

Shapes and Functions of the Bell in Graeco-Roman Egypt

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Abstract

Bell was known in ancient Egypt since the predynastic period till the Coptic era, made of bronze, terracotta and faience, and took different shapes with various forms of handle and clapper. The bell's sound and shape had magical, protective, purificatory and apotropaic influence against evil powers. It was found mainly in graves, functioned as an amulet worn by the deceased, or inserted in the mummy wrappings with other amulets for protection, besides some other functions like being used as a musical instrument, pendant worn by domestic and sacrificial animals, and a signal instrument.

Keywords: Bell-Musical Instrument, Idiophone-Percussion, Amulet-Apotropaic, Bronze-Terracotta-Faience - Clapper

Introduction

Bell is a striking musical instrument classified among percussion idiophone, it can be defined as a hollow cup-shaped body of cast metal, giving a sonorous vibration throughout its entire circumference when struck by a metal clapper usually hung inside⁽¹⁾.

Ancient Egyptians used all the major categories of musical instruments that are represented on the walls of tombs, like wind instruments including flutes and trumpets, stringed instruments including harps, lyres, and lutes, and finally percussion instruments like hand-held drums, rattles, castanet and the sistrum⁽²⁾.

However, the bell was not among these represented musical instruments, although many examples were found in different shapes, sizes and materials in many sites all over Egypt specially those from Graeco-Roman period as they were used for domestic, prophylactic and apotropaic purposes⁽³⁾.

Most of these bells are not carefully studied, and even their existence is largely unknown to many scholars, there are some articles and books that concentrate on the bells of the Middle Ages without dealing with the history of bells in ancient civilizations like Egypt.

The using of bells may probably date back to the Iron age as a powerful prophylactic against evil spirits since the Man believed that the air was crowded with demons eager to destroy him, so he used the most efficacious safeguards that came to his hand, most of these primitive bells were made of natural materials such as crab pincers, shells and wood⁽⁴⁾.

Some writers refer to the bells upon Aaron's high-priestly robe called *hem* (Exodus xxviii. 33) as the earliest mention, but these probably were not really bells but merely jingles or small carved pieces of metal which emitted sound by striking against the golden pomegranate, and not by a clapper, to protect the high priest against evil spirits and demons that were ranging outside the holy sanctuary⁽⁵⁾.

The using of bells was not limited only to ancient Egypt, as they were common in Assyria, Persia, Babylonia, and later in Greece, used for almost the same purposes. Most of the writers mention that the earliest bronze bells were probably produced in China, where from about 1400 B.C. a great variety of bells are known including horse bells and musical chimes, and from China, the bell may have been spread westwards, via the silk routes, to Greece, and after that a large variety of bells are attested in Syria, and Mesopotamia, as well as Egypt⁽⁶⁾.

However, through this survey of the bells in ancient Egypt, there are evidences, will be displayed in this research, confirmed that the metal conical and dome-shaped bells had appeared in Egypt during the pre-dynastic period, about 4000-3500 B.C, much earlier than China.

The individual conical bells may be seen hanging from the collars of horses, as part of the horses' harnesses on Assyrian reliefs from the second half of the eighth century B.C. onwards, (Fig.1) shows the representation of bells worn by the horse of the king Ashurbanipal's chariot⁽⁷⁾.

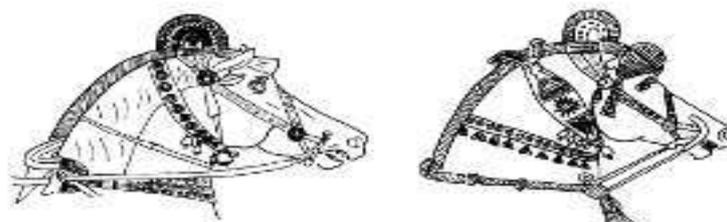


Fig.1 The Assyrian Reliefs in Palace of King Ashurbanipal showing bells in the horses' harness

After, Anderson J.K.,(1961), *Ancient Greek Horsemanship*, Berkeley, pl.38

A large number of bronze bells, about sixty-nine, were found in the ancient settlements of Sialk and Hasanlu (in Persia) dated back to the eighth and seventh centuries B.C, one cluster consisted of twenty-two rattle bells, taking the different shapes like the plain fenestrated type (Fig.2-a), that with rounded sides and base(Fig.2-b), bell with straight sides and flat base(Fig.2-c).

These bells are contained from one to three ball rattles, unless the slats were broken and the rattles lost, but the last type, which is a cone-shaped bell with an open base and three triangular openings, has a clapper which is separated out of the bell and displayed beside it (Fig.2-d)⁽⁸⁾.

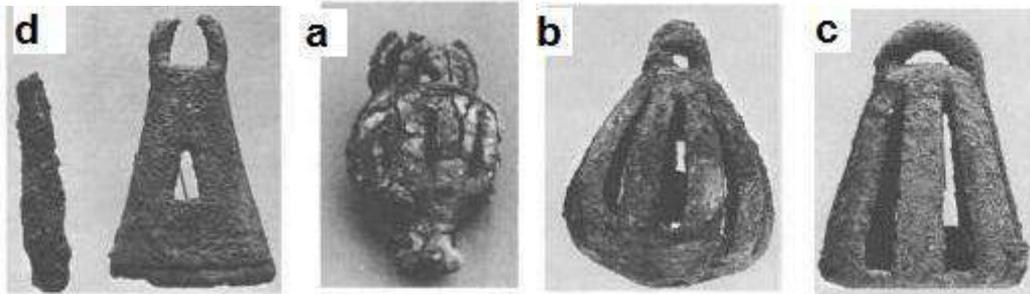


Fig.2 Bronze bells found in Hasanlu and Sialk

After, Dyson R, H.,(1983),*Hasanlu Horse trappings and Assyrian Reliefs*, Figs.19 a-b-c-d

Of the bronze objects found in Babylonia, a ceremonial bell (Fig.3), now in the Berlin Museum, dated back to about 600 B.C, merits to be singled out because of the unusually delicate design running around the cup which represents demons portrayed as wild animals of hybrid character, in an upright posture and in a threatening attitude.



Fig.3 The ceremonial bell of Babylonia, 600 B.C.

After, JASTROW Jr.M.,(1915) , *The civilization of Babylonia and Assyria*,pl.LXVII, figs.1-2

Five of them have the heads of hyenas, but have human hands and apparently also human bodies, they are clothed in short skirts, and the grotesqueness is increased by the tails and clawed feet ,the sixth has a human shape, while in the midst of these demons is again the exorcist, clothed in fish scales to symbolize him as the priest of the water god Ea with whose aid the demons are being driven away. The symbolism is extended to the handles of the bell which are in the form of serpents and turtles, probably these designs are emblems of the gods like those on the boundary stones, added as further protection against the mischievous workings of the evil demons⁽⁹⁾

The History of using bells in ancient Egypt

Ancient Egyptian bells are mostly of bronze, though other materials used including gold, silver, and copper , there also occurs votive or model bells in faience , terracotta and pottery⁽¹⁰⁾.

Metal bells were common in pre-dynastic Egypt, as we can see through the representations of hunting dogs with bells hung around necks⁽¹¹⁾, engraved on two predynastic vases of Naqadah I period (Fig.4,a-b), and on a white cross-lined oval plate (Fig.5).



