a long lower middle and foot joint with a length of (together) 240 mm, a round and rather small mouthhole (<9.0, often < 8.5 mm); the pitch of most of these instruments varies from a-405 to a-415 Hz. One of the traversos of Beukers but also the instruments of Deppe, Van Gulik and Weijdemuller have some of these characteristics, but they are not exclusively Dutch. For instance: on early French traversos in four joints, we can see comparable design and dimensions. Especially the traversos by Robbert Wijne (and the instrument by his son) are of high quality, with regular bore profiles, some nicely made and with well preserved mouth holes. Some instruments are also perfectly playable, from d¹ up to a³, with standard fingerings after Hotteterre and Quantz.

The long traverso by Hemsing is a real *flûte d'amour*; it has a bore which is even narrower in its lower joints than his shorter instruments, and the sound is very mild. The *flûte d'amour* by Van Heerde is designed much more as a traverso in d¹, scaled up in length and bore diameters with about the same ratio.

In the second half of the 18th century, new developments in traverso making also became visible in The Netherlands. The instruments have smooth profiles (Beuker, Willem Wijne), the general pitch is higher (Beuker, Deppe), and we also see complicated fingerhole undercuttings (cup shaped Grenser type). The traverso by Deppe, the only instrument by this maker that has survived, is generally made in a traditional Dutch style, with relatively long lower joints. It plays very well, at a pitch of about a-430 Hz. The traversos in d¹ by Jan Barend Beuker all have different bore profiles, but I have not found an instrument by this maker that played in tune. The two bass traversos by Beuker (both not in playable condition) have completely different designs, one with a U-joint, the other straight, with some keys in the shape of c-keys of a Baroque oboe.

Corps de réchange (usually 3) are found on several traversos by Beuker, Beukers, Borkens, Eerens, Hemsing and Robbert and Willem Wijne. The longest of these joints were probably used by the flute makers as starting point, they give the best sound and intonation on most instruments. Some shorter *corps de réchange* (for instance on one of the traversos of Robbert Wijne) give a less satisfactory result (d¹ too flat, difficult notes of the third register). There is one record from the inventory of the composer Locatelli (who lived in Amsterdam), that he possessed a traverso by Beukers, which had a *corps de réchange* to change the instrument to a *flûte d'amour*. However, this and similar instruments of Dutch makers did not survive. Finally: caps and corks with a screw construction on the traversos are rare and it is not likely that these inventions were made in The Netherlands; I have seen some screw corks or remnants of such constructions on instruments by Beuker, Eerens and Willem Wijne.

Chapter 9 deals with the Baroque oboes and *Duitse schalmeien*. Of all woodwind instruments, the oboe was the most versatile instrument in the Baroque period: appropriate for solo and chamber music, in orchestras where it was played in unisono passages with the violins, but also

useful in military and other wind bands, indoor and outdoor. A great variety of music could be played on oboes, in more keys than on the old shawms and other double reed instruments before. This was possible because of several newly invented details, such as the double drilled fingerholes, the combination of the c-key and the d#-key and the sophisticated bore of the joints. The invention of the *hautbois* was perhaps the greatest achievement of the French woodwind makers. There are indications that the instrument was introduced and accepted in The Netherlands, maybe 20 or even more years before the Baroque traverso became popular. Over 90 oboes by Dutch woodwind makers did survive; these instruments have similarities, such as the double (left and right) d#-keys, but there are also important varieties in design and finishing, the result of differences in the conceptions of the makers about the appearance and playing characteristics of the instruments.

Most oboes were made with the fundamental c¹, four tenors in f¹ did survive. One bell joint is made in the style of an *oboe d'amore* (by Van de Knikker), but we do not know if this type of oboe was made in The Netherlands before 1750.

Haka and Rijkel made some shorter oboes in c¹, which can be played at about a-440 Hz. Perhaps this is the *Coor-toon* in which we know that Haka made some of his instruments. But the other oboes by Haka and Rijkel and all instruments by other Dutch makers are longer, and were playable at about a-400/405 to a-415/420 Hz. No original reeds and staples were found, which means that experiments had to be done to discover the best combination of type and size of reeds and staples for each instrument (and for each player!). As a result, all pitch indications for double reed instruments are very subjective.

