

MUSICAL INSTRUMENTS IN THE  
ROMAN WORLD

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Pipes - Surviving Instruments.

Plaves I and 2

1.) Four tibiae from Pompeii. Museo Nazionale, Naples.

M.N. Inv. Nos. 76891 - 4.

Howard, H, 1893, The Aulos or Tibia, HSCP IV, 48 - 51.

The four instruments were found together but all are of different lengths and do not seem to be matched 'pairs'. It has been suggested that they may have come from an instrument maker's workshop.

In each case the tube is made of bone, encased in bands of bronze or silver and fitted with rotating bands of silver, pierced with holes so as to open or close the holes in the tube. There is a separate band for each hole. Each pipe has a pear shaped bulb of ivory, or barrel, drilled to the same bore as the tube, and has a flaring reed holder of ivory above the bulb.

Some bands retain turning mechanism in the form of small knobs pierced with a hole.

In each case the internal diameter of the cylindrical bore is 0.95 cm. and the external diameter 1.42 cm.

No. 76891. Howard's measurements are taken from Howard, 1893, pl.II 1. the lower end of the tube to the nearest side of the hole.

Total length 49.68 cm.

Hole	cm.	Diameter of hole.
A	4.28	0.63
B	7.46	0.63
C	11.74	0.63
D	13.97	0.63
E	15.87	0.63
F	18.09	0.79
G -	band 19.52 to 21.9 - with no hole.	
H	23.49	0.79
I	26.51	0.71
K	28.74	0.79
L	31.75	0.79 - This is on the underside of the tube.

An additional band close to the bulb was corroded.

Holes CDE are covered by bands, and the measurements are to the holes in the bands.

The bands covering holes FHI have traces of mechanism - knobs, to assist in turning the bands.

No. 76892. - Pl. II, 2.

Total length 52.7 cm.

Hole	Diameter
A	band at bottom of tube - no hole - width 1.9cm.
B	band 1.9 - 4.4 - band with turning mechanism but no hole.
C	6.03 0.63
D	9.20 0.87
E	band - no hole 11.11 to 13.33.
F	13.65 0.79
G	16.03 0.79
H	18.09 0.79
I	20.63 0.95
K	24.76 0.95
L	27.94 0.63
M	29.21 0.63 - (on under side of tube).
N	32.22 0.79

There is a band of silver, 1.58 cm. wide with turning mechanism close to the bulb. As this band is not corroded and there appears to be no hole, this band may therefore be unfinished, although one might expect the holes to be pierced in the bands.

As this band is apparently not corroded the presence of turning mechanism on a plain band might indicate that it is unfinished, although one might expect holes to be pierced in the bands before they were finished.

There is a small hole on the upper side of the instrument near the bulb - perhaps a speaker, or more likely a rivet hole.

Bands BCDEFGH have turning mechanism.



No. 76893. - Pl. II, 3.

Total length - 49.21 cm.

Hole		Diameter
A	1.27	0.63
B	4.12	0.79
C	band - ? spacer - with no hole or tuning mechanism.	
D	9.68	0.79
E	12.06	0.55
F	13.81	0.63
G	15.87	0.63
H	18.09	0.63
I	20.16	0.79
K	23.33	0.63
L	25.71	0.79
M	27.95	0.63 - (on underside of tube).
N	30.95	0.63

Holes E and H are still covered by bands.

Bands BDFGHL have turning mechanism.

No. 76894 - Pl. II, 4.

Total length - 53.65 cm.

Hole		Diameter
A	1.4	0.63
B	band 2.54 to 5.08 - no hole.	
C	6.03	0.71
D	8.89	0.79
E	12.22	0.63
F	14.28	0.79
G	16.51	0.63
H	18.41	0.63
I	20.47	0.63
K	22.70	0.63
L	24.76	0.63
M	27.30	0.64
N	29.36	0.64
O	33.17	0.64
P	35.87	0.64
Q	37.95	0.56

There is apparently no hole on the underside of this instrument. Band H has turning mechanism.

Holes ACEGHIK are covered by bands. The metal casing near the bulb is badly oxidized.

Of five more pipes on display in Naples Museum at least two are of similar design. The others have bronze bodies but their mouthpieces are conical, similar to those used on the tuba. All instruments are however in poor condition.

Measurements of the Pompeian pipes recalculated from the top of the tube.  
Measurements in cm. are taken to the centre of the hole.

7689 1  
Length 49.68.

Hole		
L	T	17.53
K	I	20.58
I	II	22.81
H	III	25.79
G		(29.46) band
F	IV	31.19
E	V	33.50
D	VI	35.40
C	VII	37.63
B	VIII	41.91
A	IX	45.08

76893  
Length 49.21

Hole		
N	I	17.95
M	T	20.95
L	II	23.10
K	III	25.57
I	IV	28.65
H	V	30.81
G	VI	33.03
F	VII	35.09
E	VIII	36.88
D	IX	39.83
C		band
B	X	44.69
A	XI	47.63

76892  
Length 52.7

Hole		
N	I	20.08
M	T	23.18
L	II	24.45
K	III	27.56
I	IV	31.69
H	V	34.21
G	VI	36.27
F	VII	38.65
E	VIII	40.49
D	IX	43.06
C	X	46.36
B		(50.16) band
A		(51.80)

76894  
Length 53.65

Hole		
Q	I	15.42
P	II	17.46
O	III	20.16
N	IV	23.97
M	V	26.03
L	VI	28.58
K	VII	36.54
I	VIII	32.87
H	IX	34.93
G	X	36.83
F	XI	38.97
E	XII	41.12
D	XIII	44.36
C	XIV	47.27
B		(49.84) band
A	XV	51.94

2.) Auloi from Meroë. Sudan. Late first century BC.  
Bodley, N.B., 1946, The Auloi of Meroë, AJA 50 p.217-40.

The pipes, which are fragmentary may have been funerary offerings. The basic construction of the pipes is similar to that of the Pompeian instrument and there are sections of tubing made from several jointed sections. Rotary sleeves of bronze fitted over the bronze casing which was cemented to the ivory tubes.

Pl. III, no. 9 - demonstrates this construction. Length - 7.5cm. - diameter of bore 0.9cm. The ivory core is made of short cylindrical pieces with a slight taper at the ends and the bronze sleeves overlap the joint.

Some fragments show the knobs used to assist the rotation of the sleeves.

There are many fragments of bronze tubing, sometimes with wooden lining - Pl III, No. 7.

Two bulbs remain, one with the remains of silver casing - p.224. The upper part of each bulb, above the swelling is slightly tapered and grooved with four lines which probably held lapping for the reed socket.

Pl. IV, Nos. 16, 17 are two bell sections, made of bronze with an ivory lining. The internal bore does not expand regularly but is 'stepped', from 9 to 13 mm.

Pl. V, No. 9, is a cylindrical bronze tube with the remains of an ivory bulb at one end. On one side there is an ordinary fingerhole and on the other an inclined tube with an oblique passage 6 mm. in diameter, which is apparently another fingerhole.

Further examples of inclined tubes can be seen on Pl.VI Nos. 2,3.

Another unusual feature among these fragments is a section of tubing attached to a long lever (Pl.VI No.1). The lever seems to have shifted axially and Bodley suggests that it opened and closed a vent hole near the bell.

However, his reconstruction of this fragment, as in all his suggested reconstructions is based upon Schlesinger's controversial theories about the nature of Greek pipes, and they cannot therefore be relied upon.

Additional fragments from the same area are described by Southgate 1915, JHS XXXV p. 12.

3.) The Maenad Pipes. Italy. British Museum.  
 Plate 3  
 BM No. 84 - 4 - 9 5, 6. (3a, 3b)

The two pipes are said to have come from Italy and formed part of the Castellani collection. They appear to be made of wood covered with bronze - traces of the wooden lining exist on both pipes. There also appear to be rotating sleeves - the lowest hole on pipe 3 b is partially covered. Pipe 3 a has five 'normal' fingerholes and 3 b five and a thumbhole, but on each pipe at the upper end above these holes, is a raised hole inclined towards the top of the instrument, decorated with the bust of a Maenad, from which the pipes take their name. Pipe 3 a is broken above this hole, but 3 b is sealed at the upper end with a disc of bronze that is apparently original. One cannot therefore assume that reeds were inserted into the upper end of the pipes.

3a) 84 - 4 - 9 - 5.

Length - 25 cm.

Diameter at upper (broken end) Ext. - 1.7 x 1.62 cm;  
Int. - 0.8 cm.

Diameter - lower end Ext. - 1.5 cm.  
Int. - 1.25 cm.

Holes measured from the bottom of the pipe -

	Hole (cm.)	Diameter (cm.)
A.	1.7 (H.1.15)	0.7
B	4.2	0.7
C	7.00	0.8 x 0.73 (edge of hole damaged).
D	12.2	0.75
E	19.00	7.00 (damaged).
F	24.4	0.6 (Maenad hole - the hole has a slightly conical bore.)

There are separate bands for each hole and an unperforated sleeve between D & C, in a suitable position for a thumbhole.

The present length of the pipe is apparently 2.1 cm. shorter than when it was measured by Howard, but most of the measurements, when taken from the lower end, agree. If one can assume that there was about 5.4 cms. of tube above the Maenad bust on the analogy of the other pipe, when recalculated from this theoretical end the positions of the hole are:

Hole	cm.
F (Maenad)	5.2
E I	10.5
D II	17.2
C III	22.6
B IV	25.4
A V	28.8

Original length - therefore 29.9 cms. approximately.

These measurements cannot however be regarded as anything but a tentative guess.

3b.) 84 - 4 - 9 - 6.

Length - 29.8cm.      Diameter at upper end - 1.6cm.  
                                  Diameter at lower end - ext.1.5cm.  
    int.1.3cm.

Howard's measurements, which I have checked are taken from the bottom of the tube and the pipes lettered accordingly:

Hole	cm.	Diameter (cm.)
A	1.00	0.55
B	3.2	0.8
C	6.8	0.6
D	13.75	0.79
E	16.00	0.83 x 0.76 (thumb hole).
F	19.3	0.75
G	24.5	0.62 (Maenad hole).

Each hole is on a separate section (band of bronze) and there are two bands between C & D which do not have any traces of fingerholes.

The positions of the holes have been recalculated to give their lengths from the top of the tube, (centres):

b)		a)
G (Maenad)	5.3	5.2
F I	10.1	10.5
E (T)	13.4	-
D II	15.7	17.2
C III	22.7	22.6
B IV	26.2	25.4
A V	28.6	28.9
Total length	29.8	29.9 (at least)

There appear therefore to be slight discrepancies between the placing of the fingerholes, but if the pipes were not after all played as a pair these are not of significance.

- 4.) Tibiae fragments. Cortona, Museo Diocesano.  
? First century AD.  
Inv. Nos. 1497 1,3.

The fragments of tibiae, the longest 15 cms. are of bronze, with rotating sleeves. Only sections of tubing survive.

- 5.) Fragments of pipes. Rome, Antiquarium Forense.

Four fragments of bronze tubing - Inv. No. 1663.

Bone pipe, with narrow cylindrical tube and flaring bell end - length 13 cm. From the Bagni di Nerone.

- 6.) Tibiae fragments. Damascus.

1972, Les Annales Archeologiques Arabes Syriennes, XXII,  
P.1. 31.

Eight fragments of pipes are shown, but measurements are not given. All fragments are of bronze and there are obvious traces of an inner core of ivory / bone / wood.

- a.) Two short sections, both broken which appear to fit together with a spigot and socket joint. There are no fingerholes.
- b.) Tube, made of at least two sections, with two or three holes, traces of tuning bands and a flared bell.
- c.) A section of tube with four holes that are not in line. The holes may be in tuning bands which have moved around the pipe.
- d.) Fragment of pipe with four fingerholes, and signs of 'spacer bands'. A spigot joint appears at one end.

- e.) Bronze tube, probably made from several sections, with traces of an inner lining. No holes are visible but there is much corrosion and one section shows traces of a knob - ? perhaps for assisting the rotation of a band.
- f.) Section of pipe in which the inner tube is clearly visible. There are apparently no holes but it is badly encrusted.
- g.) Fragment of pipe, with five holes, which are not now in alignment and a flaring bell.
- h.) Fragment of pipe joined to a flared bell.

7.) Tibiae. Mook. Rijksmuseum G.M. Kam,  
Nijmegen. First century AD.

Oomen, H, 1968, Zwei Römische Blasinstrumente im  
Rijksmuseum Kam in Nijmegen und ihre  
zoologische Interpretation.  
Oudheidkundige mededelingen uit het  
Rijksmuseum van oudheden te Leiden. 47,  
p.57-60.

Rimmer, J, 1976, The Tibiae Pares of Mook, GSJ 1976, p.42-46.

The pair of reed blown pipes were found in a Roman cemetery at Kloosterberg near Mook, on the Rhine in the Nijmegen area. They are made from the elbow bone of a griffon vulture, and each pipe has six fingerholes, the lowest about 8 cm. from the lower end and the rest evenly spaced above this. The holes were burnt out, then cut and smoothed. The pipes flare slightly at the lower end.

The measurements given by Rimmer are:

Lengths:	25.5 cm.	26cm.
Diameter of bore:	1 - 1.2cm.	
Diameter of fingerholes:	0.5cm.	



Distance from top of tube to:	Hole I	2.7 cm.	2.5 cm.
	I - II	2.1	2.1
	II - III	2.3	2.3
	III - IV	2.2	2.1
	IV - V	2.00	2.00
	V - VI	2.5	2.6
	VI - end	8.5	8.5

The pipes have been burnt and damaged but some surfaces show signs of wear that suggests that they were not fingered identically and also which hand held each pipe. The left pipe is worn around the third and sixth hole and on the back very heavily in the area of the sixth, at a point where aulos and tibia players are shown to have placed their little finger.

The pipes were presumably played as a pair. As there are too many holes on each pipe to be covered with the fingers of one hand they may, against classical precedent, have been played as parallel pipes, although as Rimmer points out the slight flare at the lower end would make this difficult. The lowest holes may be vents, but if so it is curious that the lowest hole on the left hand pipe shows apparent signs of wear.

When sounded with double reeds the notes were produced (octave not specified) g, b , d, e, g.

8.) Elgin Auloi. Athens. British Museum.

Plate 4

The pipes, each consisting of a tube and a pear shaped barrel are made of sycamore wood. The total surviving length of each pipe is 35 and 31.2 cm. and there are five fingerholes and a thumbhole on each pipe. Measurements are given by Howard (1893) and Schlesinger (1939).

- 9.) The Reading Aulos. Unknown Provenance, Museum of  
probably Asia Minor. Greek Archaeology,  
Reading University.

Landels, J.G., 1968. A newly discovered aulos. BSA 63, p.231-8.

The instrument, one of a pair, is made of bone, encased in bronze, and is made in seven sections, but it does not have 'keywork'. It has a large 'bulb' made of lathe turned wood encased in metal, and above this a flaring reed holder made of bone or ivory partially covered with silver foil. This has an inner tube of wood. The lower half of this section is covered with bronze and is pierced with a small hole, 4 mm. in diameter which may be a speaker or octave hole.

There are four fingerholes and a thumbhole, and the instrument terminates in a bell, also encased in bronze and silver foil.

Precise measurements and calculations of the instrument's pitch are given by Dr. Landels.

- 10.) The Brauron Aulos. Fifth century BC.

Landels, J.G., 1963. The Brauron Aulos. BSA 58, 116-9.

The simple aulos is made of bone, in two sections joined by a spigot and socket.

- 11.) Aulos fragments. Athens, Agora.  
Agora Museum.

Landels, J.G., 1964, Fragment of auloi found in the  
Athenian Agora. Hesperia 33, p.392-  
400.

The fragments which are of various dates from the fifth to the first century BC, are of bone, and clearly demonstrate the method of joining sections of bone pipe,

with a spigot and socket.

Fragment F (Inv. No. Bl 624) p. 398 - comes from a domestic deposit dating from the late first century BC/early first century AD, and is the bell of a more elaborate instrument, with a length of 5.6 cm. and internal and external diameters from 1.85 - 2.9 and 2.65 - 3.25 cm. respectively. The material is bone or ivory, and the bell may be from an instrument with metal casing and perhaps rotating bands.

12.) Fragments of Auloi from Corinth. Corinth  
Archaeological Museum.

The fragments, all of bone date from the fifth to the first century BC. The best preserved are:

- MF 9229 - Bone pipe. Length 9 cm. Internal diameter 1.2 cm. External diameter 1.7 cm. There are four circular holes, diameter 0.6 cm. with their centres at 2.5; 4.4; 6.4; 7.4 cm. from the broken end which shows traces of a socket.
- MF 9045B - Bone pipe fragment. Length 12 cm. Internal diameter 1.1 cm. External diameter 1.6 cm. There are four holes, I, (fragmentary) I, II, III, at 1; 3.8; 7.1; 9.7 cm. from the broken socketed end. Diameter of holes 1 cm. The other end has a spigot - L. 1.2 cm.
- MF 1155 - Bone pipe fragment. Length 11.4 cm. with six small holes. Diameter of pipe - Internal 0.9 cm. External 1.3 cm. Six holes are 2.1; 2.7; 4.5; 6.4; 8.3; 10.5 cm. from the unbroken end, - diameter 4 mm. There is a thumbhole on the underside opposite hole I. The pipe is rather unusual for an aulos fragment and its date is uncertain.
- MF 3628 - appears to be a fragment of bulb, length 4.5 cm., and MF 7878 is a section of bell.

Wegner, 1963, Abb. 9, p. 30, 31, illustrates two sections of auloi from Corinth that appear to join - Inv. no. 1503.

## 13. Fragments of Auloi.

Lindos.

Blinkenberg, C., 1931. Lindos Fouilles de L'Acropole,  
1902 - 14. Vol. I. Les Petits  
Objets, p. 154.

Inv. Nos. 448, 449 are sections of bone pipe.  
453 is a section of bone pipe, with one hole,  
and a spigot at one end. L. 6.7 cm.  
450, 451, 454 are fragments of 'bulbs'.  
No. 454 may join No. 453.

Representations of the tibia

a) Etruscan

- 1.) Funerary relief. Chiusi. Rome, Museo Barracco.  
Fifth century BC.  
Museo Barracco No.21

Helbig, 1912-13, Fuhrer<sup>3</sup>, No. 1079.  
Pietrangeli, C., Guida del Museo Barracco, p.75.  
Fleischhauer, 1964, Abb.4, p.26.  
Jannot, J., 1974, L'Aulos Etrusque, L'Antiquite Classique,  
43, p.118-142, No. 76.

The deceased lies on a bier surrounded by mourning women. At the foot of the couch is a piper, (Etr. suplu = Lat. subulo). The double pipes end in small bells but are not carved in detail. The player's hands are placed symmetrically on each pipe and he wears a phorbeia (capistrum) or mouthband.

- 2.) Tibia and lyre player. Wall painting. Tarquinia, Tomba  
*Plate 5* dei Leopardi. 480-470 BC.  
Pallottino, M., 1952, Etruscan Painting, Geneva, p.67.  
Fleischhauer, 1964, Abb. 10, p.34.

The paintings in this tomb are of banqueting scenes in which musicians participate. One carries a tortoiseshell lyre with seven strings, another plays a pair of pipes, which are well drawn. Each pipe has a cylindrical bore and ends in a small bell. The reeds are in the player's mouth and below them can be seen the pear shaped bulbs. The musician does not wear a mouthband. His hands are placed fairly symmetrically on each pipe, but the fingerholes are not shown. The little finger of the left hand supports the underside of the left pipe, in a characteristic position.

3.) Cinerary urn (fragment). Chiusi. Chiusi, Museo  
Civico. Late  
sixth/fifth century BC.

Inv. No. 2260.

Fleischhauer, 1964, Abb. 14, p. 40.  
Gigliogli, G., 1935, L'Arte Etrusca, Milan, Tav.142,1-4,p.28.  
Jannot, 1974, No. 52, pl. II,6, p.131.

The fragment shows a wedding procession, which is led by a piper, followed by two men carrying branches of palm, one of them the priest. Two men support a canopy under which the bridal couple are seated. The musician blows double pipes, without the aid of a mouthband, and his hands are placed symmetrically. Each pipe appears to have a regularly expanding bore, but the conicity is more marked at the lower end, below the player's hands, so the effect may be illusory and merely an attempt to show an expanding bell.

4.) Altar. Bologna. Museo Civico.  
Imperial date - ? Augustan.

Lehmann-Hartleben, 1927, Ein Altar in Bologna, MDAI RA,  
Vol.42, p.163.

The altar, which is carved in a provincial style, has reliefs on three sides. The central panel shows horns of plenty, the left, two figures with caduceus and shield, and the right, a scene of sacrifice. A priest wearing a toga, his head veiled, faces forward holding a patera over an altar. The tibicen who faces right wears a toga but is not veiled. His tibiae are held well up and his hands are in a similar position on each pipe.

- 5.) Suovetaurilia. Arch of Constantine, Rome.  
Second half of the second  
century AD.

Brass Instruments No.10.

Ryberg, 1955, 'Rites', Pl.XI,fig.59,p.115.  
Fleischhauer, 1964, Abb.34, p.66.

The series of reliefs which came from a monument or monuments erected late on the reign of Marcus Aurelius are re-used in the decoration of the attic of the Arch of Constantine. In this panel the Emperor stands over an altar, surrounded by attendants and members of the army. The sacrificial animals are being led up. Behind the altar stands a tibicen, wearing a wreath. His pipes are partly concealed by other figures but the bulbs at the top of the tubes can be seen.

- 6.) Tibicen at sacrifice. Aurelian panel. Rome, Palazzo dei Conservatori. Second half of the second century AD.

Stuart Jones, H., 1906, PBSR, 3, p.251 f.  
Stuart Jones, H., 1926, The Sculptures of the Palazzo Conservatori, Oxford, pl.12,p.22.  
Ryberg, 1955, pl.LVI, fig.36, p.157 f.  
Fleischhauer, 1964, Abb. 37, p.72.

The relief is one of the Aurelian panels, which come from a monument erected during the reign of Marcus Aurelius, in celebration of his victories over the Marcomanni and Sarmatians. In this scene the emperor is sacrificing - a sacrificial bull stands in the background. The wreathed tibicen stands to the right of the altar. The instrument now shown is a restoration and appears as a single conical pipe, rather like a shawm. Undoubtedly the piper should be playing the usual double tibia.

- 7.) Tibicen at sacrifice. Trajan's Column. Rome.  
AD 113.

Cichorius, 1896/1900, Bild. XCIX, Taf. LXXII, 260.  
Lehmann-Hartleben, 1926, Die Trajanssaule, Berlin, Taf. 45,  
p. 37.

Fleischhauer, 1964, Abb. 27, p. 56.

The Emperor Trajan conducts a sacrifice beside the Danube, which can be seen in the background, spanned by a bridge. He stands over a garlanded altar, surrounded by attendants, among whom is a tibicen. The musician's pipes are shown conventionally as two cylindrical tubes and the player's hands are placed in the same position on each pipe.

- 8.) Altar - sacrifice of the vicomagistri. Rome, Palazzo dei Conservatori.  
Plave 6 . . . Second century  
AD.

CIL VI 30957  
Stuart Jones, 1926, p. 26, p. 74-75.  
Ryberg, 1955, pl. XVI, fig. 30.  
Fleischhauer, 1964, Abb. 26, p. 56.

The altar is inscribed LARIBUS AUGUSTI. The four magistrates stand, attended by a lictor, two on each side of a garlanded altar. The sacrificial animals, a pig for the lares and a bull for the Genius Augusti, are in the foreground. The tibicen whose head is draped, stands in the usual position behind the altar. His cylindrical pipes are held well apart and his hands are placed symmetrically.



9.) Wall painting from lararium. Pompeii. Naples Museum.

Inv. no. 8905.  
Scabellum No.4.

Fiorelli, 1860-64, I, p.133.  
Fleischhauer, 1964, Abb. 29, p.60.

On the upper register the genius or presiding deity of the household holds a dish, (patera) over an altar. He is attended by a boy carrying a wreath and a tibicen with Phrygian pipes, one longer than the other and ending in an upturned bell. The pipes have small tubes projecting laterally. The piper also beats time with the scabellum, a wooden foot clapper.

10.) Funeral Cortège. Relief from Amiternum Aquila, Museo Civico.  
Plate 7
Late first century BC.  
 (Brass No.20)

Ryberg, 1955, p.36, pl.9, fig. 19b.  
Fleischhauer, 1964, Abb.25, p.54.

The funeral procession is led by four tibicines, playing double pipes. The side view of the musicians shows that the pipes were held well up, almost horizontally. Horn players and a lituus player also walk in the procession. The deceased is carried on a bier and is followed by mourners.

11.) Sarcophagus. Rome. Museo delk Terme.  
Late second century AD.

Pl. 8 Lyre No. 11.  
Inv. No. 78684.

The sarcophagus was found in the Via Casilina near the Tor Pignattara, Rome. It depicts the voyage of the dead to the Isles of the Blessed, a common subject for funerary art. In the centre are four marine Centaurs who carry Nereids on their backs. Two of them play instruments, one carrying a six stringed lyre and the other a pair of pipes. These are shown conventionally - the bulbs at the top of the pipes can be distinguished and the player's hands are placed in a similar position on each pipe. No fingerholes are shown.

12.) Monnus mosaic. Trier. Rheinisches Landesmuseum,  
Trier. Third century AD.

Pl. 9

Parlasca, 1959, p.42.  
Klar, 1966, p.103 f.

The mosaic which is signed MONNUS FECIT has a central octagonal panel depicting Homer and Calliope. Surrounding this panel are eight octagons each showing a Muse instructing a musician or sage in her skill. The busts of eight poets are also shown in eight squares placed between the octagons and the centre.

In one of the octagonal panels the Muse Euterpe instructs the legendary musician Hyagnis. Euterpe's pipes are illustrated in some detail, the most obvious feature being the projecting pegs which are probably side tubes. Euterpe holds one of these perhaps prior to removing or rotating it, demonstrating its function to Hyagnis. At the upper end of the pipes are the pear shaped bulbs and the reeds.

- 13.) Mosaic. Muses and Sages. Arroniz, (Navarra) Madrid,  
Museo Arqueologico.  
Fourth century AD.

The mosaic is octagonal with a central roundel surrounded by nine panels, depicting the Muses who are instructing the Sages. Erato or Terpsichore can be seen with a lyre, and Euterpe instructs Hyagnis. The mosaic is damaged and only one pipe is now shown clearly. The bulb and the reed can be seen at its upper end, and the tube is coloured in bands of yellow and grey, perhaps indicating tuning rings. Mushroom-shaped projections set at ninety degrees to the pipe are probably side tubes.

There are parallels to this mosaic in North Africa.

- 14.) Mosaic: Rehearsal of a Satyr Play. Pompeii, House of  
the Tragic Poet.  
Naples Museum.  
AD 62-79

Plate 10

MN Inv. No. 9986.

Pfuhl, E., 1923, Malerei und Zeichnung der Griechen, Munich, P. 841.  
Ward-Perkins, J and Claridge, A., 1976, Pompeii AD 79, London,  
No. 314.

The mosaic was the emblema set into a geometric pavement, derived from a Hellenistic panel painting. The actors rehearse in front of an Ionic portico, which is richly decorated. Two actors wearing goatskin loin cloths rehearse dance steps under the eye of the bearded chorus master. An elaborately dressed and wreathed tibicen provides music on the double pipes. His pipes are slender and very long, about two foot, and fingerholes are indicated. These are not however shown very realistically, being too far apart to be easily covered by the player's hands, which are shown about half way down the pipes. The musician wears a mouthband, or capistrum.

15.) Comic scene. Bas - relief. Pompeii. Naples Museum.  
 Plate 11 Late second century BC.  
 MN Inv. no. 6687

Beare, W., 1964, The Roman Stage, London (third edition),  
 Pl. III.  
 Fleischhauer, 1964, Abb. 52, p.94.

The relief shows a scene from New Comedy. A tibicina stands among the masked actors, who represent a young man, a slave and two older men, and the music is being played during the action. The girl's cheeks are very inflated, but her pipes are carved without any detail.

16.) Two musicians - terracotta figurine. Syria. Musee du  
 Plate 12 Louvre.  
 Roman period (?)

Drums No. 9.

Rostovtzeff, 1941, vol.1, p.521, pl.LIX,4.  
 Baudot, 1973, pl.7., p.67 ff.

Two female musicians ride on a camel perhaps taking part in a procession. One plays two tibiae, the other rests her hands on an object that is either a small box or a drum. The pipes are rather roughly moulded but the bulbs at their upper ends can be distinguished. The player's hands are placed with the fingers bunched together in the same position on each pipe. The girls may be Syrian ambubiae. The date of the terracotta is given as 'Roman', but apart from the camel it is identical to another piece in Damascus Museum, which is apparently of the second century BC, (Drums, No. 10). In this example the tibia is shown in the same way.

17,) Wall painting - Concert. Herculaneum. Naples Museum.  
Plaque 13 ca. 25 BC.

Cithara No. 2

MN Inv. No. 9021.

Fleischhauer, 1964, Abb. 57, p.102.

Scott, 1957, p.413,416, pl.XII.

The painting is a copy of a Hellenistic design, and features three musicians in concert. On the left sits a singer or reciter with a text in her hand. In the centre of the group is a tibicen and on the right is a female cithara player.

The pipes are obviously the instrument of a professional player and are exceptionally long and slender. Finger holes are indicated. Tuning rings are not readily identifiable but would have been essential on an instrument of this length, (over two feet). The painting is damaged and only one of the player's hands can be seen clearly, about three quarters of the way down the left pipe. The musician is obviously blowing with some force - his bulging cheeks are barely restrained by a capistrum, and his eyes are staring.

The cithara has a rectangular frame with an arched back.