Fig.4, a-b, Metal bells around animal's neck on pre-dynastic vases After, After, Hendrickx S.(2009), *Desert animals in the Eastern Sahra*, figs.18-19



Fig.5, Metal bells around animal's neck on a white cross-lined oval plate After, Hendrickx S.(2009), fig.19
Petrie mentioned that the bell amulets were worn by children against evil eye, are dated back to the period from the twenty-sixth dynasty till the Roman period , although two bell-shaped pendants from the early dynastic burials at Nag' el-Deir (Fig.6), though Vernier described them as triangular terminals for a collar, are seem more like the bell pendants which decorated the lower fringe of a robe⁽¹²⁾.



Fig.6 Two bell-shaped pendants from the early dynastic burials(3rd-4th dynasties)
After, Reisner G.A.,(1908), *The Early Dynastic cemeteries of Naga-ed-der*, Pl.20,no.9

Many other bell-shaped pendants were found on the waist of a boy's mummy⁽¹³⁾, beside other faience and bronze small bells were excavated at Giza in the tombs of the eastern and western cemeteries⁽¹⁴⁾ that are dated back to the Old Kingdom, now preserved in The Museum of Fine Arts, Boston (Fig.7,a-b-c).



Fig.7 Bells found at Giza, Museum of Fine Arts, Boston
a-Bronze, Eastern cemetery, pit G7512,b-Faience, Western cemetery , pit G1102 in mummy wrappings,c-Bronze, Eastern Cemetery, pit G7753
After,www.TheGizaArchives.com, Inv.numbers,C11044,B8785,C12903

The bell-shaped lip appeared also in jewellery, like in a large pair of gold lotus-or poppy-seed pendant earrings (Fig.8) which belongs to the child of Tauseret and Seti II of the nineteenth dynasty, and was found in the Gold Tomb in the Valley of the Kings⁽¹⁵⁾.



Fig.8 A golden earring with a bell-shaped lip After, Wilkinson A.,(1971), pl.LX, A

Petrie mentioned many small bronze bells with bracelets (Fig.9) found in the burials of Goshen (Saft) that dated back to the period that extends from the twenty-two till the twenty-sixth dynasties, they were probably worn as amulets⁽¹⁶⁾.

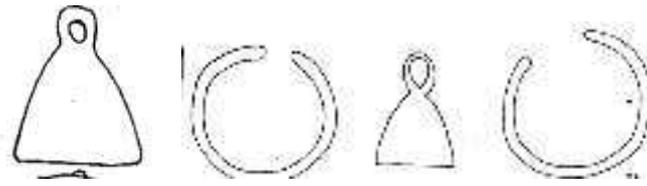


Fig.9 Bronze bells with bracelets found in Goshen
After, Petrie W.M.F.,(1906), *Hyksos and Israelite cities*, pl.XIX A,72

Three similar bronze bells (Fig.10) were found, with an amulet , in grave 126 in the cemetery of Goshen (Saft) that is dated back to the twenty-sixth dynasty⁽¹⁷⁾.



Fig.10 Bronze bells found in grave 126 at Goshen
After, Petrie W.M.F.,(1906), pl. XXXVII, A 41

Another bronze bell was found in grave 660 at the right hand of the deceased, and another two bronze bells were found in grave 678, one of them was on the right arm of the deceased and the other one on the left breast⁽¹⁸⁾.

In a child grave No.545, some bronze bells were found with shells lay in a heap at the feet of the dead child with a glazed figure of Bes and glazed bell pendant , in grave 311, which was also a child burial , a small bronze bell and glazed bell of Bes (Fig.11) were also found , Petrie added that the bronze bells were so usual in the children's burials⁽¹⁹⁾.

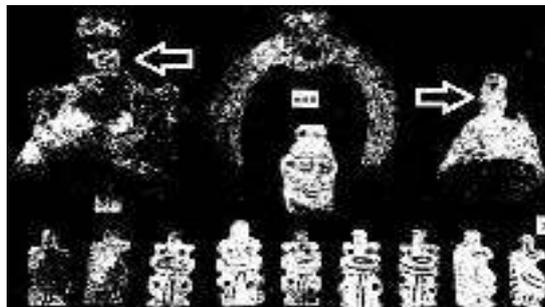


Fig.11 Bronze bell with glazed bell of Bes found in grave 311 at Goshen
After, Petrie W.M.F., (1906), pl. XXXVII, A 311

In grave 304, dated back to the twenty-third dynasty, two bronze bell pendants with two figures of Bes were found under the head of the deceased⁽²⁰⁾.

Besides another bell pendant bracelets (Fig.12) made of bronze and iron were found in Illahun and Gurob, dated back to the twenty-sixth dynasty and the Graeco-Roman periods⁽²¹⁾.



Fig.12 Bell pendant bracelets found at Illahun and Gurob
After, Petrie W.F.M.,(1914), *Amulets*, London, pl.XV, 124a-124b

Many golden small bells or pendants (Fig.13) were found in Dendera, dated back to the Ptolemaic period, their height ranges from 1 to 1.7 c.m, they have neither tongues nor holes for fixing them, so they must be bell pendants rather than bells⁽²²⁾.



Fig. 13 Golden small bells found in Dendera, Ptolemaic period
After, Hickmann M.H.,(1949), *Catalogue Général des Antiquités Égyptiennes*, nos. 69289-90-92

Besides all previous examples of bells, many others of the Graeco-Roman period were excavated, and will be mentioned below.

The Main parts of the bell

Most of the excavated bells are made of bronze, the bronze industry was very important in ancient Egypt, as it was employed in large vessels as well as tools and weapons.

The ancient Egyptians employed various kinds of bronze alloys as we know from the texts of the New Kingdom where there is frequent mention of "black bronze" and "the bronze in the combination of six " i.e. a six-fold alloy⁽²³⁾.

There are numerous examples of perfected bronzes that come from all periods since the Old Kingdom, such as the Posno collection which is now housed at the Louvre Museum in Paris⁽²⁴⁾.

The majority of the ancient Egyptian bronze bells were clearly cast using the lost wax process , the common technique for ancient bronze bells and most bronze objects in general , and probably the protruding figures and heads , like those of the ram, crocodile and Bes,had been cast separately then attached to the bell⁽²⁵⁾.

As for the terracotta bells , although they may be moulded, they are almost all wheel-made, with few examples are handmade, simple in form, often badly fired , of basic conical shape with loop handles , without decorations except for horizontal bands around the top and the base,no clappers were found inside these bells, but the holes for attaching them can be noticed at the top of the bells (Fig14) .



Fig.14 Terracotta bells of Graeco-Roman period
After, Petrie W.M.F,(1927), *Objects of Daily use*, London, pl.LXXXXV

As for faience bells (Fig.15,a-b), they were moulded by forming a model of an object, impressing it in wet clay, and then later by firing to creat durable molds , the faience paste could be pressed then into the mold and following drying⁽²⁶⁾.



Fig.15 Faience bell amulets
a-Ptolemaic period, b-Roman period
After, www.petriecat.museums.ucl.ac.uk, no. UC79304, no.UC59163

Among the objects that were excavated, are plaster molds of two sections (Fig.16), about 6-8 cm.high , exhibited in The Egyptian Museum, and the influx hole for the liquid metal can be clearly seen in these molds ⁽²⁷⁾.



Fig.16 The plaster molds for casting bells and the two parts of the mold joined together
After, Hickmann M.H.,(1949),nos.32312-14-15

The discovered bells come in a variety of size ranging from under 2c.m to nearly 11 cm.high, according to the following figure, any bell consists of main parts which are handle, body,rim (base), feet, and clapper (Fig.17).

