

The Roman *Bucina*: A Distinct Musical Instrument?

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Introduction

The *bucina* was one of five brass instruments cited in Latin literature: *tuba*, *cornu*, *bucina*, *lituus*, and *classicum*. The musicians who played these instruments were called *tubicines*, *cornicines*, *bucinatores*, *liticines*, and *classici*. Most performers were military musicians, except for the priests (*sacerdotes*) who performed the public sacrifices and supervised the *Tubilustria* (*tubicines sacrorum*).¹ All these categories of brass musicians are mentioned in Latin literature and sometimes portrayed on Roman monuments or named in inscriptions. Curiously, however, despite numerous literary and epigraphical citations, the nature of the instrument that the *bucinator* played is not clear. Ancient sources do not indicate how or if the *bucina* differed from the other instruments. This paper will examine this evidence along with the opinions of modern scholars, and a new interpretation will be suggested. Let us begin with the most definite information.

The *tuba*

The appearance of the Roman *tuba* or Greek *salpinx* is familiar: a long and slender straight metal tube with a bell and a mouthpiece, thus not at all like the large curved modern “bass” tuba nor the smaller valved instrument we call a “trumpet.” Greek examples from the sixth-fifth centuries BCE appear to have been relatively light, as the strutting performers on vase paintings demonstrate, holding their instruments pointing either up or down (see Figures 1-4). They hold them with one hand, the free hand pressing against the hip to help dilate the torso. Sometimes a chinstrap or *phorbeia* was used to support the cheeks. According to a late commentator on Homer,² the Greeks knew of six kinds of *salpinx*: the first was quite long, created by Athena for Tyrrenus (whence Athena Salpinx was honored by the Argives); the second was spherical, invented by the Egyptians, who called it a *chnoun* and used it to call people to sacrifice; the third, or Galatic, was metal-cast and not very big, having a bell (*kodona*) shaped like an animal and a leaden mouthpiece (*aulos*) into which trumpeters blew (it was high-pitched and was called by the Celts a *karnyx*); the fourth was Paphlagonic, larger than the first type, with a bell shaped like an oxhead and a deep-pitched sound; the fifth was Medic, with a reed or cane mouthpiece (*aulos*) and a low-pitched (*baryphonon*) bell; the sixth was Tyrsenic (Etruscan), like a Phrygian pipe (*aulos*) with a curved (*keklaşmenon*: “broken back”) bell and very high-pitched. Unfortunately, nothing more is known about this intriguing inventory.³

The functions of the Roman *tuba* are described in many texts. Military signals in general—including those that marked the commencement of battle, advance or retreat of troops, moving camp, calling soldiers back to camp, assembly, and silence—formed a significant part of its “repertoire.” The instruments were also employed at funerals, parades,

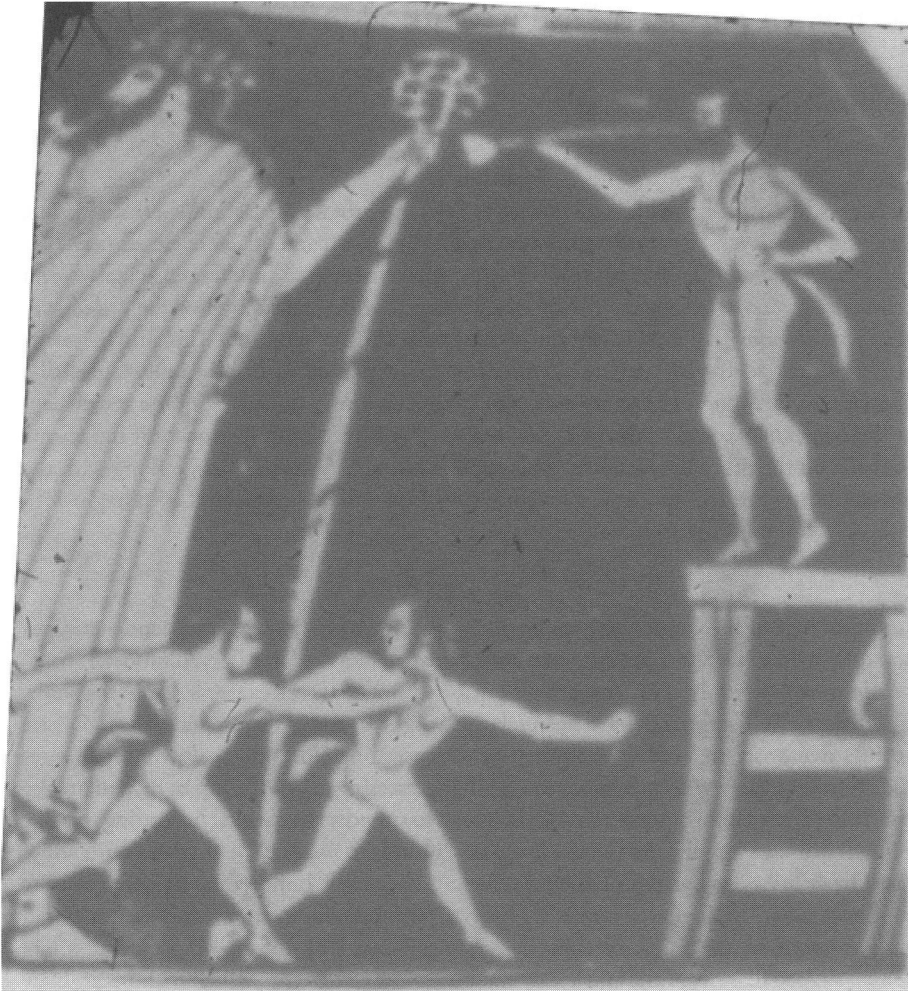


Figure 1

Tuba player. Red-figured *oinochoe* in Berlin, Altamura painter, ca. 465-60 BCE.

Dionysus with a *thyrsus* preceded by two small Silenuses; a third figure standing on a platform plays a conic-bell salpinx in honor of victory.

From Daniel Paquette, *L'Instrument de musique dans la céramique de la Grèce antique* (Paris: Rocard, 1984), p. 77 (T1). Reprinted by permission.



Figure 2

Tuba player. Cup from Vulci, Ashby painter, ca. 500 BCE. A hoplite trumpeter plays a *salpinx*, probably elongated by the artist to fill the space harmoniously.

From Paquette, *L'Instrument de musique*, p. 77 (T2). Reprinted by permission.



Figure 3

Tuba player. Black-figured plate in London, Psiax painter, ca. 520 BCE.

An archer plays a *salpinx* with the aid of a *phorbeia*.

From Paquette, *L'Instrument de musique*, p. 77 (T3). Reprinted by permission.



Figure 4

Tuba player. Black-figured plate, Psiax painter, ca. 520 BCE, depicting a marching hoplite playing a *salpinx* ball-shaped bell. His right arm is on his thoracic cage. From Paquette, *L'Instrument de musique*, p. 77 (T4). Reprinted by permission.

sacrifices, and at the beginning of contests and games.⁴ John Landels has recently pointed out that none of the Roman brass instruments was used quite like the *salpinx*, which functioned almost exclusively in military contexts.⁵ Most illustrations show a solo player in military costume; in Etruscan and Roman art, however, players are portrayed in small groups (Figure 5a).

Sometimes the word *tuba* is used in a generic sense to refer to a *cornu* or any “tube” instrument, as when Silius Italicus (*Punica* 4.169) describes Tyrrenus’ death by Pelorus’ javelin throw while he was playing his *cornu* to stir on his comrades; the sound trickled through his curved instrument (*flexa cornua*-4.174). Later (5.12), however, he says that Tyrrenus had come to Italy and introduced the unfamiliar sounds of the *tuba*.⁶

The *cornu*

The term *cornu* has two meanings: an animal horn and a metal instrument (usually bronze). In keeping with the former meaning, the term can apply also to the musical oboe-like *tibia*, as Statius shows (*Thebaid* 6.120): *cum signum luctus cornu grave mugit adunco / tibia* (“when a *tibia* plays a low sound of grief on (its) curved horn”). On monuments it is identifiable as the G-shaped circular brass instrument located among the soldiers, near the standards. The Greeks do not seem to have used it, although the word *keras* is found occasionally in reference to musical instruments. It is unclear whether this term means the G-shaped instrument or the more rudimentary animal horn. The Greeks called the Roman horn-players *bykanistai* or *kampylosalpistai*. Ancient sources do not explain why the Romans used the *tuba* in battle and the *cornu* to mark the movement of the standards and accompany the general. It may simply have been that the difference in shape rather than in sound made the curved variety more practical for moving around in close formations. (Note their depiction on Trajan’s column; see Figures 6, 7.) Horns were frequently grouped with trumpets, as in the following passages:

arma misit cornu tubas (Cicero, *Pro Sulla*, 17: “he sent as weapons horns and trumpets, etc.”); *ex copia tubicinum et cornicinum numero quinque quam velocissimos delegit* (Sallust, *Bellum Jugurthinum* 93.8: “from the available ‘trumpet-players’ and ‘horn-players’ he chose the five most swift”); *si plostra ducenta / concurrantque foro tria funera magna, sonabit / cornua quod vincatque tubas* (Horace, *Sermones* 1.6.42-44: “If two hundred wagons and three large funeral processions ran together in the forum, it would make a sound louder than horns and trumpets”); *cornicines tubicinesque in equo impositos canere ante uallum iubet* (Livy, *History* 2.64: “he orders horn and trumpet players placed on horseback to play before the rampart”); *cornua nam et tubae simul inflabantur* (Servius on Vergil’s use of *conspirant* in *Aeneid* 7.615: “for horns and trumpets are blown at the same time”); *non tuba derecti, non aeris cornua flexi* (Ovid, *Metamorphoses* 1.98: “neither trumpet of straight nor horns of bent bronze”); *qui vix cornicines exaudiet atque concentus tubarum / concentus* (Juvenal, *Satires* 10.214, referring to an area of the theater where spectators could “scarcely hear the horns and trumpets playing together”).