The variations between the Dutch Baroque oboes have to do with their exterior profile, such as the shape of the finial of the upper joint (sometimes widely flaring, as a counterpoint to a widely flaring bell), the profile of the key rings and the keys on the middle joint and the design of the bell, especially at the transition to the shoulder of the middle joint. Widely flaring finials with a finial cup are found on all shorter oboes by Haka and Rijkel, on some longer oboes in c¹ by Borkens and Steenbergen, and on several instruments by Richters and Rijkstijn. Many of the oboes by Beukers, Haka, Rijkel, Van Heerde and Steenbergen are turned in a similar style, with as most characteristic detail the profile of the key rings (a flat upper key ring and a round lower one, with a small ring group just above the lower key ring) and often some scribe lines at the transition of the middle ring group and the column with fingerholes of the upper joint. These elements are not typically Dutch, they are also found on (early) German oboes, for instance by Johann Christoph Denner. The problem is that no representative oboes by the first French makers of Baroque woodwinds survived, so that we do not know who invented the first style of turning.

Some oboes by Boekhout, Borkens, Van Heerde and De Jager are made in a style with some different characteristics, with - as most prominent detail - the smooth bulge, without a ring group at the top of the bell. Some of these bells expand less, often have the tuning holes at a higher position and have the makers' marks between the tuning holes and not at the flare of the bell.

Within these two types of oboes (and within the instruments by other makers, which have elements of both types, as those by Terton and Richters) we find a wide variety in bore dimensions and profiles (from almost straight conical to pronounced parabolic shapes), tone holes (drilled straight and under various angles), tone hole undercutting and - often very characteristic for each oboe maker - the shape of the bell rim and the wide space that is turned out behind that rim. Just as with the recorders, the most exceptional oboes are made by Van Aardenberg. In his instruments we see a development to very characteristic turned profiles, unusual bores, widely undercut tone holes and typical shape of the keys. Playing the oboes of Van Aardenberg, it became evident that even some alternative fingerings had to be used.

In contrast with their colleagues in other countries, several Dutch woodwind makers used ebony for their instruments: Boekhout, Haka, Van Heerde, Van de Knikker, Rijkel, Steenbergen and Terton, but above all Hendrik and Fredrik Richters and Rijkstijn. Many of the famous oboes of Richters and Rijkstijn are very luxuriously made, with ivory or silver rings, often engraved. From a technical point of view, these instruments (of which a great number of about 40 did survive, and of which several oboes were in fair to good playable condition) are not so interesting, because they all have almost identical dimensions (length of the joints, bore profiles).

Richard Haka may have played a part in developing the first types of the Baroque oboe. Especially his shorter instruments have deviating details, not found on later instruments. One of these oboes has a rather short bell, with only one tuning hole. Another instrument with Haka's stamp did survive, with a very short bell (without a bell rim and without tuning holes), no d#-keys, with a c-key in a silver fontanelle and with wide fingerholes (all single) and - most remarkable - with a thumb hole, as on a recorder. It seems that after Haka, Dutch woodwind makers did not contribute to new developments in oboe making. Some new ('late Baroque') elements are found on oboes by Robbert Wijne and Van de Knikker (neither of whom lived in Amsterdam!); these instruments have a completely different profile with smooth bulges and the fourth fingerhole only single drilled.

Several oboes of the collection of the Gemeentemuseum in The Hague were played by Piet Dhont, for the preparation of the catalogue on Dutch double reed instruments. Not only (relatively small) varieties in pitch were measured by him, but - more important - differences in playing characteristics. On some oboes (by Boekhout, but likely also by Borkens and Robbert Wijne) the f^1 was easy to play, without the need of using the d#-key. Also the hole under this key appeared to be rather wide, resulting in an almost equally tuned d# and e^b . Many oboes by other makers appeared to have a combination of other characteristics, such as a less easy f^1 and a rather flat d#. The sound of the Dutch oboes varied from rather open and loud (the short oboes by Haka and Rijkel) to mild and elegant (Van Heerde, Terton, R. Wijne).

About ten *Duitse schalmeien* made by Haka survive to this day and they are strikingly similar. However, these instruments must not be seen as the predecessors of the Baroque oboe, but more as an attempt to give the traditional types of shawms the milder sound of the oboes. The musical possibilities of the *Duitse schalmeien* or *Veldschalmeien* ('field shawms') are however restricted, and after 1700 the instruments were completely driven out by the oboes.

