

1911 Encyclopædia Britannica/Bugle

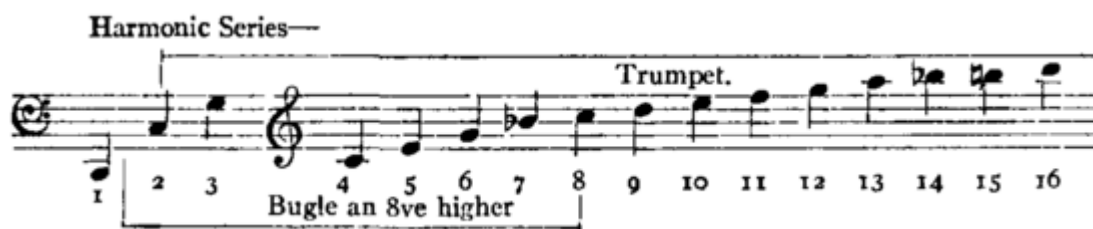
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BUGLE, BUGLE-HORN, KEYED BUGLE, KENT BUGLE OR REGENT'S BUGLE (Fr. *Bugle, Clairon, Cor à clefs, Bugle à clefs*; Ger. *Flügelhorn, Signalhorn, Bugelhorn, Klappenhorn, Kenthorn*; Ital. *Corna cromatica*), a treble brass wind instrument with cup-shaped mouthpiece and conical bore, used as a military duty and signal instrument. The bugle was originally, as its name denotes, a bull's horn,^[1] of which it has preserved the characteristic conical bore of rapidly increasing diameter.

Those members of the brass wind such as the horns, bugle, trumpet and tubas, which, in their simplest form, consist of tubes without lateral openings, depend for their scale on the harmonic series obtained by overblowing, i.e. by greater pressure of breath and by the increased tension of the lips, acting as reeds, across the mouthpiece. The harmonic series thus produced, which depends on the acoustic principles of the tube itself, and is absolutely uninfluenced by the manner in which the tube is bent, forms a natural subdivision in classifying these instruments:—(1) Those in which the lower harmonics from the second to the sixth or eighth are employed, such as the bugle, post-horn, the cornet à pistons, the trombone. (2) Those in which the higher harmonics from the third or fourth to the twelfth or sixteenth are mostly used, such as the French horn and trumpet. (3) Those that produce the fundamental tone and harmonics up to the eighth, such as the tubas and ophicleide.




FIG. 1.—Modern Service Bugle, British Army (Charles Mahillon).



We thus find a fundamental difference between the trumpet and the bugle as regards the harmonic series. But although, to the casual beholder, these instruments may present a general similarity, there are other important structural distinctions. The tube of the trumpet is cylindrical, widening only at the bell, whereas that of the bugle, as stated above, is conical. Both instruments have cup-shaped mouthpieces outwardly similar. The peculiar shape of the basins, however, at the place where they open into the tube, angular in the trumpet and bevelled in the bugle, taken in conjunction with the bore of the main tube, gives to the trumpet its brilliant blaring tone, and to the bugle its more veiled but penetrating quality, characteristic of the whole family.^[2] Only five notes are required for the various bugle-calls, although the actual compass of the instrument consists of eight, of which the first or fundamental, however, being of poor quality, is never used. There are bugles in C and in E flat, but the bugle in B flat is most generally used; the key of C is used in notation.

buglerenc fit en sa tor soner" (*Aiol*, 7457, *Société des anciens textes français*). Tubas, horns, cornets and bugles have as common archetype the horn of ram, bull or other animal, whose form was copied and modified in bronze, wood, brass, ivory, silver, &c. Of all these instruments, the bugle has in the highest degree retained the acoustic properties and the characteristic scale of the prototype, and is still put to the original use for giving military signals. The shofar of the ancient Hebrews, used at the siege of Jericho, was a cow's horn (Josh. vi. 4, 5, 8, 13, &c.), translated in the Vulgate *buccina*, in the paraphrase of the Chaldee *buccina ex cornu*. The directions given for sounding the trumpets of beaten silver described in Numbers x. form the earliest code of signals yet known; the narrative shows that the Israelites had metal wind instruments; if, therefore, they retained the more primitive cow's horn and ram's horn (shofar), it was from choice, because they attached special significance to them in connexion with their ritual. The trumpet of silver mentioned above was the *Khatsotsrah*, probably the long straight trumpet or tuba, which also occurs among the instruments in the musical scenes of the ancient Egyptians and Assyrians. Gideon's use of a massed band of three hundred shofars to terrify and defeat the Midianites (Judges vii. 16), and Saul's call to arms (1 Sam. xiii. 3) show that the value of the shofar as a military instrument was well understood by the Jews. The cornu was used by the Roman infantry to sound the military calls, and Vegetius^[10] states that the tuba and buccina were also used for the same purpose. Mahillon possesses a facsimile of an ancient Etruscan cornu, the length of which is 1.40 m.; he gives its scale,^[11] pitched one tone below that of the

bugle in E flat, as that of D flat, of which the harmonics , from the second

to the sixth are available. The same department of the British Museum was enriched in 1904 with a terra-cotta model (fig. 2) of a late Roman bugle (c. 4th century A.D.), bent completely round upon itself to form a coil between the mouthpiece and the bell-end (the latter has been broken off). This precious relic was found at Ventoux in France and has been acquired from the collection of M. Morel. This is precisely the form of bugle now used as a badge by the first battalion of the King's Own Light Infantry.^[12] During the middle ages the use of the bugle-horn by knights and huntsmen, and perhaps also in naval warfare, was general in Europe, as the following additional quotations will show: "XXX cors bugleres, fait l'amirax soner" (*Conq. de Jérusalem*, 6811, Hippeau); "Two squyers blewe ... with ij grete bugles hornes" (Caxton, *Chron. Engl. ccix. 192*). The oliphant was a glorified bugle-horn made of rich material, such as ivory, carved and inlaid with designs in gold and silver.