The *lituus*

The *lituus* is also easily identified, although there is much dispute about its use (Figure 5b).⁷ It was a *tuba* curved at the end so that its shape resembled an augur's staff; hence the name. According to the late grammarian Paulus-Festus (as cited in the *Thesaurus Linguae Latinae*, s.v. "lituus"), it was a kind of curved *bucina* (*lituus est . . . genus bucinæ incurvæ*). The Latin words *incurva*, *recurva*, and *flexilis* correspond to (but do not translate) the English "J-shaped" and "hooked" to describe its appearance. It may have been invented by attaching an animal *cornu* to the end of a reed stem to provide a bell and then this pattern was reproduced in bronze.⁸ Aulus Gellius says that Vergil used the word *lituus* for *tuba*, as is clear from his citation of Misenus' fame resting on his *lituus* (*Aeneid*. 6.167) and shortly afterwards (6.233) having him buried with his *tuba*. Thus again the *tuba* appears as a general term for a metal instrument.



Figure 5a, b

a) Etruscan players of *cornu* and *lituus*.

b) *Lituus* from Caere.

From Fleischhauer, *Etrurien und Rom*, plates 18-19. Reprinted by permission.



Figure 6

Three *cornicines*, one *tubicen*. Relief from Trajan's column, Rome. From Günter Fleischhauer, *Etrurien und Rom* (Leipzig: Deutsche Verlag für Musik, 1964), bd. II, lfg. 5 of *Musikgeschichte in Bildern*, plate 33. Reprinted by permission.

Renato Meucci calls the *lituus* “the most problematic of the Roman military instruments”⁹ and proposes two distinct uses of the word: a bronze J-shaped instrument found in documents of the Republican period and a later use meaning a simple animal horn. He speculates that the confusion arose when the *bucina* took over certain functions of the *lituus*. He doubts their military use, while noting the presence of *liticines* in the third legion Augusta and in Seneca (*Oedipus* 733).¹⁰ Observing that *litui* and *bucinae* are never listed together, as if irrelevant or impossible to distinguish, he concludes that they are equivalent (at least in non-military usage).¹¹ Thus Meucci is inclined to follow a late scholiast on Horace, *Carmina* 1.1.23, who says that the curved horn *lituus* was a cavalry instrument with a higher tone than the *tuba*, and it was also called *bucina* (*litui qui fiunt ex cornu recurvo, qui alio nomine bucina vocatur*).¹²

The term *lituus* does not appear in Greek except as a transliteration of the Roman augur's staff.¹³ Even in Latin it is not found in many passages, and those that do tend to list it with other instruments, especially with *tubae*:

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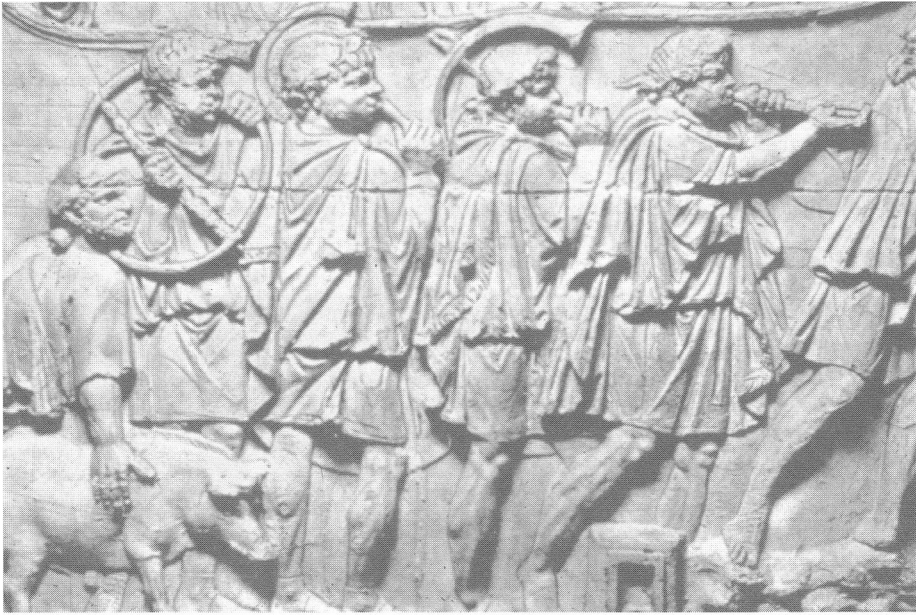


Figure 7
Detail of Figure 6.

stridor *lituum* clangorque *tubarum* (Lucan, *Bellum Civile* 1.237: “the screeching of *litui* and the clangor of *tubae*”); *Multos castra iuvant et lituo tubae | permixtus sonitus* (Horace, *Odes* 1.1.23: “Many people like military camps and the sound of the *tuba* mixed with the *lituus*”); *lituique tubaeque* (Silius Italicus, *Punica* 9.554); *quis autem ignorat lituos et tubas concitamenta esse?* (Seneca, *Dialogi* 5.9: “Who does not know that *litui* and *tubae* are stimulants?”); *quique tubas acres lituosque audire volentem* (Stattius, *Silvae* 5.3.193: “[Achilles] who wished to hear harsh *tubae* and *litui*”); *murmura ceu lituos rapiunt aut signa tubarum* (Stattius, *Thebais* 11.529: “they take up their cries like *litui* or the signals of *tubae*”); *lituique tubaeque* (Silius Italicus, *Punica* 9.554).

Poets favor *litui*: cf. Statius, *Thebaid* 7.622: *vexilla tubaeque . . . litui . . . secuti* (“the flags and *tubae* and *litui* followed”). Like Misenus (in Vergil’s *Aeneid*, 6), Agyrtes was expert on the *lituus*—and also carried a hidden *tuba* (Stattius, *Achilleid* 1.725: *lituo bonus occultamque tubam adportet*)—surely the same instrument. Aulus Gellius refers to the signals of *cornuum tubarumve* (1.11) and then adds that their purpose (*cornua et litui*) is to rouse courage. The substitution of *litui* for *tubae* in one sentence would suggest that the two terms could be interchanged. Silius Italicus refers often to the *lituus*, illustrating the imprecise terminology (at least in poetry).

Thus the term came to be used as a synonym for *tuba*, especially in poetic passages, where the use of one or the other term may be due to metrical convenience or variation—a distinction without a real difference, as Curt Sachs observed.¹⁴ One theory that may be proffered is that the *tuba* and *lituus* were brass counterparts of the reed instrument known as the Phrygian *aulos* or “double *tibiae*” (see Figure 8) in which one pipe was straight and the other curved. The Romans and Greeks obviously enjoyed the double sound of these instruments, played either in unison or harmoniously (with one acting as a drone) in a



Figure 8

Performer playing double *tibiae*. From Fleischhauer, *Etrurien und Rom*, plate 42.

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manner not clear to us today. The following passages show the combination of *litui* and horns, with Lucan's passage clearly indicating a trifold distinction between *lituus*, horn and *tuba*:

trepidum solvunt tibi cornua ventrem / cum lituis audita (Juvenal, *Satires* 14.199-200: "the horns heard along with the *litui* release your nervous stomach"); *liticinibus, cornicinibus* (Cicero, *De Republica* 2.22.40 [incomplete sentence], listing the members of one of the voting groups, including the musicians who played the *lituus* and the *cornu*); *Aer / elisus lituis conceptaque classica cornu, / tunc ausae dare signa tubae* (Lucan, *Bellum Civile* 7.476-7: "The air / was shattered by the *litui* and the calls [*classica*] were taken up by the *cornu*, / then the *tubae* dared to sound the signals").

Inscriptions in the *Corpus Inscriptionum Latinarum* citing and/or possibly portraying *liticines* also contribute to the impression that the three instruments were different: CIL 6.33999 (*Ex Collegio Liticinum Cornicum* [for M. Iulius Victor]) and CIL 6.34000 (for Cn. Coponius Felicio, who is depicted holding two instruments, one of which is clearly a *cornu* and the other possibly a *lituus*);¹⁵ CIL 6.40307 (*Aenatores Tubicines Liticines Cornicines Romani* ["Roman Brass Players on Tuba, Lituus and Cornu"]) and CIL 6.40334 (*Aenatores Tubicines Liticines Cornicines*).