In Chapter 10, the only three bassoons and two rackets by Dutch makers are discussed. The oldest bassoon, by Haka, is made in an early style with many elaborately turned details, more or less similar to the bassoons of Johann Christoph Denner. But there are also differences, such as the cylindrical bore of the bell. The Haka-bassoon is playable at about a-390 Hz, with a crook, similar to one on a painting (attributed to Harmen Hals) of a bassoon player. As far as visible on the painting, his instrument is very similar to Haka's instrument. The other two bassoons, skillfully made by Willem Wijne and Van de Knikker, are both about 100 years younger than Haka's instrument; they are designed in a simpler and smoother style, but still have four keys. The Wijne bassoon is best playable at a rather low pitch (a-400/410 Hz); the instrument by Van de Knikker, however, has a rather high pitch (c. a-430 Hz).

Two Baroque rackets do survive: one by Willem Wijne, the other unstamped but with a somewhat enigmatic inscription in Dutch language. It is difficult to say when both rackets were made (I do not believe a date as early as the 17th century, as can be read in some publications), but very little is known about the development of this type of instrument in the 18th century. Both Dutch rackets may have been made after 1750.

Only two clarinets by Dutch makers are preserved; they are discussed in Chapter 11. The clarinet by Boekhout is perhaps one of the earliest made outside the Denner workshop. The fundamental of this instrument is a f^0 (overblowing to c^2). The clarinet by Borkens is shorter, and is probably designed as an instrument in g^0/d^2 . There are historical records of clarinets by Beukers and Wijne, and of a chalumeau by Steenbergen, but no instruments by these makers survived.

Summary of the instruments and importance of the Dutch fluytenmakers

Abraham van Aardenberg: of all Dutch woodwind makers he has developed the most individual style of making instruments. His carefully designed and finished recorders and oboes have several deviating details and it is clear that this maker also had his own ideas about how the

instruments had to be played (with some alternative fingerings) and how they should sound. However, it was not possible to discover all secrets of the oboes and recorders of Van Aardenberg. The only traverso by this maker may be one of the earliest instruments of its kind in four joints, sounding a fourth or a fifth above d¹.

Jan Barend Beuker: it is not clear if 1 or 2 (related?) makers with this name were active in Amsterdam. There is one oboe with the stamp IB BEUKER, made in a traditional Baroque style from the first half or middle of the 18th century. All other instruments are traversos and bass traversos, stamped with I BEUKER and often (on the foot joints) with the addition AMSTERDAM. These traversos are made in a more later Baroque style from the second half of the 18th century; the instruments show quite some variation in sizes of the joints and pitch. Some show an excellent standard of workmanship, but there are also problems with the intonation.

Willem Beukers Sr. and Jr.: until the death of the father, both woodwind makers worked as partners in the same workshop. The recorders with the lily device are probably made by Sr., and are on the whole more carefully crafted and better finished than the instruments with a crown device. It is however difficult to judge about the sound qualities of the recorders, because most of the blocks are not original or in bad condition. The oboes of Beukers have widely flaring bells (also in the interior profile) and some could be played in a bit sharper pitch (a bit > a-415 Hz) than most other Dutch oboes. The two traversos of Beukers (both with three *corps de rechange*) each have different stamps and other differentiating characteristics. The most interesting of the two is the ivory instrument, but the mouthhole and fifth fingerhole are enlarged.

Thomas Boekhout: recorders, oboes and a clarinet (one of the earliest examples not made in the Denner workshop) by this maker are preserved, a traverso was lost in WW-II. The stamps of this maker show some variations, and these variations correspond partly with differences in design between the instruments; but no clues have been found that more than one maker with the name (Thomas) Boekhout made woodwind instruments. Boekhout is well-known because of his bass recorders, which he made with an extra key (on hole 3), so that the same fingerings as for alto recorders could be used. But he also made several models of his basses with one key (on hole 7), an indication that this maker experimented with this type of instrument. The pitch of the recorders of Boekhout vary quite a bit, and so does the finishing of these instruments. The oboes by Boekhout are interesting instruments and each of them has differing details. One of these oboes has an unique design with a wood-carved upper joint, but its bell is severely damaged and perhaps not even original.

Philip Borkens: only one recorder (a soprano in c) by this maker is preserved, one of the most beautiful and best playable historical Baroque recorders. Several of his traversos, some with three *corps de rechange*, are of high quality, and so is his only clarinet. The oboes of Borkens have rather large d#-keyholes and the design of the bells is related to some oboes of Boekhout. Borkens is less well-known than other Dutch *fluytenmakers* such as Boekhout and Steenberg, but he deserves more attention, because of the high and consistent quality of his instruments.