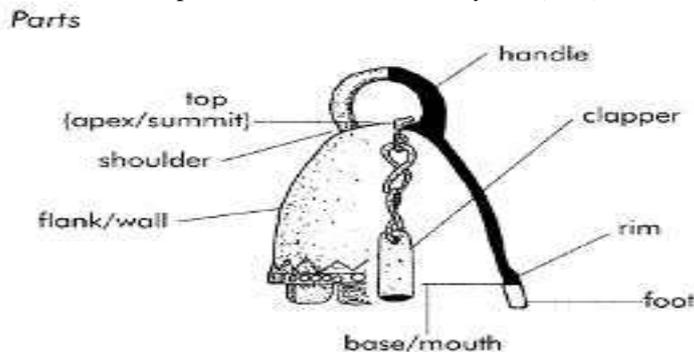


Fig.17 The main parts of the bell
After, Villing A.,(2002), f.1

1- Handle

Most of the preserved bells, specially the terracotta ones, lost their handles, but there are main shapes of handles can be observed through the complete objects (Fig.18).

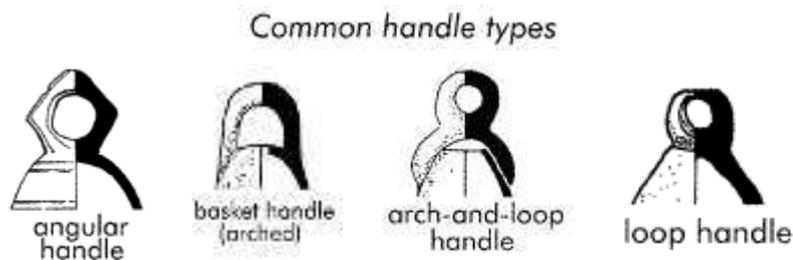


Fig.18 Main shapes of the handle
After, Villing A., (2002), f.1

The loop handle , which is the most common handle type,usually cast in one piece with the body of the bell and consists of a ring with or without supporting neck or shoulders , sometimes the ring is surmounted by an oval button (Fig.19 -a), or there may be other decoration such as the three circular balls appeared on the handle of the small bronze bell that is dated back to the Roman period(Fig.19-b) , and in some examples the loop handle is twisted like a robe (Fig.19-c).

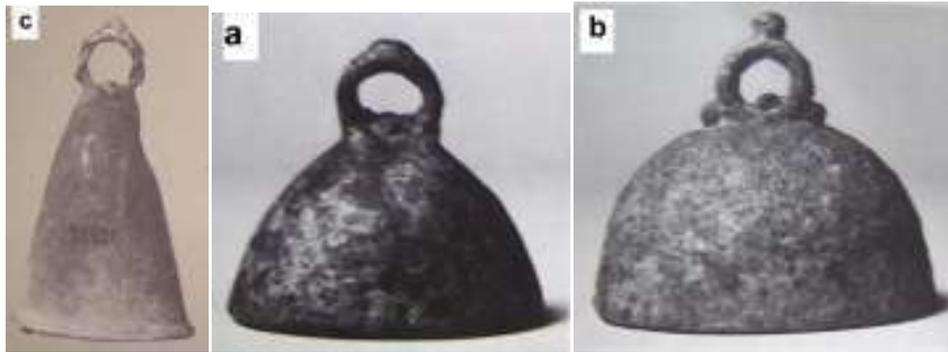


Fig.19 Bronze bell with decorated loop handles

a loop handle with oval button, b- loop handle with circular balls, c- twisted loop handle

After, a-b-Anderson R.D.,(1976) ,*Catalogue of Egyptian Antiquities*,f.45-44,c-Hickmann M.H.,(1949), no.69286.

In Bes bells of the Roman period, the handle takes the form of the figure of god Bes with the space between his two legs forming the loop handle (Fig.20-a), and sometimes his plumes with a small capital form the handle without any loop. (Fig.20-b).



Fig.20 Bes bronze bells with different handles

After, a-Petrie W.M.F,(1927) ,pl.L.303, b- Anderson R.D.,(1976), f.48

In another bronze bell, was found in Tell Basta and dated back to the Late Period, the handle is decorated with a head of a jackal whose ears forming the loop handle, and on the opposite side, there is a head of a dog (Fig.21).



Fig. 21 Bronze bell with a jackal whose ears forming the loop handle

After, Hickmann M.H.,(1949), no.69277

On the smaller bells, a bronze pin may pass through a hole at the top of the bell, the upper end being bent over to form the loop handle, and the lower used to support the tongue or clapper (Fig.22).

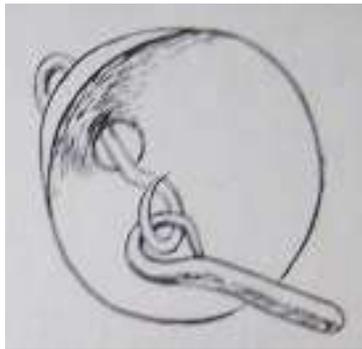


Fig.22 Bronze pin at the top of the bell with the upper part bent for handle
After, Anderson R.D.,(1976) ,f.62a

There are less common handles of bells (Fig.23,a-b-c) like the **arch and loop handle(a)** , the **basket handle(b)**, and the **angular handle(c)**.



Fig.23 Different shapes of the handle
After, a-Hickmann M.H., (1949), no.69282,b- Petrie W.M.F,(1927),pl.LXXXV
, c-Hickmann M.H.,(1949), no.69294

2-Body

Bells may be typed according to the shape of the body, the following figure shows the various body types attested from ancient Egypt (Fig.24):

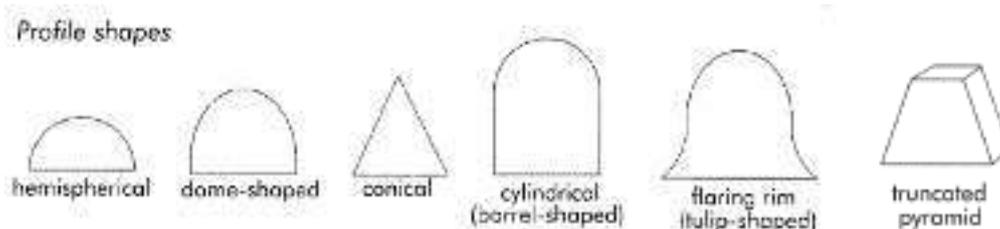


Fig.24 Different shapes of the body
After, Villing A.,(2002), F.1

A-The hemispherical or the skullcap-shaped bells were common in ancient Egypt, and there are many examples of them.

Small bronze bell found in Tanis (Fig.25), dated back to the late period , takes the skullcap shape and is decorated with Bes face and three animal heads, ram symbol of god Khnum, jackal symbol of god Anubis and lioness, symbol of goddess Sakhmet ,it was probably used in specific ritual or offered as a votive⁽²⁸⁾ .