Thus *litui* are found in significant literary and epigraphical sources and appear to be distinct. They were either a group of brass players for which we have no clear military information (Cicero, *de Re Publica* 2.40 refers to a century [a military organization] of *liticines*); or the term could be used as a synonym for *tuba*, especially when coupled with *cornua* and in poetic passages, where the use of one or the other term may be due to metrical convenience or variation.

To summarize, then, three types of brass instruments can be distinguished from descriptions in ancient literature as well as from visual evidence. Two other terms are found occasionally: *classicum* and *siticines*.

The *Classicum*

The Romans referred to a kind of fanfare that called people to assembly (the "classes") as a *classicum* and they also used the same word for the instrument that played it.¹⁶ The *Thesaurus Linguae Latinae* defines it as "a musical instrument used to convoke both voting assemblies and armies" (*instrumentum musicum quo et comitia et exercitus vocabantur*) and gives many citations of its use: e.g., Livy 2.45.12: "When he had called for silence with his *classicum*" (*cum silentium classico fecisset*); 2.59.6: "He gave the signal for departure with the *classicum*" (*classico signum profectionis dedit*).¹⁷ Moreover, according to Servius' commentary on the *Aeneid*, 7.637, "the *classicum* is the *flexilis* or curved *tuba*." Servius also says (at *Aeneid* 7.716) that the cavalry *tubae* were called *classica*, thereby providing us with another term for the cavalry instrument. Varro (*Lingua Latina* 5.91 and 6.92) defines a *classicus* as the *apparitor magistratum* (attendant of magistrates) who plays the *classicum* on both the *cornu* and the

lituus. As these citations show, the performers were called *classici*, whereas *classicum* was a term for either the instrument (thus a substitute for either a *cornu* or *lituus* when used on special occasions) or the sound (i.e., the music that was played).

Siticines

Commenting on a word in a speech by M. Porcius Cato, Aulus Gellius (*Noctes Atticae* 20.2) puzzles over the etymology of an unusual word that he finds there: *siticines*.

Caesellius Vindex in commentariis lectionum antiquarum scire quidem se ait liticines lituo cantare et tubicines tuba; quid istuc autem sit, quo siticines cantant, homo ingenuae veritatis scire sese negat. (A. Gellius, *Noctes Atticae* 20.2: “Caesellius Vindex, in his commentaries on ancient readings, says that he is aware that *liticines* play on the *lituus* and *tubicines* on the *tuba*; but what that is upon which *siticines* play the man of simple truth admits that he does not know.”)

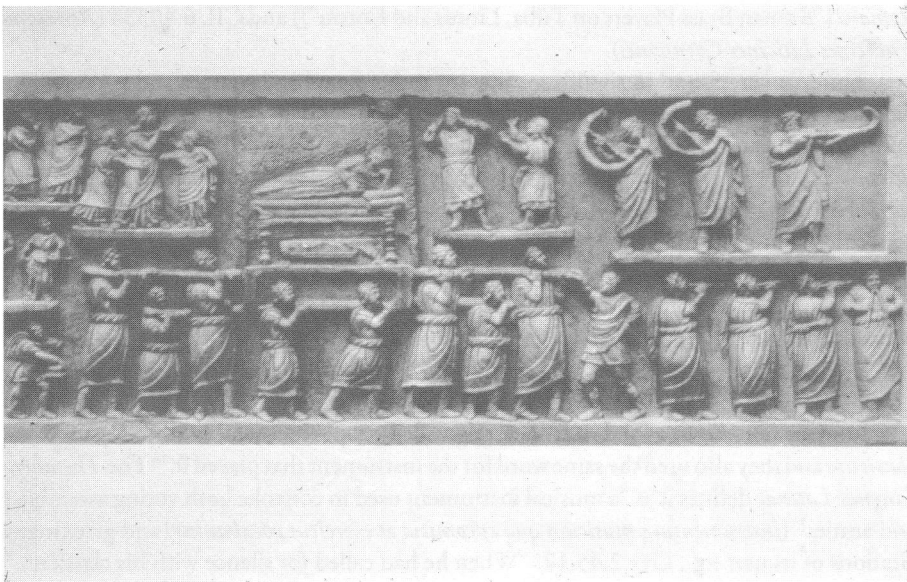


Figure 9

Relief from Amiternum. *Pompa funebris* with two *praeeficae*, two *cornicines*, *liticen*, four *tubicines*, *pollinctor*, *feretrum* et *dissignator*.

From Fleischhauer, *Etrurien und Rom*, plate 25. Reprinted by permission



Figure 10

Detail of Figure 9. Two *cornicines*, one *liticen*.

He derives it from the participle *siti* in the funeral sense of “those who have finished their lives and are buried, and they had their own kind of *tuba* on which they played, differing from the instruments of the other *tuba*-players.” Thus the musicians who performed at funerals (the brass and perhaps even the reed players and singers) were called *siticines* collectively. These are portrayed handsomely on the first century BCE relief from Amiternum (Figures 9, 10).¹⁸ There are references to the *tuba funerea* or *funesta* in Ovid’s *Epistula* 12.140 and Propertius’ *Elegy* 2.7. From the quaint saying that you should “send for the trumpet players”¹⁹ when death is imminent to the use of trumpets or bugles to play “taps” at military funerals today, this kind of brass instrument is often associated with death and resurrection. The employment of the *aeneatores* at funerals in Rome probably had an apotropaic purpose, in contrast to the function of the “flute players” (*tibicines*), who accompanied the singers of lamentations (*neniae*) near the bier. “Brass” instruments typically appeared at the head of the procession bearing the corpse to the cemetery. Horace (*Satire* 1.6.42ff.) and Juvenal (*Satire* 10.213) suggest that they produced some of the loudest sounds in ancient society.²⁰ Persius (*Satire* 3.103 ff.) and Propertius (*Elegy* 2.13.17 ff.) provide a synopsis of the Roman burial ritual.

The *bucina*

To consider now the *bucina*, the *Thesaurus Linguae Latinae* provides scores of citations (categorized by musical instrument, shape and sound, military employment, Christian usage, and metaphor) in both classical literature and the Bible. In the classical passages the nouns *bucina*, *bucinus*, *bucinum*, and *bucinator* and the verb *bucino* appear in both military and civilian as well as metaphorical contexts: e.g., a *bucina* to announce the divisions of the night (e.g., “at the third *bucina*” [*ad tertiam bucinam*]); a *bucinator* left in camp as a tactical maneuver to give the appearance of occupation by continuing to “note” the hours; Trimalchio’s *bucinator* standing next to his *horologium* (*Satyricon*. 26); Triton blowing (*bucinat*) on a conch;²¹ Tiro as the *bucinator* of Cicero’s reputation. Wille cites most of these, so we give here only a selection.²²

Flavius Caper (*De Orthographia* vii, p. 99, 16), in defining the *bucina* “as a *tuba* on which the *bucinator* gives a signal,” seems to use *tuba* in the generic sense, i.e., as the word for a long tubal instrument. In some passages, however, it is cited in opposition to or in contrast with the straight *tuba*. Lucan (*Bellum Civile* 2.689) contrasts the *bucina*’s role as an announcer of the time with the *tuba*’s role of leading sailors to the sea; in reference to Vergil’s citation of the *bucina* as the sign of war (*Aeneid* 7.519 and 11.475), Servius comments on the *tuba*’s duty of signaling battle; Apuleius (*Florida* 17) compares the human voice to various instruments (lyre, *tibia*, *fistula*) including the *tuba* and *bucina*. In these citations the *bucina* was perceived to have a different role or sound from the *tuba*. Polybius (*History* 12.4) notes that flocks of animals on Corsica respond to the individual *salpinx* of their own shepherds, as in Italy the swineherds control their herds by playing the *bycane*. Varro (*De Re Rustica* 2.4) and Columella (*De Re Rustica* 6.23) also cite this tradition. The sources do not say whether the instrument was anything more than a cow’s horn, but here Polybius seems to use the Greek words *salpinx* and *bukane* as synonyms to indicate a simple shepherd’s horn.

The derivation of the word is “prob[ably] *bou-cana*; *bos + cano*” (according to the *Oxford Latin Dictionary*) and therefore borrowed by the Greeks from the Romans and not vice versa. Since there is no denominative verb associated with the *tuba*, *cornu* or the other words for trumpet (“to play the horn or trumpet”), *bucinare* was used when a substitute for *canere* was desired. Also the similarity of *bou* (= cow) and *bucca* (= cheek) may have created confusion in the supposed derivation of *bucinare* since both sources seem appropriate to the sense. Both *buccina* and *bucina* are found in the sources. He “plays-a-cow’s horn” or “plays-[by blowing out his]-cheeks” were perhaps slang phrases for playing any of the brass instruments. Isidore of Seville (*Origines* 18.4.1) speculated that the etymology was connected with the Latin word for “voice”: “*Buccina* came from the word for ‘voice’ as if [at first] ‘vocina’” (*buccina . . . a voce dicta quasi vocina*). The verb is used with both *tuba* and *cornu* (as well as *concha*) and often impersonally: “Someone played a *bucina*” (*bucinatum est*).