- 18) Relief - Priest of Rome, Palazzo dei Conservatori,  
Cybele. Second half of the second century AD.

Fig. No. 1.

Jones, H Stuart, 1926, p. 245, pl. 100, fig. 3.

Fleischhauer, 1964, Abb. 48, p. 86.

The relief, which was found near Lanuvium shows a priest of Cybele with various attributes of the cult, including the musical instruments which are particularly associated with the rites in various poetic works - the tympanum, cymbals and the Phrygian pipes. The latter are clearly shown as two separate pipes, the right hand pipe straight, the left hand pipe a little longer and terminating in a large upturned bell. The mouthpiece section of both pipes is especially detailed. The reeds appear to be of the bassoon type, ie., double and each is inserted into a flaring stand (? hypholmion) below which is a barrel, (the holmos). Lines carved across the width of each pipe may represent the rotating bands that were used to close the fingerholes. It is unlikely that they are intended to show the separate sections from which the pipe was made.

- 19) Bacchic relief. Naples. Museo Nazionale. Late first/  
early second century AD.  
Inv. No. 6684.

Fig. 2.

Fleischhauer, 1964, Abb. 39, p. 76.

Kubler, K, 1928, Eine dionysische Szene der Kaiserzeit

Rom. Mitt. 43, p. 109, Abb. 6.

Nilsson, M.P. 1957, p. 15.

The relief shows Dionysus with a satyr attended by dancing Maenads, one of whom clashes cymbals above her head while the other plays Phrygian pipes. The right hand pipe is the usual form of straight tibia, the other is a little longer and ends in an upturned bell. Both pipes have tubes projecting upwards. Four can be seen clearly on the left hand pipe and three on the right but they have suffered some damage. The player's fingers are shown towards the upper end of each pipe and it is hard to

see how the side tubes, if such they are, could be covered by the fingers.

20) Sarcophagus. Catacomb of Praetextatus Rome. Mid third century AD.  
Fig. 3

Gutschow, M., 1938, Das Museum der Praetextat Katacomb, Atti Ser. III, vol.IV, 2, p. 110, Taf. XVII.  
Fleischhauer, 1964, Abb. 42, p. 80.  
Becker, 1966, Abb. 54, p. 139.

The carving on the sarcophagus includes the figure of a Maenad playing the Phrygian pipes. These are shown in considerable detail. The left hand pipe is straight and the longer right hand pipe ends in a hooked bell. At the top of each pipe is a barrel or bulb and the reeds are concealed inside the player's mouth. Horizontal lines carved across each pipe on either side of each fingerhole could indicate that the pipe was made in sections but they may also indicate the presence of tuning rings. The fingerholes are not realistically spaced, being very spread out and the Maenad's hands are placed with the fingers bunched together in the middle of each pipe. Below the hands, towards the bottom of each pipe is a series of projecting tubes, four on the straight and six on the hooked pipe. Each projection is clearly carved with a hollow end and the horizontal lines carved on the main bore of each pipe suggest that each was on a separate section or ring.

21) Dionysian mosaic. Cologne, Cathedral. AD 220.

Plate 21

Parlasca, K, 1959, p.75 ff.

Doppelfeld, O., 1964, The Dionysian Mosaic at Cologne Cathedral, Koln, fig. 8.

The mosaic depicts Bacchus and his retinue, many of whom dance to the accompaniment of various instruments. The design is based on a geometric arrangement of squares and octagons separated by lozenges and bands of guilloche. Octagonal field n shows a satyr family, mother, father and small son. The mother blows the Phrygian pipes, which are shown quite schematically. However the tubes projecting from the bodies of both pipes are quite clear. On the left hand pipe, which has the upturned bell the five side tubes are alternately straight and 'T' shaped. Details of the right hand pipe are obscured by the player's arm, but the tubes appear to be similar. They are spaced equidistantly in the middle of the pipe.

22) Mosaic. Ostia. Second century AD.

Ostia Museum Inv. No. 16.

Blake, M.E., 1936, MAAR XIII, p. 166.

Meiggs, R, 1960, Roman Ostia, Oxford, p. 451

The black and white mosaic dates from the second century AD, but there is some dispute as to whether it is Hadrianic or Severan. The sacrificial scene includes a tibia with side tubes. The undamaged right hand pipe has three straight and one T-shaped tube.



23) Sarcophagus. Rome. Museo delk Terme.  
Late third or early fourth century.  
Pl. 15 and 16  
Cithara No. 12  
Museo Nazionale Inv. No. 80711.

The sarcophagus from the Villa Mattei is of the column type and depicts the Muses. Five Muses stand in front of decorative niches holding theatrical masks and musical instruments, tibia, lyre and cithara. On the sides are two Muses and a poet.

The tibia, carried by the central figure, Euterpe, is carved in some detail. The two pipes are held parallel but not in a playing position. At the upper end the barrels or bulbs are prominent, with the reed sockets and the reeds above them. The reeds are the trapezoidal or wedge shape characteristic of the double reed. Ten fingerholes are indicated along the body of each pipe spaced equidistantly and hollow tubes project, unusually, from the side of each pipe. These are normally shown as projecting in the same plane as the fingerholes. The side tubes are damaged, two remaining on the left hand pipe and three on the right, but they are bunched together in the middle of each pipe.

Each pipe expands slightly at its lower end, with the suggestion of a small bell.

There is a similar sarcophagus in the Townley Collection of the British Museum (No. 34).

24) Sirens Mosaic. Carthage. British Museum.  
Fourth century AD.

Mosaic No. 46m Cat. of Paintings and Mosaics in the BM, 1946.

The mosaic, which depicts the Sirens, includes the illustration of a tibia with side tubes. The right hand pipe

has six straight tubes, and the left hand pipe four straight and two T-shaped projections, all lying in the same plane as the fingerholes.

25) Chichester Gem. Chichester, (Italy). Augustan date.

Fig. 4  
Henig, M., and Wardle, A., 1976, A Roman intaglio from Chichester, Ant. J. 1. 58, 374-7.

The intaglio is made from plasma, a green chalcedony and shows a young satyr seated on a low mound. In front of him stand a pair of pipes, one leaning against a rock. The modelling of the piece is exceptionally fine and it was probably manufactured in Italy.

The tibiae are shown in a simplified and conventional manner, but various features can be distinguished. The bulb is clearly shown at the end of each pipe, although the reed socket and reed above are merely diagrammatic. There are five lateral projections or side tubes in each pipe at the place where one might expect to see fingerholes. The bore of each pipe is cylindrical.

This portrayal of a tibia with projections on a gemstone is not unique. E. Zweierlein - Diehl, 1973, Die antiken Gemmen des Kunsthistorischen Museums in Wien, p. 140, no. 433 shows a cupid playing a similar instrument.

It is possible that the figure represents Marsyas, although he is usually depicted as elderly and bearded.

- 26) Relief. Tibicen at sacrifice. Mantua, Museo del Palazzo Ducale.  
Mid second century AD.

Fleischhauer, 1964, Abb. 28, p.58.

The relief which is from a sarcophagus shows a scene of sacrifice, at which a bull is about to be slaughtered. The officiator holds a patera over an altar, behind which stands a tibicen, playing to drown any ill omened sounds. His pipes are quite short, about 30-35 cms. judging from the size of the figures. The reeds are held in the player's mouth but below them can be seen the bulbs or barrels. The musician's cheeks are distended. His hands are placed symmetrically towards the centre of each pipe and no fingerholes are shown.

- 27) Cinerary urn. Italy, Etruria. British Museum.  
Late second century BC.  
*Plate 17 and 18*  
*Lyre No 2.*  
BM Cat. of Sculptures, I, pt. 2, p. 229-30.  
Ryberg, 1955, pl.V, fig.11, p. 16.  
Fleischhauer, 1964, Abb. 23, p.50.

The relief on the ash chest shows a procession. A sheep is about to be sacrificed in front of a tomb or temple. A procession of mounted men, who carry palm branches and fasces, is led by a piper and lyre player who are on foot. The double pipes are quite short, about 30cm. and appear to be conical in form, but they are not depicted in any detail.

- 28) Terra sigillata of M. Perennius Tigranus.  
Scabellum No. 8.

Oxé, 1933, p. 41, no. 12.  
Becker, 1966, Abb. 37, p. 103.

Winged figures play various musical instruments, including tibia cithara and scabellum. The pipes are slender and long, about 55cm.

- 29) Mosaic. Temple of Diana, Aventine, Rome. Vatican Museum.  
 Third to fourth  
 century AD.  
 Scabellum No. 9.

Blake, 1940, MAAR 17, p. 118, pl. 30,6.  
 Nogara, 1910, p. 7, pl.ix, fig.5.  
 Fleischhauer, 1964, Abb.71, p. 124.

The mosaic depicts vaudeville performers. Two groups of dancers cavort to the music of two pipers each beating time with a foot clapper or scabellum. On the left are two dancers, a man and a woman each with hand clappers and the group on the right comprises three dancers, two male and one female, with their piper. A dwarf occupies the centre of the scene.

- 30) Bacchic sarcophagus. Rome, Palazzo dei Conservatori.  
 Mid second century AD.

Scabellum, No.1.

Fleischhauer, 1964, Abb. 40, p. 78.

A Satyr in the triumphant Bacchic procession plays the Phrygian pipes simultaneously beating time with a scabellum. The right hand pipe is straight while the left which is a little longer ends in an upturned bell. Fingerholes are shown along each pipe but the player's hands are not placed realistically. The Satyr blows vigorously with inflated cheeks. The other instruments usually associated with such scenes, the tympanum and cymbala are also shown.

- 31) Mosaic.      La Valenzoleja, (Alcolea). Museo Arqueologico,  
Cordoba.  
? Second century AD.

Cordoba Museum Inv. no. 13.354.

The mosaic has a central roundel with the design of a chariot and centaurs. Surrounding this are eight panels with figures, perhaps genii, one of which plays the Phrygian pipes. These are however shown very schematically as one straight and one hooked pipe. The heads of ? the four seasons appear at the corners of the mosaic.

- 32) Mosaic.      Cordoba.      Museo Arqueologico.  
? Third century AD.

No. —

The central roundel is occupied by a design of the wolf and twins. On each side of the mosaic is a semi-circular panel with a reclining figure. One of these holds what at first sight appear to be Phrygian pipes. They are quite long and on the left hand pipe, which is drawn in three colours is clearly shown the mouthpiece, (yellow), the pipe, (brown) and the hooked bell (blue). The right hand pipe is also hooked, but as this is shown in very little detail, almost as a line drawing, it may simply be inaccurately represented.

At each corner of the mosaic is a kylix.

33) Relief. Sacrifice. Rome, Villa Albani.

Fleischhauer, Abb.48, p. 86.

Halbig, 1912, Fuhrer 3, No. 1896.

The relief depicts a sacrifice connected with the rites of Cybele. An elderly woman places an offering on the altar fire, holding in her left hand a platter with fruit, a pine cone, and a small jug. Behind her is a young woman playing the tympanum and a seated female figure blowing Phrygian pipes. One pipe is damaged, but the other, apparently held in the right hand, ends in a hooked bell, which is shown with exceptional clarity.

34) Sarcophagus. Italy.

British Museum.

Fourth century AD.

Plates 19 and 20

Cithara No. 11

Cat. of Sculpture No. 2305

The sarcophagus, which is part of the Townley Collection, is very similar to No. 23, in Rome.

The Muses, with their various attributes stand in front of decorative niches or arcades, separated by columns. The carving of the arcades is elaborate with much use of the drill. The central figure, Euterpe, holds double pipes in a pose identical to that of No. 23, although in her hand obscures the upper end of the pipes. The side tubes are again shown clearly, but are positioned in the same plane as the fingerholes. There are at least five tubes on the right hand pipe and six on the left, all bunched together in the middle of the pipes.

Of other instruments, the cithara is shown in a side view, with much detail.

### The Single Pipe

- 1) Wall painting - Isiac ceremony. Herculaneum. Naples  
Museum  
Inv. No. 8924. First century AD.

Helbig, 1868, No. 1111, p. 221.  
Fleischhauer, 1964, Abb. 50, p. 90.  
Tran tam Tinh, 1971, p. 29.  
Ward-Perkins and Claridge, 1976, No. 201.

The scene is of ritual ceremonial, perhaps the morning ceremony set in a sanctuary of Isis. A high priest, accompanied by a priest and priestess stands at the top of a flight of steps in front of a temple. At the bottom of the steps another figure directs two groups of worshippers, while another priest tends an altar fire. Other attendants shake sistra and on the right of the picture a seated Negro plays a long slender pipe, which may either be a vertical flute or a monaulos. He fingers the instrument with both hands and blows vigorously into the upper end. The pipe does not appear to be held transversely.

- 2) 'Flute girl'. Silchester, (Calleva Atrebatum). Reading  
Museum. Second or third century AD.

Height - 11cm.

Boon, 1957, Roman Silchester, p.126, pl. 16.  
Toynbee, 1962, No. 52, p.149, Pl. 55.  
Toynbee, 1964, p. 121.

The solid cast bronze statuette portrays a girl holding a single pipe diagonally across her body, apparently awaiting a signal to begin playing. She wears a long sleeveless tunic, draped in a similar fashion to a Greek peplos, but the treatment of the stylised folds is essentially Romano British. The style of the whole piece is a mixture of classical and Celtic elements. Her head-dress is a conspicuous coronet decorated with leaves.

There are three projections along the body of the pipe, which probably represent fingerholes.

### The Flute

- 1) Terracotta figurine. Alexandria. Second to first century BC.

Breccia, E. 1930-4, Terracotte figurate greche e greche-egiziane del Museo del Alessandria, II, 2, pl. LVIII (286).

Hickmann, H, 1952, The Antique Cross Flute, Acta Musicologica, 24; p.108.

The musician plays a single pipe held transversely to the right. He blows into a projecting mouthpiece, which rises vertically a few inches from the upper end of the pipe. This may either be a mouthpiece for a flute or a reed. The instrument appears to have the tuning rings generally associated with reed pipes, shown as a series of lines carved across the pipe.

- 2) Relief of a flautist. Hypogeum of the Volumni, Perugia. Second to first century BC.

Plate 22

Fleischhauer, 1964, Abb. 20. p. 44.

Sachs, 1942, p. 141, pl. VIII A.

The ash chest carries the relief of a flute player, showing his head and shoulders. He plays a short transverse pipe, held to his right, using both hands to stop four of the eight fingerholes. A small block left between the body of the pipe and the musician's lips may be a raised mouthpiece.

- 3) ?Flautist Ash chest. Volterra, Museo Etrusco. ? Third century BC.

Inv. No. 197.

Panpipes No. 8.

Fleischhauer, 1964, Abb. 12, p. 36.

Several musicians are in attendance at a banqueting scene. There is a cithara player, a player of pan pipes and a figure on the extreme left with what may be a single pipe which he is preparing to play. The pipe is roughly



shown but seems to have a projecting ?mouthpiece near its upper end. It appears to be similar to the instrument on the Alexandrian terracotta figurine, No. 1, but the relief is damaged and a secure identification is not possible.

4) Pipe. Halicarnassus. British Museum.

BM Inv. No. 1976. 1-4.2.

Welch, 1911, Six Lectures on the Recorder, London, p. 268.

Total length as reconstructed	30cm.
Upper section, bone -	16.5cm.

The upper part of the pipe which has been rebuilt on a piece of cane consists of three jointed sections of bone or ivory. The lower part which has four fingerholes is of bronze and is extremely fragmentary. It is impossible to be certain whether the two parts belong together.

The mouthpiece is well preserved. The first bone section is 6cm long and damaged at its upper end. Near the end is a raised block, 1.3cm in height, with a shaped mouth hole 0.7cm in diameter. The hole is bevelled and undercut on one side. It is lower at the front and back than at the sides.

- 5) Mosaic. Corinth. Corinth Museum.  
 Plate 23 Second century AD.

The mosaic which is from a Roman villa depicts a herdsman playing a flute in a pastoral scene. He holds the long pipe to his left, and blows across a mouth hole placed near its end, his lips pursed up in the characteristic embouchure of the flautist. He covers the fingerhole with both hands and one hole can be seen between his upper right hand and the mouth hole. Assuming that the player is of average size the flute is about 50cm. in length.

- 6) Grave altar of Amemptus. Musee du Louvre.  
 Plate 24 First century AD.  
CIL VI. 11541

Altmann, 1902, p. 116, no. 111, pl. I, II.  
 Strong, E. 1907, Roman Sculpture, Oxford, pl. xxv, p. 77.  
 Toynbee, 1934, Hadrianic School, p.203, pl. XLIV, 3.

The altar was dedicated by Amemptus a freedman of Livia. Male and female centaurs face each other, playing lyre and tibia respectively. On their backs they carry the figures of Cupids, perhaps Eros and Psyche. Eros blows into a single transverse pipe, held to his right. The mouthpiece is not shown in detail but appears to be situated a few inches from the upper end of the pipe, as on a flute.

The female cupid has panpipes.

7) Sarcophagus relief. Rome, Vatican Museum, Belvedere.

Fig. 7 Pan pipes No. 18. Third century AD.

Amelung, 1903-55. II, No. 73a, Taf. 19, p. 180.

Fleischhauer, 1964, Abb. 41, p. 78.

The sarcophagus relief shows a Bacchic procession of putti, with the head of the central figure left uncarved. The usual instruments are represented, tympanum, pan pipes, lyre, cymbals, a bell, and unusually, at the extreme right hand side a single transverse pipe, possibly a flute. The pipe is cylindrical with a decorative ring at the lower end. Lines carved across its central part may represent jointed sections or tuning bands. The mouthpiece rises obliquely about a hand's width from the upper end of the pipe and may be either a raised mouth hole for a flute or a reed, as on a bassoon. There is no attempt to portray the position of the player's hands accurately, nor are any fingerholes shown.

8) Sarcophagus relief.

Dresden.

Late third century AD.

Fig. 8.

Fleischhauer, 1964, Abb. 43, p. 80.

Howard, 1893, p. 14.

Tillyard, 1907, p. 165.

The sarcophagus relief depicts Pan, Satyrs and Maenads, in Bacchic celebration. In the foreground a seated youth plays a single pipe, possibly a flute. It appears to be slightly conical but the style of the carving is not sufficiently exact for this to be of significance. Decorative rings at the lower end might indicate a slight expansion or bell; the mouthpiece, situated a few inches from the upper end of the pipe is shown with particular

clarity. It appears to be a raised mouth hole with a rolled edge, suitable for a flute, and the player seems to be blowing across the top of this hole. His left hand supports the instrument between the mouthpiece and its upper end, where there would be no fingerholes. Three widely spaced finger holes are shown on the body of the pipe but the player's right hand is shown conventionally, with no attempt to illustrate 'fingering'.

- 9) Sarcophagus relief. Taormina, Sicily - Roman Theatre.  
ca AD 240.

Tillyard, 1907, p.165-66.

Turcan, 1966, pl. 55 a-b, p. 282-85, 287, 580-83.  
phot. Anderson 29928.

The sarcophagus, intended for a child carries the relief of a Bacchic procession. One figure plays a single transverse pipe, similar to the previous examples but shown very schematically. The projecting mouthpiece, is quite long, perhaps long enough to be a reed rather than a raised flute mouth hole. The Player's left hand is placed below the mouthpiece and his right is curled around the pipe with the fingers bunched together. No fingerholes are shown.

Panpipes

- 1) Boxwood Panpipe. Alesia, Mont Auxois, St. Germain-en-Laye.  
 Fig. 9 ? Third century AD.

Catalogue Illustre du Musee des Antiquites nationales au chateau de Saint Germain-en-Laye. Bd. 2 (1921) 118 Abb 58.

Reinach, T. 1907, La Flute de Pan D'Alesia. Pro  
 Alesia 11, p.161-169, 12, 180-185.

Behn, 1954, Taf. 84, Abb. 193.

Maximum height 115 cm.

Width 7.7cm.

The syrinx has seven pipes which are drilled into a rectangular piece of boxwood which has one corner cut away. The front of the instrument is decorated with a geometric design of semi-circles and straight lines, the general effect recalling the way reed panpipes were bound together. The lengths of the pipes are: 71; 63; 55; 50.5; 43.5; 39; 35.5, and there is two mm. of wood between each pipe. The pipes are circular in section and 9mm. in diameter. They slope at the top from the smooth back of the instrument to the decorated front face and it is easier to play with the lips resting against the smooth side. The instrument was broken in two pieces and there are the remains of an eighth pipe at the treble end. When restored, the following notes were obtained: d' e' f' g' b' c'' d''.

The decorated face is now slightly concave and appears to follow the line of the lips, but this has apparently occurred since restoration. At the bottom of the instrument is a hole for suspension.

The syrinx was found in 1906 and was dated from associated finds to the late second or third century AD.

- 2) Boxwood Panpipe. Barbing-Kreuzhof, Regensburg, Bavaria.  
Late second/early third century AD.

Fig. 9

Ulbert, G. 1961, Ein romischer Bruuenfund von Barbing-Kreuzhof  
Bayerisch Vorgeschichtsblätter, 26, pp.56-59, pl.1.

Height 10cm.  
Width 4.5cm., tapering to 4cm.  
Thickness 1cm. tapering to 0.6cm.

The instrument, also made of *buxus sempervirens* is similar in shape to the Alesia example but is more fragmentary. Four pipes remain, which are cylindrical in section with tapering ends. Their lengths are (mm.) 65; 57; 51; 47, and they were probably bored with a hot metal rod.

The instrument may have sounded a semi-tone higher than the Alesia pipes.

It has similar geometric decoration on one side.

- 3) Bronze panpipe. Agen. Garonne.

Behn, 1954, p.147.

Width 6.4cm.

The form of the syrinx is similar to the wooden examples, four sided with a cut away corner.

- 4) <sup>Fig 10</sup> Panpipe. Camerton, Somerset. AD 250-380.  
 Wedlake, V.J. 1958, Excavations at Camerton. Cam. Exc. Club.  
 p.258, no.27, Fig. 62.

The object is made of tinned bronze, and consists of two flat pieces of metal (originally in one piece) which are perforated with at least ten circular holes, which run along the edge of the surviving fragments. Each hole appears to have held a small pipe, oval in section and three of these survive. A separate length of bronze tubing which is circular in section also survives. A line on the back of one of the plates suggests that it may have been inserted into a larger part of the object.

The object may be a musical instrument related to the panpipe.

- 5) Pottery syrinx. Shakenoak, Oxfordshire. ca AD 200.  
 Pl.25 and 26

Brodribb, Hands and Walker, 1973, Shakenoak IV, p.144.

Height 12.4cm.  
 Width 9.6cm.

The pipe is made from red-brown baked clay, a friable fabric containing small grits. One side is very smooth and the edges are bevelled. The mouthpiece shows signs of wear. It is now in two (joining) fragments and when complete had at least seven pipes, and probably eight. The names CATAVACUS and BELLICIN are scratched on two of the edges.

The lengths of the tapering pipes are (mm)105;102;97;86;84;71;67, and there are four playable notes b ' c' ' a flat c c ' ' , being pipes two to five. The scale seems to ascend in intervals of about a semi-tone, producing therefore a chromatic scale. The pipes have a diameter of 7-8mm at the top and are spaced 3 to 5 mm apart.

- 6) Pottery syrinx. Rhineland. Romisch Germanisches Museum,  
 Pl. 27  
 Inv. No. RGM N.3231.

Beschreibung römischer Altertümer der Sammlung Niessen, 1911,  
 taf. 108, 3231.

Behn, 1913, Eine antike syrinx aus dem Rhineland, Die Musik 12.

Height 10cm.  
 Width 16.5cm.

The instrument which has eight pipes is elongated and more sophisticated than other surviving examples. Each pipe has an individual mouthpiece of the flageolet type. It is made of a cream clay fabric and is complete. The provenance is unknown and the instrument was originally in the Niessen collection. The pipes range from 7.6 to 4.7 cm in length, and the notes playable are e' f' f' g' g' a' b' c'.

- 7) Rheinzabern terracotta. Speyer Museum. ?Second century AD.  
 Organs No. 31.

Ludowisi, 1901-4, p.137, no. 11.  
 Behn, 1954, p. 111.  
 Perrot, 1971 p.105, Pl. XVII, no.1.

The fragment of terracotta has the moulded impression of an instrument with fourteen pipes, graded in height, between two upright supports. A rectangular section which is interpreted by Perrot as the wind chest of a pneumatic organ carries the inscription POTTALUSFE. If the design is placed so that the inscription is the correct way up, the object could be interpreted as a syrinx, perhaps held in a decorative casing. Pottalus was a potter of Antonine date, and the object is thought to be a tile stamp.



- 8) Ash chest. Volterra, Museo Etrusco. ?Third century BC.

Inv. No. 197.  
(Flutes No. 3)

Fleischhauer, 1964, Abb. 12 p.36.

The panpipe, played at a banqueting scene with the lyre and ?flute is a large instrument with long pipes held together by horizontal bands. The lengths and number of the pipes are not clearly shown. The bass pipes on the player's right are considerably longer than the trebles, giving a 'stepped' effect.

- 9) Obelisk of Theodosius. Hippodrome, Constantinople.  
AD 390.

Pl. 46, 47.

Organs Nos. 34,35.

Bruns, 1935, p. 67.  
Perrot, 1971, p. 80, Pl. IV.

Included among instrumentalists and dancers who are performing in the circus before the emperor and his court is the player of a panpipe. Its pipes are of graded lengths and there is little detail. The other instruments are organs and percussion in the form of hand clappers held by the dancers.

- 10) Dionysus mosaic. Cologne. Third century AD.

Pl. 28  
Pipes No. 21

Doppelfeld, 1964, p.20.  
Parlasca, 1959, p. 75 ff.

The rectangular panel t, situated above the central panel shows a young Satyr seated on a wicker basket blowing panpipes. The pipes vary in length, the bass pipes being considerably longer than the trebles, giving the characteristic stepped appearance.

- 11) Sarcophagus relief. Rome, Roman Forum. Museo delle Terme.  
 Pl. 29 and 30 Drums, 8  
 Inv. No. 115172. Clappers, 6.  
 AD 270-280.

Aurigemma, 1946, no. 73, p. 38.  
 Turcan, 1966, p. 285, Pl. 54c, 56c.

Marble sarcophagus showing putti escorting Eros and Psyche and playing various instruments, - tibia, drum, clappers and panpipes. The latter is played by one of the central figures and has six pipes of differing lengths.

- 12) Sarcophagus. Rome. Palazzo Doria-Pamphili.  
 Late third century.

Turcan, 1966, p. 337-341, Pl. 57 a and b.  
 Matz-Duhn, no. 2286.

The Bacchic sarcophagus shows several musicians in the procession - Maenads with tibia and cymbals and a Satyr playing a syrinx with five pipes.

- 13) Sarcophagus relief. Italy. British Museum.  
 Third century AD.

Smith, 1904, (Vol.III), p. 326, No. 2316.  
 Turcan, 1966, p. 347, Pl 56a.

The 'Sarcophagus of Leontius'. This is similar to one in Rome, (No. 11) and shows putti in Bacchic procession. A set of panpipes played by one figure has four pipes of differing length.

- 14) Sarcophagus relief. Rome, Catacomb of Calixtus. AD 270

Turcan, 1966, p. 203 ff, 347, Pl. 56b.  
Matz-Duhn, no. 2268.

The fragmentary relief shows putti Bacchic procession,  
one playing panpipes consisting of five pipes of differing length.

- 15) Satyr with the infant Dionysus. Naples, Museo Nazionale.  
Pl. 31 and 32 Copy of a Greek original.  
Inv. No. 6022.

The statue from the Farnese Collection is a marble copy  
of a Hellenistic bronze. The infant Dionysus sits on the  
shoulders of a Satyr who plays cymbals. Beside the figure  
is a tree stump from which hangs a large set of panpipes. These  
have ten pipes, the five shorter ones of equal length and the  
five bass pipes of differing lengths. Horizontal bands fasten  
the reed pipes together.

- 16) Tomb of Pöbliciüs. Cologne. Romisch-Germanisches Museum,  
Köln. First century AD.  
Pl. 33  
RGM Inv. No. —

Klar, 1981, p. 316, Pl. 79.

A large set of pipes (fistula) is played by the god Pan.  
The pipes are held together with bands decorated with beading  
which are probably intended to represent metal binding. Two  
horizontal and two vertical bands are shown and in addition one  
crosses the pipes diagonally from right to left. The tops of  
ten pipes can be seen above the upper band, but below this  
they are shown as two blocks of six. The six longer pipes are  
of equal length while the lower ends of the six treble pipes  
are shown at a slight angle, indicating that they are of  
differing lengths.

- 17) Etruscan situla. Certosa. Bologna, Museo Civico.  
Late sixth century BC.

Behn, 1954, p. 110, Abb. 161, Taf. 69.  
Fleischhauer, 1964, Abb. 1, p. 22.

The relief from a bronze situla adorned with various scenes of daily life shows a duet between a lyre and panpipe, each instrument played by a seated male figure. The musician on the left blows into the treble end of an instrument with six pipes of graded length.

- 18) Sarcophagus. Rome. Vatican, Helvedere.  
AD 240-250.  
(Flute No. 7 )

Amelung, 1903 - II, No. 73a, p. 180.  
Fleischhauer, 1964, Abb. 40, p. 78.  
Turcan, 1966, p. 284, 579, Pl. 53c.

A panpipe is included among the musical instruments played by putti in a Bacchic procession. This has five pipes, held together by horizontal bands. The two longer pipes are of equal length while the others are graded.

19) Satyr with the infant Dionysus. Rome, Villa Albani.

Villa Albani No. 148.

Bieber, 1955, fig. 569.

On a tree stump beside the Satyr is a set of six pipes. The four longer ones are of differing lengths while the two trebles which are markedly shorter are of equal length. The statue, a copy of a Hellenistic original was frequently reproduced and one cannot expect too much accuracy in the representation of the instrument.