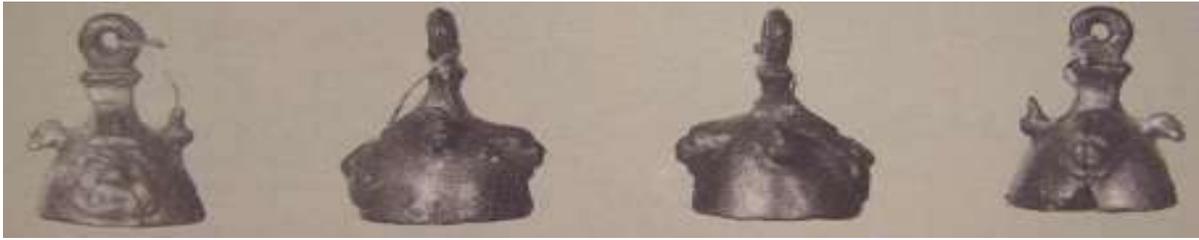


Fig.25 Small hemispherical bronze bell from Tanis
After, Hickmann, M.H.,(1949), no.69298

One of the most beautiful bronze bells (Fig.26), is dated back to the Graeco-Roman period, about 9 c.m high, takes the form of a skullcap, and rich in decoration, the handle takes the shape of two figures of god Bes back to back , and the body is decorated with four heads of a ram(Khnum), a crocodile (Sobek), a jackal(Anubis) , and a sphinx with the Udjat eye, symbol of protection⁽²⁹⁾.



Fig.26 Bronze hemispherical decorated bell
After ,Hickmann M.H., (1949),no.69295

B-The dome-shaped bells (Fig.27) also called the egg-shaped bells , like the bronze bell that's dated back to the Roman period, the body is decorated with concentric rings irregularly grouped ⁽³⁰⁾.



Fig.27 Dome-shaped bronze bell
After, Anderson R.D.,(1976), f.45

C-The conical-shaped bells

Taking the shape of a cone, one conical bell(Fig.28, a) is decorated only with Bes face with the protruding ears, the feathers form part of the handle, another two conical bronze bells with loop handles, one of them decorated with two buttons⁽³¹⁾ (Fig.28,b).

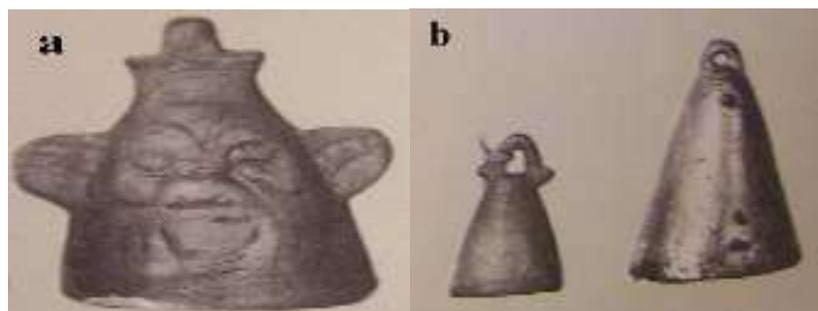


Fig.28 a-Conical bell with Bes face and protruding ears, b-Two conical bronze bells After, Hickmann M.H.,(1949),nos.69276-69274-75

D-The cylindrical- shaped bells

This cylindrical bell is made of bronze , dated back to the Roman period, the hand is cast in one piece with the body and decorated with one oval button⁽³²⁾(Fig.29).



Fig.29 Cylindrical bronze bell
After, Anderson R.D.,(1976), F. 43

E-Tulip-shaped bells

A bronze tulip-shaped bell, with a wide circular edge , Roman period, the handle is in the form of a loop surmounted by a button⁽³³⁾ (Fig.30).



Fig.30 Tulip-shaped bronze bell
After, Anderson R, D.,(1976), f.47

F-The truncated-pyramid shaped bells

Small bronze bell(Fig.31) has four sides with a square base and four pointed sides or feet⁽³⁴⁾.



Fig.31 Truncated-pyramid shaped bell
After,Hickmann M.H.,(1949),no.69272

Many shapes of the bases (rims) are attested (Fig.32), the majority are circular (round), but there are also the square and rectangular bases (Fig.33), but some are difficult to classify because of damage.

Base shapes

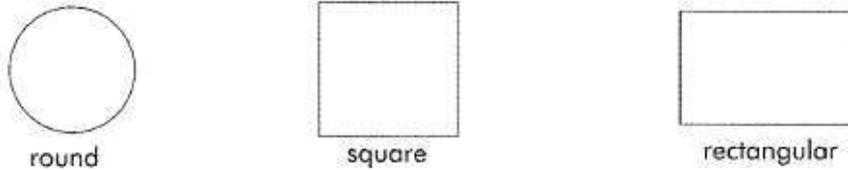


Fig.32 Different shapes of basas (rims)

After, Villing A.,(2002),f.1



Fig.33 Bronze bells with different shapes of bases , Ptolemaic and Roman periods

After,Hickmann M.H.,(1949),nos.69292-69272,69282

3- Feet and Clapper

Rare bells have feet attached to their lower rim, they were either cast with the bells or attached separately, and some are now lost , the only example with short feet (the same truncate bell, Fig.31) was found in Egypt but probably came to Egypt from ancient Greece as many bronze bells with feet were found there⁽³⁵⁾(Fig. 34).

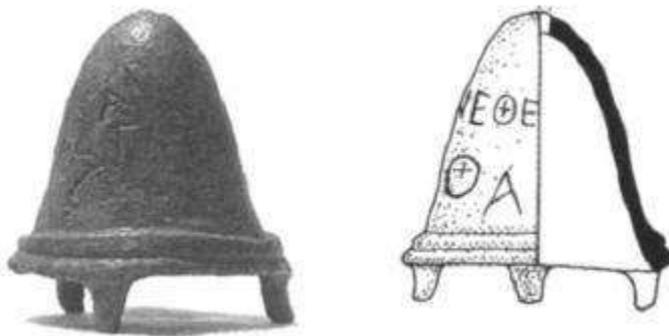


Fig. 34 Broze inscribed bell from Sparta with feet

After, Villing A.,(2002), f.12

Concerning the clapper (tongue) ,it was attached to the bell through a hole at the top below the handle or to one side of it⁽³⁶⁾ (Fig.35), made mostly of iron, and consisted of a long drop-shaped baton hooked onto a chain or wire , which was attached to the bell with an iron or bronze wire or nail (Fig.36-a),one the example has a circular iron clapper (Fig.36 -b), some examples a club-shaped clapper (Fig.36 -c), some bells have long massive clappers (Fig.36-d) , and in general, the clappers are missing.



Fig. 35 Faience bell showing the hole for attaching the clapper, Ptolemaic period

After, *www.woking college museum,co.uk,no. 44*

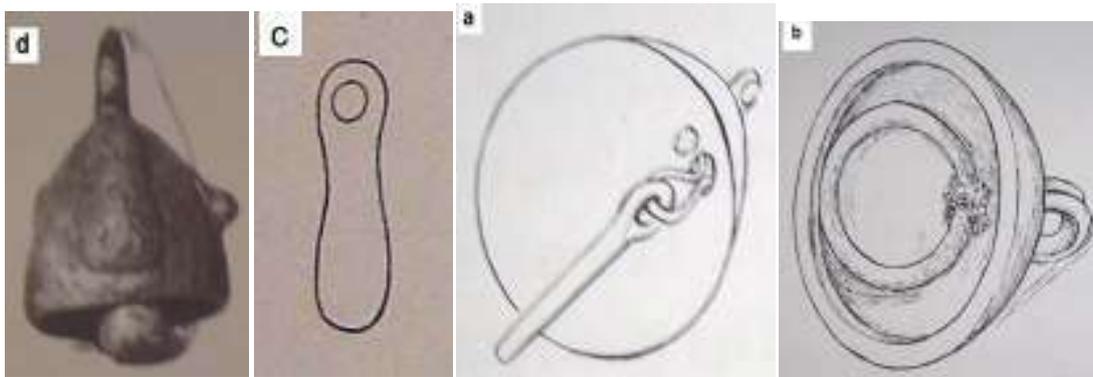


Fig.36 Different forms of clapper

After,a-b,Anderson R.D., (1976),f.62a-45,c-d,Hickmann M.H., (1949),f.21,no.69280

Most of the bronze bells are plain without any decorations, except for Bes bells which are decorated with mythological themes with ornamented handles.

