



**CATALOGUE OF
MUSICAL
INSTRUMENTS
IN THE VICTORIA
AND ALBERT
MUSEUM**

Part I:
KEYBOARD INSTRUMENTS
by Howard Schott

Part II:
NON-KEYBOARD INSTRUMENTS
by Anthony Baines

Catalogue of
MUSICAL INSTRUMENTS
in the
VICTORIA AND ALBERT MUSEUM

Part I: Keyboard Instruments

by Howard Schott

Part II: Non-Keyboard Instruments

by Anthony Baines

New catalogue entries, supplementary notes and bibliography by

James Yorke

V&A PUBLICATIONS

Catalogue of Musical Instruments, Volume I: Keyboard Instruments
Originally published by HMSO, 1968, second edition 1985
Catalogue of Musical Instruments, Volume II: Non-Keyboard Instruments
Originally published by HMSO, 1968, second edition 1978

First published as a single volume by V&A Publications, 1998

V&A Publications
160 Brompton Road
London SW3 1HW

© The Board of Trustees of the Victoria and Albert Museum, 1998
Keyboard Instruments © Crown copyright 1968, 1985
Non-Keyboard Instruments © Crown copyright 1968, 1978

Howard Schott and Anthony Baines assert their moral right
to be identified as authors of this book

ISBN 185177 250 2

A catalogue record for this book is available from the British Library

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Publishers.

Printed in Hong Kong by Imago

Front cover: Theorbo by Cristoforo Choc, about 1620.

Ivory and ebony neck with rosewood ribbing, 7756–1862.

Back cover: Jewelled spinet by Annibale Rossi, 1577.

Covered with lapis lazuli, and other precious and semi-precious stones. 809–1869.

Publishers' Note: This new single volume edition has been compiled from two volumes previously published separately. The pagination for each volume remains unchanged. A new Foreword, plus supplementary bibliography and endnotes to both volumes, have been added.

FOREWORD TO ONE VOLUME EDITION

Howard Schott and Anthony Baines' definitive catalogues of the musical instruments in the Victoria and Albert Museum, reissued as a single volume in 1998, have proved their worth by selling out.

This 2002/3 edition is a reprint of the 1998 edition, which leaves the text and illustrations virtually unchanged. It has been made possible through generous donations from the John Radcliffe Trust and the Parnassus Foundation, courtesy of Jane and Raphael Bernstein. The V&A would like to thank Alec Cobbe, Esq., the Cobbe Collection Trust, the Marc Fitch Fund, the Leche Trust, the Harley Foundation, the John Radcliffe Trust and the Worshipful Company of Musicians for generously supplying the funding that made the 1998 edition possible.

Renewed thanks to Edward and Antony Gobel, Professor Lawther and Alastair Laurence and Peter Thornton for their various generous contributions to this project.

CHRISTOPHER WILK
JAMES YORKE

Victoria and Albert Museum, 2002

WIND INSTRUMENTS

GROUP 20. THE RECORDERS

Among wind instruments the recorder is in some ways a counterpart to the viol among stringed. Historically, leaving aside obscure questions of medieval antecedents, the recorder rose to popularity towards the end of the fifteenth century, became obsolescent in the eighteenth, and has been revived in the twentieth. Again like the viols, recorders were played especially in consorts, the instruments of which, at any rate the principal ones, correspond closely with those of the viol consort in the matter of pitch relationships, with the treble and the bass an octave apart and the tenor about midway in between. Also, the amateur could—and can—reach a stage of enjoying playing chamber music in a fraction of the time required to obtain equivalent pleasure from, say, a violin or an oboe.

The recorder, sounded by blowing air through a fixed windway on to a fixed edge, is distinguished from other instruments that have the same type of 'voicing', like the flageolets and toy whistles, by its number of fingerholes, namely seven in front and one behind. With large recorders the seventh hole in front is covered by a key, as may be seen in the bass recorders in the Collection. These include a pair of early instruments, illustrating the so-called 'Renaissance' model, current up to about 1660 (20/1, 20/2: Fig. 115). The body is made in one piece, usually of box-wood, and the key, which has a fish-tailed touch in order to suit either hand of the player, is partially concealed inside a removable protecting barrel pierced with rosettes of airholes. The remaining recorders show the later or 'Baroque' way of construction which most modern recorders have followed. This is in three separate joints—head-joint, main-joint and foot-joint—with thickenings over the sockets which are both strengthening and ornamental. The bore of Baroque recorders tapers more steeply than that of the Renaissance instruments, and this on the whole renders the timbre less full but more highly coloured. The instrument for which Bach, Handel and their contemporaries wrote so much is the treble recorder (20/4, etc.: Fig. 117), known during that period as a 'flute' or *flauto* (the ordinary flute having been known as the 'German flute' or *flauto traverso*). The bass recorder (20/3: Fig. 116) of this period is rather larger than the corresponding Renaissance bass, and requires a brass tube or 'crook' through which the air can be fed into the head-joint.

- 20/1** BASS RECORDER. Sixteenth or first half of the seventeenth century. Fig. 115.
 Stamped with two 'plume' marks ∇ , on the front below the voicing aperture and again on the bottom surface of the foot.
 Boxwood in one piece, with brass mounts. The holes are steeply undercut, obliquely in the cases of front holes 1, 3, 4 and 6. A fish-tailed brass key, with brass leaf spring and leather pad stitched on with thread, is partially enclosed within a removable boxwood barrel pierced with six rosettes of airholes. At the top of the instrument is a removable cap (probably not original) with a blowing hole not quite in the centre of the top. Under the cap, the upper end of the instrument is partially cut away, presumably to make a space to contain a sponge for absorbing condensed moisture, leaving the full length of the wind-way intact.
Dimensions: Length 84; without the cap 81; sounding length 76.
 Bore at top end 3.1; at bottom end 2.7.
Museum No.: 303-1882.
 Many early examples of the wooden wind instruments are stamped with this plume mark (cf. cornett 26/2), the significance of which is unknown. Many such examples are of north Italian provenance, but not all, some being probably German, others English.
- 20/2** BASS RECORDER. Sixteenth or first half of the seventeenth century. Not illustrated. Almost identical with 20/1 and with the same marks. The instrument has been considerably damaged, and a pointed cap of a different wood has been provided at some later date.
Dimensions: Length 92.5; without the cap 79; sounding length 75.5. Bore at top end 3.1; at bottom end 2.7.
Museum No.: 306-1882.
- 20/3** BASS RECORDER by Bressan. London; about 1700. Fig. 116.
 Stamped on the head and main joints: *P.I. / Bressan*.
 Stained fruitwood, in three joints, ivory mounted. The foot joint has a bulbous termination with a vent hole in the side and an ivory-lined lower socket into which a wooden peg, now missing, may be inserted for resting the instrument on the floor while playing. A square brass key with a plain touch is mounted on the foot joint. This and the brass crook appear to be replacements of missing originals.
Dimensions: Length without crook 108; sounding length to upper edge of bell vent 90. Bore of head at voicing 3.8; of main joint above 3.5, below 2.9; of peg socket 2.7.
Museum No.: 293-1882.
 The instrument, one of three known bass recorders by Bressan, is described in the *Galpin Society Journal*, VIII, 1955, by E. Halfpenny, who has also published a biographical notice on the maker in *G.S.J.*, XII, 1959. Peter (P.J.) Bressan came over

from France at some time in the 1680s and won high repute in London as a woodwind maker (cf. flute 22/1). His death is presumed to have occurred about 1731–1732. A similar instrument in the collection of the Grosvenor Museum, Chester, retains its original foot, which is hollow and closed at the lower end, it is attached to the recorder by an acoustic joint. It provides an extra resonator for the lowest note, a weak spot in bass recorders, as well as acting as a support.