Other copies exist in the Vatican:

Amelung, 1903 - I, Braccio Nuovo, No. 29, Pl.V.  
Helbig, 1912, II, p.247, No. 384; Galleria dei  
Candelabri No. 148.

20-22) Three busts of children with panpipes. St Germaine,  
Musee Nationale.

Reinach, 1907, p. 180ff.

The three figurines are of children who play panpipes which appear to be identical in form to the examples from Alesia and Barbing-Kreuzhof. Each is shown as a rectangular instrument with one corner cut off at an angle of 45 to 60 degrees, the external surface decorated with a geometric pattern. The instruments appear to have six or seven pipes, and the treble pipes are held on the player's left.

23) Mildenhall Treasure  
Bacchic Platter.

British Museum.  
Fourth century AD.

Plate 34

Reg. No. 1946 10 - 7.2.

Toynbee 1962, p. 169-71. pls. 113-19.

P.

Toynbee 1964 p. 308-12.

Painter 1977, No. 2, p. 26, pl. 7.

Two platters from the Mildenhall treasure are decorated with Bacchic themes similar in style to the Great (Oceanus) Dish. No. 2 is adorned with Pan playing a syrinx and holding a pedum, and a Maenad playing the tibia. In the field are a reclining water nymph and a faun.

Pan's instrument has thirteen pipes, nine short, hardly varying in length, and four longer ones of differing lengths. Horizontal bands fasten the pipes together.

Panpipes on the other Mildenhall dishes, in particular the Great Dish - Reg. 1946 10 - 7.1. are all of the same type, with a block of short pipes and a block of longer ones, although the number of pipes varies from seven to fourteen.

(The Maenad's tibiae are long pipes and there are three projecting tubes on each pipe, placed well below the player's hands, which appear to be fingering holes set much more closely together. Reeds project from the top of the pipes and are held in the player's mouth.)

24,25) Musical automata? Pompeii. Naples Museo Nazionale.  
First century AD.

Pl.35

Naples Museum Inv. nos.

125187

111055

Sogliano, A. 1899, Notizie degli Scavi di Antichita, Rome, p.442.

Mau, A. 1877, Bull dell'Inst. di Corr. Arch., Rome, p.99.

Perrot, 1971, p. 107, Pl. XVII,3.

The two instruments, which were not found together, were originally identified as panpipes.

No. 24	Total height	57.5cm.
	Width	39cm.

The object consists of a bronze plaque - height 32cm., width, 39cm., thickness 2.5cm., decorated on the front with three temple facades, each with columns and a triangular pediment. The design of the decoration suggests which way the instrument should be positioned, with the pediments pointing upwards. Eleven cast bronze pipes are soldered to the upper edge of the plaque. The longest pipe, on the right hand edge (facing) is 25.5cm. and they decrease in height to 11cm. The external diameter of each pipe is 19 to 17 mm, the internal diameter, 9-10mm. On three pipes, the second, fifth and sixth from the treble end is a vertical rectangular slit measuring 17 by 1.5mm, its lower end 9.3cm. from the base of the pipes. The shortest pipe is now in the middle of the instrument and one can assume that the plaque originally held pipes across its entire width.

No. 25 - A rectangular bronze plaque - height 9.6cm, width 35cm - is also decorated with the design of three temples. It is smaller and lighter than the other instrument and when excavated had nine pipes, which are now lost.

Bagpipes

- 1.) Terracotta figurine - street musician. From Alexandria.  
 Berlin, Staatliche  
 Museum. First  
 century BC.

Fig. 12

Museum Inv. No. 8798.

Scabellum, No. 6.  
 Weber, 1914, pl. 30, no. 324.  
 Sachs, 1940, pl. VIIIC, p. 144.  
 Scott, 1957, p. 414.  
 Hickmann, 1961, Abb. 58, p. 94.

The figurine represents a 'one man band' perhaps a travelling musician. He plays the panpipes which are held in his left hand. Under his left arm is an inflated bag from which protrudes a single pipe. On his right foot is a scabellum. The three instruments were originally thought to be joined in some way to form a rudimentary organ, but it now seems clear that the object under the musician's arm is a simple bagpipe, with a single drone producing pipe. The man who wears a Phrygian cap is attended by a dwarf who plays cymbals.

- 2.) Terracotta figurine - street musician. ? From Alexandria.  
 Cairo Museum,  
 Michailides  
 Collection.  
 First century BC.

Hickmann, 1961, Abb. 59, p. 94.  
 Collinson, 1969, pl. XLIVb, XLVa.

The solo musician plays panpipes. Under his left arm is a bag, shown less clearly than on the previous example. From it protrudes a single pipe, which is held in his right hand. Several lines are indicated on the pipe, possibly representing the ring mechanism found on the pipes of a tibia, but there is no sign of any holes. The figurine is broken below the feet.



- 3.) Terracotta figurine - street musician. ? From Alexandria.  
 Moeck Collection,  
 Celle.  
 First century BC.

Hickmann, 1961, Abb. 57, p.94.  
 Collinson, 1969, pl. XLIVb.

The standing musician dressed in a short tunic and wearing a Phrygian cap holds a syrinx in his left hand. A pipe in his right hand is apparently attached to a bag which is squeezed under his left arm.

- 4.) Engraved gem. Provenance unknown. Ionides Collection.  
 First century BC.

Boardman, J., 1968, Engraved gems: The Ionides Collection,  
 London, no.16,(71).  
 Collinson, 1969, pl. XLVb.

A satyr sits beside a tree on which hang a syrinx and a set of bagpipes. The latter are shown in some detail, with a bag, two chanter, a drone and an insufflation tube. The instrument seems to be very advanced but Boardman considers the gem to be Hellenistic, from the style of the carving, probably dating from the first century BC.

5.) Altar from Gloucester. Gloucester Museum. Second century AD.

Toynbee, J., 1964, Art in Britain under the Romans, Oxford, p.167, pl.XLIIa.

Collinson, 1969, Syrinx and Bagpipe : Romano-British Representation? Antiquity XLIII, p.305-8, pl.XLIVa.

The altar is in the form of a pillar, with a round shaft and square 'capital'. On one side of the shaft is a nude figure of Attis, holding a syrx to his lips. It appears now as a solid block but the individual pipes may originally have been painted. Under his arm there is an oval object, originally identified as pine cone or pomegranate. Collinson has suggested that it may be the bag of a simple bagpipe. There is no sign of a pipe but that could have been painted. In view of the present condition of the altar it is not possible to be certain on this point.

The altar is made of local limestone, and is carved in provincial style.

## Organs

### Hydraulic Organs

- 1.) <sup>Plate 38</sup> Nennig mosaic. Villa at Nennig, Saarburg. Third century AD.  
 Brass No. 33  
 Parlasca, 1959, p.34-39.  
 Fleischhauer, 1964, p.126, Abb. 72 (drawing)  
 Perrot, 1971, p.73-75, Pl. I.

The mosaic has a geometrical pattern based on square, hexagonal and diamond shaped panels separated by bands of guilloche. Five hexagonal panels portray scenes from the amphitheatre, and on one panel the organ is shown with a cornu. It has a hexagonal water cistern set on a plinth with cylinder pumps mounted on each side towards the top of the cistern, but there are no piston rods or levers, nor any organ blowers. The wind chest is also hexagonal and rests on the cistern and rising from it are twenty eight pipes, with the longest, base pipes unusually on the organist's right. The pipes are set close together and appear to be of narrow bore, but the whole arrangement, with a slanting supporting bar, but no side supports, is shown conventionally.

The head of the male organist appears above the pipes, but the design seems to be somewhat out of proportion as the manual, from the probable position of the player's arms, would have to be half way up the pipes, which is improbable.

Taking the figure of the horn player as a scale the maximum height of the organ is about two metres and the width 80-90 cms. The water cistern is about one metre high and 85 cms. wide and the pipes range from 80-60 cms. in height with a diameter of about 30 cms.

- 2),3). Zliten mosaic. Villa at Dar Buk Ammera; Tripoli Museum.  
 Pls. 39, 40. Brass No. 12. Late first century AD.  
 Aurigemma, 1923, (iv) p.333-361.  
 ib. 1923, (viii) p.397-414.  
 Perrot, 1971, p.75, Pl. II, 1-2.

The central panel of the mosaic shows fish and geometric designs. It is surrounded by a band illustrating scenes from the amphitheatre, including two orchestras, each comprising an organ, a tuba and two cornua.

2.) In the first scene the musicians are playing while gladiators fight. The organ which is played by a woman has a rectangular water cistern standing on a plinth. Cylindrical pumps are attached on each side but there are no levers to operate them or any organ blowers. There is a square wind chest, from which rises a set of ten pipes, with the trebles on the player's right. The longest pipe is about twice the size of the smallest, which for flue pipes would give the compass of an octave. Taking the figure of the organist as a scale the height of the organ is about 1.80m.; that of the cistern 75cms. The organ is about 65cms. at the widest point of the wind chest with the height of the longest pipe about 60cms.

3.) In the second scene the musicians are looking at the combatants, awaiting the signal to begin playing. The organ is shown in less detail. The rectangular cistern stands on a plinth, but there are no pumps. The wind chest is of unusual design consisting of two wide rectangular sections, with a narrower band between, and eight pipes are arranged conventionally with the trebles on the player's right, the length ratio of trebles to bass again being about 1 : 2. The organist is female.

The overall height of the instrument is the same as calculated for No.2, but the relative depth of the wind chest is a little greater and the height of the cistern a little smaller.

4.) Graffito. Villa below the basilica of San Sebastiano,  
Via Appia, Rome. Second/third century AD.

Mercurelli, C., 1938. Hydraulus graffito su epigrafe sepolcrale  
del cimiterio di Commodilla. Rivista di  
Archeologia cristiana. Citta del Vaticano,  
p.95.

Perrot, 1971, p.78, fig. 3.

Gladiators are fighting to the sound of organ, tuba and cornu. The water cistern, standing on a base is flanked by two pumps. Piston rods are shown and also the pump handles which are worked by two male figures. The wind chest is shown as a very narrow rectangle and there are between twelve and fourteen pipes, held by a slanting bar, with the trebles on the player's right. On either side of the pipes, above the wind chest but over the pumps is a figure which is interpreted by Perrot as the silhouette of a youth, whose function is uncertain.

They may be decorative features and, perhaps not human figures. For example Vitruvius (x.8) mentions the bronze dolphins which acted as counterweights to the piston valves. However these are not shown on any other illustration and these unexplained figures appear above the wind chest and do not seem to have any connection with the pumps.

The head of the organist peeps over the top of the pipes. From the size of the other musicians the organ would be over two metres high.

- 5.) Bronze vase from Rheims. Petit Palais, Paris. Late second/early third century AD.

Frohner, 1891, Greau Collection, Catalogue, Paris, p.79, no.373.  
 Chabouillet, A., 1851, Revue Archeologique viii, p.419.  
 Perrot, 1971, p.81, Pl.VII, no.2.

The bronze vase, 8.5cms. high is decorated with scenes of the amphitheatre in relief. An organ stands between two groups of gladiators on the upper frieze. The base, rectangular water cistern and pipes are shown, with a kneeling organ blower on the right. The wind chest is shown with eight pipes rising from the tabula summa. The treble pipes are on the organist's right, with the height ratio of smallest to largest about 1:5.

From the size of the gladiators the organ would appear to be about 1.80 to 2m. in height, about 1m. wide and the pipes ranging from 10 to 50cms. in height.

- 6.) Polychrome pottery vessel, from Thoeslund, Roskilde.  
 Nationalmuseet, Copenhagen.  
 ? Third century AD.

Engelhardt, 1872. Statuettes romaines et autres objets d'art ...  
Memoires de la Societe des Antiquaires du  
Nord, p.59.  
 Perrot, 1971, p.83, Pl. VII, 4.

The piece is badly damaged but shows a gladiatorial fight accompanied by an organ. It is possible to identify a wide water cistern flanked by pumps, a wind chest and a set of fourteen pipes of gently graduated length, supported by a cross bar.

The vase was found with funerary objects and its date is disputed. Engelhardt thought it was fourth century or later, but Copenhagen Museum now consider it to date from the third century.

7.) Sherd from Lezoux. Musee de L'Antiquites Nationale,  
St. Germain. Second century AD.

Perrot, 1949, L'Orgue Jan. 1949, No.50.  
Perrot, 1971, p.104. Pl. IX, no.6.

Sherd from a vessel, (? terra sigillata) probably depicting a gladiatorial scene. Part of the organ remains - the water cistern, wind chest and six pipes supported by two transverse bars and a curved upright bracket. From the general proportions it is likely that nine or ten pipes were originally shown.

8.) Funerary monument, Tatarevo, Bulgaria. Second to third century AD.

Bulletin of the Bulgarian Archaeological Institute, xiv,  
1940-2, p.217-218.  
Morfova, Z., 1962. Image d'un orgue antique dans le musee  
archeologique de Sofia. Acta Archaeologia  
Budapest. xiv, 3-4, p.398-9.  
Perrot, 1971, p.87.

White marble stele consisting of base and column. The base is carved with a scene of two gladiators and a summa rudis. A schematic representation of an organ is carved on the column. It has a narrow water cistern, wind chest and nine pipes, with the trebles on the organist's left, assuming that the front of the organ is shown. The pumps appear on either side of the wind chest and they are worked by two small figures, although the mechanism is not clear. The figures who have their backs towards the viewer are placed very high and are perhaps reminiscent of the sketchy figures on the Via Appia graffito (No.4).

Perrot assumes that we see the back view of an organ but there is no sign of a manual and the ? blowers could as well be facing the organist, who is not shown as the audience.

The monument is inscribed

ΕΠΙΠΤΑΣ ΠΟΥΛΕΑΤΟΡ

- 9.) Terracotta medallion. Orange. Musee de l'Antiquites  
Nationale, St. Germain. Late  
second/third century AD.

Museum Cat. no. 31673.

Roulez, J., 1877, Trois medallions de poteries romaines,  
Gazette archeologique, 1877, p.72.

Dechelette, 1904, vases ceramiques ornes de la Gaule romaine.

Degering, H., 1905, Die Orgel, ihre Erfindung und ihre Gesichte  
bis zur Karolingerzeit, Munster, p.84-5.

Behn, 1954, p.116, Taf 65, Abb 149.

Perrot, 1971, p.93, Pl. XI, no.1.

Two figures, one dressed as an actor, the other offering the palm of victory face one another. Between them in the foreground is a small organ with seven pipes, with the longest pipe on the left, their lengths indicating a range of about an octave. Below the pipes is a large wind chest mounted on either a smaller water cistern, or a rectangular base, in which case it would be a pneumatic organ. There is no sign of pumps or bellows.

It is not possible accurately to estimate the size of the organ as it is probably a symbolic motif here and may not be drawn to the same scale as the human figures.

The medallion is inscribed - NICA PART(HE)NOPAEE

- 10.) Terracotta fragment. Rome, Vatican. Museum of the German  
Cemetery. Late  
third century AD.

Le Blant, 1887, Comtes rendus de l'Academie des Inscriptions  
et Belles Lettres, Paris. p.114.

Perrot, 1971, p.81, Pl. VII, no.3.

The fragment shows a togate figure, perhaps an actor, standing in front of double doors. Behind to the left is a hydraulic organ with organist and organ blower. The piece is broken at this point, but seven pipes can be seen, with the trebles on the player's left, a rectangular wind chest in two sections and part of the water cistern.



- 11.) Contorniate medallion 'Nero'. Paris - Cabinet des  
Medailles. Fourth century  
AD.

Alfoldi, A., 1943. Die Kontorniaten, Budapest/Leipzig. Pl xxxi,2.  
Perrot, 1971, p.90, Pl. IX, 1.

Obverse: bust of Nero. Reverse: hydraulic organ with hexagonal water cistern, a flat wind chest and about seven to nine pipes. There are no pumps. A figure stands on the left, perhaps the organist, holding a victory palm. The reverse is inscribed LAURENTI NICA.

- 12.) Contorniate medallion 'Nero'. British Museum. Fourth century AD.

Alfoldi, 1943, Pl. xxxi,3.  
Perrot, 1971, p.91, Pl. IX, no.2.

Obverse: bust of Nero. Reverse: hydraulic organ, similar to the above, with eight pipes and two vertical supporting bars. The treble pipes are on the right of the manual. A figure on the left holds a triangular object, perhaps a victory palm.

- 13.) Contorniate medallion, 'Caracalla'. British Museum.  
Fourth century AD.

Alfoldi, 1943, Pl. xxxix,8.  
Perrot, 1971, p.91, Pl. IX, no.4.

Obverse: head of Caracalla. Reverse: hydraulic organ, with seated figure, probably the organist, in front. There are eleven pipes supported by two vertical and one cross bar, with the trebles on the player's right. A cylindrical pump with its handle pointing upwards is placed on either side of the seated figure.

14.) Contorniate medallion, 'Caracalla'. British Museum.  
Fourth century AD.

Alfoldi, 1943, Pl. xxxi, 4.  
Perrot, 1971, p.92, Pl. IX, 5.

Obverse: head of ? Caracalla, and monogram P. Reverse:  
a hydraulic organ is flanked by two female figures. It is a  
conventional representation with about ten pipes set into a  
rectangular wind chest over a rectangular cistern.

There are several more contorniate medallions showing organs  
of similar design, for example, Perrot, p.92, Pl. IX, 7,8.

15.) Ivory diptych. Verona, Capitulary Museum. AD 517.  
Delbruck, R., 1926. Die Consulardiptychen Berlin/Leipzig, iii,  
no.19.  
Perrot, 1971, p.79, Pl. III, no.1.

Three friezes show the Emperor Anastasius I, racehorses  
and their drivers, and a group of jugglers and musicians playing  
pan pipes and a hydraulic organ. The organ's narrow water  
cistern is flanked by two pumps, the left hand pump being worked  
by a small figure who grasps its lever. As the instrument is  
set at an angle the cranking mechanism of the right hand pump is  
not shown. The wind chest is not shown in any detail, but from  
it rise six pipes, which are open at the top. They are  
supported by two bars. The organist is seated behind his  
instrument turning towards the juggler, his right hand  
apparently on the manual. The treble pipes are on the player's  
right, but because of an attempt at perspective effect there is  
little graduation in their height.

From the scale of the human figures, the height of the  
organ would have been under two metres.

16.) Terracotta lamp from Carthage. British Museum. Second  
 Pl 41 and 42 century AD.

B.M. reg. no. 1965 10-11.1.

Higgins, R.A., B.M. Quarterly xxxiii, 3-4, p.119 and Pl.LVI,a,b.

Height: 18cms. Fabric: cream clay.

The hollow moulded lamp is in the shape of a hydraulic organ. Its hexagonal water cistern rests on a large square base and is flanked by two pumps which have 'ladder-shaped' upright supports. The rectangular wind chest stands on top of the cistern and in the front are two rectangular wick holes. The front of the organ shows nineteen flue pipes, with their diamond-shaped openings clearly indicated towards the bottom. They are held in place by a slanting cross bar. The back of the organ shows three ranks of eighteen pipes, the second about two thirds, and the third about half the height of the first. The manual is indicated but is obscured by the figure of the organist which has been modelled separately and attached to the lamp.

17.) Terracotta lamp. Carthage, Lavigerie Museum. Second century AD.

Degering, 1905, p.69.

Deneauve, J., 1962, Orgue et lampes romaines. La Revue du Louvre et des Monuments de France, no.4, p.151.

Perrot, 1971, p.96, Pl. XIII, nos. 1 and 2.

Height: 17.8cms. Width: 8cms. Thickness: 2cms.

A terracotta lamp very similar to no.16, but with finer detail. The hexagonal water cistern, flanked by pumps with their ladder-shaped supports, rests on a square base. The pumps are half as deep as the cistern and are encircled by three bands, but there are no rods or levers. The wind chest is rectangular and its front also has wick holes. The tallest rank of nineteen flue pipes which are seen from the front are held in position by a slanting cross bar and two vertical bars. The relatively small difference in height between the longest and shortest pipe suggests that there were small intervals between the notes. The back of the organ has two more ranks of pipes, about two thirds and half the length of the first. The manual has eighteen keys, set in line with the pipes. The figure of the organist which was modelled separately stands on a platform fixed at a level which is half way up the pumps, but the top part of his body is missing.

The front of the wind chest is inscribed 'POSSESSORIS'.

- 18.) Terracotta lamp from Carthage. Copenhagen Museum.  
Second century AD.

Breitenstein, Niels, 1941. Catalogue of Terracottas Copenhagen,  
p.102, no.972.

Perrot, 1971, p.98, Pl. XIII, nos. 1 and 2.

Height: 15.7cms.

This lamp is similar in type to nos. 16 and 17 and is probably from the same workshop, but is less well moulded. The organ is broken at the base but the water cistern and one pump remain. The wind chest has wick holes and is not inscribed. The front of the organ has eighteen pipes and the back two more ranks, as on the previous examples. Part of the organist's legs survive.

- 19.) Terracotta figurine from Alexandria. Musée du Louvre.  
Pl 43 Second to first century BC.

Louvre Cat. no. CA 426.

Frohner, 1891, no.1214.

Perrot, 1971, p.77, Pl. V.

Height: 13cms.

A dwarf playing a trumpet stands to the left of an organ, from behind which appears the head of a woman wearing a diadem. The organ has a base, water cistern with a pump on the right side (facing), and a wind chest, from which rise fourteen pipes. The treble pipes are on the organist's right, but most of the pipes are cut away in an improbable manner to show her head.

20.) Grave stele. Autun Museum. Third century AD.

Esperandieu, 1907.

Perrot, 1971, p.95, Pl. VII, no.1.

Height: 1.05m.

The deceased is shown holding a long single pipe. To his right is an instrument with six or seven pipes graded in height from left to right. There appears to be a wind chest beneath the pipes and the instrument rests on a stand but there is no sign of cistern and pumps or alternatively of bellows.

21.) Sarcophagus. Arles, Musee Lapidaire. Third to fourth century AD.

Esperandieu, E., 1907, i, no. 180.

Perrot, 1971, p.83, Pl. VI.

Height: 86cms. Length: 2.22m.

An uninscribed sarcophagus with a design on the left of a temple with a figure sacrificing and on the right a hydraulic organ with an organist and two organ blowers. The organ's elongated hexagonal wind chest is flanked by two long narrow pumps to which it is apparently joined by two horizontal pipes. These may simply hold the cylinders against the cistern, but, as Perrot suggests the upper pipe could bring air from the pump to the pnigeus. At the base of each pump is a lever which is grasped by an organ blower. The wind chest is shallow and wider than the cistern, extending over the pumps. It supports nine pipes, with the trebles on the organist's right, which are held by two upright bars and a slanting cross bar. The head and shoulders of the organist appear above the pipes. From the scale of the figures the organ would be between 1.80 and 2m. in height.

22.) Stele of Aphrodisis, Albania. Present whereabouts unknown.  
Late second/third century AD.

Patsch, C., 1904. Das Sandschak Berat in Albanien. Schriften  
der Balkankommission, iii, Vienna, p.116, fig.  
Perrot, 1971, p. 86, Pl. VIII, no. 1. 138.

Height: 0.85m. Length: 0.50m.

Two female figures, probably mother and daughter stand side by side. To the girl's right is a hydraulic organ, with standard features, a base, hexagonal water cistern, rectangular wind chest and nine pipes with the trebles on the player's right. There are no pumps. The instrument is the same height as the girl.

The stele is inscribed:

ΑΦΡΟΔΙΣΙΣ ΕΤΩΝ Κ ΧΑΙΡΕ ΛΥΚΑΗΜΗΤΗΡ ΕΠΟΙΕΙΖΩΣ

23.) Sarcophagus of Julia Tyrrania. Arles, Musee Lapidaire.  
Plate 44 Cithara No 15, Lute No.23  
Second/third century AD.

Esperandieu, 1907, i, no. 181.  
Constans, L.A., 1928; Arles, Paris, p. 82-3.  
Perrot, 1971, p. 100, Pl. XIV.

White marble sarcophagus with to the left of an inscription a hydraulic organ, a syrinx, a sheep and a tree carved in relief. The organ has eight pipes, with the trebles on the player's left, mounted on a small rectangular wind chest. The hexagonal water cistern stands on a base and a pump is placed on each side, at the top of the cistern. From each pump drops an air pipe which turns through ninety degrees to enter the cistern, but there is no sign of the piston rods or levers which would have been necessary to work the pumps. The monument is inscribed:  
Juliae Luc(ii) filiae Tyrraniae vixit ann(os) XX m(enses)  
VIII quae moribus pariter et disciplina ceteris feminis  
exemplo fuit. Autarcus nurui, Laurentius uxor.

24.) The 'Rusticus' organ. Rome, St. Paul-Outside-the-Walls.

Pl. 45  
 Silvagni, A., 1935. Inscript. Christ. Urbis Romae, ii,no.5466.

Perrot, 1971, p. 101, Pl. XV.

A marble plaque, 1.76m. by 0.97m. bears the outline design of a hydraulic organ, which has a cylindrical water tank decorated with a sun motif. There are no pumps but the wind chest which is shown in some detail has two panels, one apparently sloping, the other horizontal. Above it on the front is a manual with fifteen keys. The wind chest is drawn at an angle, allowing a view of its rectangular side, and there are five levers protruding from the back which may be register keys. There are twelve flue pipes, with their lips clearly shown, probably decreasing in size from right to left as far as can be judged from the odd perspective of the drawing. A cross bar holds the pipes in position.

The plaque is inscribed:

Rusticus se vibu(s) feci(t).



25.) Engraved sardonyx, from the Hertz Collection, British Museum. Third century AD.

Walters, H.B., 1926, Catalogue of engraved gems and cameos, London, p.22, no. 1051.

Perrot, 1971, p.84, Pl. VIII, no.2.

The head and shoulders of an organist appear above a hydraulic organ with twelve or thirteen pipes. The instrument has a cylindrical water cistern with a cylindrical pump on either side. The wind chest is wide, extending over the pumps and a pipe leads from the top of each cylinder into the wind chest. A piston is also shown at the base of each cylinder to which is attached a rod and a lever, each worked by a youth, one holding his lever at the top of its movement, the other at its lowest point, thus indicating that the pumps worked alternately.

The treble pipes are on the organist's right and the shortest pipe is about a third the height of the longest, suggesting an overall range of a twelfth.

26.) Medallion of Valentinian III, from the collection of  
Queen Christina of Sweden,  
Cabinet des Medailles, Paris.  
Fifth century AD.

Perrot, 1971, p.89, Pl. IX, no.3.

Obverse: bust of Valentinian III, (424-455), inscribed -  
D N PLAVALENTINIANUS PF AUG

Reverse: a hydraulic organ with organist and two organ blowers.

The circular wind chest mounted on a plinth is very wide and has pumps mounted on either side. The long handles which operate crankshafts are worked by small figures. Eleven tall pipes are mounted on the wind chest and are held in place by a cross bar. A second horizontal line which appears below this near the base of the pipes may be a second bar or perhaps the lips of flue pipes.

From the size of the organist this instrument is exceptionally large, about 2.50m. high with the longest pipe about 1.70m.

The reverse is inscribed:

placeas petri

27.) Terracotta figurine from Kusus-Kolah, Tarsus. Louvre.  
First century  
BC.

Froehner, W., 1873. Les musees de France, Receuil des monuments.  
- antiques, Paris, Pl. 32.  
Perrot, 1971, p.99, fig.4, Pl. XVI, no.1.

Height: (maximum surviving) 11cms. Width: 12.3cms.

The upper part of a terracotta figurine in the shape of an organ. There are either sixteen pipes or fourteen pipes and two lateral supports, with a slanting cross bar. The shortest treble pipe which would have been on the organist's right is less than a third the size of the longest bass pipe. The pipes are set into a rectangular wind chest which is decorated on the front with a scroll pattern. The fragment is broken at this point but a small piece below the wind chest shows that there was a lower section, which should be the water cistern. To the left of the wind chest and continuing below it is the head of a youth, who is probably an organ blower.

Bellows Organs

28.) Aquincum organ. Budapest Museum. AD 228.

Nagy, L., 1934. Az Aquincumi Orgona, Budapest.

Walcker-Mayer, W., 1971, Die römische Orgel von Aquincum, Stuttgart.

Perrot, 1971, p.109 ff.

Kaba, M., 1976. Die römische Orgel von Aquincum, Budapest.

Fragments of a bellows organ found in the ruins of the clubhouse of the Collegium Centonarierum, or weavers' guild, which was destroyed by fire. The instrument is dated by inscription to AD 228. The metal parts only were recovered but it has been possible to identify and reconstruct the wind chest, which was made of wood but lined with bronze, and the fifty two pipes which were arranged in four rows of thirteen.

The inscription reads:

C(aius) Jul(ius) Viatorinus, /Decurio col(oniae)

Aq(uinci), aedi/licius, praef(ectus coll(egii)/

cent(oniarorum) hydram coll(egio)/s(upra) s(cripto)

29.) Funerary inscription. Cemetery of Commodilla, Ostia.

Bagatti, B., 1936, Il cimitero di Commodilla, Citta del Vaticano, fig. 123.

Mercurelli, 1938, p.73-86.

Perrot, 1971, p.102, Pl. XVI, no.2.

Carved on a fragment of marble is an inscription:

GENTILLA/IN PACE, which surrounds the outline carving of a small, probably pneumatic organ. It has sixteen pipes, decreasing in height only slightly from left to right. They are held in place by two upright supports and a slanting cross bar, which has a rectangular plaque in the centre. A second bar is faintly sketched lower down. The wind chest is broad and shallow as on other representations of the bellows organ and although the marble is damaged on the right side there seems never to have been any attempt to show bellows.

