

XII

EARLY

WINDS

AND

PERCUSSION

THE RECORDERS

It is entirely appropriate that our discussion of early instruments begin with the recorder, the best known and most widely played of all. The recorder could be described as a breath-blown organ flue pipe with fingerholes. Air passing through the narrow windway is directed across the **mouth** of the recorder against the edge of the wooden **lip**, producing sound exactly as in an organ pipe.

The recorder exhibits a number of properties that we will find over and over in early woodwinds. First, it is very soft—as becomes immediately apparent when it is combined with modern instruments. Second, individual notes scarcely can be varied in loudness at all. To get different dynamic levels it is necessary to play in different parts of the range, as the instrument increases markedly in loudness as the scale is ascended. Composers *should not indicate dynamics in any recorder part*, as the player has virtually no control over them. Twentieth-century composers—including Hindemith and Berio—have consistently misunderstood this and have regularly scored dynamic indications for recorder that are pure fantasy in terms of the instrument's capabilities. Players simply ignore such markings.*

* The dynamic markings in Baroque recorder parts are “faked” by means of varied articulation and vibrato. This is entirely within the period's understanding of dynamics but does not, of course, correspond to modern concepts.

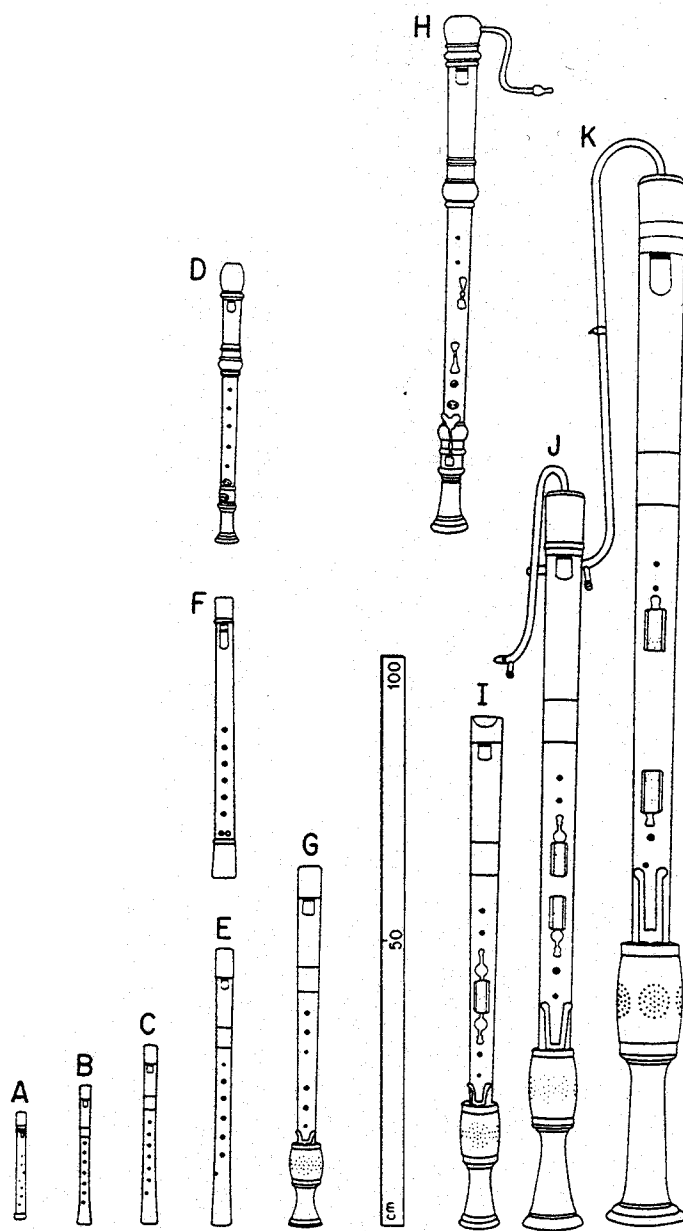


FIGURE 227. *Recorders: (a) garklein; (b) Renaissance sopranino; (c) Renaissance soprano; (d) Baroque alto; (e) Renaissance alto; (f) medieval alto; (g) Renaissance tenor; (h) Baroque bass; (i) Renaissance bass; (j) great bass; (k) contrabass.*

For all early woodwinds it is necessary to watch out for fingering difficulties. Note that many notes require fork-fingerings, and that a number of trills are awkward or impossible to perform.

The fingering chart given is for alto recorder. To be applied to other sizes of recorder it must in many cases be transposed, for though recorders are built in F and C they use only octave transpositions: thus the low C of garklein, soprano, tenor, and great bass recorder is fingered like the low F of sopranino, alto, bass, and contrabass.

<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
garklein Floetlein	gkl.	until 1650	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i>	2 octaves higher	very rare
sopranino recorder	snrec.	Baroque 1660–1750	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i> — <i>mf</i> — <i>f</i>	1 octave higher	common
		Renaissance until 1690	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i>	1 octave higher	very rare
soprano recorder	srec.	Baroque 1660–1750	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i> — <i>mf</i> — <i>f</i> — <i>ff</i>	1 octave higher	ubiquitous
		Renaissance until 1690	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i> — <i>mf</i>	1 octave higher	rare
alto recorder	arec.	Baroque 1660–1750	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i> — <i>mf</i> — <i>f</i>	as written	ubiquitous
		Renaissance until 1690	 loudness: <i>pp</i> — <i>p</i> — <i>mp</i>	1 octave higher	rare

FIGURE 228. *The recorder family—vital statistics.*

The lowest two chromatic tones are produced by half-hole fingerings, and composers must be careful about their use. A passage such as this is very awkward to play:

alto recorder

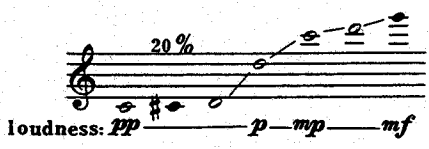
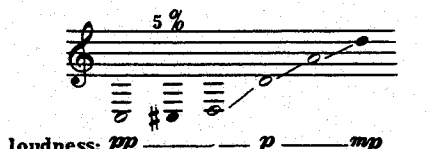
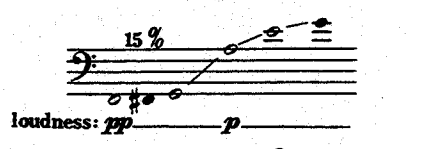
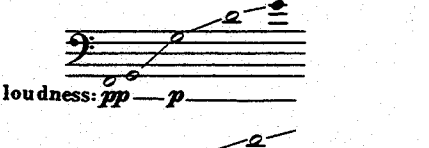
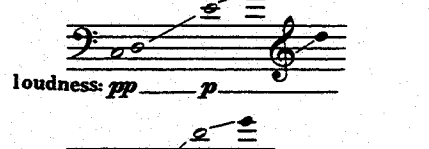
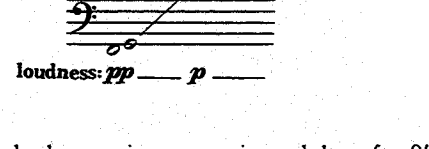


but this is not:

alto recorder



On most tenor recorders the low c^1 is reached by means of a key, and the $c\sharp^1$ is impossible. All lower recorders are provided with a similar key for the bottom note, and the lowest chromatic

<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
tenor recorder	trec.	Baroque 1660–1750		as written	common
		Renaissance 1450–1690		1 octave higher*	rare
bass recorder	brec.	Baroque 1660–1720		1 octave higher	usually available
		Renaissance 1450–1690		1 octave higher*	very rare
great bass recorder	gbrec.	1550–1690		as written	very rare
contrabass recorder	cbrec.	1550–1690		as written	very rare

* Renaissance tenor and bass recorders read at actual pitch when serving as superius and altus of an 8' consort, while the great bass recorder may read at 4' when playing continuo or serving as bass to a 4' consort.

The recorder family—vital statistics, continued.

tone is unavailable except on those bass recorders provided with a special (and ahistorical) key for the $f\sharp^0$. Some bass recorders are provided with up to four or five other keys as well, but this does not affect the fingering or availability of notes.

Recorders are made in **Renaissance** and **Baroque** patterns, of which the Baroque is far more common. The lower register of Renaissance recorders has a fuller tone than the Baroque type, with much more “presence” and a distinct, organ-like chuff of attack noise, but this strong lower register is gained at the expense of range at the upper end. There are also slight differences in fingering—on Renaissance recorders the low register fork-fingerings (on alto $b\flat^1$, b^1 , $c\sharp^2$, $e\flat^2$) have only one finger put down beyond the open hole. The Renaissance instruments

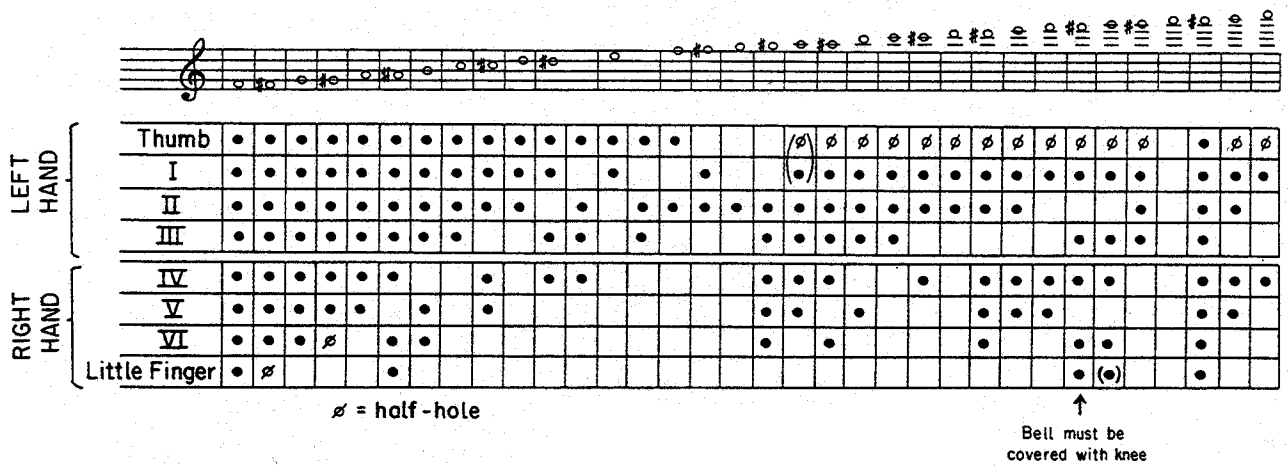
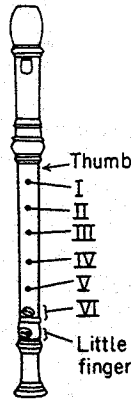


FIGURE 229. Fingering chart for Baroque alto recorder.

provide a much stronger and more believable bass, and the two lowest sizes of recorder are strictly Renaissance types.*

The tiny garklein (which at least one maker has been unable to resist calling a “mini-prino”) is also a strictly Renaissance form. It is of dubious value in early music (it appears to have been a “gimmick” instrument, as the sopranino saxophone is today), but today’s composers may be interested in it because of its incredibly high tessitura.

Any modern pieces written simply for “recorders,” without qualification, will be played on Baroque instruments; and the term “recorder,” similarly unqualified, refers to the Baroque alto, the most common and important size. Renaissance recorders must thus be specified when their use is desired. Composers wishing to have both the organ-pipe fullness of the low Renaissance types and the range and flexibility of the higher Baroque instruments may combine the two without fear, as they blend well together.

* Great bass and contrabass recorders have been made in the Baroque pattern, but these instruments are not only historically invalid but virtually useless musically.

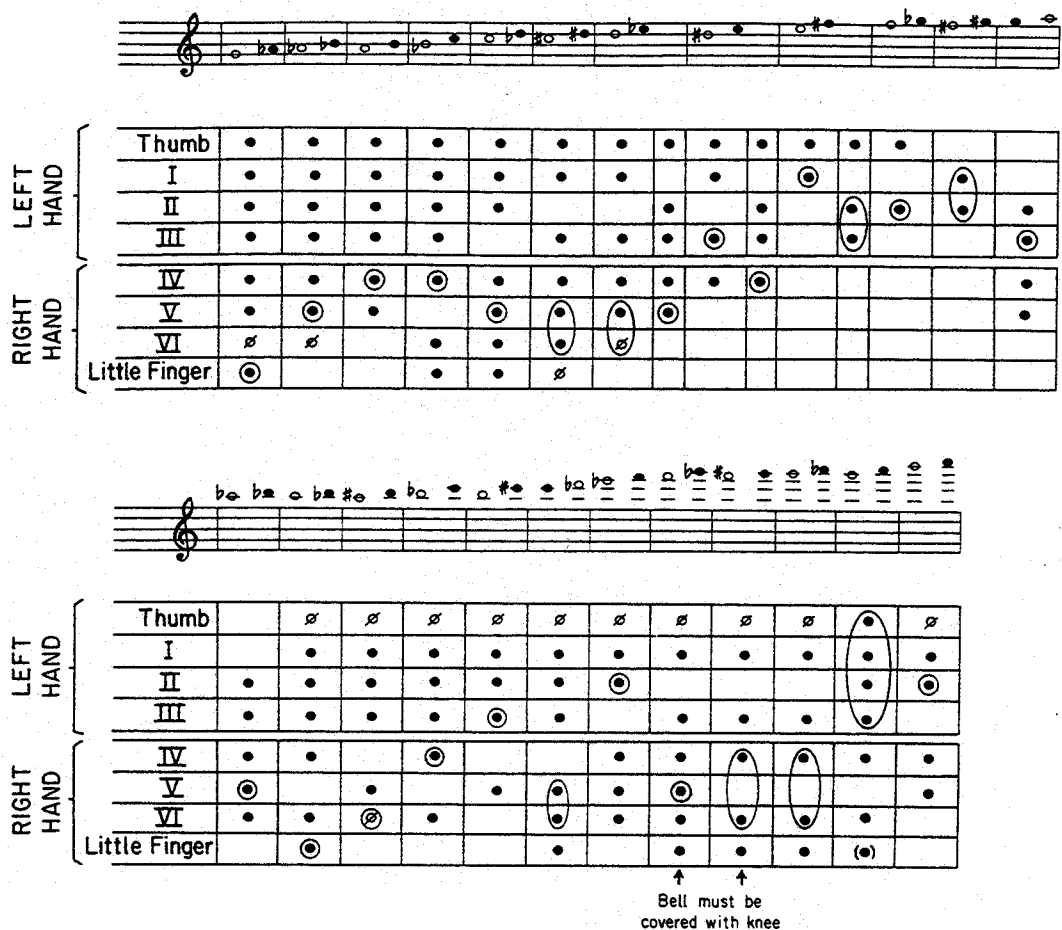


FIGURE 230. *Special trill fingerings for the (Baroque alto) recorder: the complete fingering shown produces the open note; when the circled fingers are raised, the filled note is produced.*

It will be noted that several of the recorders read in different octaves in their Renaissance and Baroque incarnations. This reflects their differing musical uses: the Renaissance types in an SATB 4' consort, the Baroque types as soloists with A and T at 8', S and Sn at 4'.

