CHAPTER XIII.

A CENTURY AND A HALF OF THE EARLY LIFE
OF THE TRANSVERSE FLUTE.

A.D. 1511—1660.

§397. EARLY WRITERS ON THE FLUTE: SEBASTIAN VIRDUNG,
1511.—400. MARTIN AGRICOLA, 1528, 1545.—401. THOINOT ARBEAU,
1588.—402. SALOMON DE CAUS, 1614.—403. MICHAEL PRÆTORIUS,
1620.—404. MARIN MERSENNE, 1637.—405. ATHANASIIUS KIRCHER,
1650.—406. THE FINGERING, AND OTHER PARTICULARS OF THE
PRIMITIVE FLUTES.

397. Early Writers on the Flute. Sebastian Virdung, 1511.
The early history of the instrument that is now called a flute is
involved in much obscurity, the sources of information being
few and imperfect. I have not been able to discover any
engraving of a flute prior to that given by Sebastian Virdung
(1511), nor have I seen any authentic allusion to an earlier
description or representation of an instrument of this type,
though casual mention of the transverse flute appears in writings
of much earlier date. For instance: Guillaume de Machault, a
noted French poet of the fourteenth century, discourses of
"Tahouns, flautes traversaines."

The only copy in England of Virdung's extremely rare and
valuable work is the property of Mr. Alfred H. Littleton, to
whose kindness I am deeply indebted for the opportunity of
inspecting it, and of comparing it with his fine copy of the Latin
translation by Luscinius (1536). Mr. Littleton is also the
fortunate possessor of perfect copies of the Syntagma of Præ-
torius, and the first edition of the Musica Instrumentalis Deutshe
by Martin Agricola (1528). Of the former work the British
Museum possesses only the volume of plates, and of the latter
but a tattered fragment.

The small oblong work of Virdung consists of fifty-six leaves,
not paged. A copy of it is priced, in a catalogue recently
printed in Vienna, at three thousand florins. Fétis (1860)
describes the book as containing fourteen leaves: he must there-
fore have seen only an incomplete copy. A well-executed
facsimile of the entire work has recently been printed in
Germany.

398. The instrument figured by Virdung (fig. 37), though
bearing a close resemblance to a flute, does not appear to have
been known in the sixteenth century, either in Germany or in
Switzerland, by that name. The Fletten represented by Virdung
are but whistles, with their mouth-pieces not sloped according
to the present fashion, for passing between the lips, but cut off
nearly square as if intended to be placed to the mouth after
the manner of a trumpet. These instruments are styled in France
flûtes droitès.

Rabelais relates in his Life of Gargantua, which is supposed to
have been written in 1535, that "Gargantua played on the
German flute," but the instrument then known in France by
that name, was called in Germany the Schwytzerpfeiff (Swiss
pipe), or the Zwurchpfeiff (transverse pipe), and it appears to
have been known in Switzerland by the latter name only.

399. Although the fife was used in the French army early in
the sixteenth century, it is evident that both it and the flute,
were little known, and less understood, by the Germans in those
days, for Virdung's representation of it is so incorrect in its
proportions that it can only have been drawn either from
imperfect recollection or from imagination. One cannot believe
that such an instrument as he has figured could have produced
a musical scale, the finger-holes being too close together and too
far from the mouth-hole to admit of such a possibility.

As much confusion has arisen between the Schwegel and the
Zwurchpfeiff, I give here a facsimile of Virdung's wood-engraving
of both instruments. He supplies no detailed account of them, nor any indication of the manner in which they were fingered, but the testimony of later authors leaves no doubt that he has correctly applied the names, and the drawing, though rude, is sufficiently exact for the purpose of identification.

Nachtgall, who writes under the pseudonym of Luscinius (a literal rendering of the old German name), translated, more or less literally, the entire work of Virdung into Latin, without any acknowledgment of its authorship, and evidently made use of Virdung's wood-blocks, but some of these have been carelessly or ignorantly inverted, and the names of the instruments misplaced. This is notably the case with the two pipes under discussion, and Sir John Hawkins (1776), W. N. James (1826), and others, who knew nothing of Virdung, have repeated the error of Nachtgall, applying the name Schwöl to the primitive transverse flute, instead of to the whistle. A comparison of figures 37 and 38 will be sufficient to explain the origin of the mistake.

It is evident that the Zwergpfiff was a primitive flute, and that the Schwöl was the barbaric pipe which has survived, in all its primitive simplicity, even to our own time. Not long since, I witnessed a performance on one of these pipes in the streets of London. The performer was apparently a Savoyard who, while he beat a tabour with his right hand and kept a string of
puppets dancing by means of his knee, held the pipe to his lips with his left hand and charmed the British public with a sort of quasi-musical "twiddling" thereon.