- 30.) Engraved glass vessel, Naples, Archaeological Museum.  
Third century AD.

Naples Museum, Room LXXXIV.

Perrot, 1971, p. 105, Pl. XVIII.

Glass vase engraved with a Bacchic thiasos. In the foreground is an instrument with about twenty five pipes held in place with a cross bar. The pipes decrease in size from left to right. There are no bellows nor any hydraulic mechanism, but it resembles the upper part of an organ rather than a large syrinx, although there are too many pipes for either.

- 31.) Rheinzabern terracotta. Speyer Museum. ?Fourth century AD.

Ludowisi, W., 1901-4. Stempel-Namen romischer Topfer von meines Ausgrabungen in Rheinzabern, Munich, p.137, no.11.

Perrot, 1971, p.105, Pl. XVII, no.1.

The fragment of terracotta carries the image of either a syrinx or a pneumatic organ. Its fourteen pipes, graded in height have two lateral supports. A rectangular section below, also bounded by the supports, may be a wind chest and has an inverted inscription, POTTALUSF. However, if the image is inverted so that the inscription is the correct way up, it could represent a large syrinx.

32.) Sarcophagus. Basilica of St. Maximin, Var. Fourth century.

Le Blant, E., 1886. Les Sarcophages chretiens de la Gaule, Paris, p.153.

Fr. Arbus, 1955. Une Merveille d'Art Provençal, Aix-en-Provence, p.32.

Perrot, 1971, p.94, Pl.X.

Marble sarcophagus. On one side is a relief depicting the raising of Tabitha. To the left of the scene is an organ with eight flue pipes, their lips clearly indicated and the plugs with which they are stopped are shown at the top. The wind chest is rectangular and quite deep. It stands on a cylindrical structure which is either the water cistern or a pillar or other support for a pneumatic organ. It is not possible to state categorically whether this is a hydraulic or bellows organ as no pumps, levers or bellows are shown.

33.) Mosaic with musical instruments. Piazza Armerina.  
Fourth century AD.

Belli, A., 1959. La Villa Erculia di Piazza Armerina.  
Imosaici figurati, Rome.

Guido, M., 1977. Sicily: An Archaeological Guide, London.  
Room 34, p.141.

The mosaic is in three registers, the upper showing a quartet playing an organ, cithara, tibiae with side tubes and a second single pipe or tuba. The middle register has a comic scene with large tympani and above one instrument are five small discs with musical notation. The lower register shows a tragic chorus with a poet singing to the lyre.

The organ has from seven to nine pipes, held by a horizontal cross bar, mounted on a broad rectangular section, which is probably the tabula summa. Below it is a rectangular wind chest - it is not large enough for a water cistern and there are no pumps. Although there are no bellows either, it is likely that the illustration is of a small portable pneumatic organ.

34.) 35.) Obelisk of Theodosius. Hippodrome, Constantinople.  
AD 390.

Pl 46 and 47

Bruns, G., 1935. Der Obelisk und seine Basis, Istanbul, p.67.  
Perrot, 1971, p.80, Pl. IV.

One face of the base made for the Egyptian obelisk which was raised in the Hippodrome of Constantinople, is carved with circus scenes. The emperor and spectators are shown and below them dancers performing to the music of tibia, syrinx, and organ. These are two organs set at the extreme right and left of the panel.

34.) The organ on the right has eleven pipes, with the trebles on the organist's left, held by a slanting bar and rising from a wind chest. This is connected by a tube to bellows on the right, on which two children are standing. The mechanism is greatly simplified (see text) but a pneumatic organ is indicated.

35.) The organ on the left is very similar but has only eight pipes. The design is reversed with the treble pipes on the organist's right in the usual way and the bellows with two children are also on this side, (the left, facing the column).



36.) Mosaic showing a group of female musicians. Mariamin, Syria.  
Hama Museum. Third century AD.

Duchesne-Quillemin, M., 1970. La Mosaique de Mariamin,  
Annales d'Archeologie Arabes  
Syriennes, p.121.

A group of female musicians play cithara, tibia, percussion instruments and organ, providing music for a dancer. The finely detailed bellows organ rests on a table, which is covered with a decorative cloth. There are nineteen pipes, held in position inside a metal cage, and further ranks appear behind them, (see text). The wind chest, (arcula) is rectangular. On the ground to the left is what appears to be an inflated cushion set on small feet, on which stand two putti. It is either the bellows or more plausibly a regulator-compressor. It should be connected to the wind chest but the pipes are not shown. If this is an air reservoir there would be additional blowing mechanism, out of sight, perhaps worked by the organist herself.

## Brass Instruments

- 1.) Tubicines in procession. Altar frieze, Rome, Vatican Museum. First Century AD.

Amelung and Lippold, 1903-1955, III, 2, p. 505, Taf. 229, 230

Magi, 1945, p. 94, fig. 66.

Ryberg, 1955, p. 75, pl. xxiii, IV, fig. 37 a-d.

Fleischhauer, 1964, p. 62, Abb. 30.

Inst. Neg. 1957, 1003.

The relief shows an official state sacrificial procession with two togate figures, perhaps consuls, lictors, two attendants (camilli) and, immediately in front of the sacrificial animals, three tubicines, also wearing togas. They are playing their instruments which are held high, pointing slightly upwards and support them with their right hands. The musicians' cheeks are inflated.

- 2.) Suovetaurilia. Trajan's Column, Rome. AD 113.

Cichorius, 1896/1900. BildCI, Taf. LXXVI & III, p. 166.

Lehmann-Hartleben, 1926, p. 24, Taf. 8, 48.

Ryberg, 1955, p. 177, pl. XXXVIII, fig. 57.

Fleischhauer, 1964, p. 64, Abb. 33.

Inst. Neg. 1931, 394.

Four musicians dressed in short tunics take part in the procession, - one tubicen and three cornicines. The tuba is held in the usual manner, with the left hand near the mouthpiece and the right supporting the tube. The cornua are of the first century military type.

- 3.) Tombstone of a Tubicen, Chersonese. Museum of Fine Arts, Moscow.

CIL III, 782.

Behn, 1912, p. 36.

Behn, 1954, p. 136f., Taf. 75, Abb. 172.

Tombstone of Aurelius Salvianus, tubicen of Legio XI Claudia. Salvianus is standing holding his tuba which is shown as a trumpet with an expanding bore and a flared bell with a small flange on the end.

4.) Tuba from Zsambek. Hungarian National Museum, Budapest  
Speidel, 1976, p. 150, fig. 10.

The tuba is made of bronze, and is in one piece, with a regularly expanding bore. The mouthpiece end is broken and the mouthpiece missing. The original length of the instrument was about 1.40m.

5.) Tuba. Tombstone of M. Praeconius lucundus, Carnuntum.  
Museum Carnuntum.

CIL III 14358/21a.  
Speidel, 1976, p. 152, fig. 13.

Below the inscription which describes M. Praeconius lucundus as a tubicen is carved an instrument with an expanding bore which is apparently in three detachable sections.

6.) Tuba. Tombstone of Sibbaeus, Mainz. Reiss Museum,  
Mannheim.

CIL XIII 7042.  
Speidel, 1976, p.151, fig. 11.

Sibbaeus is described as 'tubicen ex cohorte I Ituraeorum'. In his right hand he holds his tuba, which is in two sections, with what may be a cover over the mouthpiece end. The upper part of the instrument has a cylindrical bore while the lower section expands into a bell.

- 7.) Tuba. Tombstone of C. Valerius, Carnuntum. Schloss Traun, Carnuntum.

CIL III 4483.

Behn, 1912, p.36

Speidel, 1976, p.151, fig. 12

Below the inscription which describes C. Valerius as a tubicen is a carving of his instrument shown as a tube with an exaggeratedly conical bore. Beside it, to the left, is a second section, possibly the mouthpiece with a conical cover.

- 8.) Tuba ? mouthpiece. Tombstone of C. Vetienus Urbicus, Koln.  
Museum of Saint Germain-en-Laye.

CIL XIII 8275

Behn, 1954, p.141. Abb, 182, 183.

Webster, 1969, p.141. Abb, Pl. XIII

The inscription describes C. Vetienus as a tubicen. In his right hand he holds an object with a decorated cone-shaped, or ovoid end, which is apparently interpreted as a cover placed over the mouthpiece of the tuba. Behn however suggests that it may be a 'drum major's' staff.

- 9.) Tuba in triumphal procession. Panel from arch, Rome, Palazzo dei Conservatori.  
Second half of the second century AD.

Stuart Jones, 1926, p.25, Pl. XII, fig. 2

Fleischhauer, 1964, p.70, Abb. 36.

The emperor Marcus Aurelius rides in a chariot drawn by four horses. In the background is a trumpeter with a conventionally shown tuba, which has a long straight body and a gently flaring bell. He holds it high and his cheeks are inflated.

- 10.) Musicians at Suovetaurilia. Relief from Arch of Constantine, Rome. Second half of second century AD.

L'Orange / von Gerhan, 1939, p. 185, Taf. 46d.  
 Ryberg, 1955, p.115, Pl. XL, fig. 59.  
 Fleischhauer, 1964, p.66, Abb. 34.

Attendant at the sacrifice are a tibicen wearing a wreath standing behind the emperor, and a tuba player in military uniform who is on the right of the scene. He holds the instrument high, supporting it with both hands. The bell end is missing.

- 11.) Suovetaurilia. Trajan's Column, Rome. AD 113.

Cichorius, 1896/1900, Bild VIII, Text, II, p.46.  
 Lehmann-Hartleben, 1926, Taf. 8, 48, p.24.  
 Fleischhauer, 1964, p.64, Abb.32.  
 Inst. Neg. 1931, 262.

The relief shows a procession for a military sacrifice in which two tubicines and one cornicen participate. The tubae are long instruments, which are held high. To assist the player a strap is attached to each instrument near its gently flaring bell. This is grasped by his left hand which also supports the middle of the tuba. The player's right hand holds the trumpet near the mouthpiece. The cornua are of the standard military, 'G-shape'.

- 12.) Amphitheatre mosaic. Zliten. Villa at Dar Buk Ammera.  
Tripoli Museum. Late  
first century AD.

(Organs, Nos. 2,3).  
Aurigemma, 1923, (iv), p.333-61.  
(viii), p.397-414.  
Perrot, 1971, p.75, Pl.II, 1-2.

The two orchestras which accompany the action of a gladiatorial combat each comprise an organ, a tuba and two cornua. The male brass players wear short tunics with narrow dark stripes. The instruments are all of the distinctive 'amphitheatre' type. The tubae are long - from the scale of the figures about 1.40m., corresponding to the modern four foot 'C' trumpet. Each tuba has a narrow bore and pronounced bell. Each player supports his instrument with his right hand which is near the mouthpiece while his left hand is further down the tube.

The cornua are large G-shaped instruments, with apparently, very narrow bores and distinctive flaring bells.

- 13.) Tuba. Temple of Mars, Klein-Winterheim, Mainz.  
Behn, 1912, p.36. Abb. 1 and 2.  
Surviving length: 137cms.

Part of a bronze trumpet, thought to be a tuba. The lower half survives intact but the mouthpiece is missing. The instrument is made in one piece with a longitudinal seam. Its size and weight (6.5Kg.) suggested to Behn that it might be a votive offering.

A model was made to the same proportions by the Romisches Germanisches Central Museum at Mainz, and was given a horn type mouthpiece. Its fundamental was C and six notes were obtainable.

- 14.) Gallo-Roman tuba, from Noviacum (Neuvy-en-Sullias),  
in Orleans. First century AD ?

Mantellier, 1865, *Memoirs de la soc. arch. de l'Orleanais*,  
IX, Pl. XIII.

Behn, 1912, p.37.

Behn, 1954, p.144, Taf. 81, Abb. 186.

Baines, 1976, p.64.

Length: ca. 160cms.

The tuba was found with Gallo-Roman bronzes in a temple at Noviacum. It is made of bronze, in four detachable sections, with decoration at the joints. In the end of the tube near the mouthpiece is especially elaborate, where it flares out, but the mouthpiece itself which is detachable is quite small and is similar to a modern trumpet mouthpiece. The narrow bore of the instrument expands gradually, then flares to form a bell at the end.

- 15.) Gallo-Roman tuba from St. Juste-sur-Dives. Saumur Museum.  
? First century AD.

Dechelette, *Manuel d'archeologie*, II, p.240, fig.4.

Behn, 1912, p.37.

Baines, 1976, p.64, fig.7.

Length: ca. 160cms.

The instrument is very similar to the Orleans tuba, made of bronze in detachable sections with moulded decoration at the joints.

16.) Folded trumpet or cornu. Tombstone of Andes, Mainz.

Pl. 48 and 49 : ..

CIL XIII, 7023.

Mittelrheinisches Landesmuseum, Inv. No. S 608.

Behn, 1912, p.43.

Behn, 1954, p.140, Taf. 78, fig. 178, 180.

Klar, 1971, p.312.

A mounted cavalryman is shown in relief. Below is the inscription and to the right is the carving of a folded trumpet, an instrument with a cylindrical bore, expanding at the end into a gently flared bell. It has a cup-shaped mouthpiece and there is a supporting strut below the mouthpiece.

17.) Folded trumpet or cornu. Tombstone from Remagen.  
Bonn Museum.

Rheinisches landesmuseum, Bonn, Inv. no. 15319.

Fig.

Behn, 1954, p.140, Taf. 79, Abb. 179.

Klar, 1971, p.312.

Uninscribed tombstone, with the upper part missing, which is carved with a folded trumpet, similar to the Mainz example. The supporting strut apparently extends across the whole instrument which would seem to lock it into an improbable position.

There is an unexplained projection at the bottom of the folded tube. This may be decorative, but might provide a hand grip. The narrow bore of the instrument expands into a bell.



- 18.) Cornu. Wall painting from the Tomba di Castel  
Rubello, Orvieto.  
Florence Museo  
Archeologico. Late  
fourth century BC.

Poulson, 1922, p.57, fig.45.  
Solarì, 1931, Tav. 26, fig. 49.  
Fleischhauer, 1964, p.44, Abb. 18, (drawing)

Brass instruments are commonly depicted in Etruscan  
funerary art. This painting shows a schematically drawn  
lituus with a slightly expanding bore and a large hooked  
bell, and a circular cornu, which are carried by the musicians  
in procession.

- 19.) Musicians in procession. Ash chest from Volterra.  
Volterra Museo Etrusco,  
Inv. no. 168. Late third  
to second century BC.

Fleischhauer, 1964, p.42, Abb. 16.

The relief shows a procession with a chariot drawn by  
four horses preceded by musicians, - two horn players, a tibia  
player and a lyre player. One of the horns is a cornu in its  
early form.

- 20.) Funeral cortege. Relief from Amiternum, Aquila,  
Museo Civico. Late first century BC.

(Tibias, No. 10 ).  
Ryberg, 1955, p.36, pl.9, fig. 19b.  
Fleischhauer, 1964, p.54, Abb. 25.

The deceased who is carried on a bier is surrounded by  
mourners. The musicians in the funeral procession include a  
lituus player, two cornicines and four tubicines. The cornus  
are of the 'early' type.

Height: 0.68m.; Length: 1.66m.

21.) Cornu. Rome, Villa Giulia.

Fig. 14

Inv. No. 51216.

Behn, 1954, p.132.

Baines, 1976, p. Pl.2, fig. 4.

Fleischhauer, 1960, p.501.

Early form of bronze cornu, curved into a half circle.

22.) Horn. ? from Campania. British Museum.

Reg. No. 1939-4-9. 46a

Total length: 105cms.

Diameter of mouthpiece, (top): 2.7cms.

Diameter of throat: 0.4cms.

Depth of mouthpiece: 1.5cms.

Length of mouthpiece shank: 8.1cms.

Diameter of bell: 7.00 x 7.3cms.

A bronze horn purchased in Italy in the nineteenth century. It is made in three sections, a mouthpiece and two more sections of tubing, respectively 39 and 58cms. in length and there are reinforcing rings at the joints. The bore of the instrument expands gradually and the bell is not distinct. The tube is curved. The mouthpiece is comparatively wide and shallow.

The instrument may be the early form of cornu.

## 23.) Horn.

British Museum.

Reg. No. 1839 11-9. 46d

Total length: 119cms.  
 Diameter of mouthpiece: 2.8cms.  
 Depth of mouthpiece: 1.3cms.  
 Diameter of throat: 0.5cms.  
 Length of mouthpiece shank: 8.5cms.  
 Diameter of bore at bell end: 7.5 x 8.00cms.

A horn similar to the above, but in better condition. It is made in four sections; a straight mouthpiece shank and three sections of tube which are gently curved into a semicircle. The mouthpiece joint is firmly fixed and corroded but may have been detachable. The bore of the instrument expands steadily along its length, and although quite wide at the lower end, the bell does not flare sharply.

## 24.) Horn.

British Museum.

Provenance believed to be Italy.

Reg. No. 1839 11-9. 50c

Total length: ca. 55cms.  
 Diameter of mouthpiece: 2.8cms.  
 Diameter of throat: 0.35cms.  
 Depth of mouthpiece: 1.5cms.  
 Length of mouthpiece shank: 8.7cms.  
 Diameter of bore at broken end: 3.2cms.

The top part of a brass instrument, similar to the previous examples. The mouthpiece section and the section below are intact but of the third section only the reinforcing ring at the joint survives. The mouthpiece appears to be cast in one piece while the section of tube has a longitudinal seam. The bore of the instruments expands regularly.

25.) Section of bronze instrument. British Museum.

Reg. No. 1839 11-9. 50b

Length: 33.5cms.

Section of bronze tubing with an expanding bore, probably from a horn. It is made from sheet bronze with a longitudinal seam which has opened. The diameter of the bore is 0.7cms. at the top and 2.5cms. at the bottom, which suggests from the narrowness of the top measurement that it is the section of a horn immediately below the mouthpiece.

26.) Section of bronze instrument. British Museum.

Reg. No. 1839 11-9. 50a

Length: 44cms.

Diameter at upper end: 0.9cms.

Diameter at lower end: 2.5cms.

Section of tubing as above, but this example is broken at the upper end and damaged at the lower end.

27.) Cornicines on the march. Trajan's Column, Rome. AD113.

Lehmann-Hartleben, 1926, p.66, Taf.29.

Fleischhauer, 1964, p.64, Abb. 31.

Inst. Neg., 1941, 1374.

The cornicines march near the standards, their instruments carried on their shoulders. The military cornua have decorated cross bars.

28.) Danube crossing, Trajan's Column.

Lehmann, Hartleben, 1926, Taf. 15, XXVI.  
Behn, 1954, p.140, Taf.78, Abb. 177.

The horn players, who are again marching near the standards have very large cornua, the bells pointing forward high over their heads. The cross bars which have pelta shaped decorative pieces on the end, extend well beyond the curve of the tube.

29.) Cornua. Tropaeum Traiani, Adamklissi. Bucharest Museum.  
Early second century.

Richmond, 1967, Pl.XVa, Metope no.XLII, and XI.

The tropaeum Traiani is a circular monument, 100 feet in diameter, dedicated in AD108, to commemorate Trajan's defeat of the Dacians.

Each of these metopes shows three cornua played by foot soldiers. The cornua are large G-shaped instruments, with the decorated cross bar projecting beyond the curve of the bore.

30.) Cornu. Tombstone of Flavius Attius from Gerulator.  
Gyor Museum, Hungary.

CIL III 4391.  
Gabler, D., 1968. The Relics of Stone Plastics at Arrabona and its surroundings. Arrabona 10, p.51.H., no.23.  
Speidel, 1976, p.150, 161, fig. 16.

The stele bears an inscription recording Flavius Attius as an eg(ues) al(ae) Cann(anefatium). Below this is the carving of a cornu, shown in the conventional way. It has a narrow tube, which curves in a circle and is supported by a cross strut, with a flared bell.

31.) Cornu fragments. Ovilava, Wels, Austria. Staatliches  
Museum, Wels.

Inv. No. 11055 a/b/c.

Kaff, 1952, p.55f.

Three fragments of bronze piping were found during excavations at Colonia Aurelia Antioiana Ovilava in the 1920s. They are described in the 1933 guide to the collection in the Staatliches Museum, Wels, as part of a tuba, but in 1946 were recognised as sections of a cornu.

The three pieces are from the lower end of the instrument - two sections of bronze tubing and the bell which flares sharply.

32.) Cornu fragments from Virunum. Landesmuseum fur Karnten,  
Klagenfurt.

Schenk, E., 1946. Die Cornu-Fragmente von Virunum.  
Anzeiger Acad. Wiss. Wien, phil-hist.  
Klagenfurt, 1946, p.35-38.

Praschner, C., Kenner, H., 1947. Die Baderbezirk von Virunum,  
p.132, Abb. 125.

- 33.) Cornu and Organ. Nennig mosaic. Nennig, Saarburg.  
AD 230-240.

(Organs, No. 1)  
Parlasca, 1959, p.34-39.  
Fleischhauer, 1964, p.126, Abb. 72.  
Perrot, 1971, p.73-75, Pl.1.

The cornu which is seen with a hydraulic organ is a large G-shaped instrument with a narrow bore. The cornicen is awaiting the signal to play and the mouthpiece of the horn which can be seen above his right hand appears to be small and rounded. The bell is sharply defined. The cross strut which projects beyond the curve of the bore rests on the player's left shoulder.

- 34.) Cornu from Pompeii. Naples Museo Archaeologico.  
Pl. 50  
Inv. No. 1277, (old number).

Height: 1.28m.; width: 1.10m.; diameter: 1.20m.

The tube which expands gently is about 3.3m. long, bent almost into a circle, and held by a transverse strut, which rested on the player's shoulder. The strut would probably have been decorated, perhaps covered in ivory. The bore of the instrument expands sharply at the end to form a flared bell. The mouthpiece of this cornu is missing, but was detachable. There are other cornua from Pompeii in Naples Museum, and according to Groves dictionary (cornu), one had a mouthpiece on a six inch (17cms.) shank that fitted into the bore, but I have not seen this instrument.

35.) Mouthpiece of ? cornu. Kastell Waldmossingen.

ORL 61b BD. V. P.7, Taf III, 4.  
Behn, 1912, Abb. 113, No.4, p.44.

Length: 17.3 cms.  
Diameter of cup: 2.8cms.  
Diameter of throat: 1.00cms.  
Diameter of bore at bottom of shank: 1.5cms.

The bronze mouthpiece is wide, shallow and slightly funnel-shaped, with a sharply angled throat, and an expanding backbore. There are two ornamental grooves on the external surface of the shank. From the context the mouthpiece cannot date from a period later than the early second century AD.

36.) Mouthpiece of a cornu. British Museum. ? First century AD.  
Pl. 51 and 52  
Inv. No. WT 977.  
Bate, 1966, p.96, fig. 25.

Total length: 18.5cms.  
Diameter of mouthpiece (greatest): 3.2cms.  
Diameter of throat: 0.5cms.  
Depth of mouthpiece cup: 1.65cms.  
Diameter of bore at end of shank - internal: 1.3cms.  
- external: 1.7cms.

The cup of the mouthpiece is nearly hemispherical; the rim is rolled on the inside of the cup to form a cushion. The shank is 16.8cms. in length and the back bore is conical, expanding from 0.5cms. to 1.3cms. There are three bands on the outside of the shank which appear to be decorative. The end of the shank appears to be intact although there is a little corrosion. The mouthpiece would have fitted over the body tube but it is not possible to say whether it was permanently fixed or was detachable.

Despite the length of the straight shank, Bate considers that this mouthpiece belonged to a cornu.



37.) Mouthpiece of a ? cornu from Vetera. Rheinisches  
Landesmuseum, Bonn.

Inv. No. 24107.

Klar, 1971, p.332, Bild. 4 c.

Length: 13.6cms.

Diameter of mouthpiece - internal: 3.00 cms.

- external: 3.8cms.

Diameter of throat: 0.6cms.

Depth of cup: 1.5cms.

The bronze mouthpiece is wide, shallow, and slightly funnel-shaped with a conical back bore. The design of the top is unusual as there is a sharply angled 'cushion' which accounts for the large difference between the external and internal diameters of the mouthpiece cup. The angle between throat and back bore is sharp.

38.) Mouthpiece of tuba ? Neuss, Legionary fort. Rheinisches  
Landesmuseum,  
Bonn.

Inv. No. AN 26525.

Klar, 1971, p.332, Bild. 4 d.

Diameter of mouthpiece cup - internal: 1.7cms.

- external: 2.2cms.

Depth of cup: 1.1cms.

Diameter of throat:

A small rounded mouthpiece, nearly hemispherical in section with a slightly rounded angle between throat and back bore, which does not appear to expand greatly. The rim of the cup is unusual as it is everted:

39.) Bronze mouthpiece. Great Chesterford.

Webster, G., 1958, The advance of Ostorius Scapula,  
Arch. J. 1958, p.80. No. 104, fig.5.

Length: ca. 16cms. (6 $\frac{1}{4}$ ins.)

Diameter of mouthpiece cup: 2.4cms. (15/16ins.)

The wide shallow mouthpiece is rather crudely made. It has an expanding backbore and a sharply angled throat. Unusually, it may have been inserted into an instrument, as the external surface is encircled by two faint lines and the lower four centimetres are quite smooth. It is certainly large enough to be a tuba mouthpiece, but the profile of the cup is similar to that found on other mouthpieces which are thought to be from cornua.

40.) Bronze mouthpiece. Verulamium. Verulamium Museum.

Frere, S.S., 1972, Verulamium Excavations, Vol.I, p.130,  
 No. 129.

Length: 5.5cms.

Diameter of mouthpiece cup: 2.00 cms.

Diameter of throat: 0.4cms.

Diameter of bore at lower end: 0.5cms.

Depth of cup: 1.00cms.

A small mouthpiece with a comparatively deep cup, and sharply angled backbore. The backbore does not expand appreciably but the end of the piece is broken and the tube may have opened out lower down. The tube has punched decoration in spiral fashion and some external moulding. It is dated from its context, B III 18, II D, Room 31, to circa AD 150.

41.) Bronze mouthpiece. Water Newton. Peterborough Museum.

Artis, E., 1828, The Durobrivae of Antoninus, London, Pl.xxxvi,  
No. 1.

Webster, 1958, p.94, no. 230.

No accurate measurements given.

I have not been able to examine this object, but it appears to be a small plain mouthpiece with a rounded cup.

42.) Bronze mouthpiece. Lydney Park.

Wheeler, R.E.M. & T.V., 1932, Lydney Park, Oxford, p.81, fig.16,  
no. 47.

Approximate dimensions:

Length: 13cms.

Diameter of mouthpiece cup: 2.00cms.

Depth of cup: 1.00cms.

Diameter of throat: 0.4cms.

A rounded mouthpiece with a hemispherical cup. It is similar in shape to an example shown by Behn which comes from Heddernheim, (1912, p.44, Abb.13, No.1).

43.) Bronze mouthpiece. Castlecary Fort, Antonine Wall.  
National Museum, Edinburgh.

Inv. No. FZ 190.

Klar, 1971, Bild 4 e, opp. p.332.

Diameter of mouthpiece cup - internal: 2.00cms.

- external: 2.4cms.

Depth of cup: 1.1cms.

Diameter of throat: 0.35cms.

A rounded nearly hemispherical cup shaped mouthpiece with a rolled rim.

- 44.) Lituus from Caere. Rome, Museo Etrusco Gregoriano, Sala III, Case H, No.14. ? Fourth Century BC.

~ s.

Behn, 1954, p.137f.

Fleischhauer, 1964, p.44, Abb.19.

Length: 1.60m.

The instrument is a true lituus with a straight, slightly tapering tube of bronze made from two sections of bronze sheeting with two longitudinal seams. The hooked bronze bell is made separately. The mouthpiece is missing. Its pitch is equal to our G and facsimiles yield several notes but without positive evidence of the type of mouthpiece used originally, such experiments must be inconclusive.

- 45.) Lituus from Rhine, near Dusseldorf. Rheinische Landesmuseum Bonn, (owned by Saalburg Museum, Bad Homburg).

Fig. 15

Inv. No. Bonn - D1090.

Behn, 1912, p.37, Abb.3.

ib. 1954, p.137f.

Klar, 1971, p.305.

Catalogue - 1967, Romer am Rhein, p.207, No. C 42.

Length: 73.8cms. (Behn gives 78cms., which is measured along the curve of the bone).

Dimensions of bell: 8.9cms. by 10.8cms.

Diameter of mouthpiece - internal: 1.7cms.

- external: 2.2cms.

Diameter of throat: 0.5cms.

Depth of mouthpiece cup: 1.1cms.

The instrument is made of sheet bronze, soldered down each side to form a conical tube. The bell curves upwards and is elliptical in shape. There are three bronze bands encircling the tube, with carrying rings, 'slinging eyes' attached to the two outer bands. The mouthpiece of the instrument which is rather corroded is conical or funnel shaped with a throat that merges smoothly into the bore of the body.

According to Klar the instrument when played produced six notes.

46.) Lituus, Russelsheim, from Main, Staatliche Museen, Berlin, Charlottenberg.

Inv. Misc. 8417.

Lindenschmidt, L., 1900, Die Altertümer unsrer heidnischen Vorzeit IV, Mainz. Taf. 56m No. 4.

Klar, 1971, p. 307, Bild 3, 4b.

Behn, 137.f

Length: 70.2cms. (Behn - 79.5cms.)

Diameter of mouthpiece - external: 2.00cms.

- internal: 2.7cms.

Depth of mouthpiece cup: 1.4cms.

Diameter of throat: 0.5cms.

A horn very similar to the No. 38.

47.) Fragment of bronze horn - Staatliche Museum Wiesbaden.

Inv. No. 1536.

Schoppa, H., 1963, Die Römische Kaiserzeit, Schriften der Stadtischen Museums, Wiesbaden No. 6, P.8.