There is, by the way, a confusion of terminology with regard to the sizes of recorder, the British and Americans using conflicting names for some sizes, as follows:

<i>American</i>	<i>British</i>
soprano	descant
alto	treble
great bass	quart bass
contrabass	great bass

One or two builders are now making **medieval recorders** in sopranino, soprano, and alto sizes. Instruments of this type were used up to about 1500; Renaissance recorders appeared around 1485. The tone of these instruments is unusually delicate and whistle-like, resembling that of the various Western folk recorders. The upper register in particular is much lighter than that of either the Baroque or Renaissance type. Interestingly, the medieval recorder has as great a range as the Baroque form, including even the upper extension tones.

The tone of recorders—even (if they are well made) the highest and lowest varieties—is beautifully sweet, clear, and delicate. The instrument is played with extremely low breath pressure but at high air volume, so frequent breaths are necessary, particularly for the larger sizes. A vibrato is available if desired.

Tonguing (including double-tonguing and fluttertonguing) is as on the flute. Special effects include breathy playing, over- or underblowing (these affect both pitch and timbre), multiphonics (more easily performed than on the flute), and humming while playing. Microtones are possible and easy above $a^{\flat 1}$ on the alto recorder or the equivalently fingered pitch (A^{\flat} , E^{\flat}) on other recorders. Glissandos can be played very smoothly except across the register breaks and can go right to the bottom of the range, even where the lowest note has a key.

Because of the low breath pressure, cyclic breathing is very difficult, but it is possible if the player blows into the windway through pursed lips.

MUSICAL EXAMPLES

RECORDERS:

- Schmelzer, Sonata a 7 flauti (SSAATTB)
- Telemann, Sonata in C, from *Der getreue Musikmeister* (A)
- Handel, "Augeletti che cantate" from *Rinaldo* (SnAA)
- Hindemith, Trio for recorders (SAA or SAT)
- Berio, *Gesti* (A)
- Wolff, *Electric Spring No. 2* (AT)

GEMSHORNS

A late and specialized variety of medieval recorder is the **gemshorn**, primordially a signal instrument fashioned from the horn of a chamois. A considerably larger horn is needed to make a musically useful instrument, and in its fully developed form the gemshorn was made from a cow or ibex horn, usually (today almost invariably) the former. In this state the instrument flourished from roughly 1375 to 1540. Modern gemshorns are available in soprano to bass sizes—the bass probably should be used only for music post-1450.

Because the bore of a gemshorn is so wide at the top and completely closed off at the bottom, the instrument is somewhat ocarina-like in its acoustics. The tone is very beautiful, covered, slightly hooty, and a bit louder than even the Renaissance recorder. Gemshorns overblow only irregularly and inconsistently, *approximately* two octaves above the fundamental; the practical compass of the instrument is thus limited to the lower register alone, though indeterminate overblown notes can be used as a modern special effect. The bass gemshorn is reportedly able to ascend to sounding a^1 —presumably using a completely open fingering for that note.

THE TABOR PIPE

The **tabor pipe** is another specialized variety of recorder, designed to be playable with one hand. This is accomplished by making the bore very narrow, as in a brass instrument, so that a

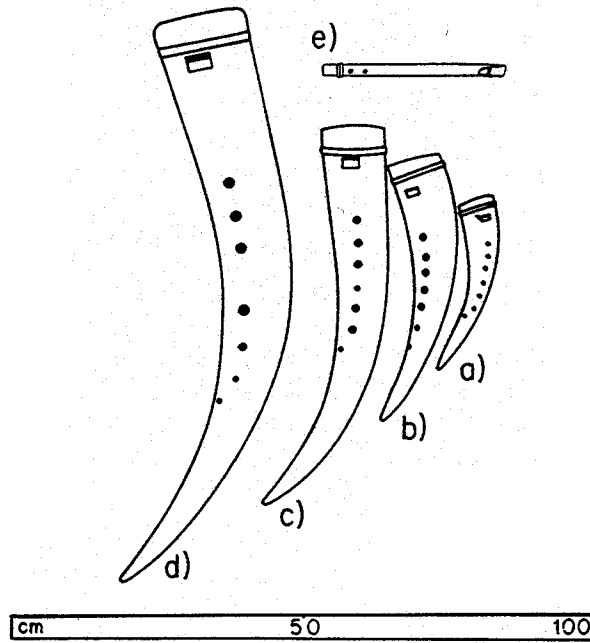


FIGURE 231. Recorder relatives: (a) soprano gemshorn; (b) alto gemshorn; (c) tenor gemshorn; (d) bass gemshorn; (e) soprano tabor pipe.

Thumb	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
I	•	•	•	•				•	•	•	•			•	•	•			•	•	•	•
II	•	•	ø	•				•	•	ø	•			•	ø	•	•			•	•	•

↑ Shade end of pipe with little finger ↑ ø = half-hole

FIGURE 232. Fingering chart for soprano tabor pipe (the instrument sounds two octaves higher).

variety of high partials lying close together can be produced easily, while the fundamental is weak and not normally played. The player uses the free hand to play the tabor drum (q.v), and this pipe-and-tabor combination was used for dance music. In modern terms it is intriguing to think of someone playing tabor pipe with one hand and percussion or keyboard with the other.

In addition to the ordinary soprano in D, whose range and fingering are given above, there is an alto in G (non-transposing).

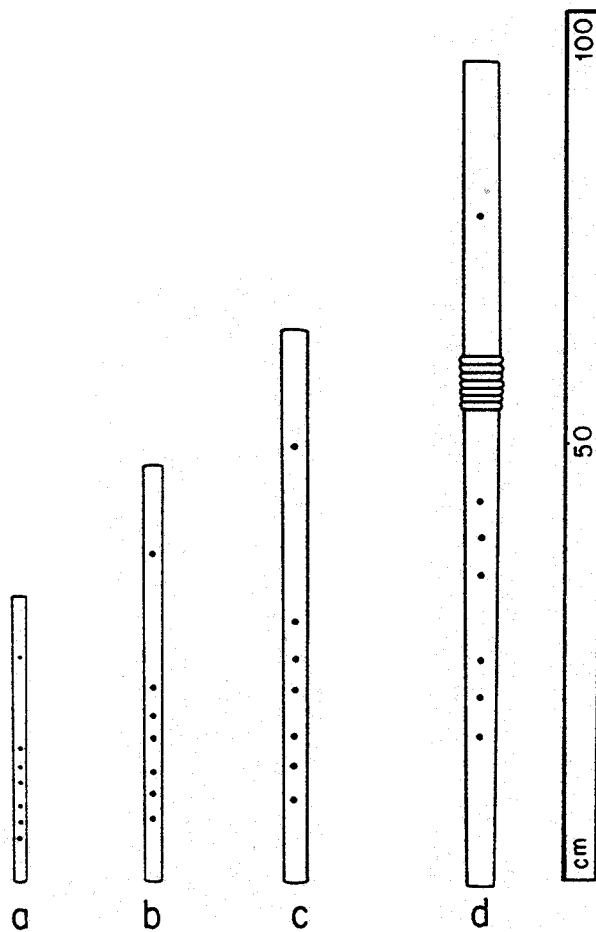


FIGURE 233. Renaissance flutes: (a) soprano; (b) alto; (c) tenor; (d) bass.

RENAISSANCE FLUTES

Renaissance flutes are too much like the modern flute to be of much interest to composers—in fact, they sound more “modern” than Baroque flutes do—but they are included here for the sake of completeness and as an aid to students of early music.*

The tenor is the most important member of the family and is the direct ancestor of the ordinary flute of today. Note that in the Renaissance the flute was a 4' instrument. It is worth comparing Figure 235 with the modern flute fingering chart (Fig. 14) and with the recorder chart (Fig. 229). The underlying similarity of woodwind fingering patterns is much more clearly apparent among these keyless early instruments than among their modern successors.

The Renaissance flutes sound distinctly less full and more breathy than modern flutes. Articulation and special effects are virtually the same in the two types.

* The Baroque flute—with a tapering bore and a key for low d#¹—was introduced around 1680 and almost immediately replaced the older type.

THE SHAWMS

The shawms are ancestors of the oboe family but differ from them considerably in function, appearance, and sound. Shawms were, at least after the Middle Ages, primarily band instruments, performing roughly the same musical function as that of the saxophones today. Like saxophones they are loud instruments, designed to carry well outdoors and to compete with brasses on a more or less equal footing.

The tone of a shawm is brilliant, blaring, and nasal, almost out of control. The lowest notes on any of them are wall-rattling honks. The fierce tone is initiated by a distinctive quacking attack when notes are tongued. In order to get the strongest possible sound the lips do not control the reed directly: they are instead pressed against a wooden **pirouette** at the top of the instrument. The pirouette, resembling a brass-instrument mouthpiece, serves to hold the lips firmly against the base of the reed, supporting it but not damping it, since the blades of the reed are almost entirely within the player's mouth. Played thus, there is little control over dynamics, which may be varied only between *forte* and *fortissimo* throughout the range, the lowest notes being the loudest. On bass and great bass shawms there is no pirouette,* and the reed is taken directly between the lips as in oboes and bassoons, giving a range of controlled dynamics roughly parallel to that of a saxophone but narrower at all points in the range.

As can be seen from Figures 237–39, the shawm has an inflexible fingering system best suited to diatonic music. The thumb hole is present only in the soprano and sopranino sizes, but the fingerings are not significantly different on the lower sizes, save that the $c\sharp^1$ (on the tenor—on the alto it would be $f\sharp^1$, on bass $f\sharp^0$, etc.) is a problematic “fake” or may not be available at all, and the d^1 (again, on the tenor) is available only in the upper-register fingering.

Except for sopraninos and some sopranos, the right little-finger note is governed by a key, making the chromatic note immediately above impossible to produce (see fingering chart). The lower extension tones for alto and tenor and the equivalent three bottom notes on bass and great bass are produced by additional keys for that finger and for the right thumb. The extended alto and the *unextended* tenor are sometimes referred to as **nicolo** shawms, while the extended tenor is often called **basset**, particularly in England.

If we ignore the downward extensions, the lowest notes of the various shawms are f^1 , c^1 , f^0 , c^0 , F_0 , and C_0 —a much more rational pattern than Figure 237 at first appears to show. As usual with early winds, all are non-transposing instruments, and the fingering chart must therefore be transposed to F for sopranino, alto, and bass shawms.

All the keywork on any shawm is enclosed in a protective, pierced wooden barrel called a **fontanelle**. This is analogous in function to the little metal baskets built over certain low saxophone keys and is indicative of the rough handling historical shawms were expected to endure. The “swallowtail” design of the keys on these and other early woodwinds reflects the fact that they all could be and were played *with either hand uppermost*. Everyone today plays with the left hand uppermost, but the **swallowtail keys** are retained as a gesture to tradition.

Despite the inflexible fingering system, shawms are capable of microtones above e^1 on the soprano (or the equivalent pitch on other sizes) and glissandos down to d^1 or the equivalent. Multiphonics are considerably fewer than on modern double-reed instruments.

* At least one major modern builder leaves the pirouettes off all sizes of shawm, but this ahistorical practice is unlikely to persist much longer.