Typically the *bucinator* was a solitary performer most often associated with the following activities: announcing the times of vigils at night or events (e.g., assemblies) during the day; calling country people to assembly (Servius commenting on Vergil’s *Georgics* 2.383; Varro, *De Re Rustica* 2.4.20); dismissing banquets (Tacitus, *Annales* 15.30).

In other similar examples, Varus led his army in silence toward a town, leaving the *bucinator* in camp along with a few tents for appearance; about the third watch (Caesar, *Bellum Civile* 2.35); [a general] set out at night, leaving the *bucinator* behind to divide the watches properly for those remaining (Frontinus, *Strategemata*, 1.5.17); a *bucina* divided the night in the middle of sleep (Silius Italicus, *Punica* 7.154); the signal was given on a *bucina* for the second watch (Livy, *History* 7.35; also 26.15; Lucan, *Bellum Civile* 2.689; Propertius, *Elegy* 4.4.63; Quintilian, *Institutio Oratoria* 9.2; Seneca, *Thyestes* 799); the crowing of roosters rouses you [Servius], that of the *bucinatores* him [Murena] (Cicero, *Pro Murena* 22);²³ Trimalchio has an *horologium* in his dining room with a *bucinator* positioned by it (Petronius, *Satyricon* 26.9); a certain orator spoke so long that the *bucina* sounded three times (Seneca, *Controversia* 7.1.16). Even in popular Roman military expressions the *bucina* appears in the singular in contrast to the *lituus* and *tuba*: *ad primam bucinam* (signifying a wake-up call;²⁴ *post lituos* (after the battle is over); *ante tubas* (as Juvenal says at 1.169, “you should realize before the trumpets sound that it is too late to regret warfare when you are dressed for battle” *galeatum sero duelli/paenitet*); and finally, *in medias tubas* (into the midst of battle).

It is noteworthy that plural forms of *bucina* and *bucinator* are less common and we will discuss the significance of this later. For the moment let us note that plural forms usually occur in contexts that are literary rather than literal (like the passage from Cicero above), metaphorical (as Ammianus Marcellinus 16, 8, 11 refers to *bucinae* of wicked citizens), or apocalyptic (e.g., Salvienus, *De Gubernatione Dei* 1, 43 refers to the “frightening sounds of celestial *bucinae*”). For our purpose, the most important classical author who used plural forms was Flavius Vegetius Renatus and he deserves more detailed attention.

Vegetius

He published his *Epitoma Rei Militaris* sometime between 383 and 410 CE. In the first of three passages that mention *bucinatores* (2.7), Vegetius cites both musicians and instruments in his list of “Names and Ranks of the Commanders of the Legion” (*nomina et gradus principiorum legionis*):

Tubicines, cornicines, and bucinatores who are accustomed to begin the battle by playing on the tuba or curved bronze [instrument] or *bucina*. (*Tubicines, cornicines, et bucinatores qui tuba vel aere curvo vel bucina committere proelium solent*).

By this account three groups of “brass” players customarily begin the battle on what appear to be three different instruments: a *tuba* or curved bronze [instrument] or *bucina*. He avoids the term *cornu* perhaps because it would imply that the “curved bronze” was an animal horn and he does not define *bucina* because he thought the meaning was obvious.

In the second passage (2.22), oddly entitled “The difference between trumpeters, horn players, and the *classicum*” (*Quid inter tubicines et cornicines et classicum intersit*), he states that “the legion has *tubicines, cornicines* and *bucinatores*... “Whenever the soldiers go out to perform some task, the *tubicines* play; when the standards are to be moved, the *cornicines* play; when a battle is to be fought, both play together.” Then he adds a sentence that has

caused much confusion among modern scholars: *Classicum item appellatur quod bucinatores per cornu dicunt* (“Likewise that which *bucinatores* play through a horn is called a *classicum*”). It would appear that a sentence has been omitted before this, indicating when the *bucinatores* played, since he has just stated when the other two brass players played; but instead of that the *classicum* is introduced and defined as a kind of fanfare sounded when the general was present or issued an order. Then the *bucinatores* are said to play it “through” a *cornu* (cf. Aulus Gellius, *Attic Nights* 15.27 for a similar phrase: the centuriate assembly is convoked *per cornicinem*). As we have seen above (*Classicum*), Varro said that this music was played on a *lituus* or *cornu*. Although Vegetius does not provide a definition of *bucina*, he does indicate that the *bucinator* on certain occasions played a *cornu*.

In the third passage (3.5) he distinguishes three types of military signals: vocal, semivocal and mute. Semivocal signals are those which are given “through” (*per*) a *tuba* or *cornu* or *bucina*:

The [instrument] which is straight is called the *tuba*; [the one] which is bent towards itself in a bronze circle is called the *bucina*; [the horn] which [comes] from wild oxen, joined with silver, [and] produces a sound controlled by the skill and force of the breath of the player is called the *cornu*. (*Tuba quae directa est appellatur; bucina quae in semet aereo circulo flectitur; cornu quod ex uris aegrestibus, argento nexum, temperatum arte spiritique canentis flatus emittit auditum.*)

Here the punctuation is crucial; as it stands, the *bucina* is a circular instrument, while the *cornu* is described as the horn of an animal combined with silver and requiring special skill to play. It is interesting that Vegetius gives a more detailed account of the *cornu*, but it cannot be known if it was really more difficult to play or if his elaborate seven-word phrase applies to the *tuba* instruments generally and simply reflects some poetic source (as M.P. Speidel astutely surmises²⁵). Speidel follows an intriguing alternative reading of a tenth-century manuscript (*Palatinus Latinus* 909) that has a different punctuation, with the semicolons placed after *bucina* and removed before *cornu*, producing the reading: “the *tuba* which is straight is called the *bucina*; [the *tuba*] which is made of bronze and bent in a circle is called the *cornu*; because (formerly) made from the horns of wild buffaloes etc.” Meucci²⁶ disputes Speidel’s interpretation and furthermore theorizes that an error of transposition was made by a late copyist, reversing the correct order of *cornu* and *bucina*; thus he makes the *cornu* the circular instrument and the *bucina* the animal horn decorated in silver.²⁷

Both the original reading and the textual adjustments raise questions. Left as it stands, the text gives three types (a, b, and c) and then defines them in a different order (a, c, and b), perhaps because the *tuba* and *bucina* are more similar than the silver-joined *cornu* since they are made of bronze. Also, the Latin seems oddly expressed (omitting the subject) to give the meaning “the [instrument] which is straight is called the *tuba*”; yet comparison with Vegetius’ definition of the *classicum* in 2.2 reveals the same construction. On the other hand, Speidel’s proposed emendation raises the objection of naming three instruments and then

identifying only two: “Semivocal signals are those given by the *tuba*, by the *cornu*, or by the *bucina*. The straight instrument is called *bucina*. The trumpet that curves in a brass circle (is called) *cornu*, because (when) made from the horns of wild buffaloes.”²⁸ Meucci’s emendation retains Vegetius’ order of naming the instruments and supports the traditional interpretation of *cornu* as a circular metal horn, while defining the *bucina* as a decorated animal horn. In any event, in these important passages Vegetius (1) lists *bucinatores* as one of the three types of brass musician, (2) defines one of their duties (playing the *classicum*), and (3) describes, if somewhat confusingly, the appearance of their instrument. The reader, however, could not be faulted for concluding that either the text has been disturbed or else Vegetius himself was not clear about the function of *bucinatores*. The former seems more likely, given Vegetius’ expertise on the Roman army.²⁹

The Shape of the *Bucina*

Our survey of Latin literature demonstrates that the term *bucina* was commonly used to refer to a curved bronze or natural horn instrument, but there is no reliable description of its appearance that distinguishes it from the G-shaped metal *cornu* or a curved animal horn. Among modern scholars, Philip Bate surmises that its prototype was “the natural oxhorn with the tip cut off and used either with or without a metal mouthpiece,”³⁰ and supposes that “in the Roman army it took the form of an elegant tapered tube with no bell, but in later Latin the word might possibly be used for any instrument applied to the lips.”³¹ Yann Le Bohec thinks that it was possibly a short *tuba* with a slight curve but that it was rarely employed.³² Meucci cites the late writer Ioannes Lydus (*De Magistratibus* 1.46), who distinguishes *tubicines* as infantry buglers from *bucinatores* as cavalry buglers.³³ According to a scholiast on Horace (*Odes* 1.1.23), their instrument was the *lituus*; according to Servius (*Aeneid* 7.716) it was the *classicum* (“We call the *tubas* of the cavalry *classica*” [*equitum tubas classica dicimus*]). Agreeing with Meucci, Wille affirms that “the *bucina* was principally the instrument of the Roman cavalry” (“die *Bucina* war aber hauptsächlich das Instrument der römischen Reiterei”),³⁴ basing his conclusion on the tombstone of the Equestrian Andes (*CIL* 13.7023) and others,³⁵ although the instrument crudely drawn on the stone (now in Mainz), identified by *CIL* as a *buccina*, might just as easily be taken as an attempt to portray the curves of a *cornu*. G. Tintori thinks that a “precise distinction between the two instruments is not easy” (“precisa distinzione tra i due strumenti [*cornu e buccina*] non è facile”).³⁶ In the most recent book on Greek and Roman music, John Landels concludes that “the names *cornu* and *bucina* were more or less synonymous and interchangeable,” a view distinctly opposed to Fleischhauer’s conclusion.³⁷ Furthermore, both Meucci and Le Bohec believe that the musician at the head of two *cornicines* on Trajan’s Column, usually interpreted as a trumpeter playing a *tuba* with its end broken off, is playing a *bucina*.³⁸ Thus modern scholars have concluded that the *bucina* was a curved instrument, but of indeterminate appearance.