20/4 TREBLE RECORDER by John Schuchart. London; first half of the eighteenth century. Fig. 117.

Stamped on each joint: *I / Schuchart*.

Boxwood, in three joints, ivory mounted. The main joint has been cut down by about 14 mm, evidently with the intention of sharpening the instrument by about a semitone.

Dimensions: Length 47; sounding length 42. Bore of main joint, top 1.85, bottom 1.45; of lower end of foot 1.25. The original length would have been 48.6, the original sounding length 43.5.

Museum No.: 287–1882.

Schuchart, who also made flutes and oboes, died in 1759.

20/5 TREBLE RECORDER by J. M. Anciuti. Milan; 1740. Fig. 117.

Engraved and blackened inscription on head joint: *Anciuti / A. Milan / 1740*, under a wyvern.

Ivory, in three joints octagonally shaped, with carved foliage in low relief and rings of pellets. The base of the head joint has been slightly shortened.

Dimensions: Length 47.5; sounding length 42. Bore of main joint, top 1.75, bottom 1.2; of lower end of foot 1.05.

Museum No.: 7469–1861.

Anciuti is well known for his ivory wind instruments, of which this recorder is one of the latest of his dated examples (cf. oboe 23/2).

20/6 TREBLE RECORDER. Italian; early or mid eighteenth century. Fig. 117.

Unsigned.

In three joints of wood covered with tortoiseshell, with gold piqué and mother-of-pearl inlay including a royal cypher on the head joint. Ivory mounts. The fingerholes have inlaid surrounds of silver, engraved.

Dimensions: Length 51; speaking length 45. Bore of main joint, at top 1.80, at bottom 1.30; of lower end of foot 1.25.

Museum No.: 1124–1869.

Once the property of Rossini.

20/7 TREBLE RECORDER. English; eighteenth century. Fig. 117.

W

Marked on head and main joints with a name barely legible H and F or T.

Ivory, in three joints with a fine silver ring applied round the ivory mouldings of the head and foot joints. The tenons of the joints are silver tipped and cork lapped. A 3-mm hole is drilled in the foot joint through to the bore, 2 cm from the lower end, possibly to sharpen the lowest note following the replacement of part of the middle joint.

Dimensions: Length 51; speaking length 45.6. Bore of main joint, at top 1.95, at bottom 1.40; of lower end of foot 1.40.

Museum No.: 296-1882.

20/8 TREBLE RECORDER. Probably English; late eighteenth century. Fig. 118.

Unsigned.

Stained boxwood, in three joints with ivory mounts. The foot joint is shaped in the style of flutes of the period. The pitch of the instrument is a whole tone higher than that of the normal treble recorder, the lowest note sounding G.

Dimensions: Length 40; sounding length 35. Length of the joints, excluding tenons, 14.5, 16.2, 8.1. Bore of main joint, at top 1.50, at bottom 1.15; of lower end of foot 1.00.

Museum No.: 695-1883.

20/9 TENOR RECORDER by Goulding & Co. London; about 1800. Fig. 118.

Stamped: *Goulding & Co.*

Stained boxwood, in three joints. There is also a beehive-shaped removable cap with a blowing hole in the top. Under the cap, the top of the head joint is cut away to leave a 1.4-cm space, presumably to contain a sponge. The foot joint is shaped as in flutes of the period (as in 20/8). A hole has later been crudely pierced in the cap, perhaps for affixing a membrane which would give a buzzing sound when the player hummed whilst playing.

Dimensions: Length 66; less cap 61.5. Sounding length 55.5. Length of joints, excluding cap and tenons, 23.8, 24.2, 13.3. Bore at the plug 2.65; of main joint, at top 2.45, at bottom 1.85; of lower end of foot 1.60.

Museum No.: 285-1882.

The firm of George Goulding is one of the best known of London woodwind makers of the early nineteenth century, though no other recorder by Goulding is known to exist. As for the added hole in the cap of this instrument, a patent was taken out by Malcolm Macgregor in 1810 for a *flauto di voce* that incorporated the membrane device which, however, was no doubt known even in those days as a characteristic of the Chinese flute.

GROUP 21. THE FLAGEOLETS

There are two principal kinds of flageolet, distinguished by the arrangement of their fingerholes. The French flageolet has four in front and two thumbholes (21/2: Fig. 119). The English has six or seven in front and usually no thumbhole. From the seventeenth century to the early nineteenth, both were perhaps best known as very small instruments, with a high, chirping sound which was used for training cage birds to sing ('bird pipe', 21/1: Fig. 119). The French flageolet then became very popular in dance music, during the period when the quadrille was in fashion. Meanwhile the English flageolet became a fashionable plaything in the form of the double flageolet (21/4: Fig. 120, etc.), introduced early in the nineteenth century by Bainbridge of London, and extensively made in England and America up to about 1840. The basic idea of the double flageolet is that the player may easily play tunes 'in thirds' by fingering the two pipes together, initially finding his bearings with the help of the note names stamped beside the holes and keys, and aided by an instruction book on sale at all music shops. For the timid it was arranged that one pipe could be played at a time, by using the shut-off keys on the head-joint. For the venturesome, Bainbridge and his successor Hastrick designed the triple flageolet (21/6: Fig. 120), with a bass-pipe which is attached to the back of the instrument, and has keys for manipulation by the thumbs and wrists. It acts roughly on the principle of the ocarina.

'One-man bands' have been known since Roman times. The pipe and tabor is a medieval form, played over much of Europe from the thirteenth century; it still provides folk-dance music in the south of France, the north of Spain, and, from Spain, Mexico. In England it was played for Morris dancing up to times within living memory, most of all in Oxfordshire and neighbouring districts. The pipe (21/7: Fig. 121) has only two holes in front and one behind, since its purpose is to be played with the left hand only while the right hands beats a drum (the tabor).

21/1 BIRD FLAGEOLET. English; early nineteenth century. Fig. 119.

Unsigned.

Rosewood, in three joints comprising cap, head and main joint. Seven fingerholes and no thumbhole. The highest hole is bushed with ebony to leave a narrow aperture next to the upper rim. The next three holes contain annular ebony bushes, leaving a very small central orifice in each case. The lowest hole is offset to the right side. An ivory mouthpiece is inserted into the cap.

Dimensions: Length 23; sounding length 14. Bore of main joint, at top 0.75, at lower end 0.50.

Museum No. 301-1882.

21/2 FRENCH FLAGEOLET by Holtzapffel. Paris; first half of the nineteenth century.
Fig. 119.

Stamped and gilt on two joints: *Holtzapffel / à Paris*.

Cocus wood, in three joints, ivory mounted, including head joint of the long pattern, with ivory mouthpiece inserted. One round silver key mounted on saddle, for the upper little finger. Pitch, D.

Dimensions: Length 41; sounding length 26.5. Bore, top of main joint 1.3; bottom of main joint 1.0.

Museum No.: W.71-1924.

Given by Miss G. N. McGrath.

21/3 FRENCH FLAGEOLET by T. Prowse. London; before 1836. Fig. 119.

Stamped: *T. Prowse / Hanway Street / London*.