400. Martin Agricola, 1528, 1545, gives a wood-cut of four Swiss pipes placed left-handed. In the latest edition of his work (1545), the pipes are portrayed as in the annexed facsimile.
These are not much more correctly drawn than the transverse pipe of Virdung, but in the same volume there is a wood-cut which is peculiarly interesting, being probably the earliest published representation of a really possible flute, capable of giving an approach to a musical scale.

**Fig. 40.**

*Facsimile of Martin Agricola's engraving of the Schweytzerpfeiff (1545).*

It must be left to the ingenious reader to carry out the indications of Agricola for the holding of this pipe.

In all the editions of Agricola, the *Flooten* and the *Schwegel* are represented as in Virdung.

401. Thoinot Arbeau, in his "Orchesographie" (1588) affords some information on the subject of the *fie* of his time, and also on the duties of a professor of that instrument, duties which can scarcely be pronounced onerous. "We apply the name *fie*," he writes, "to a small transverse flute with six holes, which is used by the Germans and the Swiss, and which, as it has a very narrow bore no bigger than a pistol bullet, gives a piercing sound. . . .

"Those who perform on this instrument, play according to their own pleasure, and it is enough for them to keep time with the sound of the drum." (tambour en cadence avec le son du tambour.)

402. Salomon de Caus (1614) divides musical instruments into three classes: "instruments with fixed sounds, the intervals of which cannot be in any manner altered by the performer; instruments with sounds partly fixed, as viols, lutes, guiternes, cithres and the like, which are provided with frets, and instruments with sounds that can be altered by the performer, for example: cornets, flutes and hautbois; which are graduated with holes that to some extent determine the sounds; nevertheless, those who know well how to manage the said instruments can raise or lower them at their pleasure by means of the fingers, which cover the holes little by little, according to the will of the player." (ceux qui savent bien manier lesdits Instruments peuvent les hausser ou baisser à leur plaisir par le moyen des doibs qui bouchent lesdits trous, peu à peu, selon la volonté du joueur.)

It was not only by the partial opening and closing of the finger-holes, that the imperfect notes of the old flutes may have been rendered just: the power of changing the direction and force of the air-current, judiciously applied, no doubt exercised an ameliorating influence, for we have absolutely no right to assume that the ears of our forefathers were less acute than our own in the matter of intonation.

403. Praetorius, 1620. In the celebrated *Theatrum Instrument.
torius of Michael Praetorius (1620) four flutes are shown, which are at least as imperfectly drawn as the transverse pipe of Virdung or the four Swiss pipes of Agricola, but considerable interest attaches to the largest of the flutes given by Praetorius, inasmuch as it is probably the earliest representation extant of a flute made in two pieces. I have therefore thought it worth reproducing.

**Fig. 41.**

*Facsimile of an engraving of a “Schwytzerpleiff” from Michael Praetorius (1620).*

There is a rough attempt to indicate, in Brunswick-feet, the sizes of the instruments delineated by Praetorius, but the scale is so imperfect, and the reference to it so obscure, that it is impossible to arrive at any definite conclusion as to the author's meaning.

**404. Marin Mersenne (1637).** The account of the flute given by Mersenne, in his great work so frequently cited in these pages, is very interesting, and his measurements, though they scarcely "monstrent les endroits des trous d'intoniques assez exactement pour en faire d'autres à l'imitation," are yet precise enough to show the dimensions of the tube of the instrument which he delineates. On the opposite page will be found an exact reproduction of his curiously rude wood-cut, with a translation of his accompanying explanation.

"The part A B C serves only for ornament; C represents the place at which the cork determines the length of the instrument at the upper end: . . . . it is therefore evident that the length of the flute should be measured only from C to E. Now I have left the curvature in this figure because it has been taken from one of the best flutes in the world, which was bent: that is why I give here its length, which is one foot and five-sixths. [This refers to the old French-foot, or pied de roi, of .3248394 metre. The length given would amount to 23.45 English inches.] The distance from B to the embouchure is three inches [3.2 English inches]. It is sounded by placing the lower lip on the edge of the first hole and blowing extremely softly. From the cork to the lumière, 1, there is a distance of only eight lines [.71 English inch]. Its bore is of equal width throughout, . . . . and this width is also eight lines."

The size of the mouth-hole is not given. The finger-holes are described as varying from three to five lines (.266 to .444 English inches) in diameter.

The distances between some of the holes are given, but the distances from 1 to 2, from 5 to 6, and from 7 to the
open end are omitted. The engraving does not correspond at all to the given measurements.