There are no inscriptions found on either the terracotta or bronze bells in Graeco-Roman Egypt, on contrast with bronze bells that were found in ancient Greece.

The Functions of the Bell in Graeco-Roman Egypt

Before explaining the different functions of the bell, it is important to mention that the bells which are dated back to the Pharaonic period, are either egg-shaped or conical shaped without any decorations except for the head or face of god Bes.

However, during the Graeco-Roman period, various shapes and functions appeared, probably due the influence of the Greeks and other mercenaries of the Mediterranean region who settled in Egypt since the Saite period⁽³⁷⁾, specially they functioned bells in various uses and in different rituals. A golden bell found in Tell El-Qaramous (a), looks like another bronze bell found in Idalion (b) (Fig.37,a-b) .

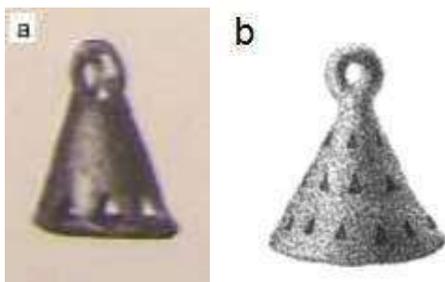


Fig.37 The golden bell of Tell El-Qaramous and a bronze bell of Idalion

After,a-Hickmann M.H.,(1949), no.69285,b-Villing A., (2002),f.32

Edgar mentioned in his excavation report of Toukh El-Qaramous that the whole class of finds is no doubt due to the foreign settlement in Egypt, as Toukh may have been garrisoned at one time by foreign soldiers from the Mediterranean and continued even after the Mecedonian conquest, and the various objects found there were brought there by the Greek mercenaries⁽³⁸⁾.

Many bronze and terracotta bells that were found all over ancient Greece and Mediterranean region resemble those found in Graeco-Roman Egypt (Table 1).

The bells were found in ancient Egypt in different places, mostly in graves, houses, like the examples found in Karanis , and also among the other artifacts without mentioning the definite place of finding. Few of them are given a secure date through their context , often leaving them adrift between the late period and the Graeco-Roman period, a problem happened due to the fact that many of these bells survived for a long period of time, and the terracotta bells served as cheap imitation of bronze ones for the purpose of dedication to a certain god or in burial context⁽³⁹⁾.

It is difficult to glean the different functions of the bells in ancient Egypt, because of the lackness of data concerning the survived pieces, since most of them have indefinite dates and places of finding, so it is difficult to determine their actual uses.

Probably there were a lot of functions of the bells, but it is very clear that these functions were limited during the Pharaonic period , and became various and more common during the Graeco-Roman period.

1- The bell as a musical instrument

Bronze bells are probably functional, as almost all of them have clappers, could be held easily by hand and shaking them, or could be hung in chains like the bronze bell suspended by a chain with another animal head pendant, was found in QA and dated back to the Roman period.(Fig.38).



Fig. 38 A bronze bell suspended of a chain, Roman period
After, www.petrieat.museums.ucl.ac.UK, UC.74036

The using of bells as musical instruments is evident by the sistrum (Fig.39), which is a metal instrument provided with small bronze bells, was always associated with ancient Egyptian music specially that was being played during the rituals of goddess Isis, so may be the bells were a development of the sistrum , and used during the Graeco-Roman period instead of the sistrum which seems to have a close relation to the sacred ceremonial bells.⁽⁴⁰⁾

Hornblower mentioned that the small bells were used in later Egyptian rites of Isis to announce the solemn moments of temple service, such as the offering of the sacrifices where the worshippers would need guidance by tolling a small bell⁽⁴¹⁾.

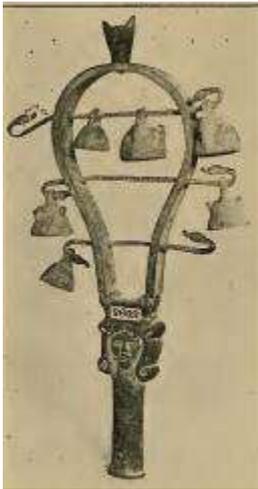


Fig.39 Sistrum provided with small bronze bells

After, Coleman S.N.(1971), *Bells and their uses*, f.11, Metropolitan Museum

2- Bell as an amulet and votive offering

Most of the bronze bells were found inside tombs, carefully inserted between mummy wrappings or worn by the deceased, it was thought that the sound of bronze played a role in all kinds of purificatory rituals, being pure, prophylactic, and averting pollution, and employed during lunar eclipses and funerals to ward off evil, as Apollodorus mentioned that the sound of bronze was appropriate for departure, and the evil spirits are exorcised by it⁽⁴²⁾.

Diodorus Siculus mentioned that in the funeral procession of Alexander the Great, over a hundred bells were used to announce the cortege, the sarcophagus was decorated with fifty-four bells, the canopy was adorned with large bells, and the draughts animals also wore bells⁽⁴³⁾.

The deads bodies, as well as, the living, needed protection from malignant influence, such as the evil eye, seems to be indicated by the bells found inside tombs to ward off evils, often accompanied by other articles of prophylactic powers⁽⁴⁴⁾.

Some scholars mentioned that the bells were placed in tombs to please their former owners even after death, but others said that the bells were placed in tombs for superstitious reasons, and they believed that the mere shape of the bell had a prophylactic influence, even the bell has no inscriptions for good omen⁽⁴⁵⁾.

And this is proved by the finding of some bells without tongues or inscriptions, specially those made of terracotta and faience that would have been fragile if shaken vigorously, so any influence of such bells could have had, while remaining motionless in tombs, come from their form and not from any sound or engraved inscriptions, and any other amulets found with these bells, must have depended for their efficacy, chiefly upon their shape, a blue faience bell without hole for suspending the tongue, discovered in the tomb of Petosiris in Tuna El-Gebel (Fig.40).



Fig.40 A blue faience bell without hole for suspending the tongue, Tuna El-Gebel

After, Hickmann M.H.,(1949), no.69606

A small green faience bell (Fig.41) of the Ptolemaic period with a loop for suspension, is decorated with god Bes face, its back is decorated with a jackal head and two lizards of which the tails almost meet at the base of the bell.



Fig.41 A faience Bes bell decorated with a jackal head and two lizards

After, Anderson R.D.,(1976),f.66

This kind of bells was placed with the deceased in tomb to be under protection of the engraved gods and creatures, like god Bes who was the protector of mother and child, the lizard ,the symbol of regeneration and also the manifestation of apotropaic powers against evils, and the jackal that represents god Anubis , the god of the underworld⁽⁴⁶⁾. Many small bells were found in tombs of infants in bracelets (Fig.42,a-b), necklaces, or upon the breast of skeletons⁽⁴⁷⁾.



Fig.42 (a-b) Bronze bells on iron bracelets, Roman period

After, www.petrieat.museums.ucl.ac.UK, UC.74298, UC58545

It's obvious that these bells were made for various purposes, practical or superstitious, and placed in tombs as amulets to protect the deceased, specially children, against evil influences. A terracotta figurine is dated back to the Hellenistic period, represents a child wearing a bell on a necklace around the neck⁽⁴⁸⁾(Fig.43).