***Bucina* in Greek**

Although there is no evidence for the word *bucina* in Roman authors before Varro, Polybius provides many examples of Greek words based on the Latin as early as the third century BCE: the instrument (*bykana*), the player (*bykanistes* and *bykanetes*), the sound (*bykanema* and *bykanismos*), the verbs (*bykanao* and *boukanao*: see Polybius' *History* 6.35.12; 15.12.2; Dionysius of Halicarnassus, *Antiquitates Romanae* 2.8). Polybius often refers to trumpeters (*salpinktai*) and horn players (*bykanistai*) together; since Roman *tubicines* and *cornicines* traditionally worked in close association, it seems likely that he is alluding to the *cornicines* by this term.³⁹ Many Greek and Latin military accounts include the almost formulaic combination of curved horn and straight trumpet in their descriptions of battle scenes.⁴⁰

Why did Polybius resort to a Hellenized Latin word, *bykana*, instead of the Greek *keras* to translate *cornu*? As indicated earlier, the Greeks did not use the Roman G-shaped *cornu*, although they did have a word for "horn player" and "horn-playing" (*keraulēs* / *keraulia*).⁴¹ However, assuming that Polybius and other writers used a transliterated Latin word (*boukanistes*) for a group of military hornplayers, why did they not transliterate the word *cornicen*? Perhaps it was simply because the Roman term in the third century BCE was *bucinator*, not *cornicen*. The fact that it is an agent noun instead of a word formed on the analogy of other instrumentalists (*tubicen*, *cornicen*) indicates that the verb *bucino* already existed. Other instruments, like the lyre (*fides*) or the *tibia* (Greek *aulos*, commonly though misleadingly translated as "flute"), produced a prolific offspring of related words: e.g., *tubicen* (found in Plautus), *tubicina*, *tubicinium* and even *tubicinator*. But *tubicina* (female trumpeter) and *bucinatrix* are not recorded, although Athenaeus (*Deipnosophistae* 10.7) reports that women were famous as trumpeters in Greece.

Biblical References

Biblical references to the *bucina* occur only in the Old Testament in reference to the ram's horn *shofar*. According to the Latin vulgate, Saul played the *bucina* (1 Sam. 13:3) as well as Joab (2 Sam. 18:16), David (2 Sam. 6:15), Gideon (Judges 7:18-19), and Sheba (2 Sam. 20:1). English translations of this term are notoriously inaccurate. The King James version, for example, translates the Hebrew word in these passages (*shofar*) as "trumpet." In fact, one cannot tell from most English concordances which Hebrew word lies behind the lists of passages where "horn" or "trumpet" appears without consulting the text or *The New Strong's Exhaustive Concordance to the Bible* (1990), which gives a key to the Hebrew words. In the Book of Numbers (10:2-10) where the sacred trumpets of silver are described by the Hebrew word *hasosra* (*hatzotzeroth* or *chatzotzrah*), the Greek and Latin translations use *salpinx* and *tuba*. This indicates the clear distinction in Mosaic times between natural horns and man-made trumpets of metal (made "of whole piece"). Josephus (*Jewish Antiquities* 3.291) says that the trumpets designed by Moses were "a kind of *bucina*," implying that they were curved, although he may mean only that Moses' *hasosra* was shorter than a trumpet, "not quite a cubit long." The silver trumpets depicted on the Arch of Titus, however, are straight and relatively longer than this. In spite of the inaccuracies of English translations, the use of *bucina* in reference primarily to *shofar* indicates again that the Latin word was considered a curved instrument.

Visual Evidence

Roman monuments depict many scenes of musicians but they show only the three basic kinds of bronze instrument that we have noted in literary sources: two straight forms (*tuba* and the J-shaped *lituus*) and the G-shaped *cornu*. Unfortunately we cannot be sure what the Romans called the instruments depicted on monuments, since names were never attached. The indication by Vegetius and others that the *cornicines* stood near the standards is a valid reason for identifying the musicians carrying G-shaped horns on Trajan's column as *cornicines*. The few scenes on other monuments depicting musicians with instruments along with an identifying inscription portray *tubicines* (Aurelius Salvienus and Sibbaeus Eronis filius), *cornicines* (M. Antonius Ianuarius and Andes), and a member of the *collegium liticinum cornicinum* with his two instruments (M. Iulius Victor).⁴² Speidel points out that "[n]owhere on the many monuments of the Roman army has an identifiable *bucina* been found yet."⁴³ Thus he emphasizes the uniqueness of the tombstone for the *bucinator* A. Surus, depicting a long straight brass instrument that most observers would call a *tuba*. The question remains whether Speidel is correct in concluding that the instrument carved on the tombstone has "a narrow, cylindrical bore flaring out only close to the bell"⁴⁴ and is therefore a *bucina*, in contrast to the *tuba's* "markedly conical bore over its entire length."⁴⁵ Ancient writers do not comment on the shape of the bore and the depiction on monuments may be untrustworthy in this detail.⁴⁶

Epigraphical Evidence

The three abbreviations that are standard on inscriptions are *TVB* for *Tubicen*, *COR* or *CORNIC* for *Cornicen* and *BVC* for *Bucinator*. We even know the names of about two hundred Roman "brass" players (most of them nothing more than names on a list): one hundred and ten identified as *Tubicines*, fifty-two *Bucinatores*, and twenty-five *Cornicines*, plus twelve *Aeneatores* and members of various "Colleges" or "Schools" of *Tuba-* and *Cornu-Players* (*Collegia* or *Scholae Tubicinum/Cornicinum*).⁴⁷ Inscriptions so far do not identify anyone as a *Classicus*, *Liticen*, or *Siticen*, although *Liticines* do appear in the heading of two or three inscriptions along with *Tubicines* and *Cornicines*. Thus inscriptions (all from the first to third centuries CE) support Vegetius' classification listing *Bucinatores* among the three types of brass musicians. CIL 8.2564, for example, lists together the names of four *TVBucines* followed by two *CORnicines* and two *BVCinatores*. (CIL 6.2379 also lists these three terms; cf. 6.2382, 6.31147, 6.32515, and 6.32638 that list *BVC* and *TVB*.) What else can this mean except that these three groups played three different instruments?

There may be another explanation. We must emphasize, first of all, that inscriptions never mention the instruments themselves, only the performers; and performers are listed as members of a group which participated in a dedication or when an individual is identified as a performer in his epitaph. Secondly, groups are listed by reference to their job, skill, rank or duty (*munus*) in the army. Thus these terms may simply indicate the various assignments of three different groups of brass musicians: for example, *tubicines* as those who gave the military signals; *cornicines* as those who marked the position and movements of the standards; and *bucinatores* as those who played at night and perhaps served generally as time-

keepers (sounding the hours on whatever instrument they had: *tuba*, *lituus* or *cornu*). When *TVB* and *BVC* are noted on lists, the former is always put first, suggesting a higher rank.⁴⁸ Vegetius (2.7), we will recall, discusses the three groups of musicians under the heading *Nomina et Gradus*. Thus inscriptions do not clarify the kinds of instruments played by the musicians.

Inscriptions, however, do provide other evidence related to our problem. There are several references to the clubs or burial organizations of musicians (*collegia*). There were *collegia* of *liticines*, *cornicines*, and *tubicines*, but none (so far) mentions *bucinatores*, although a *collegium* is implied by the Surus tombstone that was erected by the heir and “fellow member” (*collega*) of the *bucinator*. *Bucinatores* probably belonged to the *collegium* of *tubicines*. According to Livy (*History* 1.43.7) King Servius Tullius assigned the *tubicines* and *cornicines* to two unarmed centuries of the fifth class. Dionysius of Halicarnassus (*Antiquitates Romanae* 4.17.4) in his account calls them *salpistai* and *bykanistai* (and places them in the fourth class). Also, trumpet and horn makers (*tubarii*, *cornuarii*) are listed among the fifty-plus *immunes* (soldiers exempt from more onerous duties) in Justinian’s *Digest* (50.6); but note that the last two on the list are herald (*praeco*) and *bucinator*. Presumably the *cornuarii* made the *bucinator*’s instrument (unless it was only an animal horn). In addition, many other terms relating to brass musicians appear on inscriptions: some already mentioned: *Collegium/Schola Tubicinum*, *Aeneatores*, *Tubilustrium* (“Association/School of Tuba-players, Brass-players, Ceremonial Purification of the Tubas”); and others that show alternative titles and gradations in career: *Castris Tubicen*, *Discens-Bucinator*, *Erosalpistes*, *Ex-Bucinator*, *Ex-Tubicen*, *Tubocantius* (“Tuba player for the camp, Student *Bucina* player, Lover of the Greek-trumpet, Retired *Bucina*-player, Retired Tuba player, Tuba ‘singer’/player”).