Wijbrand van Buren: we know about only one instrument (an oboe) by this maker, who probably worked in the first quarter of the 18th century. This oboe has undergone a number of changes, but some details (the turned profiles with several small rings and the shape of the keys) are rather unique. It was not possible to find a relation to the instruments of other Dutch woodwind makers.

I. Deppe: no biographical data could be found of this maker, who left us only one instrument, a beautifully made traverso. This flute is also in perfect playable condition; the cup-shaped undercuttings of the fingerholes (Grenser type) and the pitch of about a-430 Hz are indications that the flute was made in the second half and probably even in the last quarter of the 18th century. The combination of a *lion rampant* and a crown as devices in the stamp are presumably an indication of the Dutch origin of Deppe.

F. Eerens: four traversos and one walking stick recorder by this maker have survived. On two of his ivory traversos, Eerens stamped the place name *S:BOSCH* ('s-Hertogenbosch), on another instrument *IN UTRECHT*. But no biographical data could be found in either city of a woodwind maker with this name. The ivory traversos of Eerens are beautiful; the flute with the Utrecht-stamp is made of olive wood and is in bad condition, with several enlarged fingerholes and an ugly, repaired mouthhole.

D. van Gulik: only one traverso by this maker was discovered some years ago. The device of a double headed eagle is an indication that this maker could have worked in cities as Arnhem or Nijmegen, but no biographical data was found. The traverso is not very luxuriously made (with mounts of horn); a part of the key is missing.

Richard Haka: the most famous and perhaps also most influential Dutch woodwind maker, with many instruments that survived. Haka made the early types of recorders (in one joint, and with a pitch of c. a-440 Hz), and also his unique traverso (possibly made as a *flûte d'amour*) has some early features, such as one undivided long middle joint. Some of Haka's shorter and luxuriously made oboes in c¹ have the same 'early Dutch pitch' of a-440 Hz, whereas his other instruments are pitched a semitone or more lower. Haka's Baroque recorders are turned beautifully with characteristic profiles, but the state of preservation is often not very good, and this influences the playing qualities of most recorders.

Haka is the only Dutch *fluytenmaker* whose *Duitse schalmeien* (*Deutsche Schalmeyen*) survived. The schalmei-hobo (shawm-oboe) by Haka is a unique instrument, on which, because of a thumbhole, several tones can be played as on a recorder. Haka's bassoon is one of the very few early (from the last quarter of the 17th-century) instruments of this type, not made by Johann Christoph Denner. Haka taught several pupils: his sister's son Rijkel, Van Aardenberg and Steenbergen.

Klaas (Pieters) van Hallum: in an advertisement this Frisian maker announced that he was selling several types of woodwind instruments, but only two traversos (one in ivory, with extra joints from narwhal tusk) and the joint of an oboe have been found. However, I had no opportunity to describe and measure these instruments personally.

Jan Jurriaensz, Albert(us) and Jan van Heerde: three generations of woodwind makers. Possibly only one ivory alto recorder by the oldest (Jan Jurriaensz) survived (stamped 'I.V.H' in a scroll), an ivory sopranino with the same stamp was lost in WW-II. Albert was likely the maker of most of the recorders (5 beautifully made altos and 1 bass), whereas his son Jan could have made the traversos, one recorder and one of the oboes. But this is not certain, because the Van Heerde stamps have no initials before the family name. The pitch of the instruments by Van Heerde does vary quite a bit; on some of them I have measured the 'modern Baroque pitch' of a-415 Hz .

Bernard Hemsing: only traversos by this maker survived, but he has also made recorders. His *flûte d'amour* (in ebony with ivory rings) looks perfect, has a magnificent sound, but has - just as his ivory traverso in d¹ with three *corps de rechange* - some intonation problems.

Jan and Fredrik de Jager: I found only two instruments by these makers (father and son), a middle joint and possibly the foot of an alto recorder (maybe made by the father, and changed in later days) and an oboe by Fredrik, which instruments are not unlike some of the oboes of (Jan) van Heerde.

Johannes van de Knikker: his oboes are made in an individual style, with some 'late Baroque' features, such as the smoothly turned profiles and the single drilled fourth fingerholes. The pitch of these instruments appeared to be rather flat (< a-415 Hz), but the bassoon made by Van de Knikker in a more traditional Baroque style played better at a higher pitch of about a-430 Hz.