Boxwood in one piece with slightly tapering bore. No keys. Pitch A.

Dimensions: Length 20; sounding length 17.

Museum No.: 290-1882.

21/4 DOUBLE FLAGEOLET by William Bainbridge. London; early nineteenth century.
Fig. 120.

Stamped: *Bainbridge 35 Holborn Hill London Patent*.

Two boxwood pipes of equal length, held in wide head joint with two shut-off keys, one being a later replacement. The ivory mouthpiece is missing. Ivory mounted, with silver keys. The left-hand pipe has two keys and an undrilled block for an F key not fitted. The right-hand pipe has three keys, of which one is at the back.

Dimension: Length 39.

Museum No.: 292-1882.

21/5 DOUBLE FLAGEOLET by William Bainbridge. London; 1829. Not illustrated.

Stamped: *Bainbridge Inventor 35 Holborn Hill London New Patent*. On silver keys the London hall-mark for 1829 and maker's mark *W.B.*

Two boxwood pipes, the right-hand pipe longer than the other, held in a wide head joint with two shut-off keys and ivory mouthpiece. Ivory mounts, silver keys. The holes in the left pipe are marked (from the highest) *B, A, G, F, E, D*. A key located high up on this pipe is marked *D key*, and the three keys near the bottom are marked *F \sharp , D \sharp and C \sharp* , the last being an open key pivoted at its lowest end.

The right pipe holes are marked *G, F, E, D*, and the keys *B* (near the top), *C*, *Low B key* (open key at the back of the pipe), and *Low C key* (closed key in front). Below the last of these keys is a vent hole. Below the shut-off key on the left side on that joint (and not on the pipes) are two large silver keys: 'NEW C KEY' and 'NEW D KEY'. It is to these that 'NEW PATENT' presumably refers.

Dimension: Length 54.5, including mouthpiece (52 without).

Museum No.: W.23-1925.

Given by Cecil F. Armstrong, Esq.

21/6 TRIPLE FLAGEOLET, by Hastrick. London; about 1835-1855. Fig. 120.

Stamped: *Hastrick Late Bainbridge Inventor 35 Holborn Hill London New Patent.*

Two boxwood pipes of which the right hand is the longer, held in a wide head joint provided with three shut-off keys. The ivory mouthpiece is missing. The pipes are ivory mounted and the keys are of brass, octagonally shaped. The holes are marked as in 21/5, save that the left-hand pipe has a seventh hole marked *C♯*. The keys on this pipe are marked *E♭ key* (high up) and *F♯* (lower down the pipe). Those of the right-hand pipe are marked *C, B* and (low down) *Low C key*. The bass pipe, connected to the back of the head by a short tube, is a boxwood cylinder 31 cm long and slightly tapered, with its widest bore, 24.5 mm, at the top end. At 14 cm from the top it is closed by a cork. The bottom end carries a boxwood peg, 14 cm long, for resting the instrument on the chair. The four keys on this pipe are marked *D key, C key, B key* and *A key*, and a short protruding tube is marked *F♯*.

Dimension: Length 48.5 without mouthpiece.

Museum No.: 295-1882.

21/7 PIPE AND TABOR. London: nineteenth century. Fig. 121.

Pipe stamped: *Falkner & Christmas No. 9, Pall Mall London.*

The pipe is of stained boxwood, in two joints, with two fingerholes and one thumb-hole. Pitch *C*.

Dimensions: Length 32; sounding length 28.5. Bore of main joint 1.0.

Museum No.: 1563-1902.

The tabor is a shallow side-drum with brass shell, diameter 25. It is accompanied by its drumstick, length 23.5.

Nothing else is known about the maker or dealer named on the pipe.

GROUP 22. THE FLUTES

Like the recorder, the flute has two principal early patterns, usually respectively described today as the Renaissance and the Baroque patterns. The first of these was

a perfectly plain cylindrical tube in one piece of boxwood. This was a very popular instrument during the sixteenth century; examples survive in Continental collections. The second is usually constructed in four joints, the main-joint being built in two sections, upper and lower. It has a tapering bore and one key situated on the foot-joint. It was introduced in the latter part of the seventeenth century and is illustrated here by a fine ebony flute with unusual silver inlay (22/1: Fig. 122), made by Bressan, the French-born London maker, especially noted for his recorders (e.g. the bass recorder, 20/3: Fig. 116). A boxwood flute by Potter (22/2: Fig. 123) shows a later type with which Mozart's generation was acquainted, while the example by Cahusac illustrates the larger tenor flute of a little later, all these still with one key only. Potter was also, however, one of the makers associated with the addition to the flute of extra keys in order to improve the quality of certain semitones which otherwise, at that time, were obtainable only by cross-fingering—a method which gives less successful results on the flute than on most other woodwind instruments. This addition produced the 'eight-keyed flute', represented by an example by Laurent of Paris, who specialized in flutes made of glass (22/5). Laurent also has claims to be considered the inventor of the modern way of mounting the keywork on axles held in metal pillars, replacing the old method of pivoting on brass pins driven through shaped projections in the wood of the instrument itself. Another eight-keyed flute, by Prowse (22/6: Fig. 124), still has the old form of key mounting, but also shows the enlarged diameter of some of the fingerholes suggested by the great soloist Charles Nicholson. Nicholson's famous tone, coupled with his use of the widened holes, was one of the things that spurred Theobald Boehm of Munich to achieve his masterly and, for woodwind history, epoch-making rationalization of the flute. Boehm's first new model, of 1832, keeps the tapering ('conical') bore but incorporates both a new arrangement of the holes and the replacement of most of the keys by the ring-action through which a finger can operate a key without being shifted from its normal position over a hole (22/7: Fig. 124). Next, by 1848, Boehm discarded the conical bore in favour of a cylindrical bore combined with parabolic head-joint, thus creating the modern flute in all essentials. The holes are very wide and therefore require covering with the aid of padded plates, while silver—Boehm's own preference—has progressively come to replace wood as the material for the body of the instrument.

22/1 FLUTE by P. J. Bressan. London; about 1710. Fig. 122.
Stamped: *P.I. / Bressan.*

Ebony, in four joints, inlaid with filigree of silver wire in scroll patterns. Five long silver mounts. One wedge-shaped silver key.

Dimensions: Length 61.5; from mouth hole to lower end 55.5. Bore of head joint 1.92; of bottom of lower main joint 1.54; of lower end of foot 1.64.

Museum No.: 452-1898.

This fine instrument, one of the two known extant flutes by Bressan, is fully described by E. Halfpenny in *Galpin Society Journal*, XIII, 1960.

22/2 FLUTE by Richard Potter. London; late eighteenth century. Fig. 123.

Stamped: *Potter Senior*.

Boxwood, in five joints including a tuning barrel which slides in the head joint. Ivory mounts and one square silver key, the underside of which is stamped IH (probably John Hale, a key maker).

Dimensions: Length 61.5. Length from centre of mouth-hole to lower end 53. Bore of head joint 1.85; of bottom of lower main joint 1.45; of lower end of foot 1.40.

Museum No.: 694-1883.

22/3 FLUTE. English; late eighteenth century. Fig. 123.

Stamped: *Potter London*.

Ivory, in four joints, no mounts, with one square silver key.

Dimensions: Length (cap at end is missing) 59; from mouth-hole to lower end 53.5. Bore of head 1.85; of bottom of lower main joint 1.3; of lower end of foot 1.45.

Museum No.: 302-1882.