The sounds of the brass instruments

Ancient writers provide many indications of the perceived sounds of musical instruments. The adjectives and other terms, however, are not sufficiently distinctive to say that they heard clear differences between them. Both the *bucina* and *tuba*, for example, are described as having sounds characterized by the following words: *clara*, *horrida*, *rauca* (clear, frightening, and harsh). When the *tuba* is mentioned alone, its characteristic sounds are not much different:

Acris (“piercing or sharp”); *amaro sonitu* (“with a bitter sound”); *fractus sonitus* (“broken sounds”); *clamor*; *clangor*; *Martius tubarum sonus* (“the Martial sound of tubas”); *murmur triste* (“sad moan”); *strepitus* (“noise”); *stridor* (“screeching”); *fremitus truces* (“grim growling”); and the frequently quoted verse: *At tuba terribili sonitu taratantara dixit* (“But a trumpet with a frightening sound played taratantara,” Ennius, *Annals* 2.451; cf. Vergil’s verse imitating this [*Aeneid* 9.503]: *At tuba terribilem sonitum procul aere canoro / increpuit* [“But a trumpet in the distance blared out a frightening sound from its resounding brass”]).

The “screeching and clanging” that poets sometimes use to describe the sounds of trumpets and *litui* (e.g., *stridor lituum clangorque tubarum* [“the screeching of *litui* and the clanging of *tubas*”] in Lucan, *Bellum Civile* 1.237) do not provide significant distinctions in sound, but the evidence from a scholiast on Horace (*Odes* 1.1.23) is quite specific: the sound of the *lituus* was high and that of the *tuba* low (*lituii acutus sonus est, tubae gravis*). It would be interesting to know whether the source for this comment was a personal account or an earlier text. The *lituus* on display in the Römisch-Germanisch Zentralmuseum in Mainz is said to have “helle, klare, durchdringende Töne” (“bright, clear, penetrating tones”). Speidel concludes from comparing the apparent differences in the shape of their bores (assuming that one of the instruments is, in fact, a *bucina*) that the sound of the *bucina* would have been shrill, piercing, sharp, and penetrating, whereas the sound of the *tuba* was fuller, rounder, and mellower.⁴⁹ The water-clock described by Vitruvius (*De Architectura*. 9.8.5) that produced various movements of figures as well as the sounds of *bucinae* (they “play” or “sing” [*canunt*]) perhaps reproduced a typical melody played by a bronze instrument to indicate the time rather than a sound that could be distinguished as that of a *bucina* as opposed to that of a *tuba* or *cornu*.

Basing his views primarily on poetic texts, Wille concludes that the sounds of the three main instruments could be distinguished as harsh (*tuba*), deep (*horn*), and bright (*lituus*); but the tone of the *bucina* cannot be clearly described except as “frightful” (like the *tuba*) and somewhat dark and similar to the horn in sound but softer.⁵⁰ When the *bucina* was heard at night, perhaps like the lowing of a cow (cf. Vergil. *Aetna* 295: *bucina emugit* or Lucretius 4.543: *cum tuba ... mugit*), one might think that its sound was more mellow than frightening, but that is not the way the Romans often reported it. From all these reports, we once again find only three instruments that were clearly distinguishable.

Conclusions

From our examination of literary, visual, epigraphical, and even auditory evidence, we conclude that the Romans used three basic kinds of lip-reed instruments. The fact that they employed seven different terms to refer to the performers may be explained by historical development and specialization. *Tuba* was the most general name for the long straight instruments and it was applied sometimes to all the tube-like instruments, whether straight or curved. In this extension their practice was similar to the modern colloquial usage of the word “horn” to refer to almost any instrument, whereas “trumpet” or “cornet” are not so generalized. *Lituus* was the name of the augur’s wand as well as the similarly shaped instrument. Since *litui* and *tubae* seem to have worked together in the army as a kind of unit producing closely related sounds, the two terms were sometimes interchanged by Roman writers, especially poets. Meucci, in fact, would consider the *bucina* and *lituus* to be identical, at least in certain periods.⁵¹ Others (Landels and Tintori) conclude that the *bucina* was basically a *cornu*. These two words, however, referring originally to the horn of an animal, also developed distinct meanings, the latter (*cornu*) used more specifically for the G-shaped instrument and the former more generally applied to any instrument used for the work of the *bucinator*. From the fact that Polybius uses the Greek form of *bucinatores* in all

probability to refer to Roman G-shaped horn players, it would appear that this was the normal term in the second century BCE.⁵² By the time of Livy (e.g., 1.43.7 and 2.64.10), however, *cornicen* seems to have become the appropriate term, although Dionysius of Halicarnassus also continues the terminology found in Polybius (*salpists* and *bukanists*). Perhaps this shift of the Latin terms, if that is what it was, occurred as the duties of the *bucinator* became more specialized (e.g., denoting the shifts of the *vigiliae*, playing the *classicum*). As a result of these changes we must acknowledge the odd facts that (1) *tubae* and *litui*—easily distinguishable shapes—are treated in Roman literature as though identical instruments, whereas (2) *bucinae* are regarded as being distinct. The other terms—*aeneatores*, *siticines* and *classici*—refer to specialized situations (military “brass” players, funerals, and the call to assembly) but—like the term *bucinatores*—do not distinguish the instruments used.

As we have seen, most modern scholars have concluded that the *bucina* was a curved instrument distinct from the *lituus* and *cornu*. The question for us is whether it was a separate instrument in the way the modern trumpet is different from the cornet or the violin from the viola, instruments that many non-professional musicians today could not distinguish by sight or sound. (Curt Sachs’ observation about the ancient Mediterranean area, where “the terms differed more than the instruments themselves,” is still relevant for our own era.) The *bucina* may have been a distinct instrument at one time, and may even have remained one, although we cannot be assured of that from the ancient evidence. Texts never describe it so much as refer to it as though its sound is familiar to all. But it is difficult to reconcile the sense of *bucina* as a rustic horn with the use of the word in many passages where it represents the instrument of the *cornicines*. The *bucina* may have started out as an animal horn but it seems unlikely that an army bugler would have performed his duties on a cowhorn (or conch shell).

And yet the impression remains that the *bucina* was not the same as the trumpet or horn. For example, when Seneca (*Apocolocyntosis* 12.1) uses the phrase “trumpeters, horn players and every kind of brass musicians” (*tubicinum, cornicinum, omnis generis aenatorum*), this suggests that he has more varieties in mind than just one (*lituus* players). Dionysius of Halicarnassus also gives a similar impression when he (4.17.3) refers to “two *salpists* and *bukanists* and the others who sounded the calls (*ta parakletika*) of war on other instruments (*organa*).” These oblique references to other types of instruments imply the existence of a variety of horns that we may not fully understand. Furthermore, the fact that several authorities say that the sound of a *bucina* was familiar to all suggests that it was a different horn producing a particular sound. One recent scholar has introduced special terminology to differentiate between these ancient “brass” instruments.⁵³ Others, as we have seen above, have put forward varied interpretations of the ancient texts that describe them.

Most of the evidence points to distinctions in duties, not in instruments. The typical activity according to most of our texts was for a single *bucinator* to announce the time, alert the night-watches, or convoke an assembly. There are few indications that they performed in groups like the *cornicines* (with the standards) or the *tubicines* (with their manifold duties relaying signals to the army), except when they were called upon to join all the *aeneatores* in making as much noise as possible to frighten the enemy. That is why it is interesting to

note that the plural usage (*bucinatores*) is most common in late authors (apart from the Greek usage to refer to the *cornicines*). In the two fourth-century CE authors Vegetius (two occurrences) and Ammianus Marcellinus (six occurrences) and the fifth-century Bishop Magnus Felix Ennodius (four occurrences), the plural form is common and, at least in Ammianus and Ennodius, it would appear that *bucinatores* has simply become the standard form and replaced the other words for “brass” players.⁵⁴ As for Vegetius, from his ambiguous references to this army musician one cannot conclude from the text as it stands that he was clear about their role as a performing unit. We, along with Wille,⁵⁵ find that the most likely explanation is that a *bucinator* could perform his duties by playing any metal instrument (the *tuba*, the *lituus* or the *cornu*—perhaps even the simple animal horn). One purely hypothetical suggestion is that *tubicines* and *cornicines* carried an animal horn on a cord around their necks for easy access when they had to perform certain duties of the *bucinator*.