Michiel Parent: this maker is well-known mainly for his double recorders, of which he asserted that he was the inventor. The bore profiles of these double recorders are rather complicated, and the fingerholes are drilled accurately. But the windways and blocks are simple, the stamps are very vague and the wood surface of the instruments is often worn. One other instrument by Parent did survive, an alto recorder with a relatively short foot which has a remarkably narrow bore. The preservation of this recorder is (also) not very good; the sound is disappointing. Parent also made other types of woodwind instruments and it is particularly sad that none of his bassoons are preserved.

Hendrik, Fredrik-I and Fredrik-II Richters: only oboes are preserved of these makers: two brothers and their nephew. The only tenor oboe by Hendrik Richters bears quite a resemblance (including the stamp, with a scroll) to two instruments of Haka. The c. 40 oboes in c¹ of the three members of the Richters family are closely related, they are often luxuriously made, many instruments in ebony with ivory rings (the oboes of Hendrik Richters with ornamental carvings) and/or engraved silver mounts and keys. But also the more simply made boxwood instruments of Hendrik are outstanding because they are beautifully designed and

finished and play well. The internal design (bore profile, tone holes) of the Richters oboes varies only a little, there are no indications of developments over the years in style or technical aspects. Some anonymous (unstamped) oboes made in Richters style are very nicely and skillfully made instruments, but a few others may be forgeries of a much lower quality.

Coenraad Rijkel: two alto recorders and three oboes are the only instruments of this nephew and pupil of Richard Haka. One of the recorders is made in the Haka style, the other has some deviating details. Because of some damage and due to the fact that the joints of one recorder are preserved in two different collections, it is difficult to render a judgment about the quality of these instruments. One of the Rijkel oboes is a short instrument, with a pitch of circa a-440 Hz. The two other oboes are longer and apparently designed in a pitch of about a semitone lower.

H. Rijkstijn: no biographical data was found of this maker, who made oboes in the style of Hendrik and Fredrik Richters, including the shape of his stamp. On one of the oboes the maker's marks are very unclear, but for the rest both instruments are well made.

I. Roosen: there is only one bass recorder of this unknown maker (no biographical data was found). This instrument is beautifully designed and the preservation of the external parts is very good. But playing the bass is difficult and it seems that the bore in the head and middle joint (now with very irregular profiles) is corrupted. That makes it difficult to say how this instrument is related to bass recorders of other Dutch makers.

Jan Steenbergen: there are nine recorders (from sixth flute to bass, including the only Dutch alto recorder with double drilled lower fingerholes) and eleven oboes by this maker. These instruments show the great skills of Steenbergen. Steenbergen may be the only Dutch *fluytenmaker* who was influenced by the instruments of some English makers (Bressan, Stanesby). The alto recorders of Steenbergen all have different dimensions (size of windway, window, length and bore of the joints, thickness of the wood). Some windways and underlabia may not perfectly be made, but the instruments generally play well. The quality of the turning is however very high, just as on the oboes, which are made in two models. The quality of the boxwood of some Steenbergen oboes is conspicuous, remarkable are the undercuttings of some tone holes, where irregular chips are removed at the base of the undercuttings and in the bore around the holes. I have not seen such kind of undercutting on instruments of other Dutch woodwind makers.

Engelbert Terton: the soprano recorder of Terton is famous because of its appearance (with silver mounts) and playing qualities. But the altos of this maker are also very interesting: Terton made these instruments in two sizes (or pitches: about a-405 and a-410/415 Hz). The only traverso of Terton with its thick ivory rings is a gorgeous instrument and has a wonderful sound, but there are greater problems with the intonation of some tones, maybe because one of the joints is shortened. Of the Terton oboes, the instrument in The Hague (Gemeentemuseum) shows traces of intensive use, but is (after repairs) perfectly playable, with a pleasant (not loud or aggressive) sound.

Weijdemuller: we do not know where and when this woodwind maker worked; some of his traversos are preserved, I have seen only one of them for this study. The instrument is made in the style of the flutes by Borkens, Eerens, Van Heerde and Robbert Wijne.

Robert and Willem Wijne: the father, Robbert Wijne, is well known because of his excellent traversos; the three recorders of this maker, which are carefully made and characteristically designed, do also show us his skill.

The tenor oboe of Robbert Wijne has a *Liebesfuss* (a bell as on a oboe d'amore) and the whole design of the instrument may be derived from instruments by German makers. His shorter oboe (in c¹) however, is made in a very personal and unique, more or less late-Baroque style. Only three instruments by Willem Wijne still exist: a traverso, a bassoon and a racket, all of very fine quality.