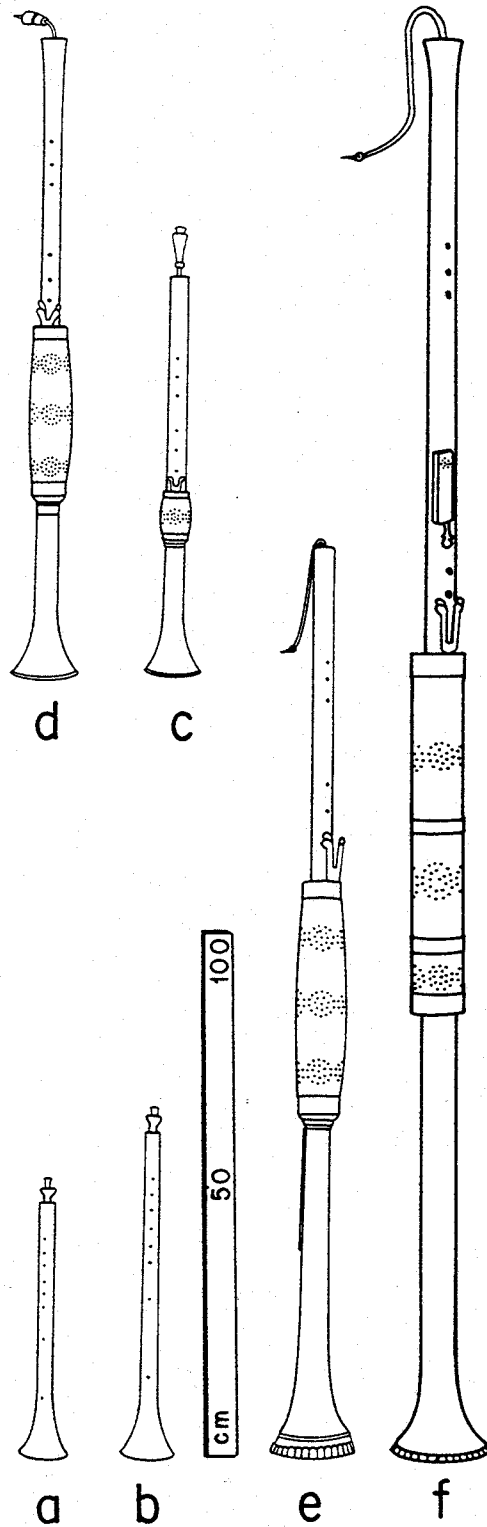


FIGURE 236. *The shawm family: (a) sopranino; (b) soprano; (c) alto; (d) tenor; (e) bass; (f) great bass.*

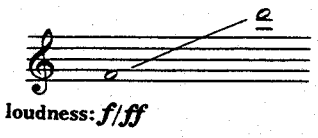
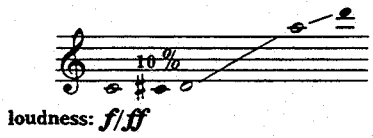
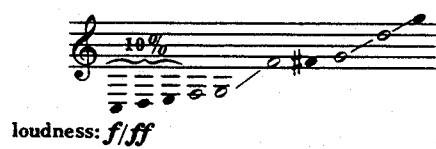
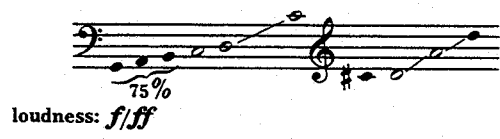
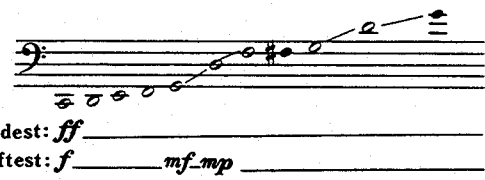
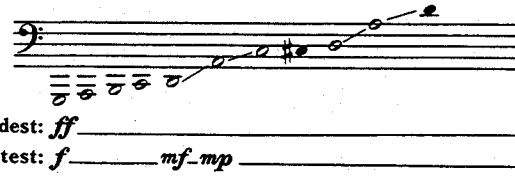
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
sopranino shawm	sn. shawm	1200–1670	 loudness: <i>f/ff</i>	as written	very rare
soprano shawm	s. shawm	1300–1670	 loudness: <i>f/ff</i>	as written	rare
alto shawm	a. shawm	1325–1670	 loudness: <i>f/ff</i>	as written	rare
tenor shawm	t. shawm	1360–1670	 loudness: <i>f/ff</i>	as written	rare
bass shawm	b. shawm	1450–1670	 loudest: <i>ff</i> softest: <i>f</i> — <i>mf</i> — <i>mp</i>	as written	very rare
great bass shawm	gb. shawm	1550–1670	 loudest: <i>ff</i> softest: <i>f</i> — <i>mf</i> — <i>mp</i>	as written	very rare

FIGURE 237. *The shawm family—vital statistics.*

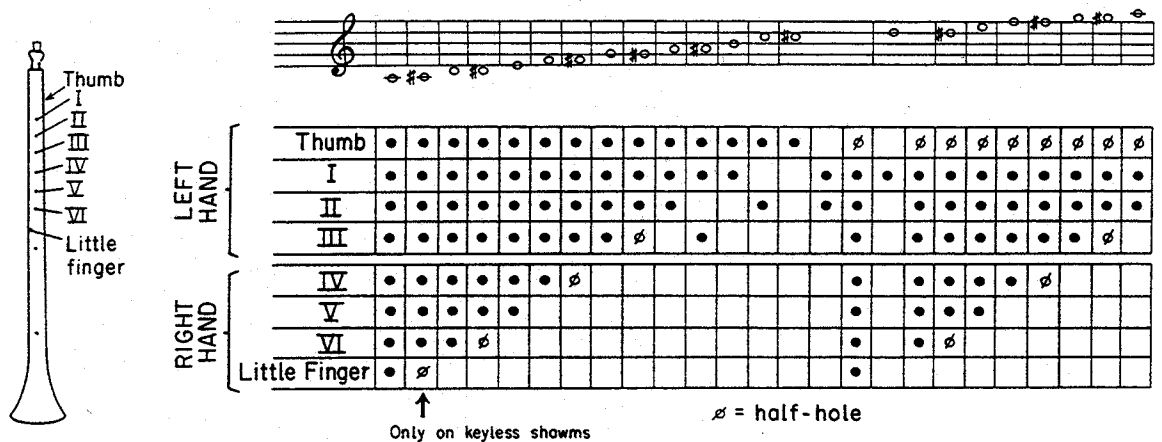


FIGURE 238. *Fingering chart for soprano shawm.*

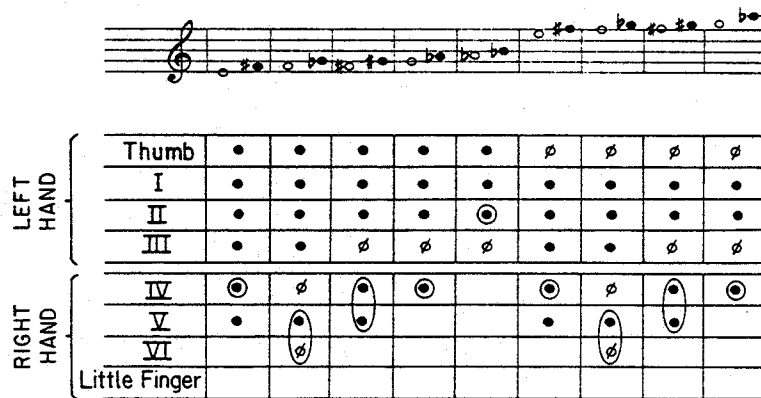


FIGURE 239. *Special trill fingerings for the soprano shawm: the complete fingering shown produces the open note; when the circled fingers are raised, the filled note is produced.*

BASSANELLI

The Baroque oboe, introduced around 1655, very quickly displaced the shawm all over Europe. There were several earlier attempts to create a soft-toned, expressive shawm, of which the most important was the **bassanello** (1575–1625). Originally made in sizes corresponding to unextended tenor, bass, and great bass shawms, bassanelli are among the very few Renaissance instruments that have not yet been revived.

MUSICAL EXAMPLES

SHAWMS:

Schein, "Hosianna dem Sohne David," from *Opella nova* (TTB)

Wernick, *Songs of Remembrance* (S)

Kagel, *Musik für Renaissanceinstrumente* (SATB)

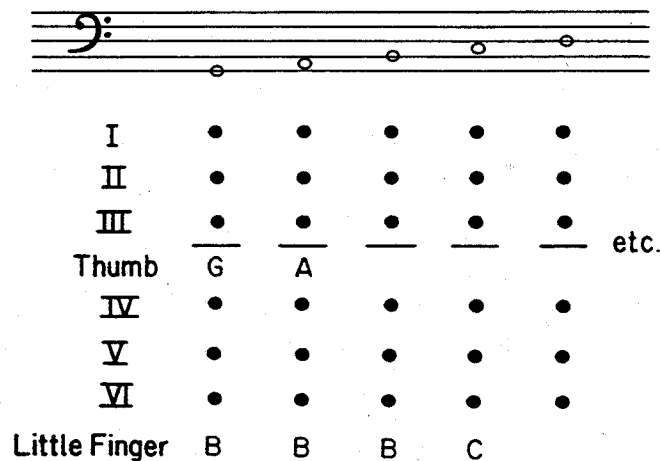


FIGURE 240. *Extension tones for tenor shawm.*

BAGPIPES

Bagpipes are of course still with us as folk instruments, but in the Middle Ages (to about 1400) they were used in all kinds of music, especially monophonic. Modern players of this repertoire use any of the dozens of modern folk bagpipes—the most prominent of many instances where modern folk instruments are used for the performance of medieval music.

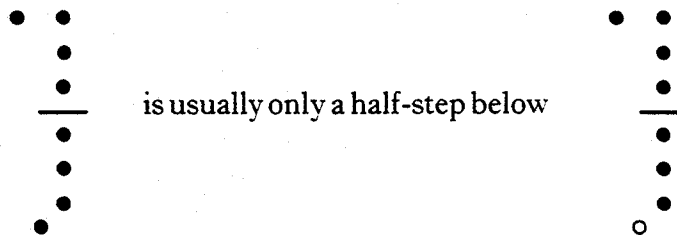
Complete delineation of all the kinds of bagpipes would take a book in itself, and is clearly outside the scope of this one, but a brief discussion is merited.

Air from the bagpipe-player's mouth is used to inflate a leather bag, and air from the bag (which is kept under pressure by the player's left arm) flows continuously through the various reed pipes attached to it. The melody pipe is called the **chanter**. It does not overblow and seldom exceeds the range of a ninth. Also attached to the bag may be one or two **drone pipes** giving the note two octaves below the chanter's keynote, and the fifth or octave of that.

The chanter has a conical bore and double reed; the drones have single reeds and cylindrical bores.

Much of the variety in modern bagpipes postdates the Middle Ages. Such things as bellows-blown pipes, cylindrical or single-reed chanters, overblowing chanters, and triple drones did not exist in medieval bagpipes; the earliest bagpipes had no drones at all. Single drones first appeared in the mid-thirteenth century and double ones in the fourteenth.

The fingering pattern for the chanter varies, but it basically resembles that of the recorder's lower register, save that



The next-to-lowest note, the keynote of the chanter, may sound anywhere between g^1 and c^2 .

The tone of a bagpipe is a brilliant and raucous *fortissimo* designed to be heard outdoors. At the beginning of a piece the sound is started by suddenly pressing the bag, and at the end it is stopped by just as quickly releasing it. It is possible, though difficult, to do these things without a swoop in pitch. Articulation in the normal sense is impossible during the course of a piece, but articulation of a sort is produced by introducing numerous grace notes.

THE CRUMHORNS

In the crumhorns we see a number of features found in no modern woodwind. First of all, it is a **reedcap instrument**, that is, the reed is completely covered by a removable cap with a hole in the top through which the player blows (Fig. 244). The player's lips do not touch the reed.

The crumhorn—unlike any modern instrument—combines a double reed with a cylin-

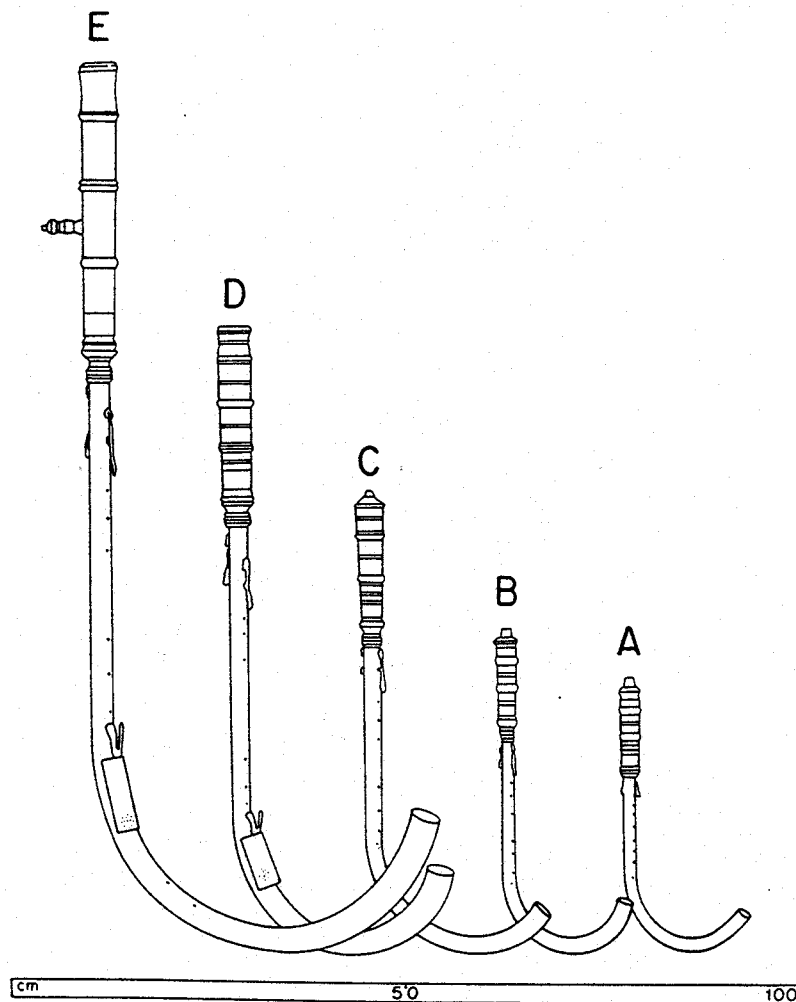


FIGURE 241. *Crumhorns: (a) soprano; (b) alto; (c) tenor; (d) bass; (e) great bass.*

dricul bore. The instrument's delicate buzz has therefore some of the liquid quality of the clarinet, but buzziness is the main impression. The cylindrical bore requires that the base of the reed be no narrower than the bore itself, so crumhorns have a very narrow bore coupled to an unusually large reed. The buzzy tone-quality reflects the dominance of the reed in this system. Dynamic inflections are totally impossible on any reedcap instrument, and reedcap instruments of all types have a somewhat explosive attack, rather like the way a person with a stuffy nose says "d" or "b."