The *bucina* is sometimes cited as a cavalry horn,⁵⁶ which it may well have been. But the *lituus* and *tuba* are also cited in this role (Scholiast to Horace, *Odes* 1.1.23⁵⁷). Furthermore, the brass musicians are also associated with the navy (e.g., Misenus’ *lituustuba* in Vergil’s *Aeneid* 6.233; Martial’s *navali tuba*, *Spectacula* 30.2; Lucan’s *Pharsalia* 2.690; etc.). This would suggest that *tubicines* or *cornicines* used their different instruments to play the various calls associated with differing roles (e.g., to board ship or to announce the changing of the *vigiliae* at night). It may not have been so important which instrument they played as long as the calls were recognizable. Perhaps Roman *bucinatores* were like modern Army trumpeters, who often use their B♭ trumpets to play military calls assigned originally to bugles (except at a few highly visible ceremonious sites, such as Arlington National Cemetery).⁵⁸ The Romans, on the other hand, seem to have developed more varieties of brass instruments than their neighbors the Etruscans or the Greeks. Perhaps this was due to their development of a larger army and the employment of many non-Latin speaking auxiliaries: more musical instruments were needed for signals. Furthermore, the fact that the *tuba* appears heavier than the *salpinx* may be an indication that the Romans developed louder instruments, although according to Athenaeus (*Deipnosoph.* 10.414), the Greek *salpingists* were noted for their loud playing.

Even if we succeed in establishing more accurately the meaning of the words *bucina* and *bucinator*, it is nevertheless not easy to suggest English words that would be suitable for all texts since the context often requires varying translations. *Bucina* has been rendered by odd words such as “clarion” or “trump,” which do not mean much nowadays. Of course, all modern terms for these instruments, as with the reed *aulos* becoming a “flute,” are somewhat inaccurate. The Roman *tuba* is conventionally translated by “trumpet,” although “bass trumpet” would probably be more accurate. I would also suggest “J-shaped trumpet” for the *lituus*, “Roman horn” for *cornu* (as a musical instrument), and “bugle-horn” for *bucina*. These terms would at least avoid the anachronistic terms that mar recent translations of Vegetius and other authors.⁵⁹ Thus when Julius Caesar was hesitating at the Rubicon in 49 BCE, according to Suetonius (*Julius Caesar* 32), a divine apparition “of great size and beauty seized a *tuba* (‘trumpet’ in the general sense) from one of the *aeneatores* (‘brass players’) and played a *classicum* (‘the familiar bugle-call to arms’) as he advanced to the opposite bank.”

Uttering his famous words “The die is cast!” (*Alea iacta est*), Caesar followed with his troops. If we follow traditional authorities, we will also deduce that this instrument might have been called a *bucina* since this was recognized at a later time as the appropriate announcer of war: e.g., “The *bucina* is the instrument on which the signal is given to attack the enemy” (*bucina est quo signum datur in hostem*, according to Isidore, *Origines* 18.4.1). Although Suetonius does not use the term, this passage provides an example of the *bucinator’s* context. From our investigation it appears that the *bucinator* performed certain duties by playing recognizable calls on whatever instrument he had handy: *tuba*, *cornu*, *lituus*, or even a cowhorn. As a result, any of these instruments could be called a *bucina*, although the term was applied most appropriately to the animal horn in order to distinguish it from the man-made varieties.

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NOTES

¹ They appear on monuments playing long trumpets, which Ovid calls “tuneful” (*Fasti* 3.849, *tubas . . . canoras*) and “the pure trumpets which Vulcan made” (*Fasti* 5.726).

² *Scholia in Iliadem* (*scholia vetera*), *Iliad* 18.219b1; see also Eustathius’ Commentary on the *Iliad*, 4:165.

³ Peter Krentz (“The Salpinx in Greek Warfare,” in Victor D. Hansen, ed., *Hoplites: The Classical Greek Battle Experience* [London and New York: Routledge 1991], pp. 110-20, here 110-11) quotes Pollux’ statement (4.85) that the Greeks had both straight and curved trumpets, but thinks that this does not apply to the Greeks of the classical period.

⁴ See John G. Wille, *Musica Romana, Die Bedeutung der Musik im Leben der Römer* (Amsterdam: P. Schippers, 1967) Chapters 3-4; its form is defined on p. 79.

⁵ J. Landels, *Music in Ancient Greece and Rome* (London and New York: Routledge, 1999), pp. 177-79.

⁶ M.P. Speidel, “Eagle-Bearer and Trumpeter,” *Bonner Jahrbücher* 176 (1976): 148, cites Caper, Gellius, Sallust, and Vegetius in support of this “well-known usage of the word.”

⁷ Aulus Gellius speculates as to whether the augur’s *lituus* is named after the *tuba-lituus* because of its shape or vice versa. Greeks used basically the Latin word, and the origin of that is unknown (perhaps Etruscan). Late writers such as Paulus-Festus derived it from the Latin word for “dispute” since it was used by magistrates settling lawsuits (*lis, litis: regius baculus in quo potestas esset dirimendarum litium*: “a royal staff in which the power of resolving disputes resides”).

⁸ Theory proposed by C. Sachs, *History of Musical Instruments* (New York: W.W. Norton, 1940), p. 146, and followed by Philip Bate, *The Trumpet and Trombone* (London and New York: W.W. Norton, 1966/1972), p. 95. Athenaeus’ fourth book of *Deipnosophistae* (4.185) ends with an interesting allusion to creating the Phrygian pipe by attaching a horn (*to keras*) to it, “analogous to the bell of

trumpets.”

⁹ Renato Meucci, “Roman Military Instruments and the *Lituus*,” *Galpin Society Journal* 42 (1989): 85-97, here 89. Wille also (*Musica Romana*, p. 92) concludes from many citations that *liticines* often were used as a substitute for *tubicines* (and the term as a synonym) even though the precise function in the military organization cannot be determined.

¹⁰ Meucci, “Roman Military Instruments,” p. 80 and n. 30.

¹¹ *Ibid.*, p. 87.

¹² “*Litui* which are made from curved horn, also called *bucina*.” See p. 93 (n. 27): *litui acutus sonus est, tubae gravis. Inter lituum et tubam in antiquis scriptis hoc distare inveni: lituus equitum est et incurvus, tuba vero peditum est et directa* (“The sound of the *lituus* is high, of the *tuba* low. In ancient writers I have found this distinction between the *lituus* and *tuba*: the *lituus* is a curved instrument of the cavalry, but the *tuba* is a straight instrument of the army.”)

¹³ Bate notes (*Trumpet and Trombone*, p. 95) the lack of any evidence that the Greeks used this instrument.

¹⁴ “South Europe was a coherent musical district with a common heritage, in which the terms differed more than the instruments themselves.” Curt Sachs, *The History of Musical Instruments* (New York: W.W. Norton, 1940), p. 150.

¹⁵ CIL 6.34000 has the note: *vir tunicatus stans dextra lituum* (“a standing man wearing a tunic and holding a *lituus* in his right hand”), whereas CIL 5.1027 (another citation of the same inscription) says *d. fortasse tubam* (“perhaps holding a *tuba* in his right hand”).

¹⁶ For example, the scholiast to Horace’s *Epodes* 2.5 says that the word *classicum* was used both for the sound of the *tuba* and for the *tuba* itself (*classicum proprie sonitus tubae ponitur et pro ipsa tuba*).

¹⁷ Cf. Isidore (*Origines* 18.4.5): “*Classica* are horns which were made for calling people together” (*classica sunt cornua quae convocandi causa erant facta*); Livy 5.47.7: “the soldiers were called to assembly by the *classicum*” (*vocatis classico ad concilium militibus*); Varro (*De Lingua Latina* 5.91): “*classici*, from *classis*, who likewise play on the horn, as when they call the classes to assembly” (*classicos a classe, qui item cornu canunt, ut tum cum classes comitiis ad comitatum vocant*); Caesar, *Bellum Civile* 3.82.1; Suetonius, *Life of Vitellius* 11, etc.

¹⁸ The unusual *lituus* with what appears to be a “side” mouthpiece is perhaps a special instrument for funerals. L. Franchi (*Studi Miscellanei* 10 [1966]: 23-32) thinks it is a special *lituus* (*tuba longa*) used for funerals, differing in length and tone from its military counterpart.

¹⁹ *Licet ad tubicines mittas* (Petronius, *Satyrica* 129.8.1).

²⁰ See Wille, *Musica Romana*, p. 71: “Der Klangaufwand eines Leichenzugs war für jene motorenlose Zeit also das akustische Maximum.” (“The total sound produced by a funeral procession was for that motorless society thus the acoustic maximum.”) Presumably the larger number of brass instruments on a battlefield would be even louder.

²¹ Described by Ovid (*Metamorphoses* 1.335). Hyginus (*Astronomia* 2.23) says that Triton hollowed out a *concha* that he found to make his *bucina*, thus substituting a horn-shaped shell for an animal’s horn.

²² Wille, *Musica Romana*. See especially Chapter 3, “Die Musik im militärischen Leben der Römer,” pp. 75-104. Wille (*ibid.*), G. Fleischhauer (“*Bucina* und *Cornu*,” *Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg* 9 (1960): 501-04, and Meucci (“Roman Military Instruments”) are the standard sources cited for the *bucina* by recent scholars (e.g., James W. McKinnon in *The New Grove Dictionary of Music and Musicians*, 2nd edn., 2001, s.v. “Buccina”; and Yann Le Bohec, *Der Neue Pauly Enzyklopädie der Antike*, Stuttgart: J. B. Metzler, 1997) s.v. “bucinatores.”

²³ Krentz ("Salpinx," pp. 114) quotes Plutarch (*Nicias* 9.2) and Polybius 12.26.2 for similar statements.