Conclusion

Was there a typical Dutch style of woodwind making in the period 1660-1760, or must we conclude that each maker developed his own individual style? This was one of the main questions of this study. The answer is that it is obvious that most Dutch *fluytenmakers* made their instruments in a 'general Baroque style' (which style was also used by woodwind makers in other

countries), but that most of them introduced personal or even individualistic (Van Aardenberg) elements. These elements not only involve the exterior of the instruments, but also the acoustically more important aspects (bore, position and shape of the tone holes). As a result, the woodwind instruments made by Dutch craftsmen in the Baroque period, do not only show a great variety in design, materials, turned profiles and other aspects of their exteriors, but it is obvious that the makers also had various ideas about the desired sound of the instruments. The oboes and recorders can often be easily allocated to one or another Dutch woodwind-maker, even without extensive measurements. Some combinations or elements are - as far I could check - almost exclusively found in relation to Dutch woodwindmakers, such as oboes made in ebony and the long-footed recorders. The traversos in four joints of Dutch makers show more uniformity, and it is even to a certain extent allowed to assume that there has been a Dutch type of traverso (with a small, round mouthhole, relatively long lower joints, wide bore of the joints, etc.). It is possible that in the last quarter of the 17th and in the first years of the 18th century, Dutch woodwind makers played a part in the (further) development of some types of instruments, such as the traverso in four joints and the bass recorder with two keys (Boekhout). However, no real proof can be given that they really invented those instruments and the same must be said for the double recorder, which was possibly invented - after his own words - by Parent. Perhaps that he only developed a new type of that instrument.

The heydays of woodwind making in The Netherlands (and especially in Amsterdam) at the end of the 17th and the first half of the 18th century is not unique in Europe. We see comparable activities of woodwind workshops in - for instance - Paris and Neuremberg, where the tradition of woodwind making began earlier than in Amsterdam. We see a decline of the activities in Amsterdam and Neuremberg at the end of the 18th century. In Paris and London however, the heydays continued into the 19th century.

The rise of woodwind making in Amsterdam ran concurrently with the activities of some famous music publishers in this city (Roger and Le Cène). Not quite understandable is the fact that the heydays of string instrument making in Amsterdam occurred about 20 years before the success story of the *fluytenmakers* began.

It is well-known that The Netherlands (and particularly Amsterdam) had many international contacts until far in the 18th century, also in the field of music. It is remarkable that in the course of the 17th century the violin-makers got stimuli from Italian instruments, the organ builders from Germany (Schnitger) whereas the woodwind instruments were made in the new French style. But we do not know how these French influences reached Holland and how the *fluytenmakers* acquired the knowledge to make (copies of) the new instruments. I suppose that most of the woodwind makers studied and copied the new instruments when they were brought to the Netherlands by foreign musicians.

In the 18th century, Dutch musicians played music from all over Europe. The question is therefore hardly relevant if there could be a relation between the demands of the Dutch composers (or those living in Holland) and the properties and possibilities of the woodwind instruments which were made here. Those properties show great variations, for instance in the pitch (from rather far under up to above a-415 Hz) and the way of intonation (more or less in the mean tone system) and the quality of the sound (from loud and open to much softer and subtil).

It is obvious that each maker spent energy in developing his own models of recorders, traversos and oboes (and likely other types of woodwinds). Doing this, the Dutch woodwind makers showed great skill and artistry and left us instruments which are not only very beautiful, but also very useful for playing a wide variety of Baroque music. Richard Haka can be seen as the first important woodwind maker and most influential teacher in Amsterdam, Van Aardenberg as the most eccentric, Boekhout as a particularly inventive maker, Hendrik Richters was perhaps the most clever businessman, Steenberg the maker who absorbed new ideas, Borkens and Terton both very skillful and made instruments with a perfect sound.

My research began twenty years ago with Robbert Wijne, who worked in the remote city of Nijmegen; he is also the last woodwind maker, whose name is mentioned in this publication. After seeing and playing many instruments of other woodwind makers, I can say that for me Wijne was a man who possessed an ideal combination of versatility and adaptation (he made all types of woodwind instruments, in simple and luxurious versions), originality (see his record-

ers and oboes) and skill (many of his instruments are very well designed and perfectly finished). Because of these aspects, the instruments of Wijne and the other Dutch woodwind makers form a unique and valuable cultural heritage, deserving the same attention and protection as the other and more renowned products of Dutch artists and craftsmen of the 17th and 18th centuries.