A fragment of bronze horn from an instrument that is probably similar to the Saalburg and Russelsheim examples, but the mouthpiece and bell are missing.

48.) Bell of bronze horn. Bonn Museum.

Inv. No. 25886.

Klar, 1971, p. 307.

Dimensions: 9.7 by 10.7cms.

The provenance of this fragment is uncertain but may be Cologne. It is very corroded but is the bell of a horn similar to that on the Saalburg instrument.

49.) Bronze horn, from Serrano. Museo St. Lazare,  
Pl. 53 Madrid.

Length: ca 75cms.

The horn is in very good condition. It is curved throughout its length and the tube expands gradually into an elliptical bell, about 10 by 7cms. in diameter, similar to those of the Rhineland horns. The tube is undecorated and there are no slinging eyes. The mouthpiece is conical in section.

## 50.) Tombstone of Aurelius Surus from Byzantion.

Pl. 55 and 56

Istanbul Archaeological  
Museum. AD 213.Firatli, N., 1966. Annexe au livre sur les steles de Byznce  
grecqo-romaine.Annu. Arch. Mus. Istanbul 13-14, 1966, p.183ff.Speidel, M., 1976. Eagle bearer and Trumpeter, Bonner Jahrbucher  
176, 126, no.2.

Height: 2.40m.

Width: 0.95m.

Thickness: 0.13 - 0.10m.

The stele, of white Proconnesian marble, is carved with the frontal view of a standing soldier framed by two pillars which support a pediment with a disc in the tympanum. The soldier wears a long sleeved tunic, military belt and a cloak fastened on the right shoulder. The bearded face which is turned slightly to the left is damaged.

His right hand holds a hasta, the spear, and his sword, the spatha hangs from a baldric (balteus) on his left. A shield and helmet rest on the ground.

In his left hand Surus carries a long straight trumpet with a narrow bore flaring at the end into a bell. The instrument is carried with the bell pointing upwards and the mouthpiece end is broken.

The inscription reads:

d(is) m(anibus) / Aurel(io) Suro quov/ndam bucina /tori  
leg(ionibus) ad(iutricis) p(iae) f(idelis) / stip(endiorum)  
XVIII vixit a/nnius XL D F Suria / Sept(imus)  
Vibianus heres /et collega eius / D(ene) m(erenti)  
f(aciendum) c(uravit)

Speidel suggests that Surus came from Syria Phoenicia,  
the D F in line 6, standing for d(omo) F(oenica).

Lyres.

- 1) Wall Painting. Tarquinia. Tomba dei Leopardi.  
Tibia No. 2. 480-470 BC.

Pallottino, 1952, p. 67.  
Fleischhauer, 1964, Abb. 10, p. 34.

Musicians participate in a banqueting scene. A tibicen is followed in procession by a lyre player. The instrument has a body of tortoiseshell size and shape, the edges painted dark red and the belly, which would have been covered with skin, cream. The slender curved arms rise realistically from points inside the upper edge of the belly. They are decorated and are apparently of wood rather than horn. The method by which the cross bar is attached to the arms is not indicated and the seven strings are tied to pegs. They pass over a bridge and are fastened to a holder at the base of the table.

The lyre has no visible means of support, but the musician's left hand is held with the fingers extended - perhaps damping three or four strings. The right hand, which is damaged, is drawn well back, as if it had just swept over the strings.

- 2) Ash chest. British Museum.  
Second century BC.

Pl. 17  
Tibia No. 27  
o.

Smith, 1904, 1,2, p. 229-30, D.69.  
Ryberg, 1955, p. 161, pl.V, fig11.  
Fleischhauer, 1964, Abb. 23, p. 50.

The relief on the cinerary urn depicts a sacrifice at a tomb. A procession of horsemen is led by a tibicen and lyre player. The lyre is not shown in any detail, but the back is clearly arched.



- 3) Silenus with lyre. Pompeii. Villa of the Mysteries.  
Pl. 57 ca. 60 BC.

Mauri, A., 1951, La Villa dei Misteri, Rome.

Brendel, O., 1966 *JdAI* 81, p. 206 ff.

Kraus, T., and von Matt, L. 1975, Pompeii and Herculaneum.  
New York, 93-6.

Scene III of the series of paintings adorning the "Hall of the Mysteries" shows the figure of an elderly Silenus playing the lyre, resting it on a column. The instrument is of the classic tortoiseshell type, with seven strings. The arms are slender and curved and appear to be made of wood-horn is not obviously indicated. The musician's left hand is held against the strings, perhaps damping them, while his right hand sweeps them with a plectrum.

In the same scene a young Satyr plays panpipes.

- 4) Chiron and Achilles. Wall painting. Herculaneum, Naples  
Pl. 58 Museum. AD 75.

Naples Museum Inv. No. 9109.

Helbig, 1868, No. 1291.

Curtius, 1929, Abb. 9, p. 211.

Schefold, 1952, *Pompeianische Malerei*, Basle, p. 136, Taf. 46.

Fleischhauer, 1964, Abb. 58, p. 104.

Chiron instructs young Achilles in the art of playing the lyre. A famous theme in Greek painting. The lyre is of the traditional Greek type, with a tortoiseshell soundbox and slender curving arms of horn. The string holder/tail piece appears as a rectangular plate. There are no clear details of the construction of this instrument, in its mythological setting, but some features are characteristic of Hellenistic and later representations of the lyre family - for example the long tuning pegs by means of which the ten strings were

attached to the yoke.

Achilles holds the lyre, plucking or damping the strings with his left hand, while Chiron sweeps the strings with a slender plectrum which he holds in his right hand.

5) Lyre player and women. Wall painting. Stabiae. Naples Museum.  
Brion, 1960, Pl. 122, p. 203.

A group of women surround a seated female musician who holds two instruments.

In her left hand she holds an elongated lyre, which is seen from the back. This has a small rectangular sound box, curved from top to bottom and rising to a central point. It is decorated with spots, perhaps resembling shell. The slender arms follow the curve of the sound box and are very long. The cross bar has discs near its ends. Five strings are wound around the cross bar but the method by which they were secured is not clear. The woman's left hand plucks the strings and she appears to be tuning the instrument, comparing a note with one given by another instrument which she plucks with her right hand. This is a small boat shaped harp - ?sambuca.

- 6) Muse with lyre. Istanbul Archaeological Museum.  
Pl. 59 ?Second century AD.  
Istanbul Museum In. No. 1028.

The Neo-Attic relief depicts a female figure, probably a Muse with a lyre like instrument. The base of the sound box is slightly rounded (as on a tortoiseshell) and the slender arms are curved. Seven pegs are attached to the cross bar and the string holder is at the base of the sound box, although the strings are not carved. The position of the player's hands is very detailed, similar in style to Greek vase painting. The thumb and first two fingers of the left hand are bent as if plucking or damping the strings, while the right hand holds a plectrum close to the strings.

- 7) Statue of Mercury. Italica. Seville, Museo Arqueologico.  
Fig. 7

The marble statue is a Roman copy of a Greek original. A lyre rests beside the figure of Mercury. One arm and most of the upper part is missing but the body is well executed, showing the tortoiseshell. The front seems to depict the underside of a tortoise, not a skin table as would have been the case. On the front are two rectangular plates, apparently the string holder and a bridge.

## 8) Altar of Ahenobarbus.

Paris, Musee du Louvre.  
First century BC.

Pl. 61

Ryberg, 1955, p.27-34.

Baudot, 1973, pl. 3.

The altar relief shows a sacrificial procession in celebration of a victory. Musicians perhaps members of the collegium symphonicorum play at the suovetaurilia, namely a tibicen and a lyre player, (fidicen) It is not clear whether the illustration is of a lyre or a cithara. It has a squarish frame with thick arms and a cross bar placed unrealistically at the top of the arms.

## 9) Orpheus Mosaic.

Sparta. Archaeological Museum.  
Second century AD.

Pl. 60

The mosaic is from a Roman villa at Sparta and depicts Orpheus taming the beasts.

Orpheus, seated, wears a Phrygian cap, short cloak and boots. His tortoiseshell lyre is very detailed, with a round shell sound box from which rise curved horn arms, the spirals indicated by horizontal lines. The eight strings are fastened to a string holder at the base of the sound box, and are attached to long tuning pegs at the cross bar. Orpheus' right hand holds a slender plectrum which he is about to sweep across the strings.

- 10) Statue of Mercury. Merida (Augusta Emerita) Museo  
Arqueologico, Merida. AD 155.

Pl. 62

Vermaseren, 1956, i. p. 274, no. 780, fig. 213.  
Toynbee, 1962, p. 133, pl. 236.

In this monumental representation the god sits on a rocky throne. He is identified by the wings at his ankles and a tortoiseshell lyre at his feet. This is shown back view and bears a Mithraic inscription, a dedication to Mithras by a Pater the highest of the grades of initiation.

The lyre has spiral horn arms and the cross bar, affixed almost at their tips, has scroll-like ends. Ten strings are attached to the cross bar, but the details of this are not clear - a series of holes is drilled into the back of the bar.

- 11) Sarcophagus relief. Rome, Via Casilina. Museo delle Terme.  
Late second century AD.

Inv. No. 78684.  
Pl. 8  
Tibia No. 11.

Aurigemma, 1970, No. 14, p. 21.

The sarcophagus depicts the voyage of the dead to the Isles of the Blessed. In the centre are four marine Centaurs with Nereids on their backs. One plays the tibia, another a lyre with five or six strings. The bottom of the sound box is rounded, as on a tortoiseshell, and the arms are shown conventionally, as the spiral horn type. They project over and beyond the cross bar and three pegs are indicated on the bar. The strings are fastened to a holder shown in an unlikely position on top of the sound box. The Centaur holds a large plectrum in his right hand.

- 12) Pashley Sarcophagus. Fitzwilliam Museum, Cambridge.  
 Inv. No. GRI 1835. AD 225-250.

The sarcophagus, made of Italian marble, depicts a Bacchic thiasos, with various instruments including tympani and a lyre. The lyre clearly has a tortoiseshell body and the spiral horn arms and the back view is shown as the markings of the shell are clear. The cross bar does not project beyond the arms but discs are shown on the arms level with its ends. Tuning pegs are indicated very diagrammatically and there are probably six strings. Although the back of the instrument is shown the player's right hand holds the plectrum, against all precedent, behind the strings, but this is presumably due to a misunderstanding by the artist.

- 13) Mosaic of the muses. Trier. Rheinisches Landesmuseum,  
 Pl. 63 Trier. AD 220.

Parlasca, 1959, p. 32, Taf. 31.

Two of the Muses on this mosaic, Erato and Terpsichore, carry lyres. Only the upper portions of the instruments are visible and they appear to be of an elongated rectangular form.

A similar lyre is held by a Muse on a mosaic from Johannisstrasse, Trier, Parlasca, 1959, Taf. 59, which is dated to the fourth century AD.

- 14) Orpheus Mosaic. Rottweil.  
 Late second century AD.  
 Parlasca, 1959, p. 99, Taf. 96.

Orpheus' lyre is very square. The tapering shape of the arms may indicate that they are of horn, but the base of the instrument is square and the whole design extremely stylised, not at all like a classical lyre. There are five strings, but ten

tuning pegs on the cross bar. The musician's left hand is spread out behind the strings and his right hand holds a plectrum.

- 15) Orpheus Mosaic. Barton Farm Villa. Corinium Museum,  
Cirencester.  
Fourth century AD.

Toynbee, 1962, No. 185, p. 198, pl. 221.

The figured portion of the polychrome mosaic depicts Orpheus taming the beasts. The central roundel, which is almost complete, shows Orpheus, seated, with Phrygian cap, short tunic, cloak, boots and lyre. This is a large square instrument unlike the usual tortoiseshell lyre, and it has five strings. The lower part, including the sound box is missing. Orpheus' right hand appears to be running across the strings without a plectrum, but the design is very stylised.

- 16) Orpheus Mosaic. Brading Villa, Isle of Wight. Fourth  
century AD.  
Toynbee, 1962, No. 195, p. 201, pl. 232.

The design of Orpheus and the beasts is contained within a circle framed by a square. Orpheus wearing Phrygian cap and scarlet cloak, plays a lyre, coloured gold and grey, with scarlet strings. The drawing is rather diagrammatic but the classic form of the lyre is indicated by the round bottomed sound box, and curved arms.

Professor Toynbee suggests that this mosaic may have been executed by a foreign master, a factor that might explain the more classical treatment of the instrument.

- 17) Lanx. River Tyne, Corbridge. British Museum.  
Pl. 64

Brendel, O., 1941. The Corbridge Lanx, JRS XXXI, p. 100.  
Toynbee, 1962, No. 108, pl72, Pl. 121.

The rectangular dish, found as part of a hoard, in the eighteenth century, is of Mediterranean workmanship. It depicts a group of deities, including Apollo, Artemis and Athene, worshipped on the island of Delos, perhaps on a specific occasion by the emperor Julian in AD 363.

The content of the piece is classical in concept but the clumsiness of the technique suggests that it is of late date.

A lyre or cithara rests on the ground beside the figure of Apollo. Pointed horn arms are indicated, but the frame of the instrument is squarish. The few strings appear to be fastened above the sound box in an improbable manner, and the whole representation is extremely diagrammatic.

- 18) Mosaic - Arion. Piazza Armerina. Early fourth century AD.  
Pl. 65  
Bellini, A. 1959, La Villa Erculia di Piazza Armerina. I mosaici figurati. Rome.  
Guido, 1977, Room 32, p. 140.

The mosaic is from the Room of Arion. The musician plays an instrument that is obviously intended to be a lyre as it has the typical spiral horn arms. The soundbox is not of the shell form but is a rectangular box similar to that seen on representations of citharae. The instrument has seven strings and the pegs have been stylised as a rectangular block.

The musician holds a plectrum in his right hand and fingers or damps the strings with his left.



- 19.) Orpheus mosaic. Uthina, (Oudna). Musée du Bardo.  
Late second/third century AD.

Inv. no. A 148.

Yacoub, M., 1970, Le musée du Bardo, Tunis, p. 69, fig. 72.

Orpheus is seated on a rock at the foot of a tree with the animals grouped round him. His lyre is very stylised with straight, forward curving arms and a square base, rather like that of a cithara, but above this base is a round disc, apparently intended to represent a tortoiseshell sound box. Tuning levers and strings are indicated schematically.

Citharas.

- 1) Apollo Citharoedus. House of the Vetii, Pompeii.

Pl. 66

Brion, 1960, pl. 125, p. 208.

The painting is from the triclinium. Apollo's instrument is of the classic type, with a vaulted back, curved arms and a domed sound box. The slender cross bar terminates in a disc on the one visible end. Seven strings run from elaborate pegs on the cross bar to a string holder at the base of the sound box.

The god's right hand holds a plectrum, which he sweeps across the strings, while his left hand is plucking or damping with the fingers curled round.

- 2) Concert scene. Wall painting. Herculaneum. Naples Museum.  
ca 25 BC.

Tibia No. 17.

MN Inv. No. 9021.

pl 3

Schefold/Drayer, 1956, Abb. 17, p.34.  
Fleischhauer, 1964, Abb. 57, p. 102.

The painting, a copy of a Hellenistic design, features three musicians in concert - a female singer, a tibicen and a cithara player.

The cithara, played by a woman, is a large square framed instrument, and is seen from the back, which is clearly arched. The straight pillar-like arms are quite slender and appear to curve forward a little. The cross bar is heavy and the tops of the pegs can be seen above it. There are at least ten strings.

The musician's left hand is plucking or damping the strings, but this section of the painting is damaged and the details cannot now be seen. The right hand holds a narrow plectrum with a forked lower end.

- 3) Arretine bowl. Xanten (Castra Vetera) Rheinisches-Germanisch Museum, Bonn.

RGM Inv. No. 21742

Oxe, 1933, p.41, no. 12.

Klar, 1971, 331-2.

The terra sigillata bowl was made by the potter Marcus Perennius and depicts a scene of revelry, with the figures of male and female musicians, playing tibiae, citharae, cymbals and a scabellum. The cithara is of the classical Greek type and has a substantial sound box with flat table and curved arms. The many strings are fastened to a holder at the base of the sound box.

A similar instrument on a sherd is illustrated by Behn, 1954, Abb. 126, Taf. 56.

- 4) Sarcophagus relief. Thessaloniki. Istanbul Archaeological Museum.  
Second century AD.

Pl. 67

Istanbul Museum No. 366.

Mendel, 1912, p. 119 ff, no. 32.

The sarcophagus shows a Bacchic procession with Maenads and Satyrs. Silenus plays the tibia while Maenads play tympani and, unusually, a large concert cithara.

This has the classically shaped large vaulted body and is seen from the back. The player's left hand fingers and damps the many strings and she appears to be singing to her accompaniment.

- 5) Sarcophagus relief. Rome. Paris, Musee du Louvre.  
ca AD 160.

Inv. No. Ma 475.

The sarcophagus, which was found near Rome, shows the nine Muses. The seventh figure, Terpsichore plays a cithara

of the classical type. There is some suggestion of an arching back and the sound box swells out at the sides. The arms above the sound box are straight and six or seven pegs project from the underside of the cross bar. The Muse's right hand holds a plectrum, pointed at one end with a knob at the bottom.

The fourth Muse, Euterpe, plays the tibia. One pipe is broken, but on the remaining, left, pipe tuning bands are indicated and five hollow tubes project from the central portion of the tube.

- 6) Apollo Citharoedus. Miletus. Istanbul Archaeological Museum.  
Pl. 68 and 69 Second century AD.  
Mendel, 1912, No. 114, (2000).

The sculpture, found in the Baths of Faustina is a copy of a Hellenistic original in the Praxitelean tradition.

Apollo's cithara, which rests on a pillar, and is also strapped to his body, is large and elaborate. It has richly decorated pillar-like arms, which curve forward. The sound box is rectangular and projects forward, although the back of the instrument is also slightly vaulted, with a central rib.

Five pegs are shown on each side of the cross bar, which protrudes slightly beyond the arms.

Apollo's left hand, which is broken is behind the instrument, while his right hand, raised above his head held a plectrum, now missing.

The type was frequently reproduced in antiquity, see Nos. 7,8,9, but many of the existing statues are greatly restored.

7) Apollo Citharoedus. Cyrene. British Museum.

Pl. 70 and 71

Smith, 1904, III, No. 1380.

Bieber, 1955, fig. 679, p. 160.

Height 7'6".

The statue, carved from Parian marble, is one of a series of replicas of a Greek original probably dating from the fourth century BC. Twelve such copies are known.

In this case, although the catalogue states that the statue is mended but not restored, the design of the cithara is highly suspect. The vaulted back and square projecting sound box are paralleled, although the latter is over decorated but the arms diverge in an improbable fashion. The upper part of the instrument is missing.

8) Apollo Citharoedus. Rome, Capitoline Museum.

Pl. 72

No. 628.

Jones, 1912, p. 279, Salone No. 7, Pl. 67 G.

Bieber, 1955, p. 160.

The statue is another variant of the Hellenistic type. The cithara is very plain (restored) with a projecting rectangular sound box and a square frame.

- 9) Apollo Citharoedus. Villa of Crassus, Tibur. Rome,  
 Pl. 73 Vatican Museum.  
 Vatican, Sala delle Muse 516.

Amelung/Lippold, 1903 III, 1, No. 516, Taf. 7, p. 60.  
 Behn, 1954, Abb. 112, Taf. 47, p. 82.  
 Bieber, 1939, p. 401, 404, fig. 529.  
 Fleischhauer, 1964, Abb. 63, p. 114.

Apollo, dressed in flowing robes and crowned with laurel appears as a citharist. He is singing and accompanying himself on the instrument which is strapped to his body over the right shoulder. Much of the cithara is restored but it has a rectangular sound box which projects at the front and the outside arm is adorned with the figure of Marsyas.

- 10) Sarcophagus relief. Paris, Musée du Louvre.  
 Pl. 74 Late third century AD.  
 Inv. no. Ma 2347

The relief depicts the contest of Apollo and Marsyas. Apollo is seen as a citharist and is crowned with laurel. The cithara which is supported on a strap running over his left shoulder is of elaborate construction and the side view is seen. Square arms, decorated with studs, curve round so that the cross bar and therefore the strings, overhang a projecting rectangular sound box, which appears, as on other representations, to consist of two parts. A horizontal line carved across the lower part may represent the string holder. The tuning pegs are very long and the god's hand rests on one as if adjusting it. His left hand, seen behind the instrument is in a position suitable for plucking the strings, which are not indicated.

This form of the cithara is seen on many sarcophagi of this date and appears to be a stock pattern.

- 11) Sarcophagus relief. Italy. British Museum.  
Late third/fourth century AD.

Pl. 75  
Tibia No. 34.

Smith, 1904 III, No. 2305.

The sarcophagus is made of Italian marble, formed part of the Townley collection and is of the arcaded column type. A series of five arches adorned with acanthus pattern is supported on spirally fluted columns. Muses, holding theatrical masks and musical instruments stand in front of the arcade. Terpsichore plays a cithara, which is shown side view. The square arms curve from top to bottom, forming an arched back and the cross bar overhangs a large rectangular sound box. The circular end of the bar is shown as if inserted through the upper arm(!) and the extremely long pegs appear to go through the cross bar. Such details cannot however be relied upon.

The plectrum held in the Muse's right hand has an arrow or spear shaped pointed end and a knob at the lower end.

- 12) Sarcophagus relief. Rome, Museo delle Terme.  
Late third/fourth century AD.

Pl. 76 and 77  
Tibia No. 24.

Aurigenma, 1970, p. 21, Pl. VIII.

The sarcophagus shows a colonnade with the figures of Muses, who stand in front of the decorative niches, carrying theatrical masks and musical instruments. The figure on the extreme right, Terpsichore, plays a cithara of which only the lower half survives. A square sound box projects forward and a string holder can be seen. The lower part of the sound box curves slightly inwards. Above this the arm

begins to curve back but is broken at this point.

Erato, the Muse on the left, has a tortoiseshell lyre at her feet, but the design is very stylised.

13) Sarcophagus relief. Rome, Vatican Belvedere. AD 240-250.

Flute No. 7

Panpipes No. 18.

Amelung, 1903, III, No. 73a, p. 180.

Fleischhauer, 1964, Abb. 40, p. 78.

Turcan, 1966, p. 284, 579, Pl. 53c.

Among several instruments carried by putti in a Bacchic procession is a cithara. It is conventionally shown with curved arms and has about seven strings. The player's left hand is, improbably, clutching rather than fingering the strings.

The plectrum, held in the right hand is quite elaborate, with a large knob at the upper end and an arrow shaped point.

14) Sarcophagus relief. British Museum. Third to fourth century AD.

Pl. 78

Lutes No. 21.

Smith, 1904, III, no. 2320.

Behn, 1954, Taf. 57, Abb. 129.

The sarcophagus shows the wedding of Cupid and Psyche. In the train is a figure with a small cithara. This is shown in a stylised form but the curvature of the back is indicated as is the tail piece and the pegs, which project in a block below the cross bar.

In the same scene a seated figure plays a lute.



15. Sarcophagus relief. Arles. Musée Lapidaire  
Second/Third century AD

Pl. 79

Lutes, No.23.

Organs No.23.

Esperandieu, 1907, I, no.181

Behn, 1954, Taf 57, Abb.128

Perrot, 1971, p.100, pl.XIV

Height 86 cm.

The white marble sarcophagus of Julia Tyrrania depicts an organ, lute and cithara. The latter, which stands on a plinth or table is basically of the classical form. It has a large solid body with curved arms and the characteristic peak or vault at the top of the sound box. There is scroll decoration about two thirds of the way up the arms, at the place where one might expect to see brackets for the attachment of the cross bar, but this is placed unrealistically on top of the arms. Pegs are indicated roughly by a rectangular block with an indented edge suspended from the cross bar. A rectangular block on the front of the instrument may indicate a bridge or string holder.

- 16.) Mosaic - musicians. Mariamîn, Syria. Hama Museum.  
 Fig. 17 Third century AD.  
 Organs No. 36.

Duchesne-Guillemin and Zagzug, 1970, p.93-125.  
 Duchesne-Guillemin, 1975, p.99 ff.

Six female musicians wearing rich and elaborate costumes play in concert. From left to right they are a player of cymbal clappers (crotals), an organist, a tibicina waiting to play, a citharist, a 'castanet dancer' and a player of chiming bowls.

The cithara is a large concert instrument, resting on a table. Its back view is shown. The base is flat and is decorated with a row of red and grey triangles. The back is arched, rising to a central peak. The sides of the instrument slope outwards slightly and the right side (facing) curves inwards then out again in the classic cithara shape. The other arm is different. Only the top is shown, as the place where it joins the body of the instrument is hidden by the shoulder of another musician. The top part is larger than the other arm and curves inwards at a different angle. It also has decoration in the shape of a triangle which does not occur on the other arm. Dr. Duchnesne-Guillemin maintains that the asymmetry is intentional and not merely due to bad artistry. Certainly other details on the mosaic are very exact, but the asymmetry of this instrument seems to serve no musical purpose.

The cross bar projects beyond the arm only on the left hand side. Tuning pegs are shown in some detail as cylindrical rods with circular ends. They are shown at an angle to the underside of the cross bar and are attached to nine strings.

Lutes.

Nos. 1-13, all Greek examples are the types classified by Higgins and Winnington - Ingram (JHS, 1965) p.62-71.

Type A

- 1) Mantinea relief. National Museum, Athens.  
330-320 BC.  
Inv. No. 216.

Behn, 1918, Abb. 10.  
Behn, 1954, Abb. 130, Taf. 57.  
Wegner, 1963, Abb. 67, p. 106.

A seated Muse plays a lute with a spade shaped body and a long neck. The arched back of the instrument is indicated by a triangular projection at its base. The Muse fingers the instrument with her left hand, which is damaged and plucks with her right.

- 2) Figurine - Eros. Eretria. British Museum. 330-200 BC.  
Pl. 80  
BM Cat. No. C.192.

JHS, 1965, no. v.

Height 12cm.

Eros, wearing a Phrygian cap and a short tunic, plays a spade shaped lute, of which only the sound box remains. A bridge or string fastener can be seen near the lower end of the table.

- 3) Terracotta appliqué. ?Tarentum. Munich, Museum für Antike  
Kleinkunst. Late fourth  
century BC.

AA, 1954, p.286 fig. 19.

JHS 1965, No. i.

Type B

- 4) Terracotta figurine. ?Cyprus. British Museum. 330-300 BC.  
Pl. 81  
BM Reg. no. 919

JHS, 1965, no. ii.

Height 17cm.

A girl, wearing a long draped tunic, stands in a frontal pose, playing a club shaped lute with four strings. The index finger of her right hand is extended as if plucking a string.

- 5) Terracotta figurine. Alexandria. Alexandria Museum.  
330-300 BC.

Breccia, 1930, i, pl. F2 no. 83.

JHS, 1965 no. iii.

A girl playing a lute, similar to no. 4, but of better quality.

- 6) Terracotta figurine. Tanagra. Musée du Louvre.  
Fig. 18 330-200 BC.  
Louvre CA 574.

Reinach, 1895, p. 375, fig. 2.

Kinsky, 1929, p. 14, 3.

JHS, 1965, no. iv.

Fleischhauer, 1964, Abb. 55, p. 98.

A draped woman, perhaps a Muse, is seated on a rock playing a lute, the upper part of which is missing. The bridge is shown on the table of the instrument and the musician's right hand plucks the strings.

- 7) Terracotta figurine. Myrina. Musée du Louvre.  
Early second century BC.  
Louvre MYR 686.

Reinach, 1893, p. 376, fig. 3.

Mollard-Besques, 1963, Cat. II, Myrina, Pl. 71 d.

JHS, 1965, no. vi.

Eros with a lute. Eros stands in a frontal pose, holding the club shaped lute at an angle. A knob at the lower end may be a residual feature.

8) Terracotta figurine. Cyprus. Musee du Louvre.

JHS, 1965, no. vii.

Eros plays a club shaped lute.

9) Terracotta figurine. Alexandria. Stuttgart Museum.

Panum, 1940, p. 208, fig. 176.

Behn, 1954, Taf. 23, fig. 52.

JHS, 1965 no. viii.

The winged figure of Eros, wearing a cloak, stands frontally playing a lute with four strings, which cover the sound board.

10) Terracotta figurine. Lower Egypt. Collection Fouquet.

Perdrizet, P. 1921, Les terracuites grecs d'Egypte de la  
Collection Fouquet, pl. 37, 2 no. 4.

JHS, 1965, no. ix.

Eros playing the lute. The figurine is apparently made from the same mould as No. 9.

11) Terracotta figurine. Alexandria.

Breccia, 1930, pl. 18, 6 no. 151.

JHS, 1965 no. x.

A boy, possibly Eros, wearing Oriental costume plays a club shaped lute.

12) Terracotta figurine. Memphis, Egypt. ?First century AD.

Perdrizet, 1921, pl. 63 b. no. 454.

JHS, 1965, no. xi.

A grotesque dwarf with a lute.

13) Campanian squat lekythos. Canosa. ca 320 BC.

BM Cat. of Vases iv, 1896, no. G 21.

Trendall, 1960, No. 806, Pl. 213, 3.

JHS, 1965, no. xii.

A female figure with a lute is shown in relief.

Lutes with a round sound box and long neck

(a) Hellenistic

14) Terracotta figurine. Damascus. ? Second century BC.

Pl. 82

Damascus Museum No. 10114.

Zahdi, 1972, no. 18.

Height 12cm.

A draped figure, wearing a Phrygian cap, but probably female, plays a lute with a long neck, the upper part of which is broken, and a small round, almost heart shaped body. The strings are not indicated, but the table is decorated with four dots. A band over the player's left shoulder may be a strap for supporting the instrument.