Since the bore of the crumhorn is narrow, the tone holes are mere pinholes, and half-hole fingerings are impossible. Crumhorns and other cylindrical double-reeds are played with unusually high breath pressure but low air volume.

The crumhorn does not normally overblow. Its fingering system is to all intents and purposes that of the Renaissance recorder's lower register. The lowest two chromatic tones are missing. Almost all modern crumhorns have one or (more usually) two ahistorical upward-extension keys for the left thumb and first finger. On alto crumhorn these give $g^{\#1}$ (thumb key), a^1 (front key), and $b^{\flat 1}$ (both keys). Bass and great bass crumhorns take the lowest note with a key, and are occasionally fitted with downward extensions. Such an extension may take either of two forms: there may be three extra keys for the right thumb and little finger, as with the low shawms (q.v.), or there may be only one extra key (for the little finger), which may be pre-set to give any *one* of the three possible extra low notes.

The crumhorn is the foremost example of an instrument in which increasing authenticity is actually reducing its value to the modern composer. In the 1960s virtually all crumhorns were equipped with both upward extensions, and about fifty percent of the basses and great basses had shawm-type downward extensions; furthermore, the two missing chromatic tones were universally available via recorder-like double fingerholes. Some crumhorns are now made without *any* upward extension, and the authentic alto in (non-transposing) g^0 —a tone higher than the usual modern alto in f^0 —is now available from several makers.

Two or three good multiphonics can be gotten from a crumhorn. The tiny fingerholes make glissandos somewhat tricky, but they are possible. Quarter-tones can be had from (on alto) $f^{\sharp 1}$ up. Notes can be inflected in pitch by varying the breath pressure—increasingly so as the scale is ascended, so that while the lowest note cannot be bent at all, the highest can be varied across a major second or more. The position of the "true" note within the inflection range varies from instrument to instrument and depends also on the adjustment of the reed.

With various combinations of instrument and reed, very low breath pressure will produce overblowing to the third partial, a multiphonic, or a privileged-frequency "undertone" a fourth below the usual pitch. All these phenomena are difficult to control and are limited to the lower part of the range.

CORNAMUSES

The **cornamuse** is a special variety of crumhorn, straight in profile and with a plugged bell. The plug mutes the instrument, making it considerably less buzzy but not much softer. The lowest note emerges from a set of small holes pierced in the sides of the bell. When the plug is removed the cornamuse sounds exactly like a crumhorn. Fingering pattern and sizes are as for the crumhorn. Dates of original use are about the same, but cornamuses seem to have become

extinct earlier—around 1625. All modern cornamuses are provided with two upward-extension keys, but the low sizes never have any downward extension. The extremely rare great bass cornamuse (not illustrated) probably did not exist historically.

The mysterious *douçaine*, of which no examples or illustrations survive, was presumably an ancestor (unplugged? uncapped?) of the cornamuse; it existed from about 1275 on.

MUSICAL EXAMPLES

CRUMHORNS:

Schein, *Padovana* for crumhorns, from *Banchetto musicale*

Kagel, *Musik für Renaissanceinstrumente*

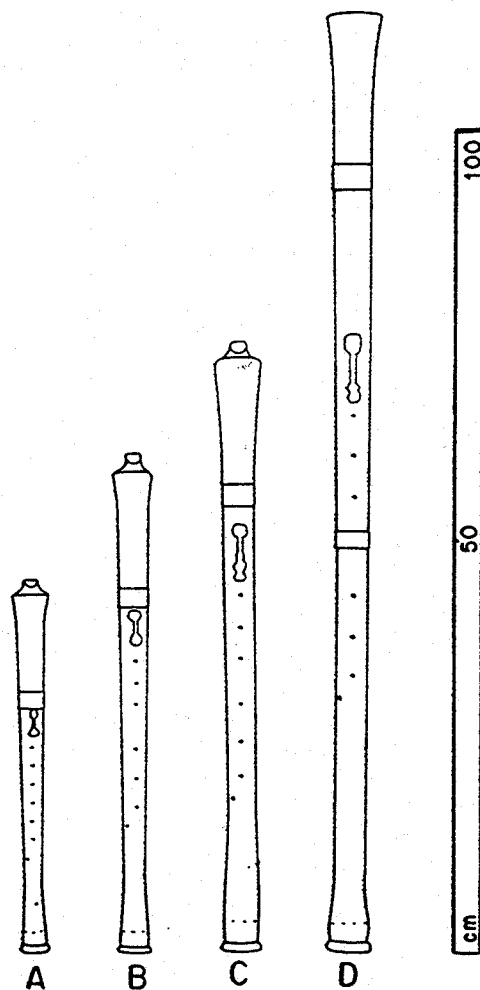


FIGURE 242. *Cornamuses: (a) soprano; (b) alto; (c) tenor; (d) bass.*



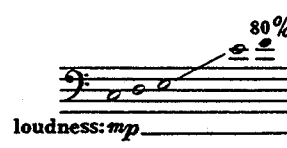
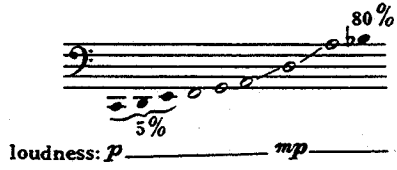
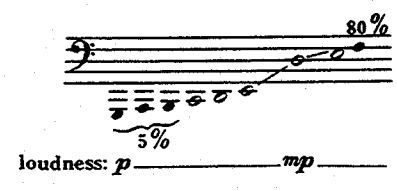
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
soprano crumhorn	scrum.	1530–1635		as written	rare
alto crumhorn	acrum.	1450–1635		as written	rare
tenor crumhorn	tcrum.	1450–1635		as written	rare
bass crumhorn	bcrum.	1450–1635		as written	rare
great bass crumhorn	gbcrum.	1550–1635		as written	very rare

FIGURE 243. *The crumhorn family—vital statistics.*

OTHER REEDCAP INSTRUMENTS

KORTHOLTS

The **kortholt** was a short-lived experimental instrument of which we would know nothing had Praetorius not figured one in his *Syntagma musicum*. The bass kortholt is probably more common now than it ever was historically, and the higher sizes are purely conjectural.

The kortholt is essentially a cornamuse with its bore extended and bent back like that of a curtal or sordune (q.v.). As with the latter instruments, both parts of the bore are housed in one piece of wood, and the extra low notes (in the bass kortholt, those below F_0) are taken with the thumbs. The remaining notes are fingered as on the crumhorn.

Not surprisingly, these instruments sound exactly like cornamuses.

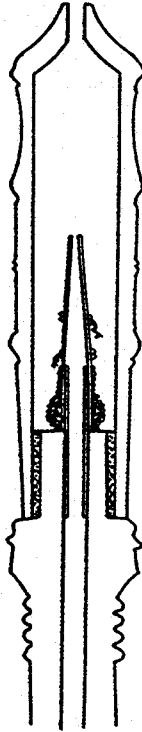


FIGURE 244. *Diagrammatic section of the top of a crumhorn, showing reed in place inside reedcap.*

RAUSCHPFEIFEN AND SCHRYARI

The **rauschpfeifen** and **schryari** comprise two related families of loud reedcap instruments. The **schryari**, with its narrow cylindrical bore and tiny fingerholes, is best thought of as a very loud, blaring crumhorn, while the **rauschpfeife** has a conical bore and is essentially a reedcap shawm. Both can be considered as musically more or less interchangeable with the shawm. Their sound is a brilliant, bagpipe-like skirl.

The **rauschpfeife** is the only reedcap instrument that overblows. It became extinct in Germany (its homeland) around 1550, but apparently lived on in France, for a modified form (in ATB sizes) crops up there in the seventeenth century under the name **hautbois de Poitou**. The **rauschpfeife** fingering system closely resembles that of the recorder; the only important difference is that low G \sharp (sopranino and alto) is a fork-fingering rather than a half-hole. All tenor and some alto **rauschpfeifen** are provided with a key for the lowest note.

The tenor **schryari** also has such a key, and both alto and tenor **schryari** are provided with upward extension keys for left thumb and first finger—these were the inspiration for similar keys put on modern crumhorns. The soprano **schryari** has a plugged bell, like a cornamuse, to balance its volume with the lower sizes. The **schryari** was apparently limited to Germany throughout its lifetime.

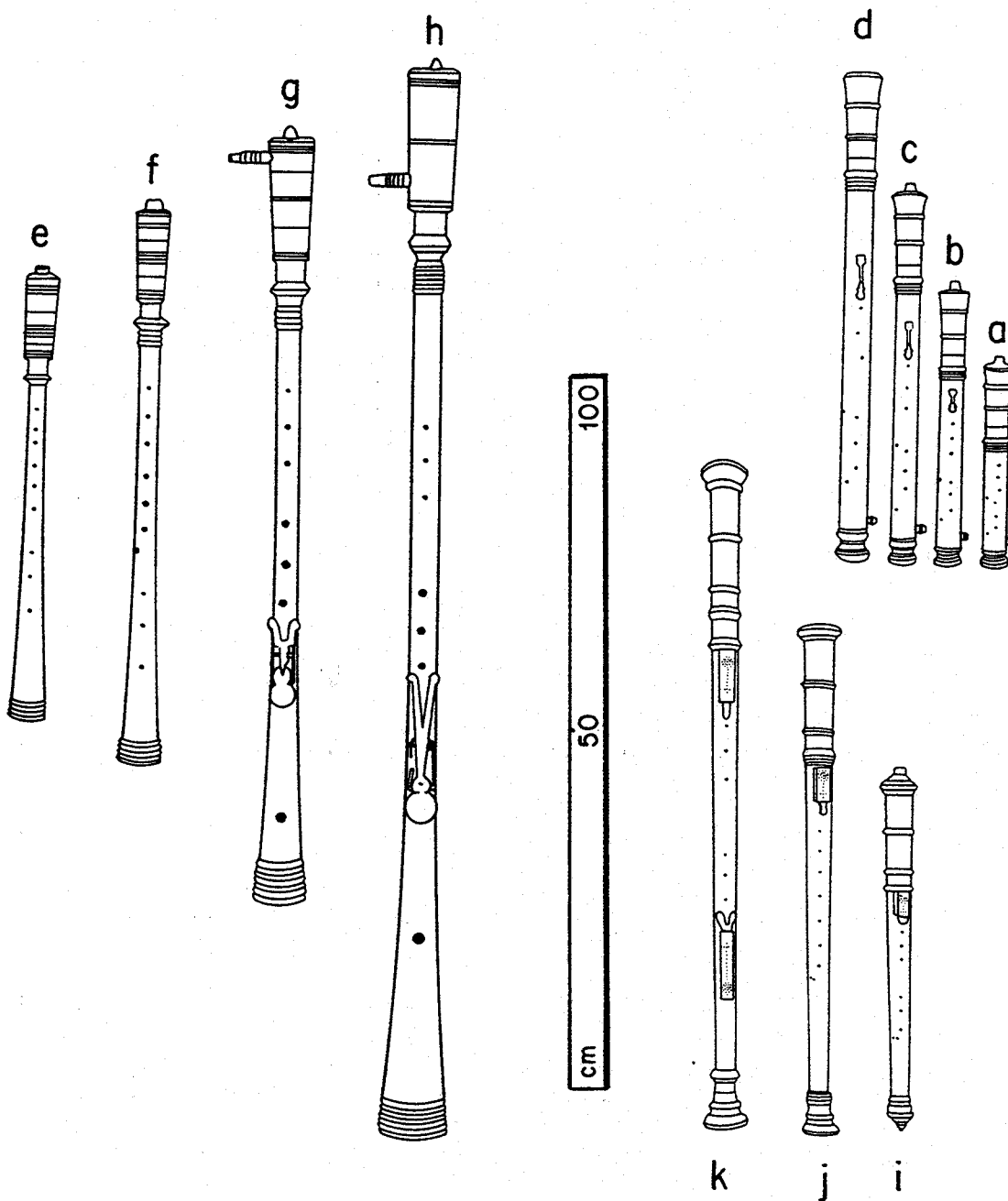


FIGURE 245. Other reedcap instruments: (a) soprano kortholt; (b) alto kortholt; (c) tenor kortholt; (d) bass kortholt; (e) soprano rauschpfeife; (f) soprano rauschpfeife; (g) alto rauschpfeife; (h) tenor rauschpfeife; (i) alto schryari; (j) tenor schryari; (k) bass schryari.