22/4 TENOR FLUTE by Cahusac. London; about 1800. Fig. 123.

Stamped on all joints: *Cahusac / London*.

Boxwood, in four joints, ivory mounted. One square silver key. Pitch, A flat (lowest note, B flat).

Dimensions: Length 75; from mouth-hole to lower end 65.5; length of the joints (excluding tenons) 28, 20.5, 15.5, 11. Bore of head 2.0; of bottom end of lower main joint 1.35; of lower end of foot 1.50.

Museum No.: W.65-1924.

Judging by its size, pitch and general character this instrument appears to be an example of the 'B flat tenor flute' made in England early in the nineteenth century (in A flat according to modern nomenclature), rather than of the *flûte d'amour* of the late eighteenth century, which was pitched a semitone higher.

Given by W. A. S. Benson, Esq.

22/5 FLUTE by Claude Laurent. Paris; 1815. Not illustrated.

Marked: *Laurent à Paris, 1815 / Breveté*.

Fluted cut glass, in four joints, silver mounted. A threaded silver socket at the end of the head joint contains a removable silver cap containing a cut crystal jewel. At the other end of the head is attached a protecting silver lug which engages in a corresponding bar at the top of the next joint. On the main joints, five flat round silver keys are mounted on barrels turning on axles screwed into pillars soldered to base-plates cemented to the body of the instrument. There are two alternative foot joints, one with three keys, descending to C, the other with one key and descending to D. Each of these foot-joint keys terminates in a round plate, the underside of which carries a small axle-and-pillar mounting for the leather-padded key-plate below, allowing this a rocking movement intended to ensure perfect covering of the hole when the key is closed.

Dimensions: Length with the C foot, 68. Mouth-hole to lower end (C foot) 59.

Museum No.: W.83-1921.

Given by Alfred Jones, Esq.

22/6 FLUTE by Thomas Prowse. London; before 1836. Fig. 124.

Marked: *C. Nicholsons Improved 4480 T. Prowse. Hanway Street London.*

Cocus wood, in four joints, silver mounted. The second, fourth and fifth holes are of relatively large diameter (Nicholson's Improvement). Tuning slide in the head. Eight keys mounted on blocks in the wood. The keys are of saltspoon shape save for the lowest two, which have riveted pewter plugs in the old manner for these keys.

Dimension: Length 66.

Museum No.: 46-1896.

22/7 FLUTE by Rudall & Rose. London; before 1850. Fig. 124.

Stamped: *Rudall & Rose No 1 Tavistock Street Covent Garden London.* On the head joint, which is later, *Rudall Carte & Co. London.*

Cocus wood in three joints, with nickel-silver keywork. Conical Boehm system, still with the ring axles on the far side save for that for the right-hand first-finger ring.

Dimension: Length 66.

Museum No.: 1179-1903.

This flute was presented to the Museum by Christopher Welch, well-known historian of the flute.

22/8 FLUTE by Rudall Carte. London; 1871. Fig. 124.

Stamped: *Rudall Carte & Co. 20 Charing Cross, London, 509.* A silver shield fixed to the head joint is inscribed: *Presented to Benjamin Wells, Esq., by his pupils as a mark of their esteem, June 1871.*

Ebonite, in three joints. Rudall Carte's 1867 model, with silver keys and rectangular mouth-hole. Cylindrical tube with parabolic head joint.

Dimension: Length 65.5.

Museum No.: 316-1900.

Given by E. S. Miller, Esq.

22/9 FLUTE by Rudall Carte. London; about 1892. Fig. 124.

Inscribed: *Rudall Carte & Co. 23 Berners Street Oxford Street London W.*

Silver, in two joints, the foot joint being integral with the main joint. Cylindrical Boehm system with open G sharp key. An engraved silver sleeve on the head joint gives this part its required outside diameter at the mouth-hole. The donor stated that this instrument was made by a craftsman who worked for Louis Lot of Paris and for the London manufacturers.

Dimension: Length 64.

Museum No.: W.11-1945.

Given by Charles Gregone, Esq.

GROUP 23. OBOES AND BASSOONS

Reed instruments are those in which the sound is produced by the vibration in the air stream of a 'reed' made from the common Mediterranean cane, especially cultivated for reed-making in certain areas, notably in the south of France near Cannes. The oboe and the bassoon employ a 'double reed' formed by twin blades of cane, whether of the narrow kind which is inserted into the top end of the oboe, or of the wider fan-shaped kind which is placed on the end of the brass crook of the bassoon. Reeds are kept separately by the player in a small box, so that it is a very rare thing to find a contemporary reed accompanying an old instrument unless perhaps its case has been preserved with it, which is unfortunately a rare occurrence, far rarer than to find an old viol with contemporary bow, or a trumpet with its mouthpiece.

The carved Dutch oboe (23/1: Fig. 125) dates from the oboe's first fifty years of existence, after it had been developed by makers, first probably in Paris, in search of a suitable reed instrument to offset the violins in music for the orchestra. Lully is the first composer known to have written for the oboe. Of the three keys provided on the early form of this instrument, the outer two duplicate each other to suit either relative placing of the two hands. Later on, the duplicate key was given up (23/3: Fig. 127). At two places a pair of small holes replaces one full-

sized hole, to help production of certain semitones. Extra keys became added to the oboe later than to the flute, and during the first quarter of the nineteenth century they were often fitted to good playing instruments of older vintage built with only two or three keys (23/4: Fig. 127). The tenor oboe (23/5: Fig. 128) was originally made for the tenor parts of band music of the Louis XIV period, executed on oboes and bassoon (as shown in one of the scenes carved on the bell of oboe, 23/1: Fig. 125A). Its pitch is that of the present cor anglais, i.e. a fifth below that of the oboe itself, and similarly it requires a short brass crook, to make playing comfortable. Though not a soloist's instrument, its tone is most pleasant and in England earned for it a second name, 'vox humana'.

The bassoon is a four-jointed modification of an older instrument (the curtal or dulzian), and was introduced in the second half of the seventeenth century to supply a bass to the oboe. Its tubing runs from the crook down the 'wing' joint to the bottom of the double-bored 'butt' joint and thence up through the 'long' joint to the bell. During the eighteenth century the individual and endearing musical quality of the instrument soon brought about its promotion from mere bass-playing, and no series of public concerts was complete without its bassoon concertos. The examples shown are, however, routine London products of the early nineteenth century (23/9: Fig. 129), probably for band use. They differ little from earlier models save in the matter of a few extra keys. Small bassoons, in England called tenoroons (23/8: Fig. 129), were built in surprisingly large quantities in the eighteenth and first half of the nineteenth century, considering that no more than a handful of very minor compositions are known to demand them. Probably, like small sizes of many stringed instruments, they were intended for boys to learn on.

Among curiosities is the alto fagotto (23/11: Fig. 130), a small bassoon-like instrument invented by William Meikle of Lanarkshire, about 1830, under the name 'Caledonica'. It was rechristened by the London maker George Wood, who attempted to promote it and advocated the use of a small mouthpiece of clarinet type instead of a double reed. Indeed, on ordinary bassoons like 23/9 (Fig. 129) such a mouthpiece is sometimes found to have been fitted; in some ways it is more convenient than a double reed for rough usage, and its alteration to the tone-quality is not drastic, the primary determinant of tone-quality in a reed instrument being the instrument itself—the shape and proportions of its bore, fingerholes, etc.

23/1 OBOE. Dutch; end of the seventeenth century. Fig. 125.