15) Terracotta figurine. Susa, Hadrumentum (N. Africa).  
? First century AD.

Tillyard, 1907, p. 60, fig. 4.

A woman wearing a long tunic stands facing forward, carrying a wreath in her right hand. In her left hand she holds a lute by its long neck. The instrument is seen from the back and has a round sound box with a flattened base.

- 16) Terracotta figurine. Tunis. Musee da Bardo.  
First century AD.

Tillyard, 1907, fig. 5.

A standing figure plays a lute. The head of the musician is now missing, but the figure could be that of a man. The lute has a long neck and round sound box and is held in a playing position. Four strings apparently terminate at the junction of the neck and sound box, but a bridge is shown on the sound box.

- (b) Lutes with a sound box distinct from the neck  
Roman Imperial period.

- 17) Sarcophagus lid. Rome, Palazzo dei Conservatori.  
AD 200-250.

Fig. 22  
Galleria, No. 42b.

Visconti, 1872-3 (Bull. Comm. i) p. 175, pl.ii, iii.  
Marrou, 1938, no. 150.  
Stuart Jones, 1942, 1942, p. 99, Pl. 36a.

The lid of the sarcophagus portrays a man and a woman reclining. These are intended to represent the deceased and their heads are unfinished. The woman plays a lute with six strings and a deep rounded sound box which is seen in profile.

- 18) Sarcophagus relief. Rome. S. Crisogno.  
AD 230-260.

Fig. 20  
Behn, 1918, p. 95.  
Fleischhauer, 1964, Abb. 77, p. 132.

The lute is played by a seated semi-draped female figure. Its body is pear shaped with a flat base and

although there is only a little distinction between body and neck this is not a club shaped lute. Four strings are fastened to a holder at the base of the soundbox but the method by which they were attached at the top of the instrument is not shown. There is a crescentic device at the top of the long neck.



- 19.) Sarcophagus relief. Naples. Museo Nazionale.  
Late third century AD.

Naples Inv. No. 6598.

Fig. 21

Marrou, 1938, No. 221.

Cumont, 1942, p. 304, pl. 1.

Fleischhauer, 1964, Abb. 75, p. 130.

The sarcophagus depicts the journey to the Isle of the Blessed. Marine Centaurs carry Nereids on their backs and in the centre of the relief is the figure of the deceased, a woman, whose face is unfinished. She plays a four stringed lute with a long neck, which terminates in a crescentic device. The strings are improbably attached to a holder near the top of the sound box and below this are two small circles.

A Nereid on the right plays a similar instrument, shown rather schematically, with an almost triangular sound box and a very long neck, also ending in a crescent. The strings are carved only on the neck, but a holder or bridge is shown on the sound box. The Nereid plays the instrument in 'mirror image' the right hand fingering the strings on the neck and the left plucking, but this unusual position must be due to the balance of the design.

A Nereid on the left of the sarcophagus plays an extremely schematic tortoiseshell lyre, which she plays with an elaborate plectrum. This has an arrow shaped point and a scroll at the other end.

- 20.) Sarcophagus relief.                      Rome, Lateran Museum.  
Third century AD.

Marrou, 1938, no. 222.  
Matz-Duhn, no. 319<sup>4</sup>a.

The sarcophagus depicts Marine Centaurs and Nereids, in a design very similar to No. 19, but it is not in such good condition. The central figure of the deceased, again a woman plays a lute with small sound box and long neck, while the Nereids play lyres.

- 21.) Sarcophagus relief.                      British Museum.

Citharas No. 14.  
Pl. 82

Smith, 1904, III, no. 2320.  
Behn, 1954, Taf. 57, no. 129.

The sarcophagus relief depicts the wedding of Cupid and Psyche. A winged female figure, seated in a wicker chair, plays a lute with a round sound box and long, fairly broad, neck, at the top of which there are three prongs, perhaps a tuning device, possibly pegs, set at right angles to the neck. Strings are indicated only on the middle section of the neck but there is a bridge or string holder on the sound box and the player's right hand is in a plucking position. Her left hand stops strings at the top of the neck.

- 22.) Sarcophagus relief.    Tivoli. Rome, Villa Albani.  
Mid third century AD.

Reinach, 1909 (RR) 3, p. 131 b.  
Marrou, 1938, no. 220.

A seated woman with a hair style indicative of a mid third century date plays a lute. Behind her are two standing figures.

- 23). Sarcophagus relief. Arles. Musée Lapidaire. Second/third century AD.

Pl. 79 Fig. 23  
Citharas No.15

Organs No.23.

Esperandieu, 1907, I, no.181  
Panum, 1940, p.210.  
Behn, 1954, Taf.57, Abb.128

The sarcophagus of Julia Tyrrania shows an organ, cithara and lute. The latter has a large round body with a relatively short neck at the top of which there appears to be three pegs. These are set at right angles to the neck.

- 24). Sarcophagus relief. Palermo, Cathedral crypt. Third century AD.

Marrou, 1938, no.216.  
Dutachke, H. Ravennatische Studien, p.187-8, fig 57.

The sarcophagus relief depicts a seated male figure reading and a Muse with a lute. The nine Muses are also shown with their attributes.

- 25) Sarcophagus relief. Rome, Catacomb of Praetextatus.

Marrou, 1938, no.219.  
Gutschow, M., 1938, Das Museum der Praetextatkatakomben,  
Atti III, vol.IV, 2.

DAI 1931, 5981.

A female musician, seated in a wicker chair, plays a lute, with a distinct body and neck. The relief also shows a female listener and two other figures, now headless.

- 26.) Sarcophagus relief. Rome. Berlin, Königliche Museen.  
Third century AD.

Königliche Museen zu Berlin, 1891, Beschreibung der antiken  
Skulptur, No. 838.

Reinach, 1909 (RR) 2, p.44,5.

Marrou, 1938, no. 201.

The sarcophagus depicts a funeral banquet. On the left, a woman, seated on a wicker chair, plays a lute, with a distinct body and neck.

- 27.) Fragments of a sarcophagus. Rome, Abbey of St Paul.

Marrou, 1938, no. 211.

Matz-Duhn, no. 2607, 3128.

The deceased are represented by a male figure and a female musician who plays a lute.

- 28.) Sarcophagus relief. Rome, Museo Torlonia.

Marrou, 1938, no. 223.

Matz-Duhn, no. 2584.

The strigillated sarcophagus has a central circular relief with the image of the deceased. This is a young girl with a lute which she holds in her left hand. Behind her are two tragic masks.

- 29.) Grave stele. Merida, Spain (Augusta Emerita)  
Museo Arqueológico, Merida.  
Pl. 83 ? Third century AD.

The tombstone of Lutatia Lupata, who is shown with a lute. The instrument has a long neck and round body and is held in the manner of a modern guitar. It appears to have four strings. This is the only example of a lute that I know of in Spain, and it may be significant that it is not a 'stock' sarcophagus design.

Lutes in which the neck and sound box are not clearly separated.

30.) Sarcophagus relief.

Ostia Museum.  
Late second century AD.

Wilpert, 1924, Atti III, p. 68, Pl. V, 1.  
Marrou, 1938, no. 205.

On the right of the fragmentary relief a seated girl plays a lute, but this is damaged on the right edge (facing).

31.) Sarcophagus relief.

Rome, Vatican, Museo Paolino.  
Early third century AD.

Museo Paolino No. 9539.

Fig. 25

Benndorf and Schone, 1867, no. 481, p. 337.  
Marrou, 1938, no. 200.  
Wille, 1951, p. 72, 166, 392.  
Fleischhauer, 1964, Abb. 76, p. 130.  
DAI 1936 906.

The sarcophagus is that of P. Caecilius Vallianus and was formerly in the Lateran museum. It depicts a funeral banquet with the deceased reclining on a couch in the centre. Servants bring food and to the left of the couch a woman, sitting in a wicker chair, plays a lute. It has a round sound box but there is no clear demarcation between the sound box and the rather broad neck, although they are probably separated. Four strings are secured at the base of the sound box. Two depressions on the sound box, one on either side of the strings may represent sound holes.

- 32.) Sarcophagus relief. Rome, Lateran Museum.  
AD 250-300.

Fig. 24

Marrou, 1938, no. 218.  
Fleischhauer, 1964, Abb. 78, p. 132.

The central figure is of the deceased, an elderly woman, carrying a closed book. A figure of the Good Shepherd suggests that this is a Christian sarcophagus. At each end of the relief is a seated woman, one playing the lyre and the other a lute. This has a round sound box and a broad neck with very little distinction between the two. Four strings are fastened to studs on the table, their free ends dangling at the bottom of the instrument. At the upper end pegs may be indicated diagrammatically.

Instruments of the lute type, apparently played as lyres.

- 33.) Sarcophagus relief. Provenance unknown. Paris,  
Musée du Louvre.  
? early third century AD.

Fig. 26

Behn, 1918, p. 97, Abb. 14.  
Panum, 1940, p. 213, fig. 187.

The instrument is played by a woman. It appears to be the usual type of lute, with a round sound box and long neck, although this is quite broad and it has larger number of strings than was usual, at least, six. The strings are only shown on the neck and their fastenings are indicated schematically by a zig-zag lines at the top of the neck. The musician holds the instrument in her left arm and plucks the strings with a plectrum held in her right hand.

- 34.) Sarcophagus relief. Agrigento Cathedral.  
Third century AD.

Fig. 27

Arch. Zeitung, 1897, Pl. VI.

Panum, 1940, p. 212, fig. 185.

Ward Perkins, 1956, *The Hippolytus Sarcophagus* from  
Triquetaille, JRS. XLVI, p. 10-16.

The sarcophagus which is of Attic marble depicts the mourning Phaedra, attended by her women, two of whom play lutes. They both have round bodies and long but rather broad necks, and a large number of strings, which are tied to string holders, their ends dangling. In each case the instrument is cradled in the player's left arm and she plucks the strings with her right hand over the neck.

- 35.) Sarcophagus relief, fragment. Paris, Musee du Louvre.  
Second to third century AD.

Pl. 84

Robert, C., 1890 - *Die Antiken Sarkophagreliefs*, III, pt.2.  
Panum, 1940, p. 213, fig. 186.

The fragment shows two female figures carrying a lute. The sound box is round and clearly distinct from the broad neck, and there are many strings. One girl holds the instrument in an upright position, in her left hand, and strums it with her right. The second figure places her right hand at the top of the neck and her left over the strings.

36.) Sarcophagus relief. Ravenna. Chiusa San Vittore.

Pl. 85

Dutschke, *Ravennatische Studien*, Cat. I, no. 71, p. 64-67;  
II, 4.

Marrou, 1938, no. 213.

Dessau, ILS 9442.

The instrument is played by a seated female figure.

The sound box is almost hexagonal in shape with straight sides and slightly angled top and bottom, and it is clearly separate from the very broad neck, or 'fingerboard'. The instrument is played in an upright position, as a lyre and it may in fact be a lyre rather than a lute. However, the hands are not in a typical lyre position, - the left hand grasps the side of the instrument and the right hand plucks the strings without a plectrum. The neck also narrows slightly towards the top.

The monument is dedicated by C.Sosius Iulianus the father of the deceased, Sosia Juliana, aged eight.



Cymbals

Cymbals are so frequently illustrated particularly in religious contexts that a comprehensive catalogue of such representations would be meaningless. I have therefore listed certain surviving instruments and a selection of illustrations showing their use in various contexts.

- 1.) Cymbals (pair).      Pompeii.      Naples Archaeological Museum.  
      Pl. 87 and 88      First century AD ?  
 Inv. no. 76943.

Diameter: 11cm.

Two circular plates of bronze, each concave internally, with a broad rim which is rolled at the edge, linked from the centres by a loose bronze chain. The chain is attached at each end to a metal ring stapled through the central hole of the cymbal.

- 2.) Cymbals (pair).      Greece.      British Museum.      ca. 500BC.  
      Pl. 86  
 Catalogue of Greek and Roman Life, No.698.

Diameter: 9cm. ( $3\frac{1}{2}$ ins.)

Weight: 7oz.

Two cymbals, concave internally, so that each has a deep dome, each with a curved rim or flange. They are linked by a chain which is fastened to the centre of each cymbal by means of a bronze ring and split pin. The cymbals were mould cast, then turned on a lathe, ornamental grooves being left on each disc. The instrument is inscribed OATA EIMI and according to Blades (1970, 179) gives the note f.

3.) Cymbals (pair) From Elis? Metropolitan Museum of Art,  
New York. Fifth to fourth  
century BC.

Metropolitan Museum Acc. no. 13.225.5a and b.

Richter, G.M.A., 1915, Greek Roman and Etruscan Bronzes etc.  
p.453ff. Nos. 1778, 1779.

Diameter: 9.9cm.

Two cymbals, each a shallow circular bowl with a narrow flat rim which turns up slightly on the outer side. There is a central hole for the insertion of a handle surrounded by two moulded rings. The handles (or linking chain) are missing but pieces of the loop attachment are present. The cymbals are inscribed.

4. - 7.) Four cymbals. Cyprus. Metropolitan Museum, New York.  
Uncertain date.

Cesnola Collection.

Richter, 1915, Nos. 1785-1788.

4.) Acc. no CB422. Richter, 1785.

Diameter: 6.3cm.

Convex circular cymbal with a central hole.

5.) Acc. no CB421. Richter, 1786.

Diameter: 6.7cm.

6.) Acc. no CB 420. Richter, 1787.

Diameter: 5.2cm.

7.) Acc. no CB 423. Richter, 1788.

Diameter: 5.1cm.

In all cases, although the cymbal has a central hole any handle or linking chain is missing.

8.) Cymbals (pair). Egypt. Cairo Museum,  
Michailides Collection.

Hickmann, H., 1949, *Cymbales et Crotales dans L'Egypte Ancienne*,  
Annales du Service des Antiquites de L'Egypte,  
49, p.460.

Diameters: 11cm. and 11.3cm., of which 1.5cm. is the rim.  
Height of bowl: 3.6cm.

A pair of cymbals each with a small rim and deep bowl  
shaped centre, with a central hole. One is inscribed with  
punched letters MEΛAΓH ΘEA(I).

9.) Cymbal. London Wall. Museum of London.

Guildhall Museum Catalogue, 1908. No. 206.

Diameter: 9.2cm.

A bronze disc, slightly concave, ornamented with concentric  
circles and perforated in the centre.

10.) Cymbals (pair). Egypt. British Museum.  
Ptolemaic, ca. 200BC.

BM. No. 6373.

Hickmann, 1949, fig. 2, p. 457.

Diameter: 15.2cm.

A pair of bronze cymbals, each with a shallow boss and  
broad rim. Each plate has a central hole. BM. No. 6710 are  
of similar size, but has a narrower rim.

- 11.) Cymbals (pair). ? Thebes, Egypt. Metropolitan Museum,  
New York.  
'Graeco-Roman'.

Inv. no. 08.202.51, A & B.

Hickmann, 1949, fig.3, p.457, 459.

A - diameter: 20.5cm. Diameter of boss: 8cm.  
B - diameter: 20.3cm. Height of boss: 3.5cm.  
Thickness of plate, 4mm.

Both plates have a relatively small central boss and a wide rim. Each has a central hole. The instrument was purchased in Luxor, but probably came from Thebes.

- 12.) Sarcophagus. Rome. Palazzo dei Conservatori.  
Mid second century AD.

(Scabellum No.1)

Bocconi, S., 1950, Collezioni Capitoline, Rome, Tav.37, p.201.  
Fleischhauer, 1964, Abb.40, p.78.

Bacchus in a chariot drawn by a centaur is escorted by Satyrs and Maenads, who play several instruments, the Phrygian pipes, tambour and scabellum. A pair of cymbals lie on the ground. These are bowl shaped, with a narrow rim, and are linked by a strap or chain.

- 13.) Marble relief of Bacchic scene. Naples Archaeological Museum.  
Tibia No.19. Late first/early second century AD.  
Naples Museum Inv. no.6684.

Nilsson, M.P., 1957, The Dionysiac Mysteries of the Hellenistic and Roman Age, Lund, p.15ff.  
Fleischhauer, 1964. Abb.39, p.76.

Bacchus is attended by a Satyr and two Maenads, one playing Phrygian pipes. The other dances, clasping bowl shaped cymbals above her head.

- 14.) Group of musicians. Mosaic. Pompeii, 'Villa of Cicero'.  
 pl. 90 Naples Archaeological Museum.  
 Late second century BC.  
 Naples Museum, Inv. no. 9985.  
 Drums - No. 1.

Copy of an early Hellenistic panel picture, signed by Dioscurides of Samos, portraying the dance group in New Comedy which had replaced the chorus. The group of street musicians comprises a dwarf, a woman playing the double pipes, a man dancing with a drum, and one with cymbals. These are bowl shaped with narrow rims and are quite small.

The famous painting was reproduced frequently in antiquity; a painted replica was found at Stabia, Naples Museum inv. no. 9034.

- 15.) Mosaic portraying a group of female musicians. Mariamin, Syria. Hama Museum.  
 Third century AD.

Organs No. 36.  
 Duchesne-Guillemin, M., 197D., p.121.

A group of female musicians play cithara, tibia, organ and percussion instruments, providing music for a dancer with small finger cymbals.

Clappers

- 1.) Bronze figurine. Chiusi. Museo Archeologico, Florence.  
Fifth century BC.

Inv. No. 70473.

Fleischhauer, 1964, Abb.8, p.30.

Height: 12cm.

A female dancer, standing upright, with hand clappers, one held in each hand. Each clapper consists of two concave pieces of wood or metal.

- 2.) Bronze figurine. Museo del Teatro Romano, Verona.

Fogolari, G., 1950-51, Etruscan and Italic bronzes in the Museo del Teatro Romano, Verona, Studi Etruschi, XXI, p.358, No.18.

Height: 8cm.

A crotalistria, reclining on her left elbow. In her hands she holds clappers or crotals, the left pointing up, the right hanging down. The clappers are shown conventionally and with little detail as two concave plates.

- 3.) Crotalistria - wall painting. Tomba del Triclinio, Tarquinia. ca. 490 BC.

Duell, P., 1927, The tomba del Triclinio at Tarquinia, MAAR 6, p.9-68, esp.19ff, pl.2.

On four walls is pictured an elaborate Etruscan funerary banquet. Men reclining on couches are attended by male and female slaves, dancers musicians and equestrian performers. Music is provided by the tibia and lyre, and on the east wall the dancers are led by a crotalistria, who marks the time and wears a distinctive costume.

- 4.) Bronze figurine. Berlin Staatliche Museen,  
Antikenabteilung, Roman copy of  
a Hellenistic bronze, probably  
from Alexandria.

Inv. no. 2120.

Fleischhauer, 1964, Abb.68, p.122.

Staatliche Museen au Berlin, 1924, Führer durch das Antiquarium  
I, Bronzen, Berlin, Taf.58, p.64.

Perdrizet, P., 1911, Bronzes grecs d'Egypte de la Collection  
Fouquet, Paris, pl.xxxl, 1 p.66.

A dancing youth accompanies himself with hand clappers,  
which are shown as two hollow pieces of wood or metal, rather  
like 'split' bells.

- 5.) Crotals. Egypt. British Museum.  
Pl. 91 ca. AD 400.

Department of Egyptian Antiquities, No. 54014.

Rimmer, J., 1969, p.41, fig.12.

Hickmann, 1949, p.527, fig. 49.

Length: 34cm.

A pair of small bronze cymbals, four to five cm. in  
diameter, are mounted on a pair of wooden arms. These are  
bound with leather at their lower ends to form a handle,  
leaving the upper parts of the arms and the cymbals free to  
clash together when shaken.

Inv. no. 26260 is similar.

## 6.) Sarcophagus.

Rome, Museo del Terme.  
Second half of the third  
century AD.

*Drums No. 8, Panpipes No. 11.*

Inv. No. 115172

Plate No. 29

A sarcophagus that was to judge by its size and the subject matter of its reliefs, intended for a child. Eros and Psyche are escorted by putti. On the upper frieze the putti play the tibia, lyre panpipes, a drum and hand clappers. The latter are clearly shown as two handles or branches which are joined at the bottom. At the top of each stick is a circular object which must represent a small cymbal.

7.) Leda Mosaic. Kornmarkt, Trier. Rheinisches Landesmuseum,  
Trier.  
*Pl. 92 and 93* Late fourth century AD.

Trier Museum Cat. 212.

Parlasca, 1959, p.56, Taf. 54.

Moreau, J., 1960, Das Trierer Kornmarktmosaik, Monumenta Artis Romanae 21, Munich.

The Leda or Mysteries mosaic. In two of the ellipses which border the central figures are two dancers, Criscentia and Eleni, both holding a pair of crotals in each hand. These are shown as discs, representing cymbals, set at the end of handles, which are joined at their lower ends, making a 'V' shape. The dancers' pose is conventional, one hand with clapper held above the head, the other at waist level.



8.) 'April' from the Calendar Mosaic. Carthage. British Museum.  
Pl. 94 Fourth century AD.

BM Greek and Roman Antiquities, No.15.  
BM Catalogue of Mosaics, No.29.

Height of the figure: 120cm.

The mosaic illustrates the twelve months with their attributes. The figures of March, April, July and November survive. The attributes of the months are connected with those given in the calendar apparently executed for Valentinus, Duke of Illyria, AD 354. The tetrastichs describing each month were formerly ascribed to Ausonius.

April is represented by a female dancer wearing an Egyptian style dress and holding clappers in the left hand. These are of the late type, with discs on the ends of the handles. The dancer's right hand is damaged, but an analogy with other illustrations would have held a second pair.

Scabellum

- 1.) Bacchic sarcophagus. Rome, Palazzo dei Conservatori.  
 Fig. 30 Mid second century AD.  
 (Tibia No 30 )  
 Fleischhauer, 1964, Abb.40, p.78.

A satyr in the triumphal procession plays the Phrygian pipes and wears a scabellum on his left foot. This is shown clearly as being made of two hinged plates, with a pair of small cymbals inside. The method by which the instrument was attached to the foot is not shown.

- 2.) The Casali sarcophagus. Rome, Via Appia. Ny Carlsberg,  
 Copenhagen. c. AD 200.  
 Inv. No. 843.  
 Poulsen, F., 1951, Catalogue of Ancient Sculptures in the Ny  
 Carlsberg Glyptothek, Copenhagen, No. 778,  
 pl. LXVI, p.68.

The relief scene on the lid of the sarcophagus is set in a rocky landscape. Bacchus and Ariadne recline with a satyr between them. A Maenad plays the tibia and treads a scabellum, which again consists of metal cymbals mounted on wooden blocks.

- 3.) Marble statue of a Satyr. Uffizi, Florence. Second  
 Fig. 29. century BC.  
 Photo Alinari 1224.  
 Amelung, W., 1896, Fuhrer Durch die Antiken in Florenz, Munich,  
 p.43, no.65.  
 Behn, 1954, Abb.158, p.120.  
 Wegner, 1963, Abb.27, p.54.

The statue is greatly restored but the legs appear to be original. The scabellum on the left foot is shown in considerable detail. Small cymbals are set between shaped blocks of wood which are hinged together. The clapper is attached to the foot with a strap. The satyr has a cymbal in each hand but his arms are restored and may originally have held pipes.

- 4.) Wall painting from lararium. Pompeii. Naples Museum.  
Regio VIII, ins. 2 or 3.

Inv. no. 8905.

Height: 1.28m.

Width: 1.83m.

Fiorelli, G., 1860-64, *Pompeianorum Antiquitatem Historia*, I, 133.  
Fleischhauer, 1964, Abb.29, p.60.

On the upper register the genius or presiding deity of the household holds a dish, (patera) over an altar. He is attended by a boy carrying a wreath and a tibicen with Phrygian pipes, who beats time with a wooden clapper beneath his left foot. This is shown as a thick block set on the ground with a thinner plate or block hinged to it and fastened to the player's foot.

A pig is being led forward for sacrifice and on either side of the group stand the two lares of the household.

- 5.) Marble relief. From the Basilica of Castel S. Elia,  
north of Rome. Mid first century AD.

Fleischhauer, 1964, Abb.60, p. 108.

The relief shows a scene of acclamation in a theatre. Music for the group which includes a choir is provided by a tibicen with a scabellum on his left foot, who must be a scabillarius. Details of the scabellum are not clear in this illustration but its general shape is unmistakeable.

- 6.) Terracotta figurine - street musician. From Alexandria.  
 Berlin, Staatliche  
 Museum.  
 First century BC.

Mus. Inv. no. 8798.

Bagpipes No. 1.

Baines, 1960, p.65.

Hickmann, 1961, Abb.58, p.94.

Sachs, 1940, pl.VIII, c,p.144.

Scott, 1957, p.414.

Weber, W., 1914, Die Agyptisch-griechischen Terrakotten, pl.30.,  
 no.324.

The figurine represents a 'one man band'. The male figure who wears a Phrygian cap plays a syrinx and holds a primitive bagpipe under his left arm. A scabellum is attached to his right foot, but this is not shown in any detail. A dwarf accompanies the piper clashing cymbals.

- 7.) Bronze figurine - dancer. From Hama, Syria. c. AD200.

Fig. 31

Bieber, M., 1939, Mima Saltatricula, AJA XLIII, p.640.

The dancer who wears the centunculus, a costume made from many pieces and adorned with bells stands on the toes of her right foot which is bare. She wears a buskin on her left foot and the scabellum is attached to its sole. It is clearly a clapper but is lighter than those shown on other representations and more suitable for a dancer.

- 8.) Terra sigillata of M. Perennius Tigranus.

Oxe, A., 1933, Arretinische Reliefgefasse vom Rhein, Ft. Hain,  
 p.41, no.12.

The scabellum, which is shown very schematically appears with other instruments.

- 9.) Mosaic. Temple of Diana, Aventine, Rome. Vatican.  
Third to fourth  
century AD.

Tibia No. 29

Blake, M., 1940, Mosaics of the Late Empire in Rome, MAAR 17,  
p.118, pl.30. 6.

Nogara, B., 1910, I Mosaici Antichi dei Palazzo Laterano e  
Vaticano, Milan, p.7, pl.ix, fig.5.

At the centre of the mosaic which shows vaudeville performers a dwarf walks away from a table, carrying a ewer. A wine jar stands on the right. To the right of this central motif, a piper plays for three dancers, two men and one woman who carry hand clappers. The piper has a scabellum on one foot. There is a similar group on the left. One male and one female dancer cavort to the music of a piper who beats time with a scabellum.

- 10.) Marble base. Pompeii. ? First century AD.

Notizie degli scavi di antichita communicate alla (Reale)  
Accademia dei Lincei, Rome, 1927, p.73, no.3685. Fig. 36.

A marble base with the lower parts of a statue. One goat's foot remains, probably belonging to Pan or a Satyr. The left foot is missing but a scabellum which was attached to it survives. This is shown in considerable detail and the pair of cymbals mounted between the two plates can be seen clearly.

11.) Marble relief. Campania. Rome, Villa Albani.

Sachs, C., 1928, Die Musik der Antike, Handbuch der Musikwissenschaft, Potsdam, No.33, p.25

Three Satyrs tread grapes while a fourth provides music to aid their work. He plays the Phrygian pipes, and on the ground below his right foot, although not actually attached to it is a scabellum. Indeed this appears to be lying the wrong way round, but it is clearly a foot clapper, with cymbals.

Bells

1.) Bell - British Museum  
 Fig. 32  
 BM Inv. no. 1976. 1-6.17.

Height 5.7cm.  
 Height excluding handle 3.7cm.  
 Diameter of mouth 4.8cm.  
 Thickness of bronze 2-3mm.

Hemispherical bronze bell with an angular (hexagonal) handle with a circular central hole, cast in one piece. There is a small hole in the top of the bell at the central point for the attachment of a clapper, or loop from which the clapper was suspended. Two incised lines decorate the body of the bell.

2.) Bell - British Museum  
 Fig. 32  
 BM Inv. no 1976 1-6.11.

Height 3cm.  
 Height excluding handle 1.9cm.  
 Diameter 3.5cm.

Small hemispherical bronze bell, with a knob handle and internal loop for the iron clapper, which is now missing.

-

3.) Bell - British Museum  
 Pl. 96 : Fig. 32  
 BM Inv. no 42 7-28 686.

Height 4.2cm.  
 Height excluding handle 2.7cm.  
 Diameter of mouth 2.9cm.

Cylindrical bell with hexagonal handle and traces of the clapper attachment inside. The exterior has two incised grooves.

4.) Bell - British Museum  
*Fig. 32*  
 BM Inv. no. 24 K4 2B2

Height 5.9cm.  
 Height excluding handle 4.00cm.  
 Dimensions of mouth 3.7 x 3.3cm.

Cylindrical bell, more elongated but similar in shape to No. 3.

5.) Bell - British Museum  
*Pl. 97 : Fig. 33.*  
 BM Inv. no. 1976 1-6 19.

Height 8.7cm.  
 Height excluding handle 5.4cm.  
 Diameter of mouth 4.4cm.

Cylindrical bronze bell, with a long loop handle and internal hook for the attachment of a (modern) clapper.

6.) Bell - British Museum  
*Pl. 98 : Fig. 33.*  
 BM Inv. no. 1976 1-6 13.

Height 4.7cm.  
 Height excluding handle 3.1cm.  
 Dimensions of base 3.2 x 3.4cm.  
 Thickness of bronze 2mm.

Four sided, rectangular bronze bell with a hexagonal handle cast in one piece. There is a small foot or lug at each corner of the base.

Inv. no 1916 7-5 1 is of similar shape but is larger - total height 9cm.

7.) Bell - British Museum  
*Fig. 34.*  
 BM Inv. no 1976 1-6 14.

Height 5.8cm.  
 Height excluding handle 3.7cm.  
 Dimensions of base 4.2 x 3.7cm.  
 Thickness of bronze 2mm.