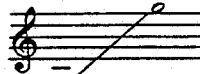

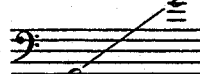
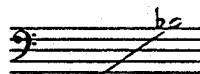
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
soprano kortholt	skt.	—	 loudness: <i>mp</i>	as written	very rare
alto kortholt	akt.	—	 loudness: <i>mp</i>	as written	very rare
tenor kortholt	tkt.	—	 loudness: <i>mp</i>	as written	very rare
bass kortholt	bkt.	1600–1640	 loudness: <i>mp</i>	as written	rare

FIGURE 246. *The kortholt family—vital statistics.*

THE CURTALS

The bass curtal is the direct ancestor of the bassoon (compare the fingering charts), to which it is very similar in playing technique. It differs from the modern instrument not only in being virtually keyless but in that both channels of the bore are housed in a single piece of wood. The curtals are even softer and more veiled in tone than modern bassoons, and many are provided with a removable pierced cap for the bell to ensure that even the lowest notes will have this quality.

The Baroque bassoon was introduced around 1670, but the older instrument continued in use for another half-century. It is important to realize that early and mid-seventeenth century “bassoon” parts are intended for the curtal.

The two highest members of the curtal family sound rather like muffled English horns. They formed part of an SATB 8' consort of curtals, used indoors in place of shawms—the Baroque oboe superseded them in this function. The contrabass curtal was never more than an experimental curiosity, but it did exist and was used.

The lowest three chromatic tones are weak and awkward on the curtal as originally designed. About half of all modern curtals are provided with one or two extra keys and a tone hole for the left little finger to make these notes easier to produce.

The curtal has multiphonics in as much profusion as the bassoon, and easily produces microtones and glissandos from G_0 to f^0 (on the bass curtal) and also from g^0 up.

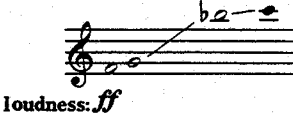

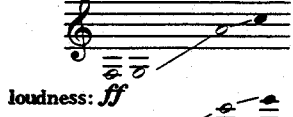
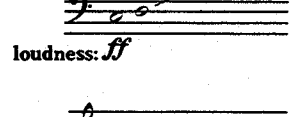
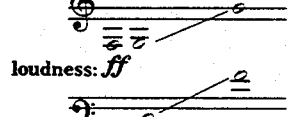
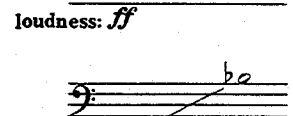
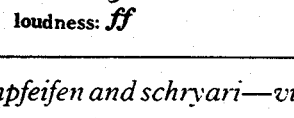
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
sopranino rauschpfeife	snrausch.	1500–1550		as written	very rare
soprano rauschpfeife	srausch.	1500–1550		as written	very rare
alto rauschpfeife	arausch.	1500–1550 (–1670)		as written	very rare
tenor rauschpfeife	trausch.	1500–1550 (–1670)		as written	very rare
alto schryari	aschr.	1535–1650		as written	very rare
tenor schryari	tschr.	1535–1650		as written	very rare
bass schryari	bschr.	1535–1650		as written	very rare

FIGURE 247. *Rauschpfeifen and schryari—vital statistics.*

MUSICAL EXAMPLES

CURTALS:

Schütz, *Symphoniae Sacrae*, Pt. I, Nos. 16–17: “In lectulo per noctes”/“Invenerunt me custodes civitatis” (TBB)

Domini est terra, SWV 476 (TBBBGb)

Schmelzer, Sonata “La Carolietta” (1669) (B)

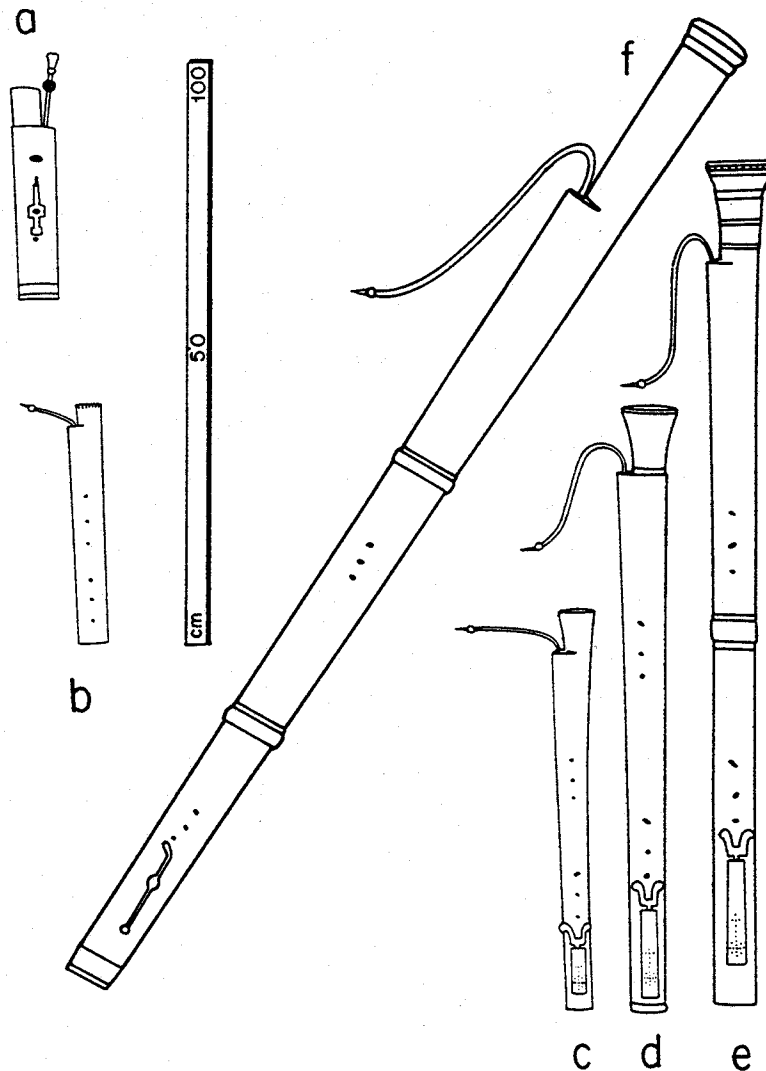
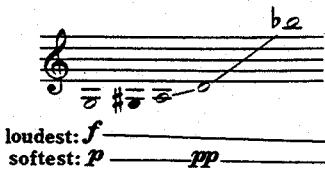
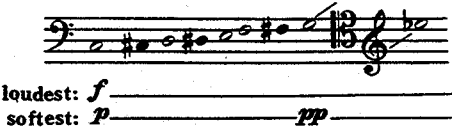
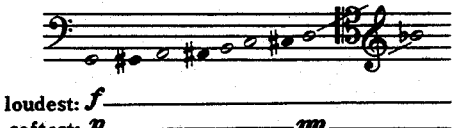
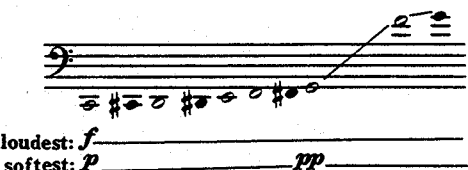
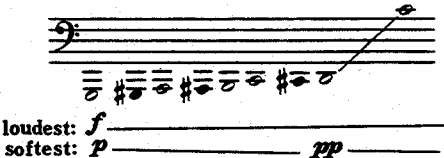
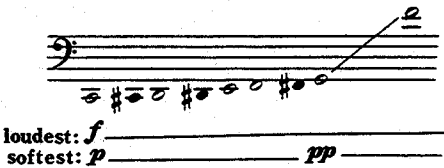


FIGURE 248. *Curtals: (a) soprano; (b) alto; (c) tenor; (d) bass; (e) great bass; (f) contrabass.*

THE RACKETTS

The rackett is surely one of the strangest creations of the human brain. It is a cylindrical-bored double-reed instrument, but the bore is folded back on itself *eight times* to make nine short, parallel bores housed in the same piece of wood. The large reed on its staple is inserted into the top of the central bore; the tiny instrument is held in both hands, as a squirrel holds an acorn, and in play looks more like some sort of elaborate bong than a woodwind.

There are tone holes for all ten fingers—two rows of four on the front of the instrument and two thumbholes on the back. There are also two further tone holes closed by the middle joints of the index fingers. The lowest note does not emerge from a bell, but from a larger-than-usual tone hole or group of holes at the lower left of the back of the instrument.

<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
soprano curtal	scurt.	1540–1670		as written	very rare
alto curtal	acurt.	1540–1720		as written*	very rare
tenor curtal	tcurt.	1540–1720		as written*	very rare
bass curtal	bcurt.	1540–1720		as written*	rare
great bass curtal	gbcurt.	1540–1720		as written*	very rare
contrabass curtal	cbcurt.	1575–1720		1 octave lower	very rare

* In the sixteenth century these four sizes were used together as a 16' consort, playing notes an octave lower than written.

FIGURE 249. *The curtal family—vital statistics.*

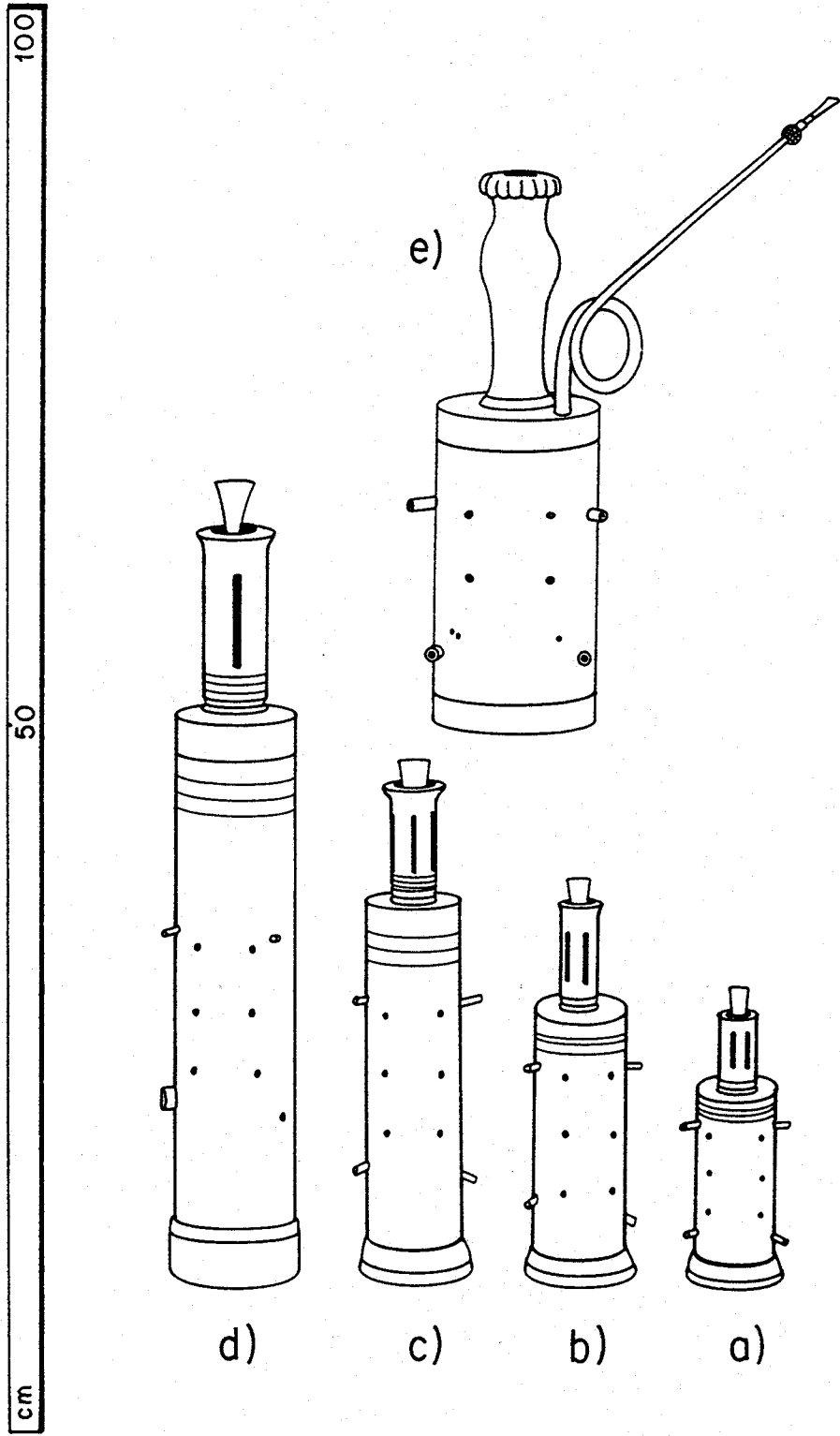


FIGURE 251. *Rackets: (a) tenor; (b) bass; (c) great bass; (d) contrabass; (e) Baroque.*

<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
tenor rackett	track.	1575–1650		as written*	very rare
bass rackett	brack.	1575–1650		as written*	rare
great bass rackett	gbrack.	1575–1650		1 octave lower	very rare
contrabass rackett	cbrack.	1575–1650		1 octave lower	very rare
Baroque rackett	rack.	1690–1750		as written	very rare

* When playing as part of a 16' consort these instruments are notated an octave higher.