Stamped: *W. Beukers* over stamped on a previous stamp with the name enclosed

in a strap, partially erased and now barely legible but apparently ending in 'en'. Boxwood, in three joints, ivory mounted. The joints are carved in low relief with foliage and berries, with acanthus motifs over the sockets. The bell, which has two vent holes and an internal terminal flange, is carved with two musical scenes: on one side, a man and woman dancing to the violin; on the other, a group of four musicians playing oboes, tenor oboe and bassoon from part books. They wear late seventeenth-century costume. Two double holes. Three silver keys, including a central closed key for C with round key-plate and fish-tailed touch, flanked by two closed E flat keys with square key-plates.

Dimensions: Length 57.7. Bore at upper tenon 1.20; at lower 1.70.

Museum No.: 808-1869.

Dr. J. H. van der Meer, of the Germanisches Nationalmuseum, Nuremberg, has suggested that the name stamped in a scroll under that of Beukers may be that of R. Haka, one of the earliest makers of the oboe, a man who was born in London about 1645 but worked in Amsterdam. However, the name clearly ends in the letters 'en'. Another Amsterdam maker of the period, whose name then suggests itself was I. Steenbergen, but the stamped name is not as long as his. The name of I. Roosen has also been put forward, but he did not stamp his name on a scroll. For the moment, therefore, the name stamped under that of Beukers is a mystery. Indeed, since Beukers was a well-known maker of woodwind instruments himself, one wonders why what may be another maker's name should appear on this oboe at all. Perhaps Beukers was in fact principally a dealer in musical instruments made by others. This instrument is the subject of an article by E. Halfpenny in the *Galpin Society Journal*, x, 1957, where it is suggested that it might equally well be a French instrument.

23/2 OBOE by Anciuti. Milan; first half of the eighteenth century. Fig. 126.

Inscribed on the bell: *Anciuti / F.*

Ivory, in three joints, carved with foliage in low relief. Also carved on the bell are six dancing female figures, clothed and unclothed. The top of the upper joint is turned in a vase form as in some other Italian oboes of the eighteenth century, instead of in the bulbous form commoner in other countries. Three brass keys with round key-plates, the C key having a fish-tailed touch. Two double holes. The bell has two vent holes and an internal flange.

Dimensions: Length 54.5. Bore at upper tenon 1.10; at lower 1.80; at mouthpiece 0.7.

Museum No.: 1127-1869.

This oboe was formerly the property of Rossini.

23/3 OBOE by Richard Potter. London; late eighteenth century. Fig. 127.

Stamped: *Potter London* on strap.

Stained boxwood in three joints, unmounted. The profile of the upper joint is straight throughout, tapering upwards. Two round brass keys. Two double holes. The bell has two vent holes and an internal flange.

Dimensions: Length 56.

Museum No.: 288-1882.

The straight turning of the upper joint is common in English oboes of about 1760-1790, though not found in Continental instruments.

23/4 OBOE by William Milhouse. London; early nineteenth century. Fig. 127.

Stamped on all joints: *Milhouse / London*.

Boxwood, in three joints, unmounted. The top of the upper joint is turned in an 'onion' form. There are six silver keys of which three are original and three appear to be later additions. The three original keys are on the lower joint and are mounted on blocks in the wood; they comprise a G sharp key (for the left little finger), and the normal E flat and C keys, the latter with fish-tailed touch. The other three keys are mounted on nickel-silver saddles screwed to the wood, and comprise an octave key for the left thumb and a side B flat key for the right forefinger, these both being on the upper joint; and an F key on the lower joint, this having a square key-plate, whereas with the other keys of the instrument the plate is round. Two double holes. In the bell, two vent holes and an internal flange.

Dimensions: Length 57. Bore at upper tenon 0.95; at lower 1.45.

Museum No.: 45-1884.

This well-known woodwind maker came to London in 1788 from Newark, Nottinghamshire, and worked there until 1828.

23/5 TENOR OBOE by Thomas Stanesby, junior. London; first half of the eighteenth century. Fig. 128.

Stamped in two places: *Stanesby Junior* and lower down the instrument *London*.

Of a wood resembling cedar, in two joints, with a brass ferrule at the top end into which an angled brass crook is now soldered. Two round brass keys. The finger-holes of the upper joint are very much narrower than those of the lower joint, and many of the holes are bored at a slant upwards or downwards along the axis of the instrument.

Dimensions: Length, excluding crook, 76.5. Bore at the tenon, 1.5; at the bell-mouth 3.0.

Museum No.: 291-1882.

Thomas Stanesby junior (1692-1754) is known today by an example of practically every type of woodwind instrument in use in England during his period. The simplicity of construction seen in the present instrument is typical not especially of Stanesby's work but of the tenor oboe in general throughout eighteenth-century England.

- 23/6** TENOR OBOE by Cahusac. London; late eighteenth century. Fig. 128.
 Stamped: *Cahusac London*.
 Stained wood, possibly pear, in two joints, the lower joint ivory mounted. Angled brass crook, and two square brass keys, both keys having a single curved touch. The fingerholes are sized and slanted as in 23/5.
Dimensions: Length, excluding crook, 69.5. Bore at the tenon 1.4; at bell-mouth 2.8. Width of bell 4.8.
Museum No.: 297-1882.
- 23/7** MUSETTE. French; second half of the nineteenth century. Fig. 128.
 Stamped within an oval border: *Paris & Londres / Lafleur*.
 Boxwood, in two joints, brass mounted. Six fingerholes and thumbhole, and three vent holes in the bell.
Dimensions: Length 36.5. Bore at tenon 0.95; at bell-mouth 2.70.
Museum No.: 304-1882.
 J. R. Lafleur & Co. of London were a well-known firm of importers of musical instruments, chiefly from France, where this so-called musette, in reality a bagpipe chanter made for playing without the bag, won some popularity in light music during the nineteenth century, after the bagpipe itself had become relegated to the provinces. The importers meanwhile tried to find an English market for this musette as a kind of toy oboe, and as such it could still be bought quite recently, though the difficulty over the matter of the reed for sounding it has denied it any success.
- 23/8** TENOR OON by R. de Rosa. Naples; about 1830. Fig. 129.
 Stamped on each joint: *R. de Rosa / in Napoli*, with a mounted figure above and a sun below.
 Ringed maple, in four joints with chased brass mounts. Eleven brass keys, with prettily shaped levers sunk into deep grooves cut in the wood, and pivoted on brass pins. The round key-plates, with flat leather pads, are riveted to the ends of the levers. There are two thumb keys on the wing joint; four keys on the front of the butt (B flat, F, A flat, and a duplicate F sharp key with a touch which overlaps the lower part of the F touch as on a modern German bassoon); an F sharp key on the back of the butt; and on the long joint, in which is an ivory-bushed C hole, keys for low D and B flat and also, for the little finger, keys for E flat and C sharp (low). The bore narrows a little towards the rim of the bell. With a brass crook.
Dimensions: Height 84.5. Tube length excluding crook 136; the crook adds to this 19.5. Bore at wing tenon 1.25; at tenons of long joint 1.80, 2.35; of bell orifice 2.40.
Museum No.: 46-1884.
 According to Langwill, de Rosa was a bandmaster who became a dealer.