Fig.43 Terracotta figurine of a child wearing a bell

After, Hickmann M.H.,(1961), *Musikgeschichte in Bildern*, f .7

Pliny mentioned that the tombs of Porsenna near Clusium have pyramids with a string of bells that were tolling when the wind blew. The museum of Marseille contains many metal and terracotta bells that were found in the necropolis of Myrina, one of the oldest towns of Aeolia, dated back to the Hellenistic period, they were used as amulets (Fig. 44-a) , and another bronze bell found in a child's grave in Olbia⁽⁴⁹⁾ (Fig.44 -b) .

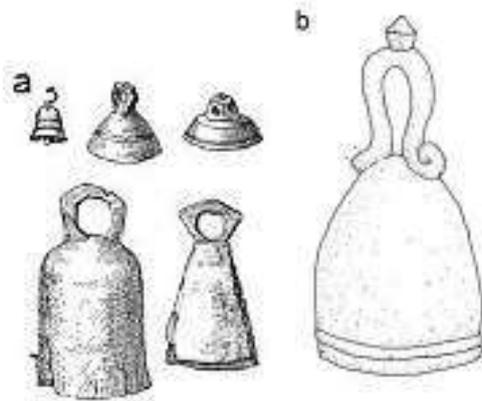


Fig.44 Some examples of Greek bronze bells

After, a-Esperandieu Em,(1900),*Tintinnabulum*, *Dictionnaire des Antiquités*,f.6991,b-Villing A.,(2002)f.13

Some scholars referred to these bells as children's toys⁽⁵⁰⁾, but the bells found in the graves are often either barely clay bells without clappers to produce attractive sounds, or clearly too big and unwieldy to be much fun to play with, unlike easy-to-handle rattles, for which such interpretation is closer to the truth .

Hickmann mentioned also that the bells were means of keeping track of wandering children⁽⁵¹⁾, but this is not the sole explanation, since small bells , particularly ones made of precious metals, had been used as jewellery, and their function may have been both decorative and as charms, perhaps generally intended to attract good fortune and repel bad luck, and they were not everyday amulets , but objects that fulfilled a specific function⁽⁵²⁾.

Probably these bells engraved with god Bes and other mythological creatures were offered as votives for different divinities to gain special benefits , although there are no inscriptions to ensure that, but most of the votive offerings, in general, have no inscriptions, and their influence always depends on the figures engraved on them.

This was the attitude of ancient Greeks , and many bells were found in the ruins of the ancient Greek sanctuaries as they were offered as ex-votos for different divinities⁽⁵³⁾ (Fig.45,a-b-c).

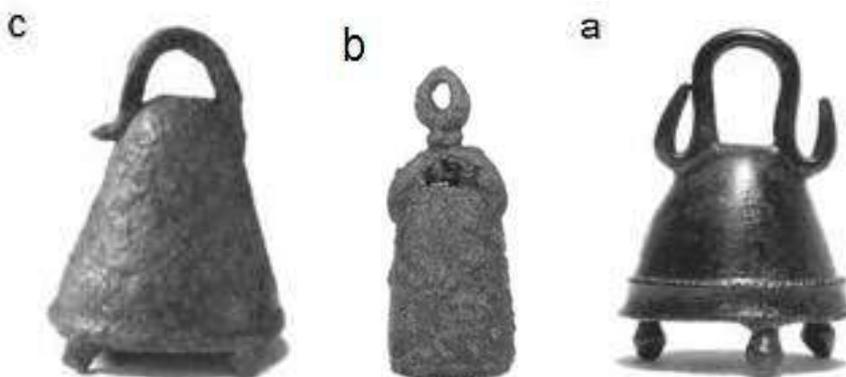


Fig.45 Greek bronze bells found in ancient sanctuaries

a-b, From the sanctuary of goddess Athena on the Spartan Acropolis, c-sanctuary of Apollo at Longa, After, Villing A.,(2002), figs.3-5-12

In the British museum there is a small bronze bell found in the site of Kabeirion (Fig. 46, a), near Thebes in Beotia, inscribed with a dedication mentions that it was offered by a person called " Pyrrhias " to the god Kabeiroi and a boy,as a token of his gratitude for divine favours ,this kind of bells was used in the mysteries of Cabiri,another golden skullcap bell is decorated with Hercules and his twelve labours⁽⁵⁴⁾and probably was offered for him as a votive offering (Fig. 46,b) .

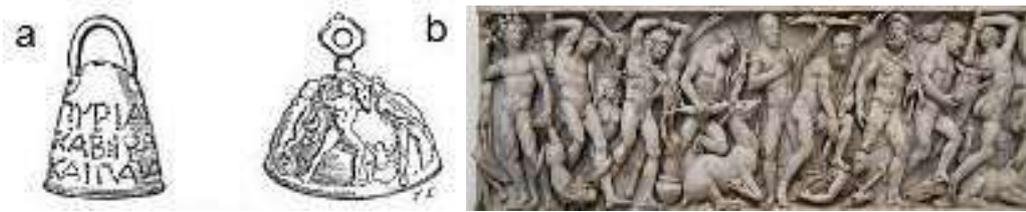


Fig.46 a-The bronze bell found in Kabeirion ,b-The bell of Hercules

After, Esperandieu Em,(1900), fig.6997

According to the Egyptian mythology, bells were connected with god Osiris whose feast was always announced by the ringing of bells, beside their usage in the cult of Isis by her priestesses⁽⁵⁵⁾,

the prophylactic or apotropaic influence of the bell *κωδων* explains its usage in different Greek cults, specially those connected with children,women,and resurrection⁽⁵⁶⁾.

In Greek mythology, the clashing of bronze in various forms was characteristic of the cult of Demeter who was called *Αχαια* or "the noisy" referring to the noise of the cymbals, drums and bells which were made in searching for Kore, so Demeter in her role as a patron of motherhood and childbirth may have employed the sound of bronze bells in order to avert evil for mother and child⁽⁵⁷⁾, that's why most of the bells, both bronze and terracotta, were found in children's grave .

A bas-relief in Louvre Museum represents the sacrifice of a ram to Attis, from an old oak whereon are suspended two bells⁽⁵⁸⁾ (Fig.47).Attis was the Greek god of vegetation and resurrection, he represents the fruits which die in winter only to rise again in spring as the symbol of the triumph over death⁽⁵⁹⁾.

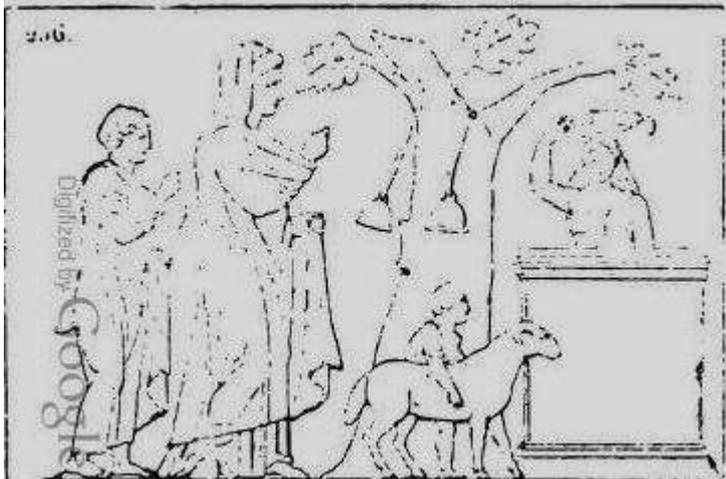


Fig.47 A bas-relief represents the sacrifice of a ram to Attis

After, Reinach S.,(1897-98),*Répertoire de la Statuaire Grecques et rom*,pl.214,no.551

At Athens, the priests of Proserpine and Cybele employed bells during their sacrifices and used them to call people to worship, they also in some way made up a part of their mysteries⁽⁶⁰⁾.