FIGURE 252. *The rackett family—vital statistics.*

IV+ I+
IV I Left thumb (on back)
Right thumb (on back) II
V III
Right fifth finger Left fifth finger

	LEFT HAND																RIGHT HAND															
	Thumb	I	II	III	IV	V	VI	Thumb	I	II	III	IV	V	VI	Thumb	I	II	III	IV	V	VI	Little Finger										
Thumb									
I									
II									
III									
IV									
V									
VI									
Little Finger									

↑ Not always possible
+= hole for middle joint of finger to be covered
∅ = half-hole

FIGURE 253. *Fingering chart for the Renaissance bass rackett.*

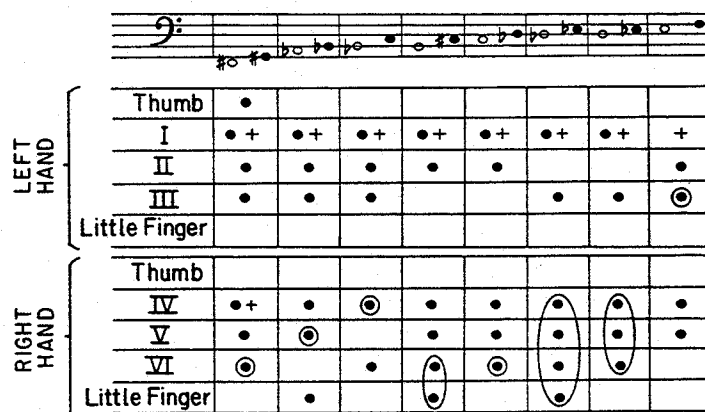


FIGURE 254. Special trill fingerings for the Renaissance bass rackets: the complete fingering shown produces the open note; when the circled fingers are raised, the filled note is produced.

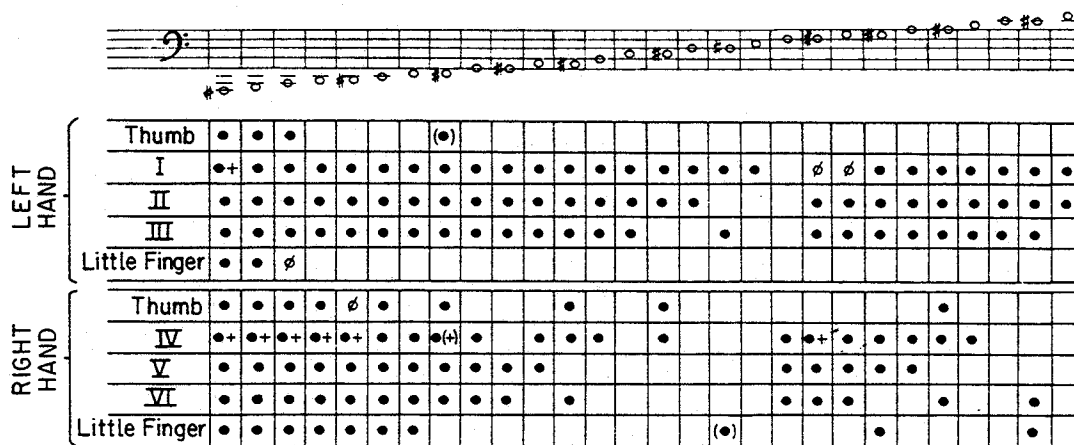


FIGURE 255. Fingering chart for the Baroque rackets.

similar to the Renaissance instrument, for its bore is conical and has ten sections rather than nine. The reed is directly controlled, and the direction of the bore is reversed: it starts with a bassoon-like crook inserted at the upper left and ends with a bell emerging where the reed and pirouette would be on a Renaissance rackets. The fingering system (Fig. 255) is even loonier than that of a Renaissance rackets; note, however, that the Baroque rackets overblows, unlike its Renaissance counterpart. The tone holes for the little fingers and for the middle joints of the index fingers are set at the end of little metal tubes called *tétines* (French: “nipples”). Some modern makers have retroactively added these to the Renaissance rackets.

The tone of the Baroque rackets is very similar to that of the Baroque bassoon.

Glissandos can be played on both types of rackets across any part of the range that does not involve opening or closing a *tétine*. The instrument has such a hard time just making the half-steps that individual microtones are largely out of the question.

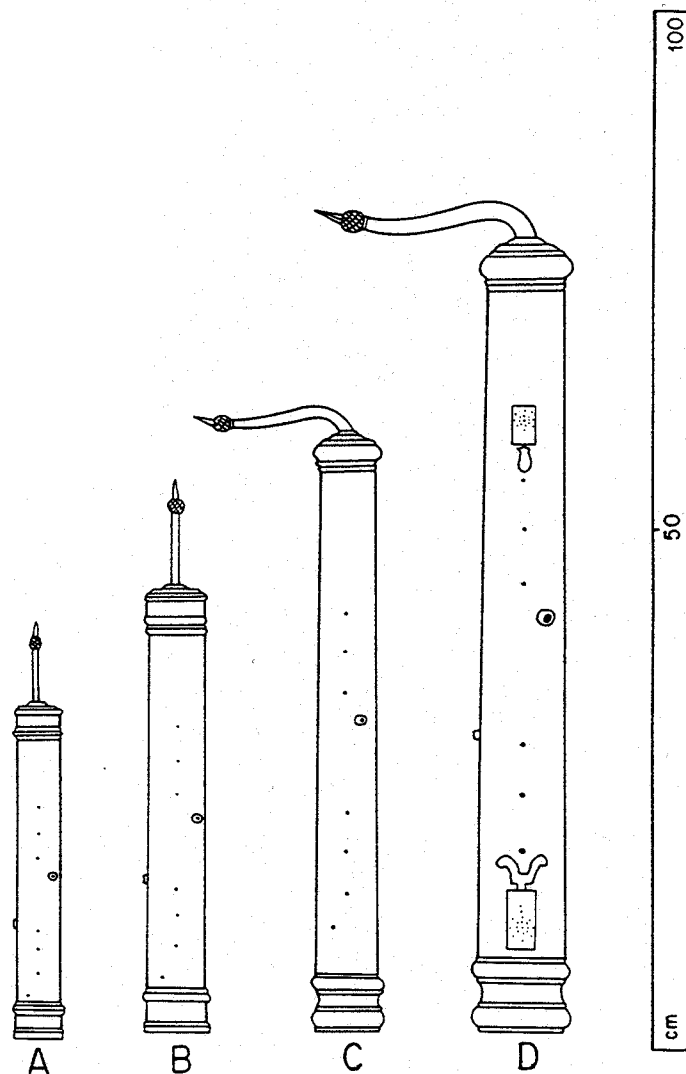


FIGURE 256. *Sordunes: (a) tenor; (b) bass; (c) great bass; (d) contrabass.*

THE SORDUNES

The most recent Renaissance wind instrument to be resurrected is the sordune, so christened by its chief modern maker (Wood), since there is no original English name. "Sordune" is a reasonable extrapolation from Italian "sordone" and German "Sordun" and is in fact the name of an organ stop imitative of this instrument.

The sordune can be thought of either as a capless kortholt or a cylindrical curtal: it has a lip-controlled double reed and a doubled-back cylindrical bore. The tone is reported to be intermediate between rackett and curtal; the dynamic range is probably something like *pp-mf* throughout the compass.

Like the rackett, the sordune has fingerholes for all ten fingers plus the middle joints of

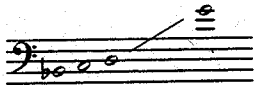
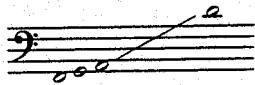
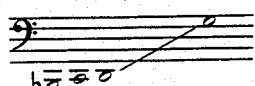
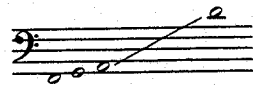
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
tenor sordune	tsord.	1580–1625		as written	very rare
bass sordune	bsord.	1580–1625		as written	very rare
great bass sordune	gbsord.	1580–1640		as written	very rare
contrabass sordune	cbsord.	1580–1625		1 octave lower	very rare

FIGURE 257. *Sordunes—vital statistics.*

the index fingers. The fingerings are much more normal than a rackett's, however, the “extra” tone holes being closed only for the lowest notes, thus:

great bass sordune	}	F ₀ —add right little finger
		E ₀ —add right thumb
		D ₀ —add middle joint of right index finger
		C ₀ —add left little finger
		B ₁ —add middle joint of left index finger

Wood uses the British system of nomenclature for his sordunes, labeling them tenor, quart bass, bass, and great bass. The instruments illustrated are by *Theatrum Instrumentorum*. They are slightly more authentic than Wood's, with the tenor pitched a whole step higher. This workshop labels the sordunes SATB, and points out that even the higher sizes ought to read at 16'—as they certainly ought when used in consort.

At this point let us sort out the varieties of early reed instruments in tabular form:

	Conical Bore	Cylindrical Bore
Capped Reed	Rauschpfeife	Crumhorn, Cornamuse Kortholt Schryari
Pirouette	Shawm	Rackett
Fully Exposed Reed	Curtal	Sordune

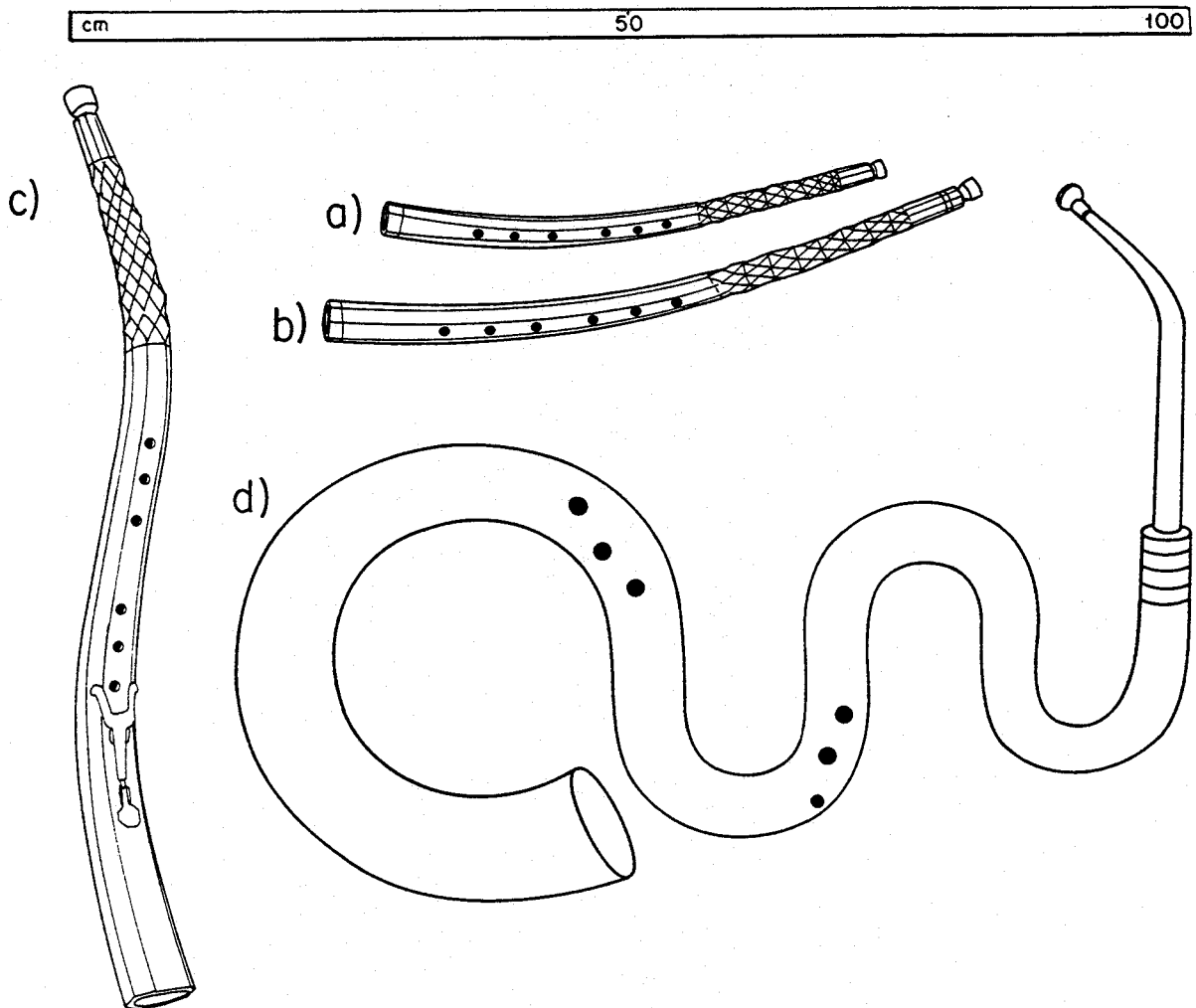


FIGURE 258. *The cornett family: (a) cornettino; (b) cornett; (c) tenor cornett; (d) serpent.*

THE CORNETTS

The instruments of the cornett family are classified organologically as **fingerhole horns**—instruments combining the “lip-reed” embouchure and cup mouthpiece of a brass instrument with the fingerholes and short, wide bore of a woodwind. Their hybrid nature is emphasized further by the fact that they are made of wood (or, nowadays, of plastic).

Renaissance technological limitations required that these curved instruments be carved out in two mirror halves, which were then glued together and bound in black leather. Modern ones, especially those made of plastic, are not infrequently produced in one piece.

The removable mouthpiece (also wooden or plastic) is in a special form called an **acorn cup**. Mouthpieces more closely resembling those of trumpets are also made for the benefit of modern players, most of whom come to the cornett from some modern brass instrument. The small diameter of cornett and cornettino mouthpieces makes it most comfortable to play them slightly to one side of the mouth, where the lips are thinner; again, modern brass players find this hard to deal with and often keep the instrument exactly centered,

<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
cornettino	cttno.	until 1750	<p>loudest: <i>mp</i> <i>mf</i> <i>f</i> <i>ff</i> softest: <i>pp</i></p>	as written	rare
cornett	ctt.	until 1750	<p>loudest: <i>mp</i> <i>mf</i> <i>f</i> <i>ff</i> softest: <i>pp</i></p>	as written	rare
tenor cornett (lysarden)	tctt. (lys.)	1500–1750	<p>loudest: <i>mp</i> <i>mf</i> <i>f</i> <i>ff</i> softest: <i>pp</i></p>	as written	very rare
serpent	serp.	1590*–1850	<p>loudest: <i>f</i> <i>ff</i> softest: <i>pp</i></p>	as written	very rare

* Experimental bass cornetts were occasionally being made as early as 1570.