- 23/9** BASSOON by Goulding. London; early nineteenth century. Fig. 129.
 Stamped: *Goulding London*.
 Of a fruitwood, in four joints, brass mounted. The bell is of the type with a bore which flares towards the top, where an external brass ring has been added later. The nine brass keys, mounted on brass saddles, include two wing keys for the thumb, and a C sharp key on the back of the butt. The E flat key on the long joint is placed outside the D key. The brass crook is fitted into a conical brass tuning socket, 3.7 cm long, with a winged ferrule to facilitate removal from the instrument, as in trumpet shanks of the period.
Dimension: Height 123.5.
Museum No.: 637-1872.
- 23/10** BASSOON by Thomas Key. London; early nineteenth century. Fig. 129.
 Stamped: *Key London*.
 Of a fruitwood, in four joints, brass mounted. Bell shape as in 23/9. Eight brass keys, of which the two thumb keys on the wing joint differ from the others in being square.
Dimension: Height 123.
Museum No.: 289-1882.
- 23/11** ALTO FAGOTTO by Wood & Ivy. London; about 1830. Fig. 130.
 Stamped: *Wood & Ivy, late G. F. Wood, London*.
 Of dark-stained wood, in four joints arranged as those of a bassoon, though the bell is short and has an internal flange at the mouth. The seven round brass keys are mounted on brass saddles save for those on the long joint, which are mounted on blocks in the wood of the joint. The keys are: on the wing joint, one for the thumb and one for the little finger (C sharp); on the butt, F, A flat, and on the back F sharp; on the long joint, which has an ivory-bushed C hole, keys for D and (outside this) for E flat. The brass crook is bent in a right angle and adds 14 cm of tube-length when inserted.
Dimensions: Height 54.5. Bore of crook 3.6 to 6.5 mm; at base of wing joint about 10.5 mm (now warped to an oval); base of butt about 15.5; long joint 17 to 26 mm; bell-mouth, within flange 34.
Museum No. 299-1882.
- 23/12** ALTO FAGOTTO by Wood & Ivy. Fig. 130.
 Unsigned, but otherwise similar in all respects to the preceding.
Museum No.: 47-1884.

GROUP 24. CLARINETS

A younger instrument than the oboe by about fifty years, the clarinet is the great German contribution to the woodwind, having been devised by Johann Christoff Denner (1655-1707), the leading Nuremberg woodwind maker of his time. The clarinet differs from the oboe in having a cylindrical instead of a conical bore, and in being sounded with a single blade of cane ('single reed') which is tied or clipped to a hollow, pointed mouthpiece originally made of ebony or boxwood, though later of ebonite or other synthetic material. The clarinet as Mozart knew it had five keys, occasionally one or two more. The example shown is a well-made English instrument of the second quarter of the nineteenth century (24/1: Fig. 131), with fourteen keys, built perhaps some fifteen years before the invention in Paris of the Boehm-system clarinet which enjoys such wide use today.

The basset-horn (24/2: Fig. 132) is a late eighteenth-century tenor clarinet with its compass extended downwards by several extra notes. To ease the stretch of the right hand, which is placed lowermost, the commonest form of the early basset-horn is angular as seen here. And, to save overall length, the lower extension of the tube is twice doubled back on itself inside a three-sided 'box', from which protrudes a brass bell of a flattened shape which allows the player to place it between the knees when playing seated. Mozart was a lover of this instrument, and in his *Requiem*, the completion of which was cut short by his death, two of these mellow-toned, rather muted instruments lead the wind section of the orchestra. The basset-horn was subsequently used for a time in military bands, and the present example was probably built for this purpose.

24/1 CLARINET by Richard John Bilton. London; after 1826. Fig. 131.

Stamped on upper joint: *Bilton Fecit late apprentice and fore^m to Cramer London*, over a unicorn's head; on lower joint: *Bilton London (unicorn) 9 Westminster Bridge Road*; and on the bell and on the barrel: *Bilton London (unicorn)*.

Boxwood, in four joints, ivory mounted. Ebony mouthpiece, with long tenon which meets the tenon of the upper joint inside the barrel. Fourteen round brass keys, mounted on blocks in the wood save for four which are mounted on brass saddles, namely on the upper joint the keys for E flat, F, and A flat, and on the lower joint the side F sharp key. A plain fingerhole for low F. Pitch of the instrument: B flat.

Dimensions: 59.5; including mouthpiece 65.5. Bore of upper joint 1.40; of lower joint, end of lower 1.90.

Museum No.: W.22-1961.

Given by J. Weylandt, Esq.

24/2 BASSET-HORN. Possibly English; first quarter of the nineteenth century. Fig. 132. Stamped with a unicorn's head on every joint.

Angular form. Boxwood, in four joints, ivory mounted. The joints comprise: a curved barrel, in which is inserted an ebony mouthpiece; the upper joint; a short obtuse-angled knee joint; and the lower joint, the lower part of which is of triangular section and contains three parallel bores connected in series to make a continuous air passage. A brass cover-plate is screwed to both the upper and the lower faces of this triangular 'box', the lower plate being cut with a circular hole coinciding with the outlet of the air passage, into which is inserted a brass bell of a flattened oval section and with a chased rim-band. On the box, a swivel ring for supporting the instrument on a sling. Eight square brass keys are mounted on raised rings in the wood. They include in addition to the basic five, a fish-tailed low F key with the key-plate mounted on a brass saddle; and thumb keys for low D and C.

Dimensions: Length of the tube, including mouthpiece, 98. Main bore 1.55, expanding to 1.6 at the top of the upper joint. Bore of the neck of the bell 2.03.

Museum No.: 305-1882.

Though in appearance a typical German or Dutch basset-horn of the first quarter of the nineteenth century, the unicorn stamp, used by a number of London makers of the time (and identical with that of clarinet 24/1) suggests English manufacture. Importing (with subsequent marking) was then rare for such instruments. The stamped unicorn's head seems to have been used by a shop in Cornhill, London, which was selling woodwind instruments in the second half of the eighteenth century and into the nineteenth century. The shop had various successive owners, but the stamp seems to have remained the same (see Langwill, p. 171).

GROUP 25. THE BAGPIPES

The bagpipe, also a reed instrument, has in the past been native from Scotland to India, Sweden to the Sahara, and in many countries is popular still. Among the very numerous different species a few are distinguished by special delicacy of musical effect matched by equivalent delicacy of design and construction, notably the French *musette* (25/1: Fig. 133), a fashionable instrument of the French aristocracy under the three great Louis. The bag is filled with air by bellows strapped to the right arm. Pressure of the left arm on the bag, as in all bagpipes, feeds the air to the pipes, which usually comprise a melody pipe or 'chanter' and one or more drones. The reeds for these pipes are concealed inside the sockets or 'stocks' which hold the pipes in the bag. In the *musette* they are all double reeds. The *musette* also has a small auxiliary chanter of a flat pear shape, which is attached to the main

chanter and supplies some extra high notes; it has no open end, so that it gives no sound until one of its keys is opened. The musette drone is of the 'shuttle' type: an ivory or wooden cylinder drilled with a number of parallel channels which are linked in series to make up four narrow-bore drones, any one of which can be silenced, as well as tuned, by moving the slider stops visible on the outside.

The *cornemuse* is the most widespread of French peasant bagpipes, though today confined to the central provinces. When the musette was in vogue, the *cornemuse* also enjoyed a spell of fashion in the *fêtes champêtres*, having an advantage in being considerably easier to play and to maintain. It was then prettily made (25/2: Fig. 133), with a simple keyless chanter and with the drone mounted beside the chanter in the traditional manner of the French peasant bagpipe.