²⁴ C.T. Lewis and C. Short, *A Latin Dictionary* (New York, 1879; reprint, Oxford: Oxford University Press, 1969), s.v. *bucina*.

²⁵ M.P. Speidel, "Eagle-Bearer," p. 148, n. 85: "Vegetius' precious choice of words betrays a literary, not a technical military source." See also Speidel's article "Vegetius on Trumpets" in *Acta Classica* 18 (1976): 153-55, for similar thoughts on the *bucina*.

²⁶ Renato Meucci, "Lo strumento del bucinator. A. Surus e il cod. Pal. Lat. 909 di Vegezio," *Bonner Jahrbücher* 187 (1987): 259-72, esp. 263-66. See also Meucci, "Roman Military Instruments," pp. 85-97 and p. 91, n. 6.

²⁷ N.P. Milner retains the traditional reading in his translation (*Epitome of Military Science* [Liverpool: Liverpool University Press, 1993]), but cites Meucci's proposal in his note (p. 70). Meucci also concludes ("Roman Military Instruments," pp. 85-97) that in 2.22 Vegetius is talking about the animal *cornu*, not the bronze instrument. In keeping with quoted sources that indicate that the *bucina* was made of horn and the *cornu* of bronze, he theorizes that the text of Vegetius was changed by scribal emendation; thus he "restores the Vegetius text to its original form" (p. 86) to bring Vegetius in line with the traditional view.

²⁸ Speidel, "Vegetius on Trumpets," p. 148.

²⁹ Leo F. Stelten (*Epitoma Rei Militaris* [New York and Bern: Peter Lang, 1990], p. 299) notes that a change took place in the use of technical military terms (e.g., the meanings of *catapulta* and *ballista* were reversed) sometime in the first three centuries CE. Perhaps the name *bucina* also changed in meaning.

³⁰ Bate, *Trumpet and Trombone*, p. 97.

³¹ *Ibid.*, p. 126, n. 5 (in reference to p. 101).

³² Yann Le Bohec, *The Imperial Roman Army*, transl. Raphael Bate (New York: Hippocrene Books, 1994; translated from the original French edition, Paris: Picard, 1989), p. 50.

³³ Meucci, "Roman Military Instruments," p. 90.

³⁴ Wille, *Musica Romana*, p. 99.

³⁵ *Ibid.*, p. 82 (n. 87, where CIL 13.7023 is quoted); see p. 99 for CIL 3.3352, 3.6180 and 6.3179.

³⁶ Giampero Tintori, *La Musica di Roma Antica* (Lucca: Akademos, 1996), p. 51.

³⁷ Landels, *Music in Ancient Greece and Rome*, pp. 178-79, who cites Vergil's *Aeneid* 7.511-515. Cf. Fleischhauer, "Bucina und Cornu," p. 504: "Zusammenfassend kann daher gesagt werden: Bucina und Cornu waren verschiedene römische Blasinstrumente." ("In conclusion it can thus be said that the *bucina* and *cornu* were different Roman wind instruments.") Fleischhauer traces the *cornu* back to cult music of the Etruscans, the *bucina* to the daily life of Roman shepherds, sailors, and farmers. The two instruments thus served different functions in the Roman army, albeit unclearly portrayed and described by late Latin writers.

³⁸ See Meucci, "Roman Military Instruments," Plate IX; and Le Bohec, *The Imperial Roman Army*, Plate VII. The instrument is called a trumpet with its end broken off by F. Lepper and S. Frere, *Trajan's Column* (Wolfboro, N.H.: Alan Sutton, 1988), p. 159.

³⁹ This, however, is not the interpretation of Michael Dubuisson (*Le latin de Polybe* [Paris: Klincksieck, 1985], p. 22), who assumes that *bykane* translates the Latin *buc(c)ina*. Dionysius of Halicarnassus (*Antiquitates Romanae* 4.17.3) describes *salpists* and *bukanists* as musicians who signal commands (*parakletika*) in war, which also is consistent with the duties of Roman *tubicines* and *cornicines*. H.O. Fiebigler (*Real-Enzyklopädie der klassischen Altertumswissenschaft*, ed. Pauly-Wissowa-Kroll, IV, 1 [Stuttgart, 1900], s.v. "Cornicines") also assumes this identification.

⁴⁰ Some Latin examples: Horace *Sermones*. 1.6.44; Livy, *History* 9.41 (“with the combined sounds of *tubas* and *horns*”—*concentu tubarum ac cornuum*); Livy 30.33 (*tubae cornuaque*); Servius’ commentary on Aeneid 7.615 (“*cornua* and *tubae* were blown together”); Tacitus, *Annals* 1.28 (*tubarum cornuumque concentu*); Tacitus, *Annals* 1.68 (*cornuaque ac tubae concinere*); Tacitus, *Annals* 2.81 (*occanere cornua tubasque*).

⁴¹ And they used the shellfish (*kochlos*) in the manner of the Roman *concha* for blowing and sending signals. According to A. T. Murray (in a note to Xenophon’s *Anabasis* 2.2.4, where a signal is given with a *keras*), this is “an isolated use. Greek military signals were ordinarily given with the *salpinx*.” (But Xenophon uses the same phrase twice again, in *Cyropaedia* 5.3.44 and 52, both in reference to signals at night.)

⁴² Andes (CIL 13.7023), Antonius Ianuarius (CIL 6.2627), Aurelius Salviens (CIL 3.782), Aurelius Surus (EDH-Nr.: HD012657 [see the website of the “Epigraphische Datenbank Heidelberg”]), Iulius Victor (CIL 6.33999), Sibbaeus (CIL 13.7042).

⁴³ Speidel, “Eagle-Bearer,” p. 147.

⁴⁴ *Ibid.*, p. 149.

⁴⁵ He cites Cassiodorus (Psalm 150.3), who defines a *tuba* as “a little tube beginning from a wide circle and ending in a narrow opening” (*tuba est . . . tubulus a patulo circulo inchoans et desinens in angusto foramine*)—not exactly a description of conoidal shape since he may be referring simply to the large opening of the bell in contrast to the small opening of the mouthpiece (as in Aristophanes’ crude joke in *Clouds* 165; see Landels, *Music in Ancient Greece and Rome*, p. 281, n. 16).

⁴⁶ Triton’s conch (Ovid’s *Metamorphoses*. 1.333-37) is described as a *bucina* which grows outward in a twisted whorl, but this poetic terminology seems to apply to the bore of the conch rather than to that of the musical instrument.

⁴⁷ Details to appear in an article forthcoming.

⁴⁸ As Speidel thinks (“Eagle-Bearer,” p. 160); the *bucinator* was ranked below other brass-players “because it demanded no special courage, knowledge or leadership ability.”

⁴⁹ *Ibid.*, p. 149.

⁵⁰ Wille, *Musica Romana*, pp. 83-84.

⁵¹ Meucci “Roman Military Instruments and the *Lituus*,” p. 87.

⁵² According to Aelius (Pseudo-) Herodianus, *Rhetoricae Partitiones*, p. 10 (second century CE), *bykanites* had become a synonym for one who played the *salpinx*. Fiebiger, (in *Real-Enzyklopädie*, s.v. “Cornicines”) notes that Greeks referred to *cornicines* as *kampulosalpistae* or “curved Greek trumpets.”

⁵³ Don L. Smithers (“A New Look at the Historical, Linguistic and Taxonomic Bases for the Evolution of Lip-Blown Instruments from Classical Antiquity Until the End of the Middle Ages,” *Historic Brass Society Journal* 1 [1989]: 9, nn. 7-8.) distinguishes between a marine shell trumpet (*buccina*) and a metal “double-fold” tubular trumpet (*bucina*); an older style *lituus* (*lituus1*, as in the Vatican) and the later cavalry variety (*lituus2*); an animal horn (*cornu1*) and a metal horn (*cornu2*). Such terms could be useful to us if they were generally accepted, even though ancient writers did not employ such systematic nomenclature. Nor are we certain which specific type is meant by them.

⁵⁴ This would be the conclusion also from noting that the common combination of “herald and trumpeter” (*praeco cum tubicine, ut mos est*) has become *praeco et bucinator* in Justinian’s *Digest* (50.6.7 [6]). In 196 BCE at the Isthmian Games when T. Quinctius Flaminius announced the freedom of Greece, Livy [*History* 33.32] tells us that when the herald and trumpeter entered the arena, all fell silent and expectant at the sound of the trumpet.

⁵⁵ Wille, *Musica romana*, p. 99.

⁵⁶ Meucci, “Roman Military Instruments,” p. 89, following Lydus, *De Magistratibus* 1.46 etc.

⁵⁷ Also Speidel, "Eagle-Bearer," p. 154.

⁵⁸ Staff Sergeant David Lassiter, U.S. Army Bandsman, has kindly provided information regarding current use of bugles.

⁵⁹ E.g., David Silhanek (*Vegetius' Epitome*, Ph.D. diss. New York University, 1972) and Leo F. Stelten (*Epitome Rei Militaris* [New York and Bern: Peter Lang, 1990]) translate *cornicines* as "cornet players" and Silhanek translates *bucinator* as "horn player."