FIGURE 259. *The cornett family—vital statistics.*

The short, wide bores of the cornett family give them a woodwind-like emphasis on the lowest two partials, which are used to make different-sounding upper and lower registers, with a brief altissimo register at the top. The lips dominate this system even more than they do in ordinary brasses. The modern canard about this family, that any note can be played from any fingering, is not true, though it certainly seems that way to beginners. Nonetheless, any note can be lipped up as much as a minor second and down a third or more. The lowest three notes are indeed all played with the same fingering,* and accordingly cannot be slurred to each other without at least a little portamento.

The fingering pattern of the serpent is extremely variable, and no two instruments—even by the same maker—respond in exactly the same way. There is therefore no fingering chart given here for it, but the basic pattern is the same as for the other members of the family. The serpent is pitched an octave lower than the tenor cornett.

The downward extension tones shown in Figure 259 are produced by lipping down the lowest note even further. They have the same weak and flabby quality as the privileged-fre-

* Most, but not all, tenor cornetts are provided with a key for the right little finger which gives a stable low c^0 . In the absence of this key the low d^0 is lipped down, as usual.

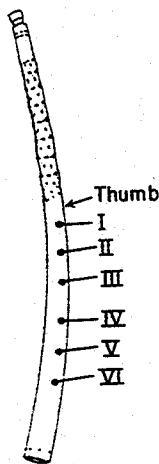
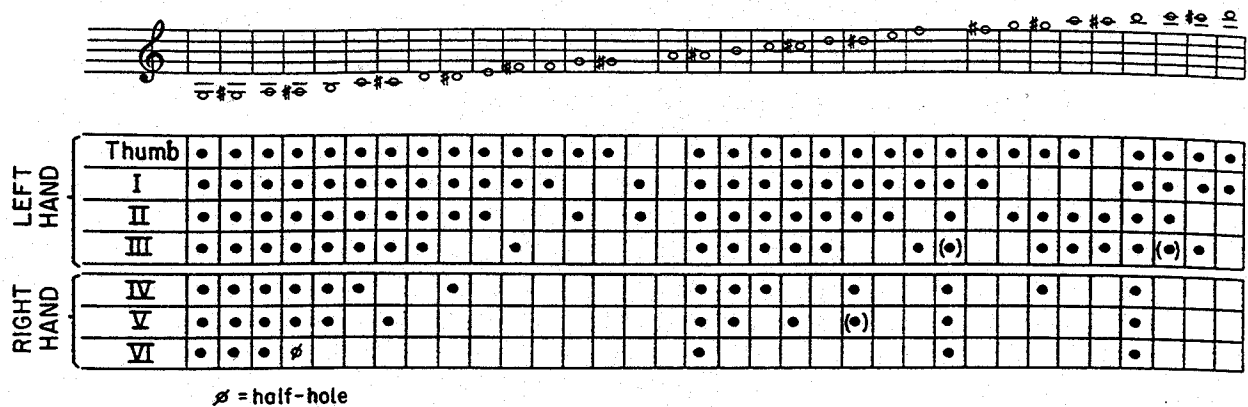


FIGURE 260. *Fingering chart for the cornett.*

quency pedal tones of trumpets and should be used only as a special effect except on the serpent, where they are much stronger—they are mentioned as possibilities even in nineteenth-century serpent methods.

Other avant-garde effects possible on these instruments are glissandos (very smooth and easily controlled, except across the register break), microtones (easily produced, but impossible to pinpoint at high speeds), and multiphonics. These last are produced with the lips, brass-fashion, and are all harsh and gritty; the “interharmonic” type of triadic brass multiphonic is not possible. Production of multiphonics is aided by fingering, but, unlike the woodwinds’ fingerings, that of the cornetts does not even approximately govern the frequencies produced.

The serpent’s curves are purely fanciful; that of the cornett reflects its early medieval origins as a pierced animal horn. Note that the fingerholes of the tenor cornett run along the spine of the S-curve, while on the other three instruments they are set into the side of the curve. The cornett and cornettino curve off to the player’s right; the tenor cornett is held between the player’s knees with the bell pointing out and down; and the serpent is held sideways with the bell at the player’s right (curving down and to the left). There is, by the way, a movement afoot, largely in England, to revive the delightful old name *lysarden* (i.e., “lizard”) for the tenor cornett—a name that aptly fits its shape and (quite coincidentally) parallels that of the serpent.

The cornett proper has several variant forms. The **straight cornett** was originally, and is now, a cheap version of the instrument, turned on a lathe from a single piece of wood and not

The image displays two examples of special trill fingerings for the cornett. Each example consists of a musical staff and a corresponding fingering chart. The first example shows a melodic line with notes and accidentals (sharps, flats, naturals) and a fingering chart with circled fingers indicating when a filled note is produced. The second example shows a similar melodic line and fingering chart.

FIGURE 261. *Special trill fingerings for the cornett: the complete fingering shown produces the open note; when the circled fingers are raised, the filled note is produced.*

leather-covered. Also fitting this description is the **mute cornett**, which in addition has the mouthpiece carved into the body of the instrument rather than being detachable. This feature makes the tone even more gentle and delicate than that of the ordinary cornett. The ordinary cornett is said to be “in G” on the basis of its fingering pattern; a few cornetts are made a tone lower, in (non-transposing) F, but mute cornetts are only in G. (This contradicts historical practice, in which mute cornetts were apparently built at the lower pitch more often than not.)

Despite numerous assertions to the contrary, the tone of the cornett is really quite trumpet-like, particularly in the upper register. The overall effect is, however, considerably more delicate and expressive than the trumpet, and the dynamic range is that of a woodwind. The lower register is characterized (particularly from f^1 to a^1) by a not unpleasant hoarse quality that is less trumpet-like in effect. In terms of tonal beauty, flexibility, and expressiveness, the instrument fully merits the voluminous praise heaped upon it by early-seventeenth-century writers, and is much more suitable for chamber music than any brass instrument.

The cornettino sounds even more trumpet-like than the cornett. It does not have much literature of its own, but is mostly used to play high-lying cornett parts.

The tenor cornett (or lysarden, if you prefer) sounds somewhat covered and hoarse throughout its range—though, again, there are differences between the registers. The covered and hoarse quality is even stronger in the serpent, the sound of which somewhat resembles a trombone played with a bucket mute. The lower register is very clumsy and awkward-sounding at high speeds, but the upper can be very agile.

LEFT HAND	Thumb		•		•	•	•	•	•	•	•	•	•	•
	I		•	•	•	•	•	•	•	•	•			
	II	•	•	•	•	•	•	•	•			•		•
	III		•	•	•	•	•			•		•		•
RIGHT HAND	IV		•	•	•	•			•			•	(•)	
	V		•	•	•		•					•		•
	VI		•	•			(•)					•		

FIGURE 262. *Fingering chart for the cornettino, upper register.*
The lower register duplicates the cornett fingerings, but gives notes a fourth higher.

Throughout the Renaissance and Baroque periods the cornett family was not played as a unit; rather, a cornett and/or cornettino used for high parts would be accompanied by sackbutts on the lower lines. The tenor cornett was occasionally substituted for alto sackbutt in such groups but does not ever seem to have been the instrument of choice. The serpent was from the first a continuo instrument, used in French choirs to support not cornetts but voices. There it remained throughout the seventeenth century; during the eighteenth it gradually became a band instrument (cf. the original scoring of Handel's *Music for the Royal Fireworks*) and in the nineteenth even appeared in the orchestra from time to time.

Starting in the 1780s some serpents were made in bassoon shape, under the name **serpent bassoon** or **Russian bassoon**. Russian bassoons made of metal (1800–1850) are called **bass horns**;* the bass horn in turn became the **ophicleide** (1817–1880), which had eleven keys and a fingering system that was different from the others. At each stage of this evolution the tone became louder and more tuba-like, but not strongly enough to prevent the replacement of all of them by the tuba itself. Except for the true serpent, none of these instruments is manufactured today, though there are plenty of old bass horns and ophicleides around, gathering dust. A modern use of ophicleides is Henze's *The Raft of the Medusa*. The "tuba" parts in Berlioz's *Symphonie fantastique* are really for ophicleides, as are the "tuba" lines in many other early-nineteenth-century orchestral works. The Heinrich example cited below uses ophicleide and serpent side by side in parts of differing character.

MUSICAL EXAMPLES

CORNETTINO:

Schütz, *Symphoniae Sacrae*, Pt. III, No. 3, "Wo der Herr nicht das Haus bauet"

Schmelzer, Sonata a 8 duobus choris, from *Sacro-profanus concertus musicus* (1662)

* Do not confuse this with the modern *baritone horn*.

CORNETT:

- G. Gabrieli, Sonata No. 18 (a 14), from *Canzoni e Sonate* (1615)
- Monteverdi, Sonata sopra "Sancta Maria ora pro nobis," from *Vespers* (1610)
- Schmelzer, Sonata "La Carolietta" (1669)
- Kagel, *Musik für Renaissanceinstrumente*

TENOR CORNETT:

(no example)

SERPENT:

- Anon. (Pleyel?), Feldparthie "Chorale St. Antonii" (formerly attrib. Haydn)
- Heinrich, *Manitou Mysteries**

EARLY BRASSES

Unlike many early woodwinds, all the early brass instruments have direct modern descendants that sound much the same as their forebears. They are thus not of much interest to modern composers and are cited here only for the sake of early-music performers.

The valveless trumpet and horn are very ancient but were used only for signals, fanfares, and so on until circa 1600 and 1700, respectively. Of more interest to modern composers than to early-music performers is the **Baroque mute**. This mute, made of wood with a narrow channel through it, is equivalent in effect to the stopping mute of the (modern) horn, raising the pitch of the instrument by a whole step, reducing the dynamic level, and making the timbre very stuffy and distant. There is no reason why mutes of this type could not be made for modern trumpets and trombones, even for tubas, and they would certainly provide an interesting "new" timbre.

The earliest brass instrument to be used for truly musical purposes was the trombone, or, rather, its ancestors the slide trumpet and sackbutt. The slide of the S-shaped slide trumpet is a simple straight tube which is located between the mouthpiece and the body of the instrument. In order to play it the left hand must hold the mouthpiece steady while the right moves the rest of the instrument back and forth. Because the slide is a single straight shank instead of the long U-shape of the trombone, the distance between adjacent slide positions is twice what it is on the latter instrument, allowing for only four positions within the reach of the arm. Several notes at the bottom of the range are therefore missing, as Figure 266 should make clear. Note that the slide trumpet, at least the modern version, is built in C.

Initially the slide trumpet was played in the bottom two octaves of its range, as a proto-sackbutt. It took the *cantus firmus* in fifteenth-century *basse danses* and was used in other music as well. With the appearance of the sackbutt the slide trumpet was moved to the back burner, appearing now and then as a clumsy substitute for the tenor sackbutt but barely

* The orchestral works of A. P. Heinrich (1781–1861) are currently available only on microfilm from the Library of Congress. Study of their brilliant and unorthodox orchestration well repays the effort of finding them. The serpent part in *Manitou Mysteries* probably represents the peak of the literature for that misbegotten instrument.

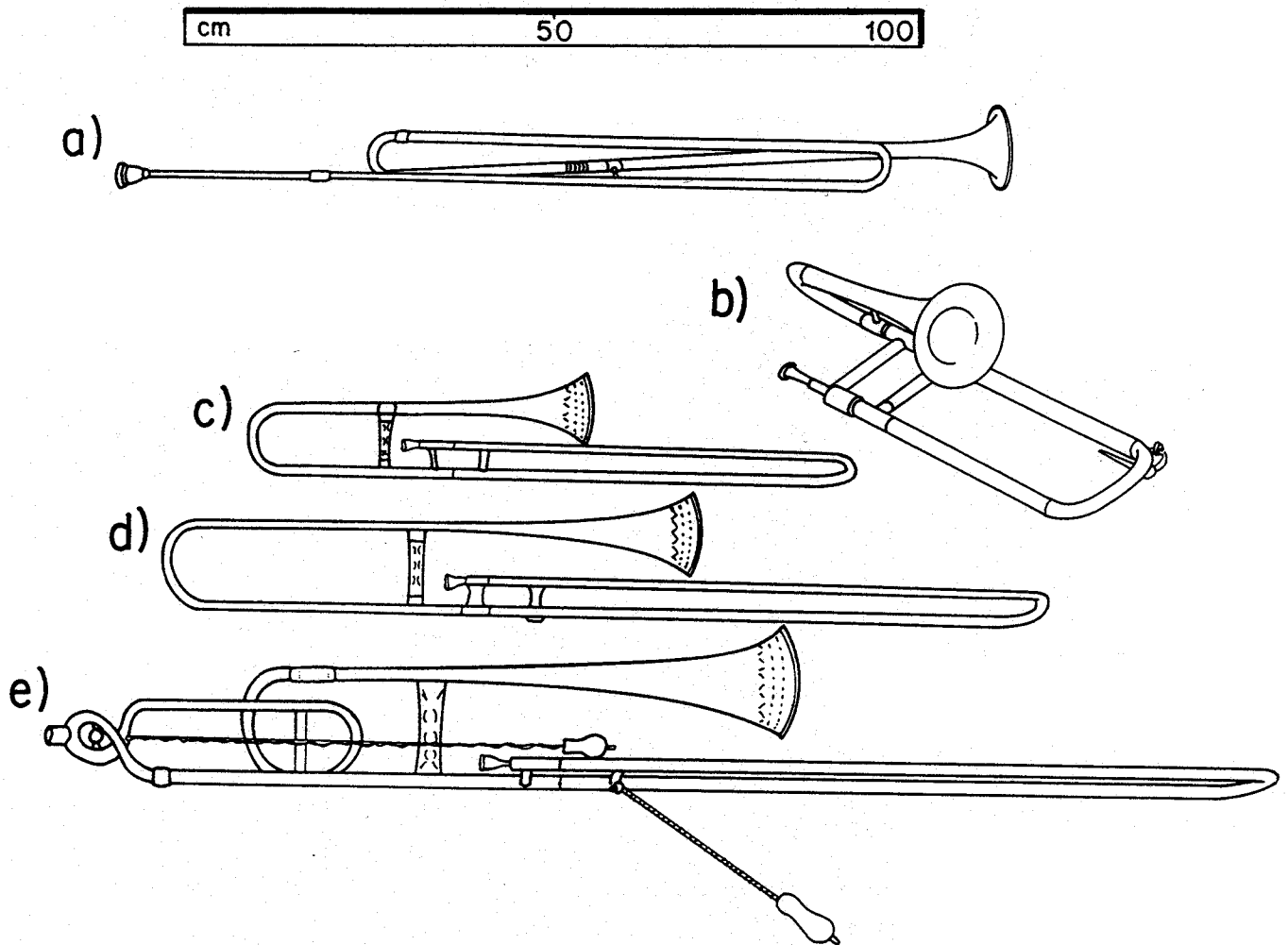


FIGURE 263. *Early brass instruments: (a) slide trumpet; (b) soprano sackbutt; (c) alto sackbutt; (d) tenor sackbutt; (e) bass sackbutt.*