Four sided bronze bell, with a ring handle cast in one piece and internal hook for (modern) clapper.



8.) Bell - British Museum  
*Pl. 97*  
 BM Inv. no. 1814 7-4 1031

Height 6.3cm.  
 Height excluding bell 4.5cm.  
 Diameter of mouth 4.3cm.

Heavy conical bronze bell with a cast ring handle. There are traces of a rusted iron clapper inside.

9.) Bell - British Museum  
*Fig. 35*  
 BM Inv. no. 49 5-19 12. Catalogue no. 321.

Height 9.3cm.  
 Height excluding handle 7.1cm.  
 Dimensions of mouth 5.4 x 4.6cm.

'Tulip' shaped bronze bell, waisted at the central part of the body, with an angular, hexagonal handle.

10.) Bell - British Museum  
*Pl. 96 : Fig. 35*  
 BM Inv. no. 78 10-9 259.

Height 3.6cm.  
 Height excluding handle 2.5cm.  
 Diameter of mouth 3.1cm.

Hemispherical bronze bell, with a hexagonal handle cast in one piece. There are two circular holes in the shoulder of the bell, below the handle, through which a bronze wire is threaded. This is twisted around the handle at each end. The clapper was hooked over the wire inside the bell. When rung the bell gives a high sweet sound.

11.) Bell - British Museum  
*Fig. 34*  
 BM Inv. no. 1905 12-1 14

Height 3.3cm.  
 Height excluding handle 2.00cm.  
 Diameter of mouth 3.3cm.

Hemispherical bronze bell, with two holes in the body, through which wire was inserted for the attachment of the clapper.

- 12.) Bell Fishbourne. AD 43-75.  
 Fig. 36  
 Cunliffe, B., 1971, Excavations at Fishbourne, Vol.II, p.112,  
 fig.46, no.107.

Height 5.3cm.

Four sided bell with an angular handle. It comes from one of the first period levels, AD 43-75.

- 13.) Bell Fishbourne. AD 43-75  
 Fig. 34  
 Cunliffe, 1971, p.112,115, fig.46, no. 8.

Height 6cm.

Hemispherical bell with a polygonal handle. The internal hook is preserved.

- 14.) Bell River Thames, Wandsworth. Museum of London.  
 Fig. 37  
 Museum of London Inv. no. 80.94.

Height 12.4cm.  
 Height excluding handle 9.5cm.  
 Diameter of base 7.4 x 5.6cm  
 Thickness of bronze 2 to 2.5cm.

The bronze bell, which is cast in one piece, widens at the shoulder, narrows at the centre of the body and flares towards the mouth, forming a tulip shape. The diameter at the widest part of the shoulder equals that of the base. Inside are two holes for the attachment of the clapper, now missing. The handle is angular externally with a circular central hole.

- 15.) Bell - British Museum  
 BM Inv. no. 1976 1-6.4

Height 2.3cm.  
 Diameter of mouth 2.1cm.

Small round bronze bell, with a ring handle (broken).

16.) Tintinnabulum                      Pompeii.                      British Museum

BM Inv. no. WT 1086

Length 35cm.

Bronze tintinnabulum with five hanging bells. The five small hemispherical or cylindrical bells hang from a winged phallic object, with the hind legs of a lion.

17.) Bell                                      From Tarraco (Tarragona)      Museo  
Arqueologico,  
Tarragona  
Second century  
AD

Hubner, 1894, Arch. Jahrb. IX, p.187.

Height 12cm.

The large bronze bell is hemispherical. An iron clapper, 9cm. in length is preserved.

The bell is inscribed:

CACABULUS SACRIS AUGUSTUS VERNACULUS NUNTIVS IUNIOR

SECULUM BONUM S P Q R ET POPULO ROMANO FELIX TARRACO

The lettering is in the style of the second century AD.

**Metal Bowls used as chimes.**

- |     |         |                  |                   |
|-----|---------|------------------|-------------------|
| 1). | Mosaic. | Mariamín, Syria. | Hama Museum.      |
|     |         |                  | Third century AD. |

Organs, No. 36.  
Cithara No. 16  
Duchesne-Guillemin, 1971, p.121.

A group of female musicians play cithara, tibia, organ and percussion instruments, providing music for a dancer. The percussion instruments include a set of chiming bowls. There are eight of these, coloured yellow, probably indicating metal, and all are about the same size. The musician strikes them with two sticks.

- 2). The 'Vienna Genesis'. Syria. Fifth or sixth century AD.

Gerstinger, H., 1931, Die Wiener Genesis, Vienna, p.145,  
 taf.34.  
 Sachs, 1940, p.279.

An illustration shows the meal of Pharaoh, to the accompaniment of pipes and a chime of bowls. Four bowls are arranged on a stand, and are struck with two slender sticks by a woman. The bowls are coloured grey, perhaps an indication of silver. The manuscript is thought to be of Syrian origin.

The Sistrum

- 1.) Sistrum. Pompeii. Museo Nazionale, Naples.  
*Pl. 105* ? First Century AD.  
 Fig. 3a

Naples Museum In. No. 5777

Height - 25-30 cm.

The bronze sistrum is horseshoe-shaped, with a round sectioned handle with a stepped end. The top of the instrument is adorned with a cat and there are the remains of four rattling wires.

- 2.) Sistrum. Pompeii. Museo Nazionale, Naples.  
 ? First century AD.

Fig. 2

N.M. Inv. No. 8776.

Height - 25-30 cm.

The bronze sistrum has an oval frame, supporting four wires and a handle cast in the form of Bes and Hather.

- 3,4,5.) Sistra. Pompeii. Museo Nazionale, Naples.  
 First century AD.

N.M. Nos. 2315, 8774, 118250.

Three horseshoe shaped bronze sistra, each with four rattling wires and a round sectioned columnar handle. All have the figure of a cat at the top. Their heights are between 20 and 30 cm. The museum collection contains many more examples, which are similar to instruments from Egypt in the British Museum collection.



Drums

- 1.) Group of musicians - Mosaic. Pompeii, Villa of Cicero.  
 Naples Archaeological Museum.  
 End of the second century BC.

Pl. 90

Naples Museum Inv. no. 9985.

Cymbals, No. 14.

Curtius, L., 1929, Die Wandmalerei Pompejis, Leipzig, Taf. IX, p. 337. (reprinted Darmstadt, 1972).

Maiuri, A., 1953, Roman Painting, London, p. 94.

Fleischhauer, 1964, Abb. 53, p. 96.

The mosaic, which is a copy of an early Hellenistic painting and is signed by Dioscourides of Samos, portrays a dance group which had replaced the chorus in New Comedy. The troupe of street musicians consists of four performers, a man dancing while beating a large tambour, a second man dancing with cymbals, a woman playing tibiae and a dwarf. The mosaic is finely detailed and the tympanum is carefully drawn. Its frame is shown in blue-grey tesserae with details, which include two tassels, picked out in white. The drum skin is reddish-brown and as the same colour appears along both edges of the frame, the instrument was probably double headed, although it is also true that the upper band gives artistic symmetry. The dancer grasps the instrument by its side with his left hand and taps it with the fingers of his right hand.

The same original is also reproduced as a painting which was found at Stabiae, Naples Museum Inv. no. 9034.

- 2.) Bacchic scene in marble intarsia. Pompeii, House of the Coloured Capitals  
Ins VII, 4.31-51  
Naples Archaeological Museum. Third quarter of the first century AD.

Naples Museum Inv. no. 9977.

Mau, A., 1874, Bull Inst. p.98.

Ward-Perkins, J. & Claridge, A., 1976, Pompeii AD 79, London Royal Academy, no.161.

The Bacchic scene is one of a pair found in the tablinum and was probably used as a panel picture on the wall. On the left is a dancing Maenad, carrying a torch in her left hand and a tympanum in her right. This is held by a single handle which must be attached to the frame. On the right a Satyr, with a goatskin clutches a thyrsus.

- 3.) Dancer with tympanum. Wall painting, Pompeii. Naples Archaeological Museum.

Naples Museum Inv. no. 9297.

Fleischhauer, 1964, Abb.44, p.82.

A half draped dancer, probably a Maenad plays a tambour waving it high above her head. She holds it with her left hand and beats it with her right. Two small projections to the left of the narrow frame may represent jingles, a feature that is sometimes seen on tympana from Hellenistic times.



- 4.) Sarcophagus with Bacchic thiasos. Vatican Museum,  
Galleria dei  
Candelabri.  
Third century.

Inv. no. 30(173)

Amelung/Lippold 1903-55 III,2.

Galleria dei Candelabri IV,30, Pl 132-136.

Inst. Neg. 4000.

Height: 91cm.

A sarcophagus depicting Bacchus and Ariadne. In the background Maenads play pipes and cymbals. At one end a Satyr carries a roughly carved syrinx, and at the other another Satyr chases a Maenad who carries a tympanum. This instrument is shown diagrammatically but three rings clearly shown on its edge appear to be small cymbals or jingles.

- 5.) Stucco relief. Pozzuoli. British Museum.  
First century AD (?)

BM Inv. no. 12 - 4,3.

Ling, R., 1966, Some Roman Stucco Reliefs from Pozzuoli,  
PBSR XXXIV (XXI), p.24 - 33, no.3, Pl.VII,a,b.

Height: 14.7cm.

The relief is one of a series from a group of Roman tombs at Fondo Fraia, Pozzuoli. The tombs are now lost but seem to have dated from pre-Antonine times, probably the first century.

A putto moving left holds a patera (?) in his right hand and a tympanum in his left. This is shown in a very stylized fashion and has a long strap handle. Six small objects protrude from the frame. These may be decorative tassels or thongs but could equally be small clappers or jingles - there is some suggestion of a circular object at the end of each projection.

6.) Tambour. From Koenigshoffen, Alsace. Third century AD.

Hatt, J-J., and Thevenin, A., 1968, Trouvailles de Tombes gallo-romaines a Koenigshoffen, Cahiers alsaciens d'archeologie d'art et d'histoire, XIII, p.31, fig.3 and 4.

Hatt, J-J., 1970, Circonscription d'Alsace, Gallia, XXVIII,2, p.326, fig. 14.

Height: ca. 30cm.

The find is from the grave of a woman, aged about twenty, in an area of Koenigshoffen used as an urban cemetery during the third century AD. Other grave goods included jewellery, gold earrings and glass beads, and glass bottles. A wooden frame decorated with four pairs of cymbals made of silvered bronze rested against the woman's legs and the suggestion has been made that it is a dancer's tambourine but of a square shape rather than the usual circular form.

As reconstructed the four poles were slotted or lashed together to form a square frame around which the skin or hide was stretched, and secured with thongs. The cymbals were apparently attached in pairs at each end of two of the poles. The excavator has suggested that they were let into slots in the poles and nailed through their centres.

7.) Bacchic relief. Vatican, Museo Paolino, Third century AD.

Inv. no. 9546.

The relief fragment shows draped figures carrying objects that may be percussion instruments, probably drums. These are struck with short sticks, which taper slightly and are held at the thicker end.

- 8.) Sarcophagus. Rome, Roman Forum. Museo delk Terme.  
 Pl. 29 Tibia No. 11 Second half of the third  
 Clappers No. 6 century AD.  
 Inv. no. 115172.

Aurigemma, S., Le Terme di Docleziano ed il Museo Nazionale Romano, Rome. No. 73, p. 38.

Marble sarcophagus showing putti escorting Eros and Psyche, with music and dancing in a Bacchic revel. The putti play double pipes, panpipes, cymbal clappers and a tympanum. The latter is clearly illustrated. The player clasps the circular frame in his left hand and beats the instrument with a long tapering stick held in his right hand. This is the clearest representation of a drum stick in Roman art.

- 9.) Two musicians - terracotta statuette. Musée du Louvre.  
 Roman period (?)  
 Pl. 12, Tibia No. 16.  
 Rostovtzeff, M., 1941, The Social and Economic History of the Hellenistic World, Oxford, repr. 1964, vol. 1, p. 521, pl. LIX, 4.  
 Baudot, A., 1973, Musiciens Romains de L'Antiquite, Montreal pl. 7.

Two female musicians ride on a camel, perhaps taking part in a procession. One plays the tibiae the other rests her hands on an object that is either a box, or more probably a small drum. It has a deeper sound box than is usual for the tympanum, made of either wood or pottery. The skin head appears to be tied over the body, forming a ridge at the top. The girls may be ambubaiae. The date of the terracotta is given as 'Roman', but apart from the camel it is identical to No. 10, below, which is of the second century BC.

- 10.) Two musicians - terracotta statuette. Middle Syria.  
Damascus Museum.  
Second century BC.

Damascus Museum Inv. no. 3248/7003.

Bashir Zahdi, 1972, Annales Archeologiques Arabes Syriennes,  
Vol XXII, no.2.

Height: 16.2cm.

Terracotta figurine of Syrian manufacture, portraying two female musicians. One plays the tibiae. The pipes are shown diagrammatically and the player's hands are in the same position on each pipe. The second girl plays a drum of similar shape to No. 9, but the lower part of the instrument is broken.

- 11.) Two musicians - terracotta statuette. Salamia. Damascus  
Museum.  
Second century BC.

Damascus Museum Inv. No. 1614/3528.

Bashir Zahdi 1972, no. 3.

The terracotta is almost identical to one in the Louvre (No. 9), except that both women play tympana. These are of the usual type and are shallow circular frame drums.

Abbreviations.

AA	Archaeologischer Anzeiger in (JdAI) Berlin.
AJA	American Journal of Archaeology, New York.
Ant	Antiquity.
Ant. J.	Antiquaries Journal.
Arch.J.	Archaeological Journal.
Atti	Atti dell'Accademia Nazionale dei Lincei, Rome.
BJ	Bonner Jahrbücher, Bonn.
BSA	Annual of the British School at Athens.
CIG	Corpus Inscriptionum Graecarum.
CIL	Corpus Inscriptionum Latinarum.
CJ	Classical Journal.
CQ	Classical Quarterly.
CVA	Corpus Vasorum Antiquorum.
D & S	C. Daremberg & E. Saglio Dictionnaire des antiquités grecques et romaines, Paris 1877 - 1919.
Grove	Grove's Dictionary of Music and Musicians 5th ed. London, 1954, 6th ed. London 1980.
GSJ	Galpin Society Journal.
ILS	ed. H. Dessau, Inscriptiones Latinae Selectae, 3 vols. Berlin 1892 - 1916.
Inst. Neg.	Neg. no. photographic archive German Archaeological Institute, Rome.
JAMS	Journal of the American Musicological Society.
JdAI	Jahrbuch des deutschen archaologischen Instituts, Berlin.
JEA	Journal of Egyptian Archaeology, London.
JHS	Journal of Hellenic Studies, London.
JNES	Journal of Near Eastern Studies, London.
JdOAI	Jahreshefte des österreichischen archaologischen Instituts, Vienna.
JRS	Journal of Roman Studies, London.

MAAR	Memoirs of the American Academy in Rome, Rome.
MGG	Die Musik in Geschichte und Gegenwart, ed. F. Blume, Kassel and Basel, 1949 ff.
MZ	Mainzer Zeitschrift.
PBSR	Papers of the British School at Rome.
P. Hibeh	Hibeh - Papyri ed. B.P. Grenfell / A.S. Hunt.
P. Oxy	The Oxyrhynchus Papyri - ed. B.P. Grenfell / A.S. Hunt, London 1894 f.
PPS	Proceedings of the Prehistoric Society.
RE	Paulys Realencyclopädie der classischen Altertumswissenschaft, Stuttgart, 1894 ff.

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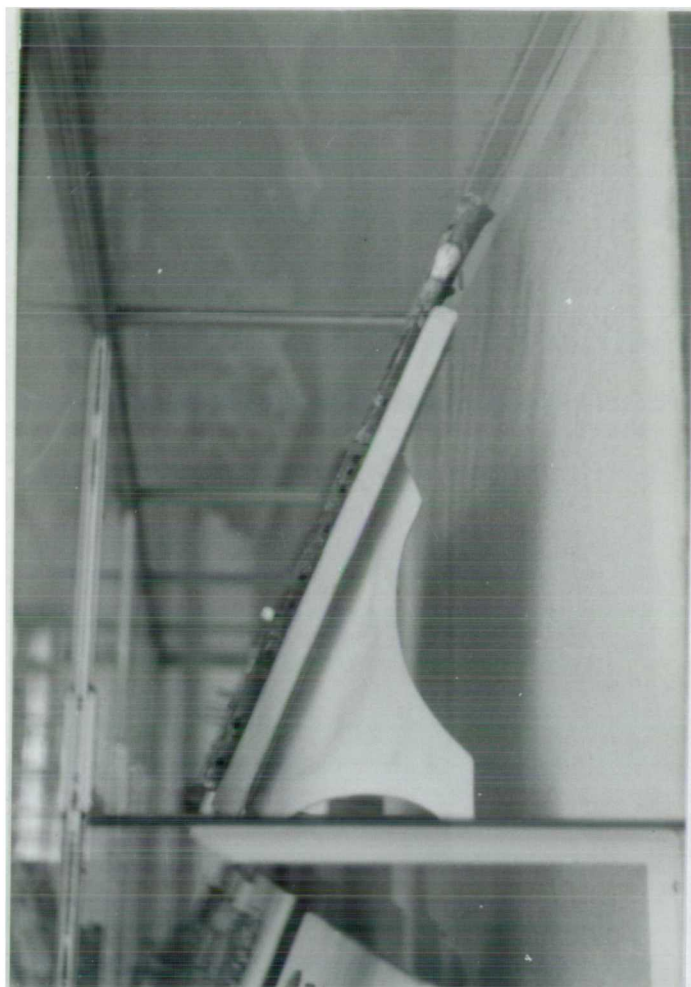
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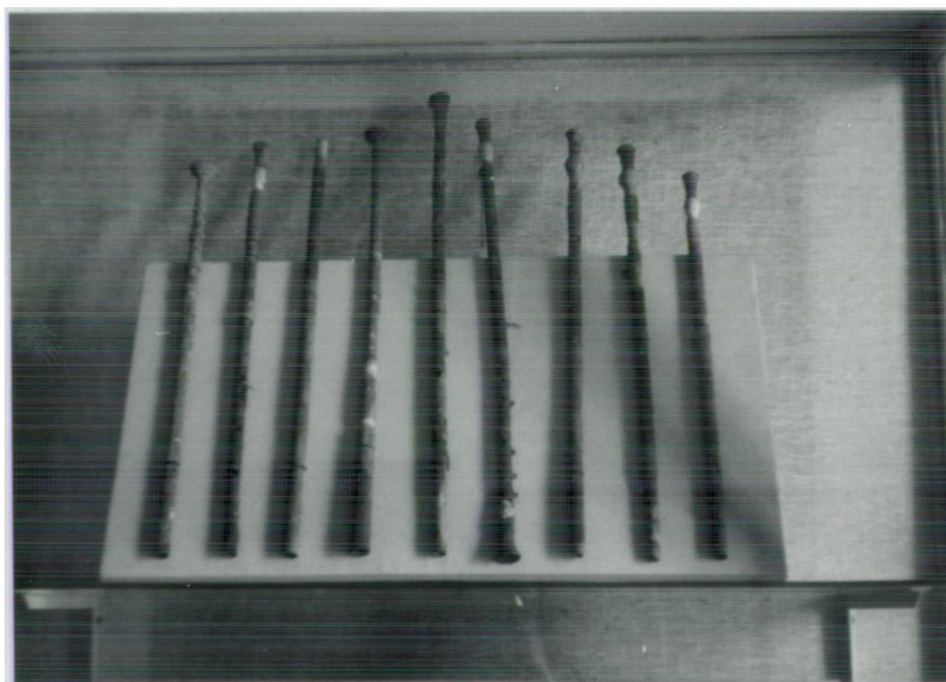
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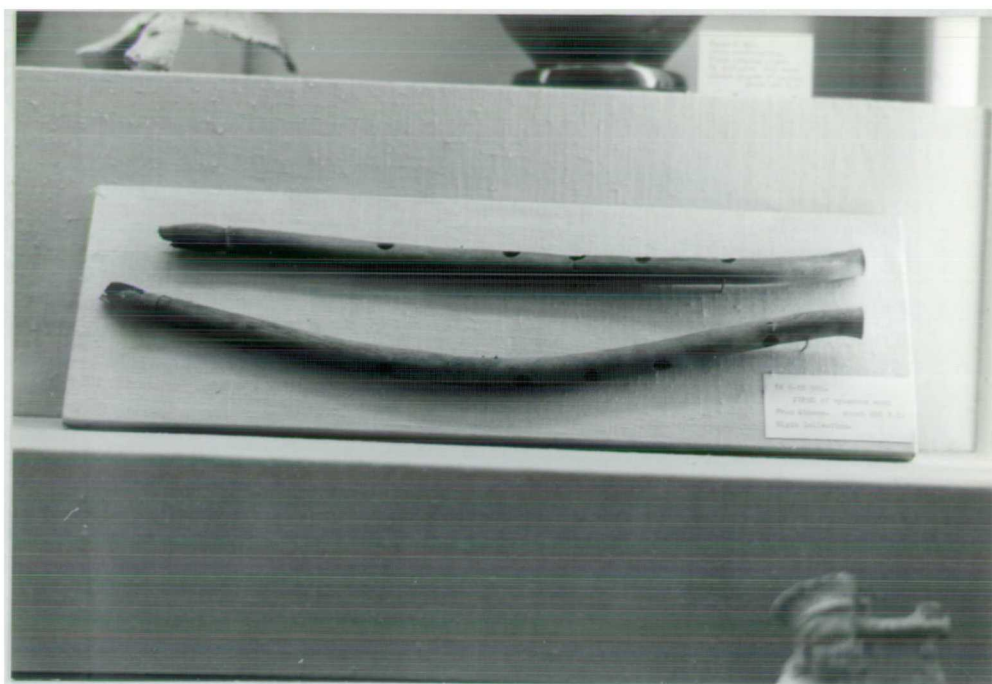


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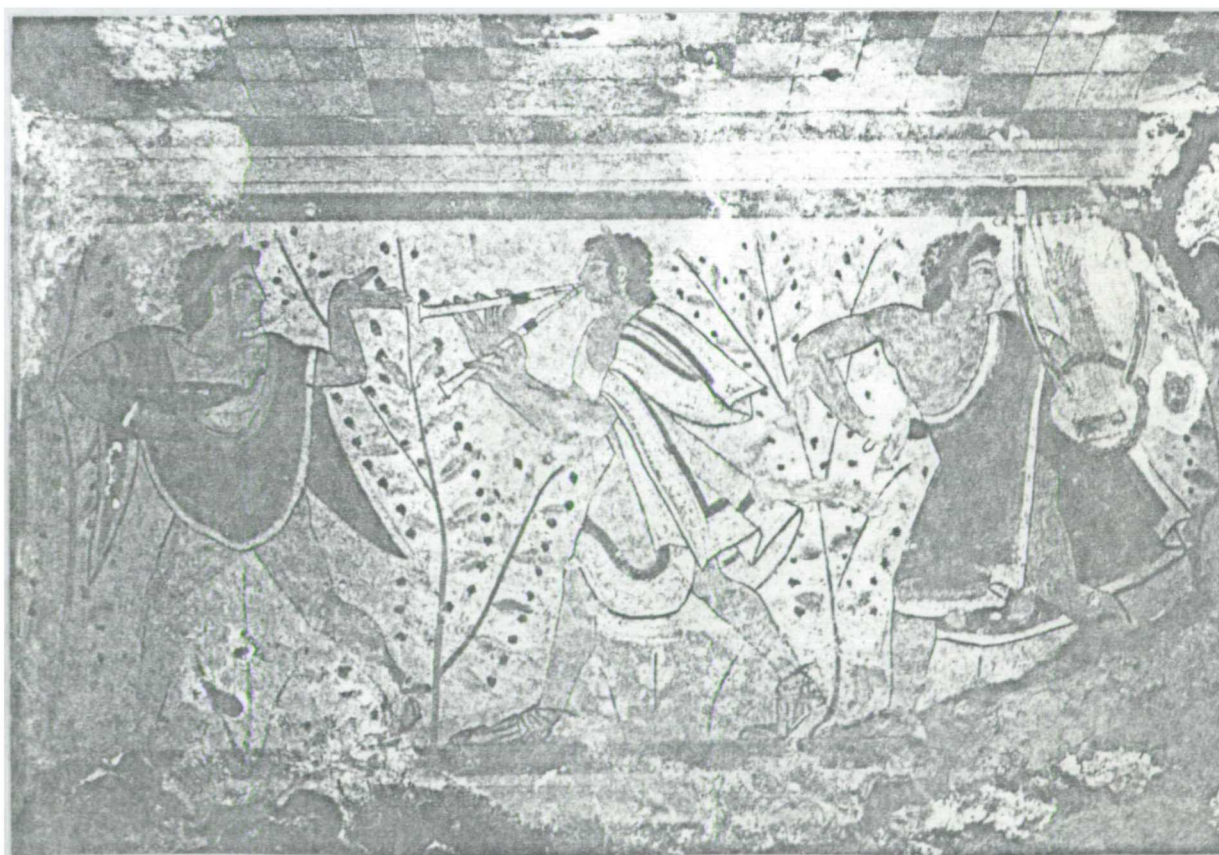


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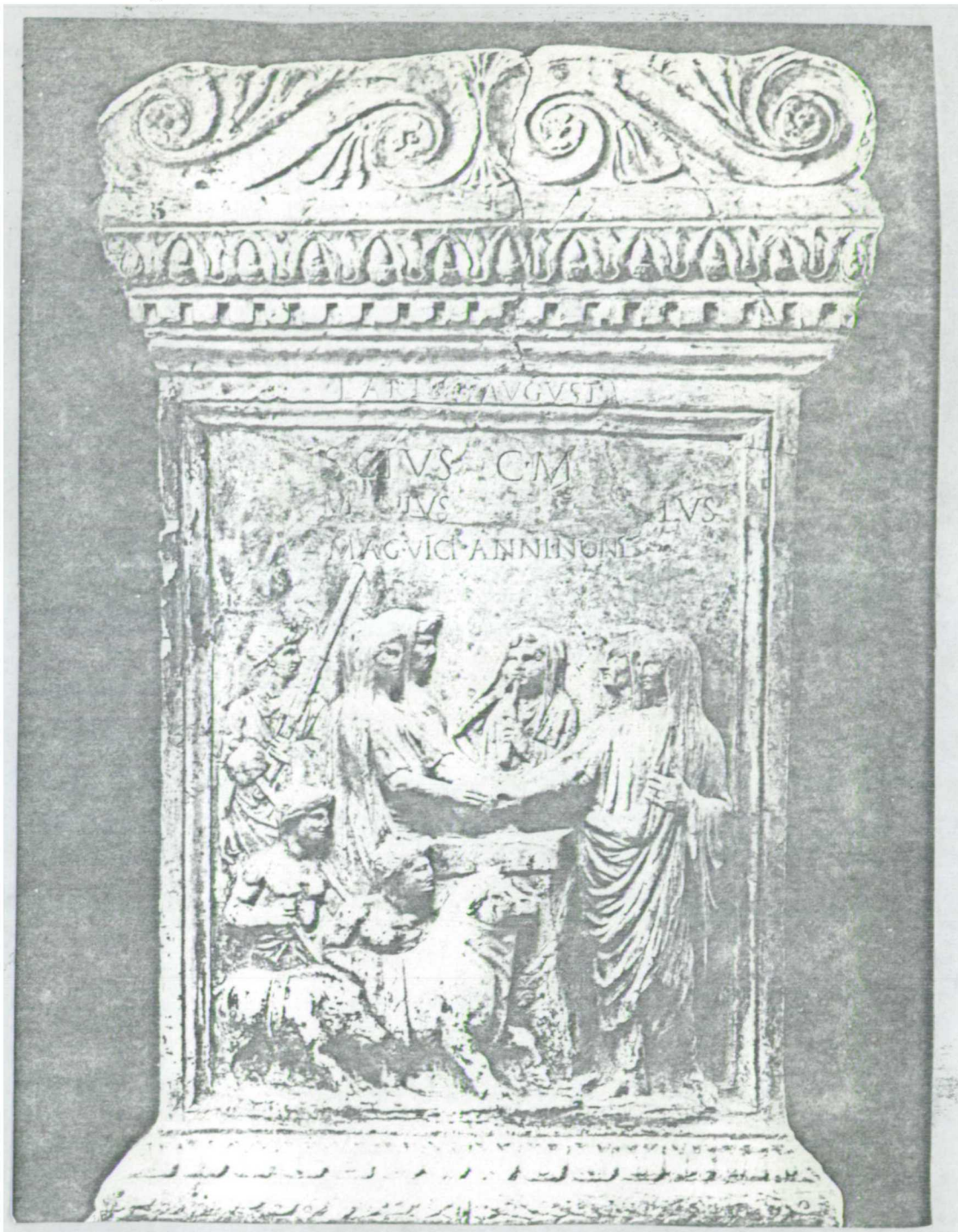