The Small-pipes are North British parlour bagpipes first appearing in the late seventeenth century and partly derived from the French instruments just described. They were played in Scotland and in Northumberland down to the Tyne, and the Northumbrian small-pipe has many devotees still. Like the *musette* this is blown with bellows (25/3). Since the mid-eighteenth century it has been made with a closed chanter (stopped at the lower end), to enable the player to effect silences between the notes of the melody (*staccato*) by closing all the fingerholes. The four drones, held in a single stock, are sounded with small single reeds similar to those of the drones of the familiar Highland bagpipe and also of the *cornemuse*.

25/1 BAGPIPE (*musette*). French; mid eighteenth century. Fig. 133.

Unsigned.

Ivory pipes, with fleur-de-lis engraved on the chanter stock. Shuttle drone (for four reeds). Chanter with seven silver keys and with an auxiliary closed chanter (*petit chalumeau*) of flat shape attached to it, this also with six silver keys. Ivory bellows pipe, and also a vacant stock apparently for optional use of a mouth blow-pipe instead of the bellows. Bellows bag cover of silk velvet, originally salmon-pink, trimmed with silk ribbon ruched. Under this, an inner cover of dark green silk.

Dimensions: Visible length of main chanter, excluding the stock, 19.0; of auxiliary chanter 10.7; of shuttle drone 15.0.

Museum No.: 394-1871.

25/2 BAGPIPE (*cornemuse*). French; mid eighteenth century. Fig. 133.

Unsigned.

Ivory pipes comprising chanter and a small drone placed alongside it. On the ivory stock which holds these, a carved ivory plaque of a dancing couple with a musician seated on a platform supported on barrels, playing an oboe. On the reverse side an

embossed silver plaque with an almost identical scene. On the back of the chanter, an oval silver plaque with a coat of arms.

No keys. Ivory blow-pipe. Bag cover of figured silk (French, of the third quarter of the eighteenth century), trimmed with metal lace.

Dimensions: Visible length of chanter, excluding stock, 23·0; of drone 18·6.

Museum No.: 523-1898.

25/3 BAGPIPE (Northumbrian small-pipe). Fig. 133.

Unsigned.

Ebony pipes, ivory mounted, including closed chanter with four brass keys and four drones. Cylindrical boxes throughout. Bag with cover of Crimson plush. Bellows.

Dimensions: Visible length of chanter, 23·5; of shortest drone 16·5; of longest 23·3.

Museum No.: 341-1882.

GROUP 26. THE CORNETT AND THE SERPENT

Cow-horns employed as calling instruments by shepherds and watchmen normally sound only one or two notes. But in some parts of Europe shepherds pierce fingerholes in the horn so that melodies can be played. They did so early in the Middle Ages, paving the way for that remarkable wind instrument of the Renaissance, the cornett (this old spelling serving to distinguish the instrument from the modern brass cornet). By 1600 the cornett had risen to become one of the leading professional wind instruments of the period, but after 1700 it was little played. The usual construction is of wood, in two curved pieces joined longitudinally, each having been channelled out to form the bore. The wood is finally covered with leather (26/2: Fig. 134). Others are of ivory (26/1: Fig. 134). The octagonal shaping of the tube is characteristic, while the curve, ultimately derived from the shape of a cow-horn, eases the stretch of the fingers of the lower hand on the fingerholes, which are similar to those of a recorder. Sound is produced as on brass instruments, by means of a small cup-shaped mouthpiece across which the player's lips vibrate in the air-stream. Cornett mouthpieces were often of horn, though also of ivory. The tone—for there are musicians today who have learnt to reproduce it—is a softly singing trumpet sound imbued with the sweetness of the flute.

The serpent (26/3: Fig. 134) resembles the cornett both in possessing fingerholes and in being sounded like a brass instrument, the mouthpiece being of about trombone size and normally made of ivory. Similarly its normal construction is of wood, covered with leather. It is said to have been invented by a French canon in

the sixteenth century, and it could still occasionally be heard at the end of the nineteenth century in French churches, supporting the choir with its not unattractive hollow, woody tone. During the eighteenth century it came to be used in military bands in Germany and England, to add weight to the bass, and a few keys were added to it late in the century to facilitate the production of certain notes. The serpent is held across the body in a slanting position, the fingers of the player's lower hand reaching the lower group of holes from either above or below the tube, according to local custom.

26/1 CORNETT. Possibly Italian; late sixteenth century. Fig. 134.

No mark.

Curved form (right hand lowermost). Ivory, the lower part shaped octagonally and the upper part in a diamond pattern, in the manner characteristic for the curved cornett. Six fingerholes and a thumbhole. Mouthpiece missing.

Dimensions: Length 55.5. Depth of mouthpiece socket 1.9. Width of top end across corners 1.77; of lower end across corners from side to side 3.42, from top to bottom 3.28. Bore of socket 1.05; of lower end 2.43 to 2.5.

Museum No.: 1123-1869.

26/2 CORNETT. Italian or German; late sixteenth or early seventeenth century. Fig. 134.

A single 'plume' mark on the leather near the lower end. Curved form (curved for left hand lowermost). Boxwood, octagonal below, diamond-pattern above. The whole is covered with leather, having annular tooling in three places. Fingerholes and thumbhole as in 26/1, the leather round the thumbhole being worn away from use. The top end of the instrument has at some time been cut away, no doubt having deteriorated, and is replaced by a component made of horn and comprising a ferrule which fits over the pipe, and a mouthpiece of a large size quite inappropriate for the instrument.

Dimensions: Length, excluding the added component, 55. Width at the lower end about 3.8. Bore of lower end 2.75 to 2.85.

Museum No. 404-1887.

26/3 SERPENT by Gerock & Wolf. London; about 1831. Fig. 134.

Inscribed: *Gerock, Wolf & Co. 79 Cornhill, London.*

Serpentine shape, of wood covered with black leather. The inside of the bell is painted red. Six fingerholes, bushed with ivory. Five round brass keys. Brass crook with right-angle bend, and a brass mouthpiece which is not original.

Dimensions: Height 71. Tube length including crook (without mouthpiece) 120. Bore of lower end of instrument 9.5.

Museum No.: 286-1882.

GROUP 27. THE BRASS INSTRUMENTS

Evolved from an Arab prototype in the Middle Ages, the trumpet acquired its classic European proportions during the second half of the fifteenth century. Basically this amounts, in the first place, to a 4-ft length of brass or silver tube with a bore diameter around 0.45 in. To one end of this is joined a gently expanding bell joint 2 ft long and flaring to a little over 4 in at the mouth. Inserted into the other end is a mouthpiece with hemispherical cup, and the musician then holds the essential apparatus for the performance of the old music of the trumpet, of which the *obbligato* to 'The Trumpet shall Sound' in Handel's *Messiah* is a fine example known to all. In fact, of course, the 6-ft tube is folded into a long loop, constructed of separate pieces—straight lengths, known as branches, and U-bends, known as bows—all made from sheet-metal, bent over a mandrel and soldered along the seam.

The French horn was developed two centuries later than the trumpet, and has approximately twice the length of tube. Also it is intended to produce sounds of a different quality. Speaking very generally, since horn proportions vary considerably, the same 4-ft length of 0.45-in diameter tube forms the starting-point of the construction, but the expanding bell-joint which is joined at one end of this is some 4 ft long and flares to around 11 in at the mouth. Also, to the other end is added 4 ft of tapering tube, into the narrow end of which is inserted a mouthpiece of a funnel-like form. On this, one could cope with the eighteenth-century horn repertory, though of course the 12 ft of tubing will be made manageable by being coiled into the circular hoop characteristic of the horn. The vast difference to the ear between the horn and the trumpet is wholly due to these simple differences in the form of the bore and the mouthpiece, with their respective effects upon the overtone content of the sound.