According to the Greek myth, Cybele, the goddess of fertility, fell in love with Attis and imposed upon him a vow of chastity, but Attis broke this vow and died,either slain by another or by his own hand , at the death of Attis, Cybele mourned until he arose to life again in the springtime. The promise of life after death with Cybele may explain the existing of bells in tombs, using their sounds to resurrect with the help of Cybele, the personification of the earth who kills and then resurrects vegetations⁽⁶¹⁾.

Many apotropaic phalli , the symbol of Priapus,god of fertility, dating from the first century B.C.to the first century A.D.,discovered in ancient Greece, were accompanied by bells (Fig.48) stirred by the passing wind where they were being hung in the exterior courtyards and doorways, as they might have been votive offerings creating a sound which could ward off evil luck and malevolent influences⁽⁶²⁾



Fig.48 Apotropaic phalli accompanied by bells

After, Moser C.,(2006), *Naked power*, figs 66-67-68

A square bronze bell with four faces found in Roman Egypt (Fig.49), about 12 c.m high, is decorated with Bes head below the handle and a phallus with pubic hair and testicles which are Priapian symbols⁽⁶³⁾, may be it was offered as an ex-voto to god Priapus to gain fertility.

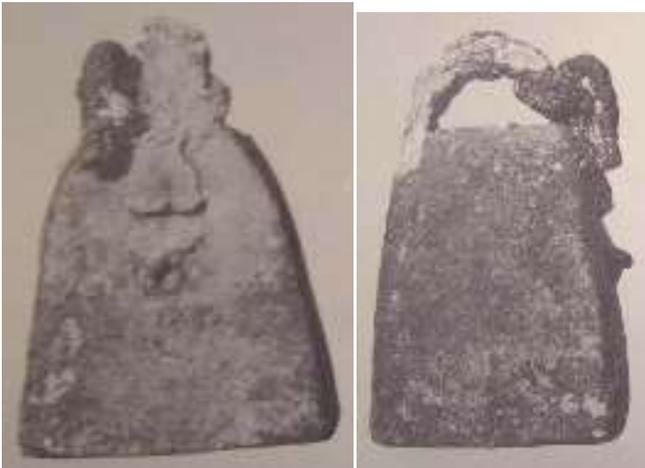


Fig.49 A square bronze bell with Priapian symbols

After, Hickmann,M.H.,(1949),no.69271

The bells were also attested with the cult of god⁽⁶⁴⁾Dionysus who is usually represented holding a bell (Fig.50 a), and also his thiasos wearing a bracelet with a bell around the wrist or holding it, as represented on different kraters.(Fig.50,b-c-d).

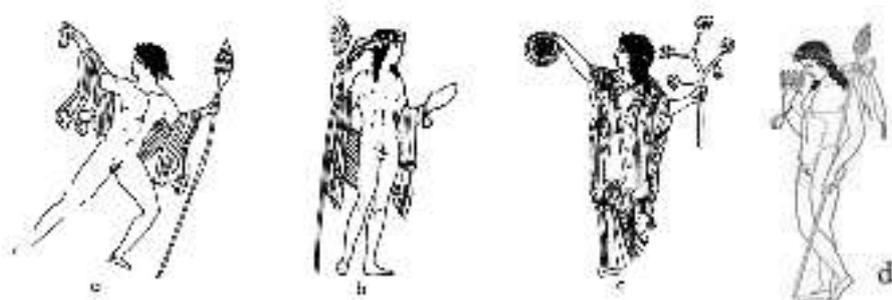


Fig.50 Dionysus with his thiasos holding bells

After, Villing A.,(2002), f.45; Esperandieu Em.,(1900),f.6995

Dionysus holds the bell up high as a signal for his thiasos,this seems to indicate that the bell may have played a role in the cult of Dionysus which was connected with the death and afterlife , as the bells were used to call the deceased to a happy Dionysiac afterlife and keeping the bad spirits away⁽⁶⁵⁾.

3-As a pendant for domestic and sacrificial animals

The bells were hung around the neck of the domestic animals like dogs and cows to give warning to people of the animal's approach, that it may not be trampled upon , and also for superstitious purpose specially for bells hang upon horses to frighten away evil spirits⁽⁶⁶⁾, like bell amulets that were used for race horses not for the drivers⁽⁶⁷⁾.

There are many terracotta figurines of the Graeco-Roman Egypt represent dogs wearing a bell in a necklace around the neck (Fig.51)⁽⁶⁸⁾.



Fig.51 Terracotta figurine of a dog wearing a bell

After, Weber W.,(1914) , *Die Ägyptisch-Griechischen Terrakotten*, pl.38,no.424

Some writers referring to this dog wearing a bell, as Sothis dog or Sirius star which annually appeared in the sky just before the Nile inundation during the hottest days of the summer as well as diseases caused by this heat, that's why the ancient Egyptians associated this period with epidemics , maybe it was represented with bell to ward off diseases⁽⁶⁹⁾.

Similarly at the rising of Sirius, the inhabitants of Ceos used to clash weapons to avert malefic influences, as any obscuration of the star they regarded as portending a year of sickness⁽⁷⁰⁾.

Triumphant generals hung bells on their horses' heads to avert the evil eye, and they were also attached to the heads of horses used in the procession of criminals led to execution⁽⁷¹⁾.

Moreover, there is evidence that bells were worn by sacrificial animals, like deer, ox, and calf , that was offered to different deities⁽⁷²⁾, like these animals represented in the funerary offerings scenes(Fig.52) in the tomb of Petosiris at Tuna el-Gebel, some of these bells take the usual common shape and others are bell-like floral ornaments⁽⁷³⁾.



Fig.52 The bells hung around the animals' necks in the tomb of Petosiris at Tuna el-Gebel

After, Lefebvre G.,(1923-24), *Le tombeau de Petosiris* , figs.20-35-46

The same attitude of hanging a bell around the neck of sacrificial animal was available in ancient Greece, as shown on a painted altar in a house in Delos (Fig.53) , dated back to 166 B.C., which depicts a pig being led to sacrifice with a bell around its neck⁽⁷⁴⁾.



Fig.53 The bell around the neck of a pig led to sacrifice from Delos

After, Villing A.,(2002),f.44

4- Bell as a signal instrument

Bells were used in ancient Greece and Rome (Fig.54) as a signal instrument in a variety of contexts, they were rung to announce the opening of markets and baths, or the spraying of streets with water, they may also have been used in the gymnasium and they were also used to awaken and summon slaves.

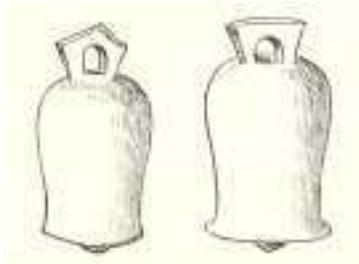


Fig.54 Bronze bells of Pompei

After, Gusman P., *Pompei*, (1899), p.146

Moreover, the hand bells may have been used for different purposes, for instance, at meals as a signal for changing the courses. They were used also as doorbells, as the ancients used to place bells at the doors and in the interiors of their houses, probably these bells were rung by the visitor outside the house as a signal to the *ostiarius* to open the door⁽⁷⁵⁾.

