as in a specimen in the British Museum. This instrument measured 4 feet 6 inches in length, and the scale was that herewith shown. The Roman cornu was probably like the Greek keras. The three preceding instruments were used in giving signals to the infantry. The cavalry calls were given with the lituus, a specimen of which exists in the museum of the Vatican, found in 1827 in a tomb at Cerveteri (Cære). The tube is cylindrical for the greater part of its length, its conical development beginning only at the lower end, where the instrument begins to curve. The lituus easily produces the accompanying proper notes ; its quality of tone is like that of a trumpet in G. In Ireland and Denmark numerous mouthpiece instruments in bronze have been found, sixteen different specimens being preserved in the museum of the Royal Irish Academy at Dublin, and six (of which facsimiles exist in South Kensington Museum) in the museum at Copenhagen. But none of these have the proportions of a trumpet ; all, by the conical development of the tube as well as by the curved form, recall their first model, the horn, successive transformations of which have given rise to the clarion and the numerous family of bugles.

We have no precise information as to the form which the lituus, the ancestor of the modern trumpet, assumed during the Middle Ages. A miniature in the Bible@@1 pre­sented in 850 to Charles the Bald places the lituus in the hands of one of the companions of King David, but we are not warranted in concluding from this that the Etruscan instrument was in use in the 9th century. The earliest representation of the trumpet with its present proportions of tube and form of bell seems to belong to the 15th century. Fra Angelico (d. 1455) has painted angels with trumpets having either straight or zigzag tubes, the shortest being about 5 feet long. The perfect representation of the details, the exactness of the propor­tions, the natural pose of the angel players, suggest that the artist painted the instruments from real models.

The credit of having bent the tube of the trumpet in three parallel branches, thus creating its modern form, has usually been claimed for a Frenchman named Maurin (1498-1515). But the transformation was really made in Italy about the middle of the 15th century, as is proved by the bas-reliefs of Luca della Robbia intended to orna­ment the organ chamber of the cathedral of Florence (see vol. XX. p. 588) ; there a trumpet having the tube bent back as just described is very distinctly figured. From the beginning of the 16th century we have numerous sources of information. Virdung@@2 cites three kinds of mouthpiece instruments—the *felttrumet,* the *clareta,* and the *thurner horn* ; unfortunately he does not mention their distinctive characters, and it is impossible to make them out by examination of his engravings. Probably the felttrumet and the clareta closely resembled each other ; but the compass of the former, destined for military sig­nals, hardly went beyond the 8th proper tone, while the latter, reserved for high parts, was like the clarino (see below). The thurner horn was probably a kind of clarino or clarion used by watchmen on the towers. The *trummet* and the *jäger trommet* are the only two mouth­piece instruments of the trumpet kind cited by Prætorius.@@3 The first was tuned in D at the chamber pitch or “ kam- merton,” but with the help of a shank it could be put in C, the equivalent of the “ chorton ” D, the two differ­ing about a tone. Sometimes the trummet was lowered

to B and even B♭. The jäger trommet, or “ trompette de chasse,” was composed of a tube bent several times in circles, like the posthorn, to make use of a comparison employed by Prætorius himself. His drawing does not make it clear whether the column of air was like that of the trumpet ; there is therefore some doubt as to the true character of the instrument. The same author further cites a wooden trumpet (*hölzern trommet),* which is no other than the Swiss alpen-horn or Norwegian luur. Mersenne’s@@4 information is not very instructive ; but he gives a description of the *sourdine,* a kind of mute or damper introduced into the bell, already employed in his time, and still made use of to weaken the sound. The shape of the trumpet, as seen in the bas-reliefs of Luca della Robbia, was retained for more than three hundred years : the first alterations destined to revolutionize the whole technique of the instrument were made about the middle of the 18th century. Notwithstanding the im­perfections of the trumpet during this long period, the performers upon it acquired an astonishing dexterity.

The usual scale of the typical trumpet, that in D, is

Prætorius exceeds the limits of this compass in the higher range, for he says a good trumpeter could produce the subjoined notes.

This opinion is shared by Bach, who, in a trumpet solo which ends the cantata “Der Himmel lacht,” wrote up to the twentieth of these sounds. So considerable a compass could not be reached by one instrumentalist : the trumpet part had therefore to be divided, and each division was designated by a special name.@@5 The fundamental or first proper note was called *flattergrob,* the second *grobstimme,* the third *faulstimme,* the fourth *mittelstimme.* The part that was called principal went from the fifth to the tenth of these tones. The higher region, which had received the name of “ clarino,” was again divided into two parts : the first began at the eighth proper tone and mounted up towards the extreme high limit of the com­pass, according to the skill of the executant ; the second, beginning at the sixth proper tone, rarely went beyond the twelfth. Each of these parts was confided to a special trumpeter, who executed it by using a larger or a smaller mouthpiece.

Playing the clarino differed essentially from playing the military trumpet, which corresponded in compass to that called principal. Compelled to employ very small mouthpieces to facilitate the emis­sion of very high sounds, clarino players could not fail to alter the tone of the instrument, and instead of getting the brilliant and energetic quality of tone of the mean register they were only able to produce more or less doubtful notes without power and splendour. Apart from this inconvenience, the clarino presented numerous deviations from just intonation. Hence the players of that time failed to obviate the bad effects inevitably resulting from the natural imperfection of the harmonic scale of the trumpet in that extreme part of its compass ; in the execution, for instance, of the works of Bach, where the trumpet should give sometimes and the instrumentalist could only command some the eleventh proper tone, which

times is neither the one nor the other of these.

Further, the thirteenth proper tone, for which is written, is really too flat, and it is absolutely impossible to

remedy this defect, since it entirely depends upon the

laws of resonance affecting columns of air.

Since the abandonment of the clarino (about the middle of the 18th century) our orchestras have been enriched with trumpets that permit the execution of the old clarino parts, not only with perfect justness of intonation, but with a quality of tone that is not deficient in character when compared with the mean register of the old principal instrument. The introduction of the clarinet or little clarino is one of the causes which led to the abandonment of the older instrument and may explain the preference given by the composers of that epoch to the mean register of the trumpet. The clarino having disappeared before Mozart’s day, he had to change the trumpet parts of Handel and Bach to allow of their execution by the performers of his own time. It was now that crooks began to be frequently used. Trumpets were made in F instead of in D, furnished with a series of shanks of increasing length for the tonalities of E, E♭, D, D♭, C, B, B♭, and sometimes even A.

@@@1 In the Bibliothèque Nationale at Paris.

*@@@2 Musica getutscht und auszgezogen,* Basel, 1511.

*@@@3 Organographia,* Wolfenbüttel, 1619.

*@@@4 Harmonie Universelle,* Paris, 1636.

*@@@5 Der sich selbst informirende Musicus,* Augsburg, 1762, by Lotter.