The history of the bugle as a military instrument is in England closely connected with the creation of the light infantry, in which it gradually superseded the drum^[13] as a duty and signal instrument. It was during the 17th century that the change was inaugurated; improvements in firearms brought about the gradual abandonment of armour by the infantry, and the formation of the light infantry and the adoption of the bugle followed by degrees. One of the oldest light infantry regiments, Prince Albert's 1st Somerset Light Infantry, formed in 1685 by the earl of Huntingdon, employed a drummer at that date at a shilling per day.^[14] At the end of the 18th century we find the bugle the recognized signal instrument in the light infantry, while the trumpet remained that of the cavalry. The general order introducing the bugle as a minor badge for the light infantry is under date 28th of December 1814. In 1856 the popularity of the keyed or Royal Kent



FIG. 2.—Terra Cotta Model of Roman Bugle, 4th cent. (British Museum).

bugle in the army had reached its height. A bugle-band was formed in the Royal Artillery as a substitute for the drum and fife band.^[15] The organization and training of this bugle-band were entrusted to Trumpet-major James Lawson, who raised it to a very high standard of excellence. Major Lawson was a fine cornet player, and finding the scale of the service bugle too restricted he obtained permission to add to it a valve attachment, which made the bugle a chromatic instrument like the cornet, in fact practically a saxhorn. Before long, horns in E flat, tenor horns in B flat, euphoniums and bass tubas were added, all made of copper, and in 1869 the name of "bugle band" was changed to R.A. Brass Band, and in 1877 it was merged in the Mounted Band. The bugle with its double development by means of keys into Royal Kent bugle and ophicleide, and by means of valves into saxhorns and tubas, formed the nucleus of brass bands of all countries during the greater part of the 19th century. The Flügelhorn, as its name denotes, became the signal instrument of the infantry in Germany as in England, and still holds it own with the keyed bugle in the fine military bands of Austro-Hungary.

There is in the department of prehistoric antiquities at the British Museum a fine bugle-horn belonging to the Bronze Age in Denmark; the tube, which has an accentuated conical bore, is bent in a semi-circle, and has on the inner bend a series of little rings from which were probably suspended ornaments or cords. An engraved design runs spirally round the whole length of the tube, which is in an excellent state of preservation.

Meyerbeer introduced the bugle in B flat in his opera *Robert-le-Diable* in the scene of the resurrection of the nuns, and a bugle in A in the fifth act.

See, for further information on the technique of the instrument, Logier's *Introduction to the Art of Playing on the Royal Kent Bugle* (London, Clementi, 1820); and for the use of the bugle in the French army, G. Kastner, *Le Manuel général de musique militaire* (with illustrations, Paris, 1848).

(K. S.)

Endnotes

1. The word is derived from Lat. *buculus*, a young bull. "Bugle," meaning a long jet or black glass bead, used in trimming ladies' dresses, is possibly connected with the Ger. *Bugel*, a bent piece of metal. The English name "bugle" is also given to a common labiate plant, the *Ajuga reptans*, not to be confused with the "Bugloss" or *Anchusa officinalis*.
2. For diagrams of these mouthpieces see V.C. Mahillon, *Éléments d'acoustique* (Brussels, 1874), p. 96.
3. See E. van der Straeten, *La Musique aux Pays-bas*, vol. vii. p. 38, where the instrument is not mentioned as a novelty; also Léon, comte de Laborde, *Les Ducs de Bourgogne*, pt. ii. (*Preuves*), (Paris, 1849), tom. i. p. 365, No. 1266.
4. Martin Agricola, *Musica Instrumentalis deudsch* (Wittenberg, 1528), f. viii^b.
5. Michael Praetorius, *Syntagma Musicum* (Wolfenbüttel, 1618), pl. viii. No. 5.
6. See Captain C.R. Day, *Descript. Catalogue* (London, 1891), pp. 168-169, and pl. xi. fig. D.
7. Barthol. Trevisa, *De Propr. Rebus*, xviii., xv., 1495, 774.
8. *King Alisaunder*, 5112 and 5282.
9. *Dictionnaire de l'ancienne langue française du IXe an XVe siècle*.

10. *De re militari*, bk. iii. ch. v.
11. See *Catal. descriptif du musée instrumental du conservatoire de Bruxelles*, vol. i. (Ghent, 1880), p. 331. There are, in the department of Greek and Roman antiquities at the British Museum, two bronze Etruscan cornua, No. 2734, resembling the hunting horns of the middle ages and bent in a semicircular shape. They measure from end to end respectively 2 ft. 1 in. and 2 ft. 2 in.
12. Maj. J.H.L. Archer, *The British Army Records* (London, 1888), p. 402.
13. For the use of the drum in the 16th century, see Sir John Smyth, *Instructions and Observations for all Chieftaines, Captaines, &c.* (London, 1595), pp. 158-159.
14. See Richard Cannon, *Historical Records of the regiment* (London, 1848), p. 3.
15. See H.G. Farmer, *Memoirs of the Royal Artillery Band* (London, 1904), p. 183.

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