surviving the sixteenth and seventeenth centuries. In the eighteenth century it returned to brief prominence again, as a *trumpet* substitute playing in the *upper* two octaves of its range, where the clumsiness of the slide is not so obtrusive and where it provides a number of notes missing from the natural harmonic series.

The three main sackbutt sizes are direct ancestors of the simplex alto, tenor, and bass trombones of the nineteenth century, from which they differ only in details. Their narrow bores and small bells (modern trombonists call them “ice-cream cones”) give the sackbutts a mellower tone and easier high register than the trombone.*

The evolution of these instruments was not only slight but so gradual that it is impossible to draw a hard and fast line between the last sackbutts and the first trombones. A convenient division year is 1785, the low point of trombone history. Modern sackbutts are based largely on seventeenth-century models.

* The highest notes of the slide trumpet are possible because its bore is narrower still. The valveless trumpet (of which, remember, the slide trumpet is only a slight modification) had a much narrower bore than modern trumpets, being in effect a soprano horn.


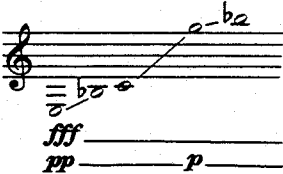
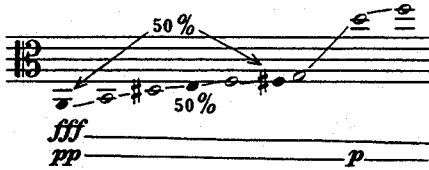
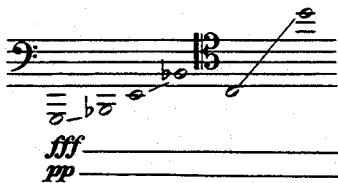
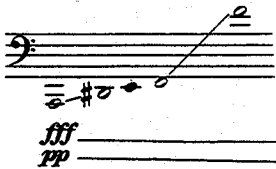
<i>name of instrument</i>	<i>abbreviations</i>	<i>approximate dates of original use</i>	<i>written range</i>	<i>sounds</i>	<i>availability</i>
slide trumpet	slide trp. slide tr.	1400–1750		as written	very rare
soprano sackbutt	ssack.	1690–1785		as written	very rare
alto sackbutt	asack.	1450–1785		as written	rare
tenor sackbutt	tsack.	1450–1785		as written	rare
bass sackbutt	bsack.	1500–1785		as written	rare

FIGURE 264. *Sackbutts and slide trumpet—vital statistics.*

The tenor sackbutt is built in non-transposing B \flat and the bass in E \flat , with a tuning slide adjustable down to D;* a few basses are built in F/E, a tone higher. Note that the bass sackbutt is provided with a pivoting handle that enables the slide to be extended the full seven positions, not just six as in later bass trombones. Alto sackbutts are made in both F and E \flat , and this difference accounts for the competing “extra” notes shown in Figure 264. The soprano sackbutt in B \flat (never called “sackbutt” historically) was—with rare exceptions—used only to double the soprano voices in German chorales.

* Tuning down to D makes the E $_0$ available but takes away the E \flat_0 .

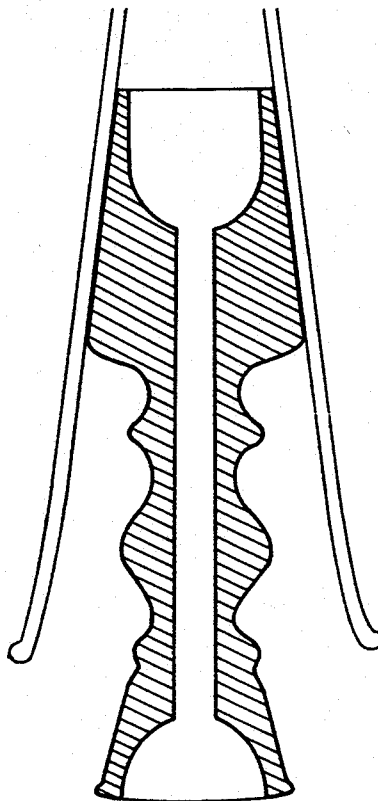


FIGURE 265. Diagrammatic longitudinal section of a Baroque trumpet mute in place.

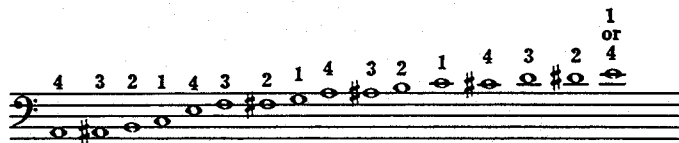


FIGURE 266. Chart of slide positions for the lower register of the slide trumpet.

The sackbutt is often used anachronistically in modern performances of fourteenth-century music. While the substitution of tenor sackbutt for the very rare slide trumpet does no great violence, there is only the flimsiest evidence that even the latter instrument existed prior to 1400, nor does the sackbutt's tone fit the angular, gothic spirit of the *Ars nova*. What evidence we have seems to indicate that even in the fifteenth century these instruments were used only for dance music.

MUSICAL EXAMPLES

SACKBUTTS:

- G. Gabrieli, Sonata No. 18 (a 14), from *Canzoni e Sonate* (1615) (3A, 6T, B)
- Schütz, *Symphoniae Sacrae*, Pt. I, No. 13: "Fili mi Absalon" (AATB)
- Schmelzer, Sonata "La Carolietta" (1669) (T)
- Kagel, *Musik für Renaissanceinstrumente* (ATB)

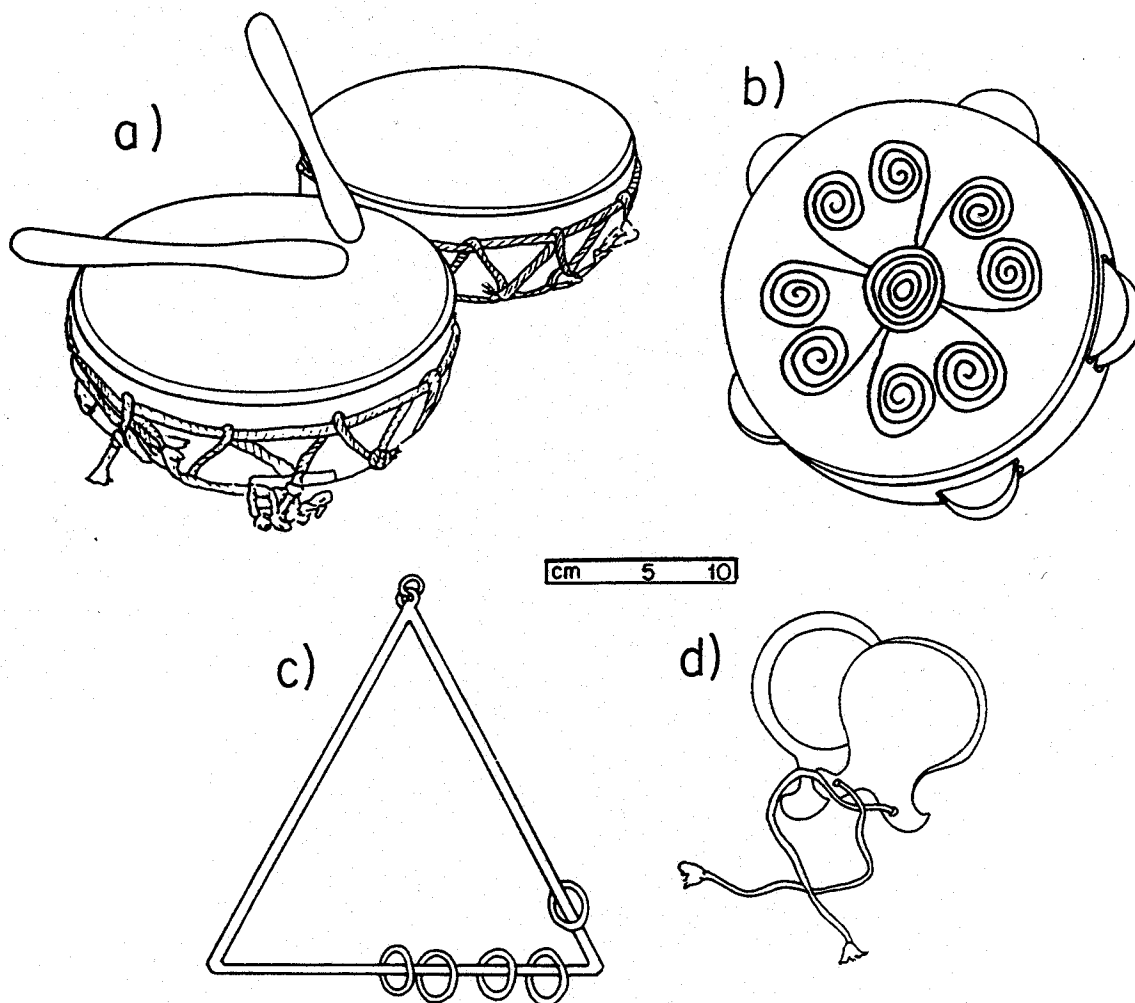


FIGURE 267. *Early percussion instruments: (a) nakers; (b) timbrel; (c) Renaissance triangle; (d) early castanets.*

EARLY PERCUSSION

The golden age of percussion is right now. There is scarcely any older type of percussion instrument that does not have a close modern equivalent, and early percussion cannot be of much interest to the modern composer.

Twentieth-century enthusiasm for highly varied rhythms and timbres has led to an insupportable overutilization of percussion in performances of early music—a distortion as bad in its way as the varied dynamics and “corrected” harmonies applied to that music by nineteenth-century editors.

A large variety of percussion instruments are known to have existed in the Middle Ages and Renaissance, but only a handful would have been used in the surviving music of those times. The early forms of snare, bass, and tenor drums, as well as the timpani, were exclusively military instruments, used for signaling and to keep time on the march. Numerous other

instruments were used only in folk music or were simply noisemakers. Only the following eight types appear to have had any use in art music, and then only in the limited contexts specified in Chapter XI.

Nakers (1250–1500) are a type of small kettledrum, sometimes provided with a snare. They are played in pairs, with short, bulbous wooden sticks—never, authentically, with the fingers. Their pitch is much less clear than most such drums and is completely undefined on instruments with a snare.

The **tabor** (–1650) was always used conjointly with the tabor pipe (discussed above in the section on recorders) in dance music. The modern *tambourin provençal* is a tabor, but the instrument may take other forms, often much shorter and flatter but always with one or more gut snares across the batter head.

The **timbrel** (–1650) is a tambourine. Its numerous jingles are of hammered brass and may take the form of pellet bells. There may also be a snare across the head. All these features are found in certain modern Near Eastern tambourines, which may reliably be used as timbrels. The brass jingles give the instrument a dry, rustling timbre quite unlike the lush jingling of a modern tambourine.

Renaissance triangles (–1810), more varied in form than modern ones, were often trapezoidal. More important, there were three metal rings (five, after 1600) strung along the instrument's lower beam, and these gave it a strong, jangling sound. Since all three varieties are closed (to prevent the rings from falling off), the brilliant tang of the modern triangle is absent. Note how long such instruments remained in use. The triangle in Mozart's *Abduction from the Seraglio* should be of this type.

Up to a diatonic octave of small **bells** were occasionally used liturgically during the Middle Ages, but apparently not in any other music.

Crotales, in their hand-held form, and smallish, thin **crash cymbals** were in use at least occasionally throughout the period. The former were the more common up to the beginning of the seventeenth century.

Finally, **castanets**, in the tricky-to-use two-piece form in which they still exist as folk instruments, were used (in Iberia only) from about 1200 on.

Even reasonably authentic modern reconstructions of any of these instruments are very rare, but the temptation to substitute modern forms or to use folk or toy instruments should be resisted.