Bells were also carried by guards of the city and also in camps, passed from one guard to another to test whether guards were asleep, or awake enough to answer, may be the retiring guards or patrolmen kept these bells, with their fear-inspiring sound, taking them to their tombs, as a symbol of protection in the afterlife⁽⁷⁶⁾.

Bells in Coptic Egypt

Bells continued in use during the Coptic period, as small bronze bells were used in monasteries or churches more as a signal for gathering people together than as a musical instrument, and the stylized representation of a chapel (Fig. 55) on a bell in Louvre Museum seems to indicate its religious purpose⁽⁷⁷⁾.



Fig. 55 Small bronze bell decorated with a chapel façade, Eighth century, Courtesy Louvre Museum, After, Robertson M., (1991), *Musical instruments, The Coptic Encyclopedia*, v.6, p.1740

During the first three centuries, the use of bells for summoning the faithful to the worship was impossible, owing to the certainty of persecution, but it is probable that soon after the Edict of Milan (A.D.313), the Christian church availed itself of this obvious means of calling to worship⁽⁷⁸⁾.

The bell tower of the church, which is one of the main parts of the Coptic church, holds a chime of bells that ring during church service, feasts and funerals.

When the churches of Alexandria were destroyed, many of the bells were rescued, and carried off to the Natrun monasteries where they still remain, one of them is decorated with the figures of the four Evangelists with an inscription round the border⁽⁷⁹⁾.

Ancient Coptic bells which may be decorated with different shapes of the cross (Fig.56,a-b), have been found mostly in the Faiyum or other centers of early Coptic life⁽⁸⁰⁾.



Fig.56 a-Bronze bell, Roman Period, decorated with *latin* cross,b- Bronze bell on iron bangle, Byzantine period, decorated with *khy* cross

After, www.petrieat.museums.ucl.ac.UK, UC30360, UC.74036

Hand bells or small round bells (Fig.57) are being rung as part of the regular musical accompaniment of the chants in the Coptic service, and might embellish certain objects, such as the crotala like the sistrum with bells of ancient Egypt, and also they were used as pieces of harness and served to identify cattle⁽⁸¹⁾.



Fig.57 Bronze hand bell with rings and a cross, Byzantine Period

After , www.petrieat.museums.ucl.ac.uk ,no.UC51682

The representation of bells is clear in the Coptic art in many pieces displayed in the Coptic Museum⁽⁸²⁾, as it is hung around the neck of an antelope on a limestone frieze found in Faiyum and dated back to the sixth century (Fig.58).



Fig.58 A limestone frieze with a bell around the neck of an antelope

After, Gabra G.,(2007), *Treasutrs of Coptic Art*,

inv.no. 7034

Tempra foliat cross (Fig.59-a), was found in Kellia , dated back to the seventh century , represents a cross made of thickly leaved branches , bells hang from cords strung between the summit and the arms , more bells are suspended from the arms , the tinkling created by swaying crosses hung with bells announced the approach of religious processions .

A tempra lunette of saint Apollo (Fig.59-b) flanked by other saintly men , was found in Bawit, dated to sixth and seventh century, represents saint Apollo with his companions on the throne, the warrior saints are represented on their horsebacks, their prancing horses are richly harnessed with bells.



Fig.59 Tempra with representations of the bell

After, Gawdat G.,(2007),inv.no.12594,inv.no.12090

Conclusion:

This research, depending on the available materials, traced the ancient Egyptian bells, their shapes, materials, possible functions, and the clear influence of ancient Greece. The bell, specially made of bronze, was used as a musical instrument in religious rites of Isis to announce the solemn moments of the temple service, besides its use as an amulet against the evil powers and bad luck, worn by the deceased specially the children or inserted in the mummy wrappings, it was also attested as a votive offering offered to many gods like Bes, Priapus, and Dionysus, and it was used as a pendant hung around the neck of domestic animals like dog and cow, and sacrificial animals like calf and deer, and finally, it was functioned as a signal instrument used by guards of the cities and camps.

Many bells decorated with crosses were found, referring to their usage during the Coptic period as part of the regular musical accompaniment of the chants in the Coptic service, besides their representations in different Coptic masterpieces in The Coptic Museum.

It is hoped that, with more evidence coming to light in the future, more clearer picture of the phenomenon of bells in ancient Egypt will be available.

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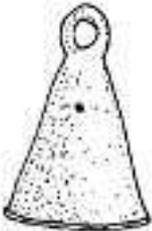
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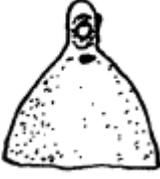
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Table: 1 – Examples of bells of ancient Greece, Mideterranean region and Graeco-Roman Egypt showing the similarity between them

Bells found in ancient Greece and Mideterranean region	Bells found in Graeco-Roman Egypt
 <p>Bronze bell , sanctuary of Athena on the Spartan acropolis After, Villing A.,(2002), f.5,21</p>	 <p>Bronze bell,Roman Egypt After, Hickmann M.H.,(1949), no.69282</p>
 <p>Terracotta bells , British school of Athens museum,inv.no.A44 After, Villing A.,(2002), f.19</p>	 <p>Terracotta bells from Karanis After,Petrie W.M.F.,(1927),PL.LXXXV</p>
 <p>b a-Bronze bell from Agrive Almina After,Villing A.,(2002), f.21</p>	 <p>Bronze bell, Ptolemaic period After,Hickmann M.H.,(1949), no.69280</p>

<p>b-Bronze bell from Samos Villing A.,(2002), f.36</p>	
 <p>Bronze bell from Agrive Heraion After,Villing A.,(2002),f.24</p>	 <p>Bronze bell , Ptolemaic Egypt After,Hickmann M.H.,(1949), no.69294</p>
 <p>Bronze bell from Idalion After,Villing A.,(2002), f.32</p>	 <p>Bronze bell from Tell El-Qaramous After,Hickmann M.H.,(1949),no.69283</p>
 <p>Bronze bell from Samos After,Villing A.,(2002), f.30</p>	 <p>Bronze conical bell After,Hickmann M.H.,(2002), no.69275</p>

 <p>Bronze bell from Samos After, Villing A., (2002), f.38</p>	 <p>Bronze bell , Graeco-Roman Egypt After, Anderson R.D., (1976), f.6</p>
 <p>Bronze bell from Olynthos After, Villing A., (2002), f.30</p>	 <p>Silver bell , Ptolemaic Egypt After, Hickmann M.H., (1949), no.69291</p>

أشكال ووظائف الجرس في مصر اليونانية الرومانية

عرف الجرس في مصر القديمة منذ عصر ما قبل الأسرات وحتى العصر القبطي، وصنع من البرونز والتراكوفا والخزف، وله عدة أشكال بمقايض وألسنة متنوعة، وقد كان لصوت الجرس وشكله تأثيراً سحرياً وحامياً ضد القوى الشريرة، وعثر عليه في المقابر حيث كان يرتديه المتوفي كتميمه، أو كان يوضع بين طيات لفائف المومياة مع تماثيل أخرى بغرض الحماية، هذا إلى جانب بعض الوظائف الأخرى، مثل وظيفة كآلة موسيقية وكقلادة تعلق حول أعناق الحيوانات المنزلية وكذلك التي كانت تقدم كقرابين للآلهة، وقد استعمل أيضاً كأداة للتنبيه.