On both instruments, at the stage we are describing, the player can sound only the natural harmonics of the instrument's tube-length, which, in one part of the harmonic series, embrace an approximation to a major scale, allowing straightforward melodies to be performed. The tonality of the series can be adjusted by inserting extra lengths of coiled tubing known as crooks. On the trumpet, these go into the mouthpiece end of the tube (such crooks are seen with 27/2 (Fig. 136), which also illustrates the classic trumpet form, though it also incorporates a slide, which will be commented on later). In most horns the crooks amount to different-lengthed replacements of the tapered section of the tubing into which the mouthpiece is inserted. But in the horn by the celebrated Parisian firm of Raoux (27/1:

Fig. 135) the crooks are inserted into the central section of the tubing, in order that the tapered part, and thus also the position of the mouthpiece, shall not be interfered with when it becomes necessary to change the tonality. The object of this arrangement, which was first introduced in Germany in the 1770's, is to assist the 'hand horn' technique, in which the right hand is held in the bell-mouth in order to be able to alter the pitch of harmonics a semitone or so by partially stopping the opening in various ways. By this means the horn player gained sufficient extra notes to possess a chromatic range through the principal part of the compass. Mozart's horn concertos are examples of works which demand this technique.

Another way of obtaining a chromatic compass on a brass instrument is by means of a sliding tube, as used in the trombone, which was invented in the fifteenth century. It was also used now and then on trumpets, as in the slide trumpet which was much employed in English orchestras through the nineteenth century (27/2: Fig. 136). The slide here draws backwards towards the player, with limited travel sufficient only for the correction of the intonation of certain harmonics and the contribution of a few semitones. A third expedient is the fitting of keys which are opened to uncover side holes in the tube. This was tried in the late eighteenth century on the horn without success, then on the trumpet, with some success (Haydn's well-known *Trumpet Concerto* is written for the Keyed Trumpet), and finally, in 1810, on the bugle, with great success lasting for some fifty years. The bugle is an instrument with a tube that expands throughout its length. When first adopted for military purposes about the mid-eighteenth century, its shape was semicircular, known on the Continent as 'half-moon' (27/3: Fig. 138). From about 1800 it was built in a single loop, and it was to this model that the keys were added by the Dublin bandmaster Joseph Halliday, producing the key bugle which remained so popular in military and brass bands up to the mid-century (27/4: Fig. 138).

Meanwhile, the fourth and final solution to the problem of the brass instrument's scale had been found and patented in Berlin in 1818 by two musicians, H. Stölzel and F. Blühmel. This is, of course, the system of valves, by which extra lengths of tubing can be instantaneously added to the middle section of the main tubing and then instantaneously cut off from it, simply by pressing and releasing one or more of the valves. In France and England valves at first met with some conservative opposition among the higher ranks of horn and trumpet players, but were welcomed without hesitation on the newly invented cornet. This (27/5: Fig. 137) was brought out in Paris in the 1820's as a valved version of the traditional Continental post-horn—that small circular instrument which is today more familiar as the

emblem of Continental postal services. The valves of the cornet exhibited are of an early pattern known as Stölzel valves after the co-inventor of this device which has revolutionized brass instruments, bringing in tubas of all types and sizes, changing the entire balance of the symphony orchestra, and creating in the brass band a wholly new musical medium out of which jazz in turn has arisen. The trombone alone has preserved its ancient principle (27/6), for though valves have been extensively fitted to it in place of the slide, the latter has ultimately won; without the slide musicians feel that something essential to the instrument's musical nature has been lost.

27/1 FRENCH HORN by Marcel-Auguste Raoux. Paris; about 1826. Fig. 135.

Inscribed on the bell rim: *Raoux, breveté, seul Fournisseur du Roi, rue Serpente à Paris*. Also, stamped on the bell, a monogram, *AR*.

Horn with medial crooks (*cor solo*). Brass with silver mounts. The interior of the bell is painted with a design in green and gilt lacquer. Five crooks, for D, E flat, E, F and G, and a contemporary mouthpiece made from sheet silver. The horn is built for playing with the left hand in the bell.

Dimensions: Diameter of hoop 28; of bell-mouth 28. Main bore 11 mm. Mouthpiece, length 7; diameter of cup 2.0.

Museum No.: W.83-1926.

Formerly the property of the celebrated virtuoso Giovanni Puzzi (1792-1876) and said to have been presented to him by Louis XVIII, though in the opinion of Mr. R. Morley-Pegge, the leading modern historian of the horn, the donor is more likely to have been Charles X. See R. Morley-Pegge, *The French Horn* (London, 1960), p. 165; also p. 158 on the development of the *cor solo* by Türschmidt and Joseph Raoux, and p. 62 for an account of Marcel-Auguste Raoux.

Given by Lieutenant-General Vittorio Elia.

27/2 SLIDE TRUMPET. English; second quarter of the nineteenth century. Fig. 136.

Unsigned.

Copper, with nickel-silver mounts and embossed bell garland. Brass slide which draws backwards towards the player and is returned by a clock spring contained in a round brass case fixed to a cross-stay. The duplicate case contains a reserve spring. Pitched in F, with four crooks, for C, D, E flat and E, and contemporary brass mouthpiece.

Dimensions: Length 57. Main bore 11.5. Diameter of bell 11.6. Maximum travel of the slide 8.3. Mouthpiece, length 9.2; diameter of cup 1.7.

Museum No.: 298-1882.

- 27/3 BUGLE HORN. Fig. 138.
Copper, in semicircular form, with brass and leather mounts. Two loops and a ring for carrying strap.
Dimensions: Width from mouthpipe to far rim of bell, 46. Bell diameter 16. Tube length about 100. Mouthpiece length 7.7; diameter of cup 1.7.
Museum No.: 810-1872.
- 27/4 KEY BUGLE. English; first half of the nineteenth century. Fig. 138.
Unsigned.
Copper, in a single coil, with brass mounts. Six round brass keys mounted on brass saddles. With an A crook and a contemporary brass cup-mouthpiece (with shank).
Dimensions: Length 40. Diameter of bell 14.
Museum No.: W.37-1917.
Bequeathed by Henry Saint-George, Esq.
- 27/5 CORNET by Charles Pace. London; second quarter of the nineteenth century. Fig. 137.
Inscribed on bell: *Improved & Made by | Chas. Pace | 49 King Str^t | Westminster.*
Brass, with nickel-silver mounts. Three piston valves of the 'Stöltzel' type, and a 'clapper-key' for facilitating certain trills. In B flat, with crooks for F, G and A flat.
Dimensions: Length 25. Bell diameter 11.5. Main bore 10.5 mm.
Museum No.: W.20-1939.
Charles Pace was at 49 King Street from some time before 1834 up to 1849, and was a leading maker of brass instruments of all kinds.
Given by A. T. Legg, Esq.
- 27/6 SOPRANO TROMBONE by Allen & Pace. Birmingham; about 1870. Fig. 136.
Inscribed: *Allen & Pace, Birmingham and Wolverhampton, No. 340.*
Brass. Pitched in high B flat.
Dimensions: 58.5.
Museum No.: 300-1882.