405. Athanasius Kircher (1650) speaks only of the military fife, and mentions its being in constant use, in conjunction with the drum, in the armies of Europe, especially the Swiss Guards of the Pope. He gives an engraving of the fife, which differs in no respect from those given by earlier authors and which therefore possesses no particular interest, and he refers his readers to Mersenne for a description of the instrument.

406. The Fingering and other Particulars of the Primitive Flute. We have no trustworthy clue to the actual sounds of the very early flutes, but if we consider the lowest note as d', the scale would have been fingered as in the following table, taken from Mersenne, the earliest that I have been able to find. Other methods of fingering were also probably adopted for the c''#, and the e''.

Table of the Fingering of the Primitive Flute.

<table>
<thead>
<tr>
<th>d'</th>
<th>e'</th>
<th>f</th>
<th>g</th>
<th>a</th>
<th>b</th>
<th>c''</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>d''</td>
</tr>
</tbody>
</table>
|    |    |   |   |   |   | c''#

407. It is obvious that, with the exceptions of d', g', b'' and g'', the notes of the above scale must have been very imperfect, as in no other instances are the necessary requirements fulfilled, for on account of there having been no holes for d', f', g', a', b', and c''# of the first and second octaves were veiled notes; moreover, the e and a holes must have been placed above their correct positions in order to render it possible for the fingers to reach them, consequently they required to be made smaller than the others, to the still further detriment of the tone. The notes for which there were no special holes, if such notes were used, could only have been made by fork-fingerings, by partially covered holes, or by a combination of both methods. The f''#, to which allusion has been made in §374, is an example of one of these badly veiled notes. This was really an f''# flattened down to f'#, and it may be considered that below the open f'# hole of Mersenne's flute there would have been three closed holes when this note was fingered, namely: those for f', c# and e#, as there were no perforations for f# or e#. It will, however, be observed that the scale of Mersenne affords no grounds for supposing that the flute of his time was used otherwise than as a purely diatonic instrument.

Further allusions to veiled notes will be found in chapters XIV. and XV.

408. In the absence of precise indications of the positions and sizes of the finger-holes, it is impossible to arrive at any really definite conclusions as to the merits of the notes of the third octave. The d'' would probably have been fairly good, being the third harmonic (the interval of a fifteenth) of d', assisted by the c# hole as a vent-hole. The last four notes must have been exceedingly difficult to produce correctly, the e'' especially. This note is the third harmonic (the fifteenth) of d', assisted by the g hole, the true vent-hole for d''#, and sharpened by the a hole, the true vent-hole for e''#. The f''# is the fourth harmonic (the seventeenth) of d', assisted by the f''# hole as a vent-hole, and further improved by the e hole. The g''# is the same harmonic, further sharpened by the g hole. The a''# is the fifth harmonic (the nineteenth) of d', assisted by the a hole, its true vent-hole.

409. All the flutes described in this chapter were probably of wood; the mouth-hole was round, or nearly so, and there is
no reason to believe that the bore was intended to be otherwise than cylindrical. Although keys appear to have been common on all other wind-instruments, during this century and a half, we have no direct evidence that they were then applied to flutes, though we may infer that certain large flutes mentioned by Mersenne were furnished with them, as otherwise it would have been impossible for the fingers to have covered the holes. There is, however, no proof that the flute was made with more than six finger-holes prior to the year 1660, either for the purpose of increasing its compass, or for the alteration of its original diatonic character, a defect much lamented by Merseppne.

410. Notwithstanding the rude construction of the early flutes and their extremely limited capabilities, the unrivalled charm of the tone peculiar to the instrument must always have been present in some degree, and to this great point of excellence, combined with the power of the skilful player to rectify imperfect notes, we may consider that the flute owed its popularity for so many years. It is not improbable that owing to the power above mentioned, the early flute, though actually one of the most imperfect of wind-instruments in construction, was more perfect in performance than any of its contemporaries.

411. There is no evidence, of which I have any knowledge, that the transverse flute was known in England at the period of which this chapter treats, we may therefore hope that William Prynne’s denunciation of flute-players in 1633 was intended for the professors of the “English flute” or flute-à-bec. “If,” said that most intolerant divine, in his Histrio Mastro, “a stage player, be it a man or a woman, a charioteer, gladiator, race runner, a fencer, a practiser of Olympian games, a flute-player, a fiddler, a harper, a dancer, an alehouse keeper, come to turn Christian, either let him give over these professions, or else be rejected.”

CHAPTER XIV.

THE HISTORY OF THE FLUTE FROM 1660 TO 1827.