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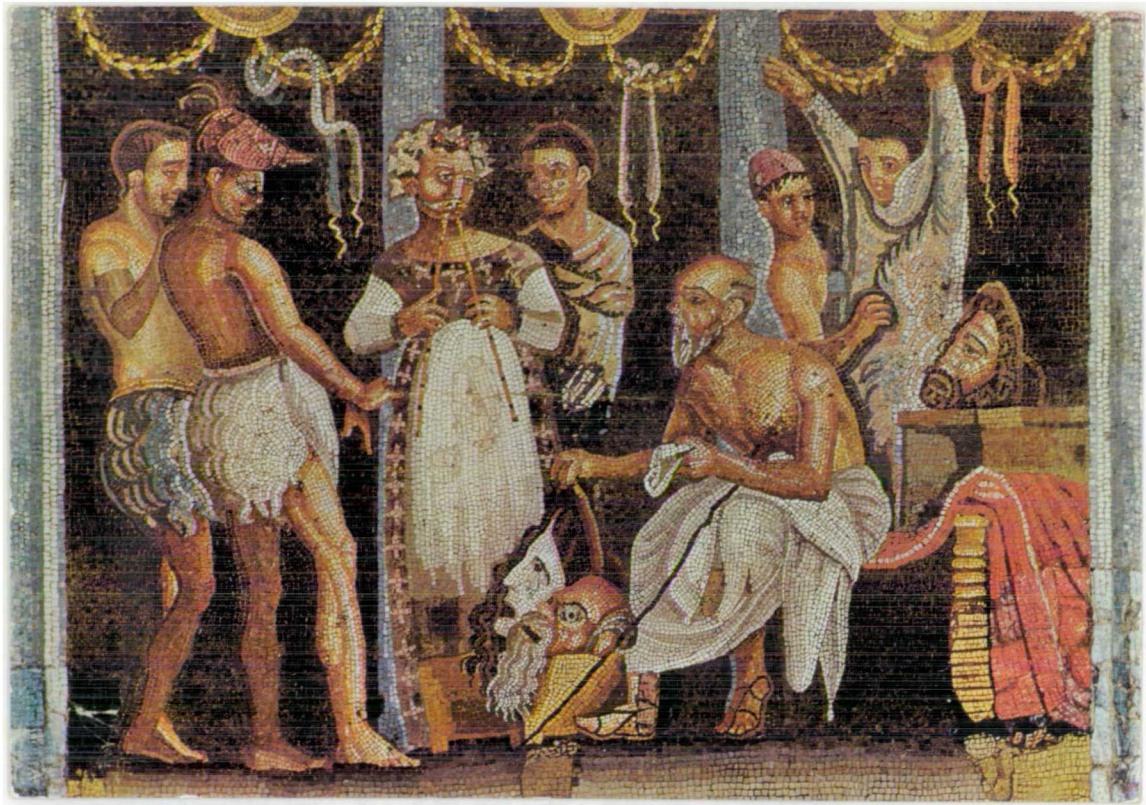


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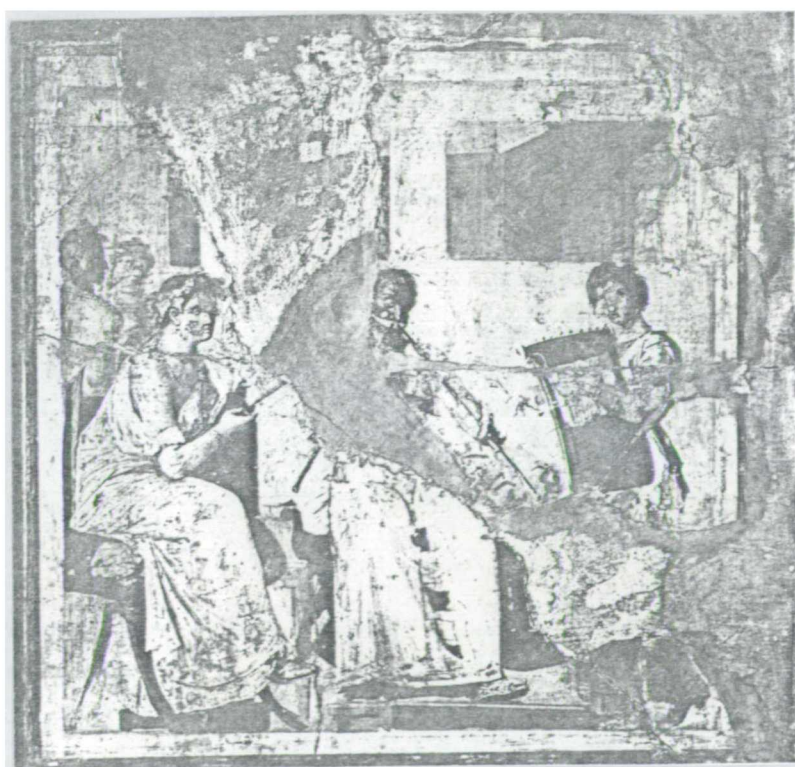


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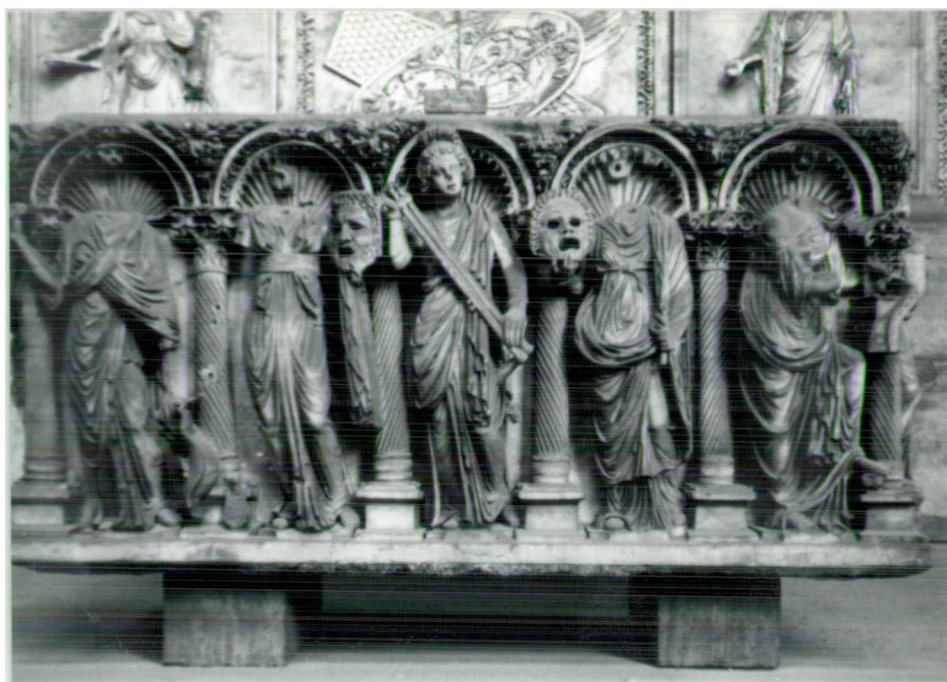
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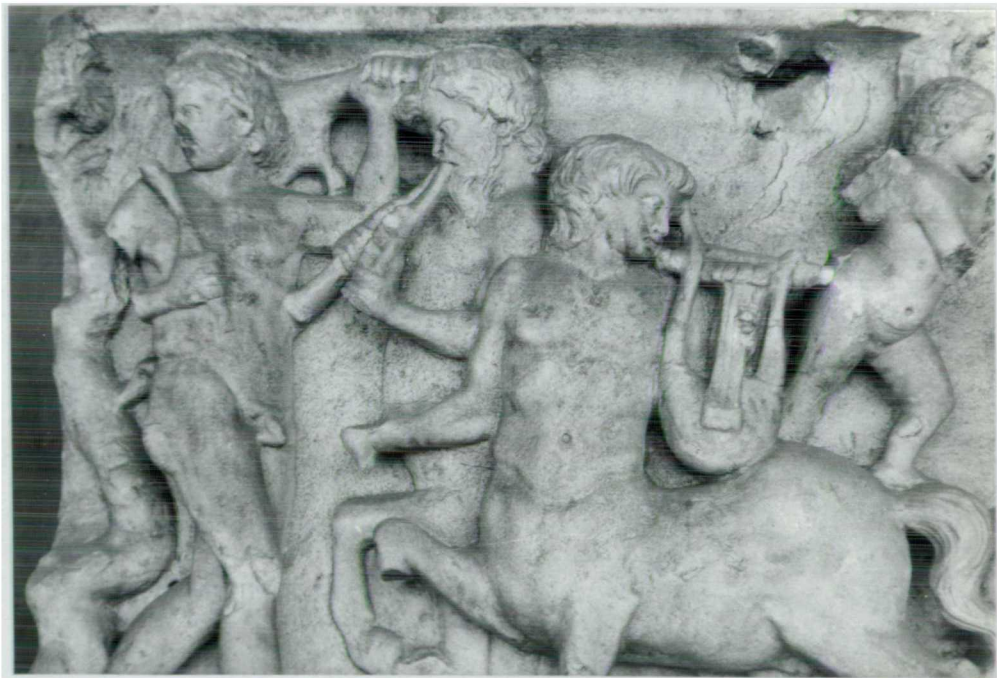


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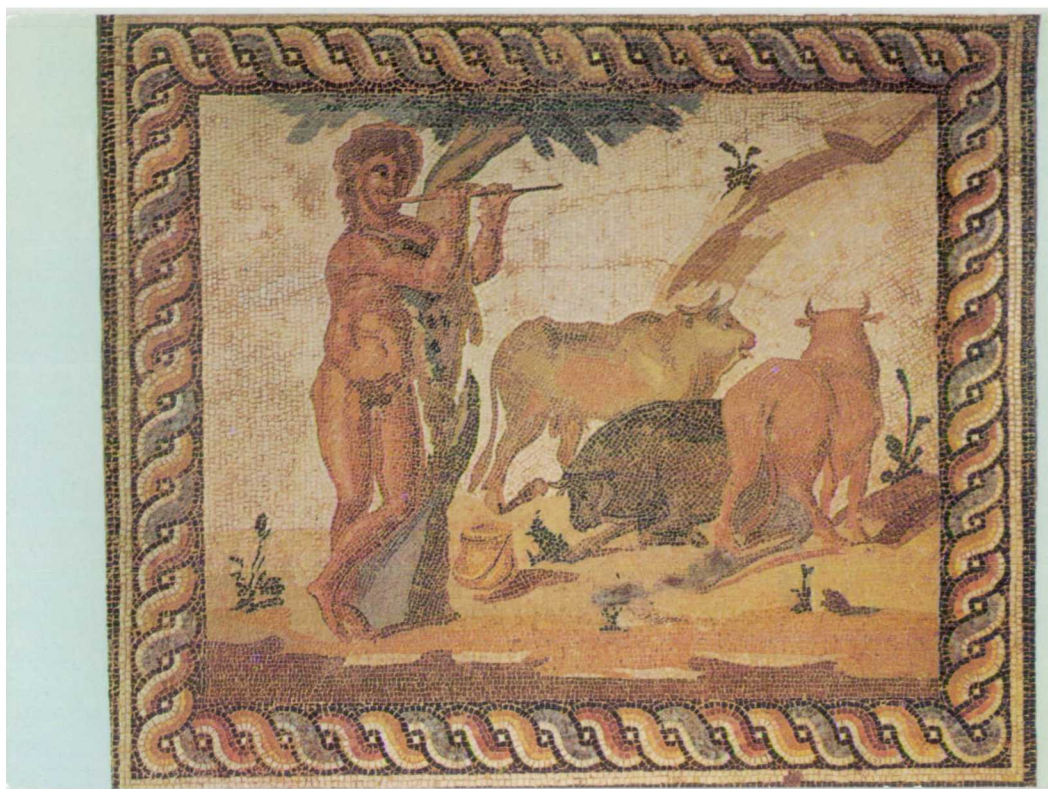




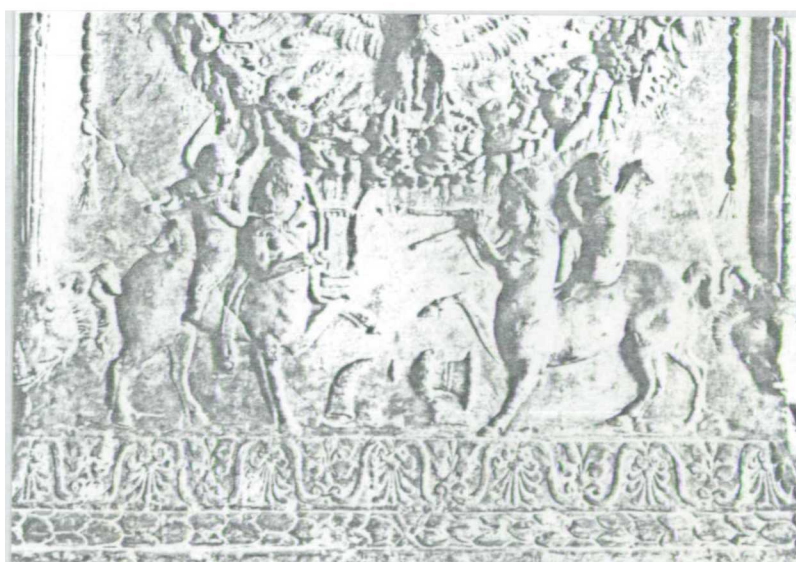
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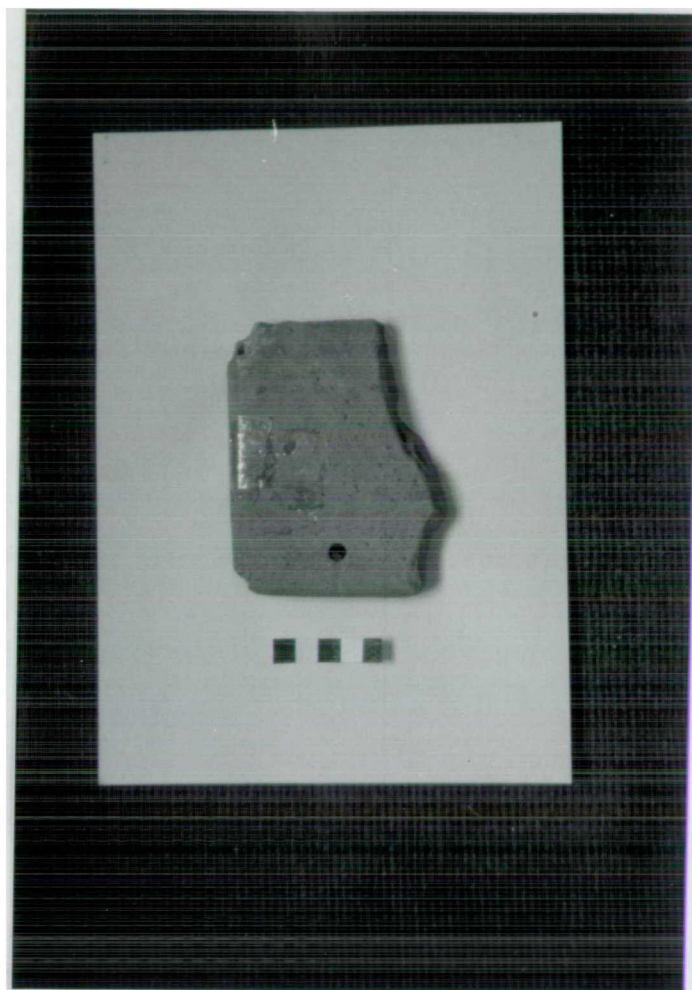


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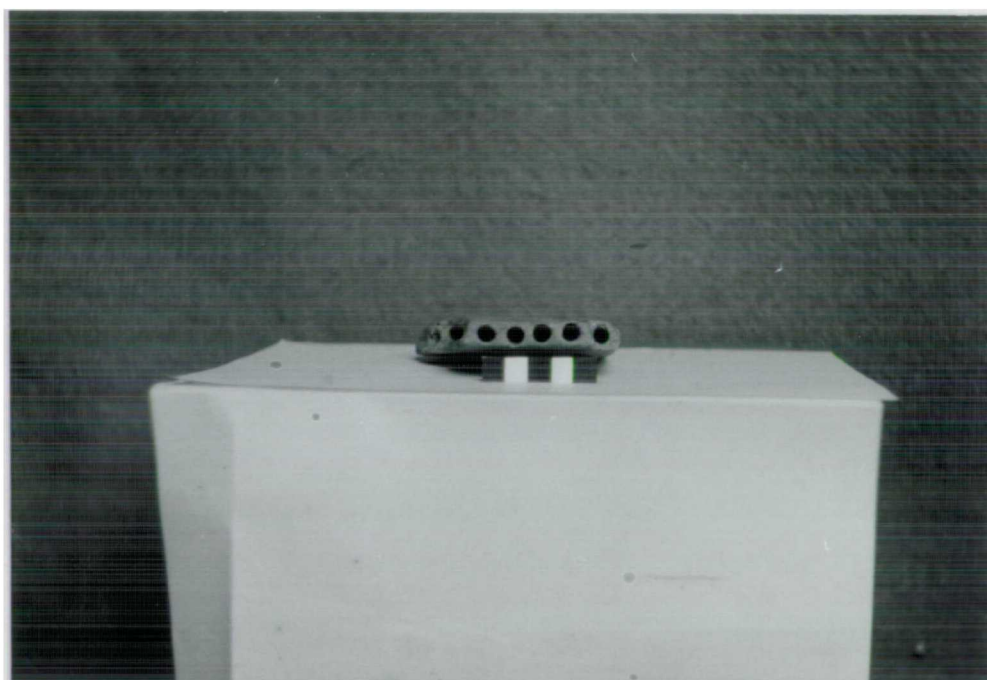


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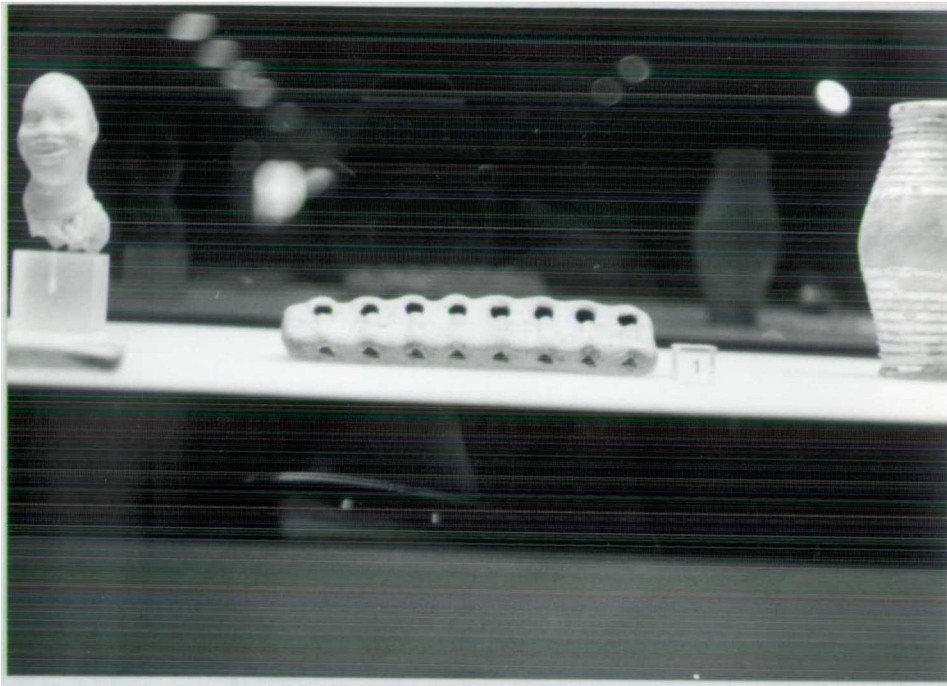




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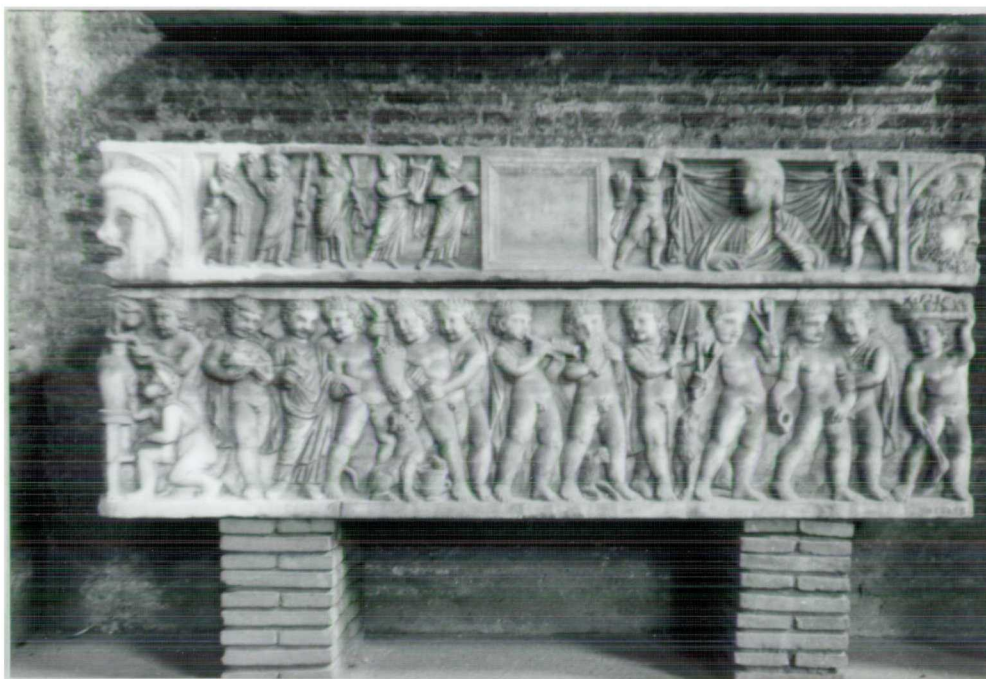


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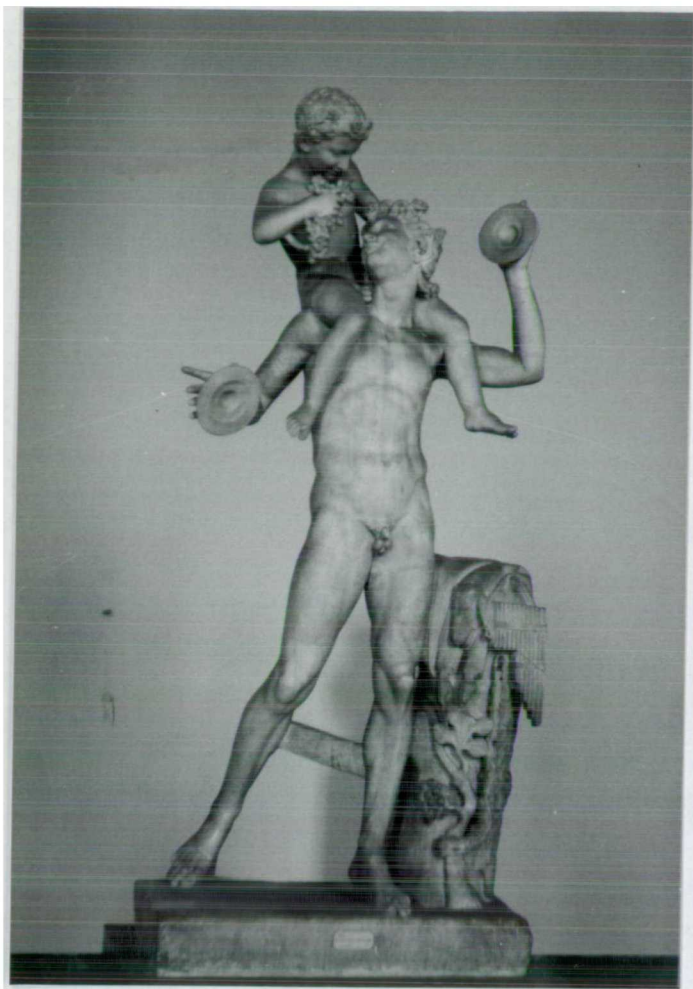




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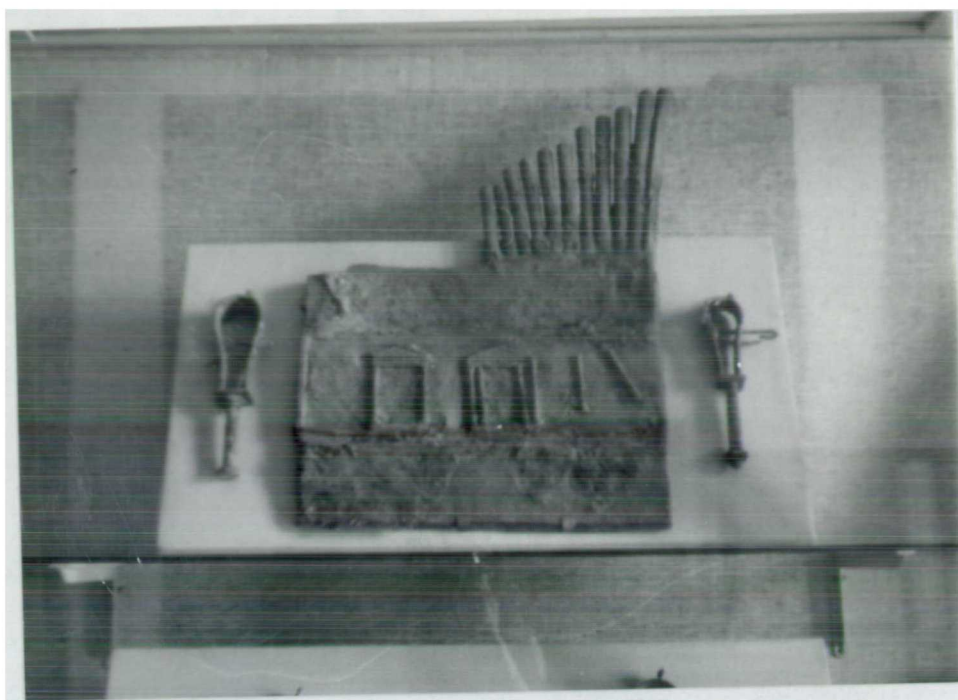




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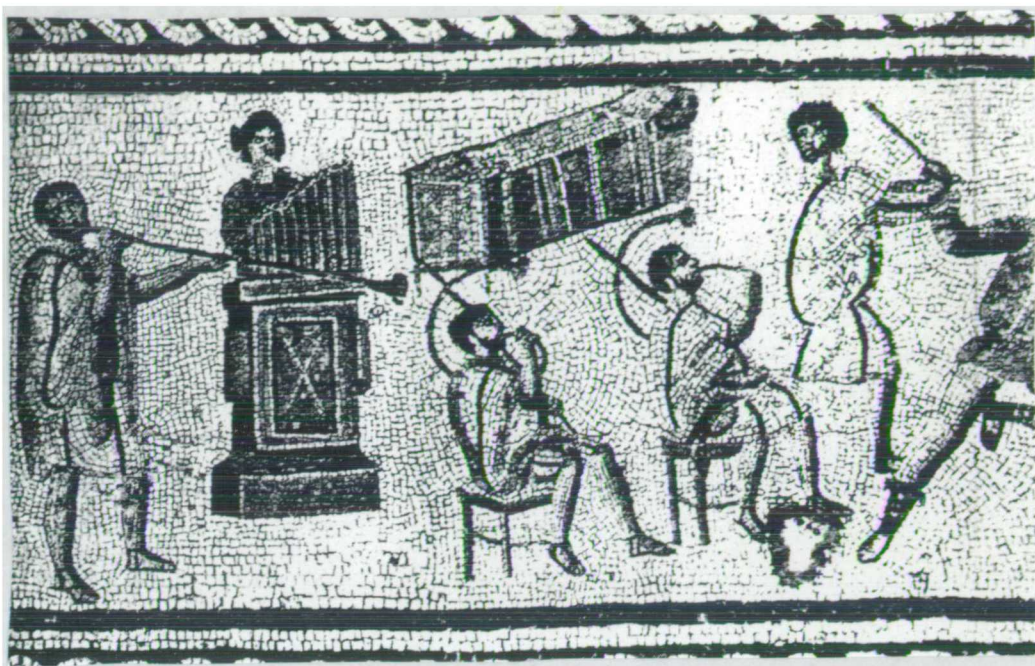


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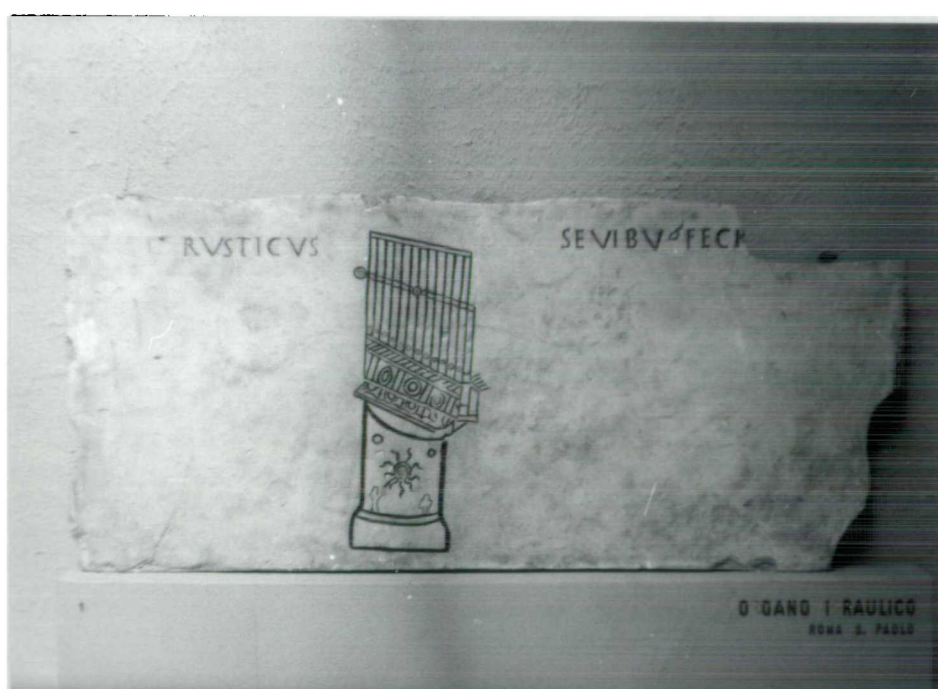


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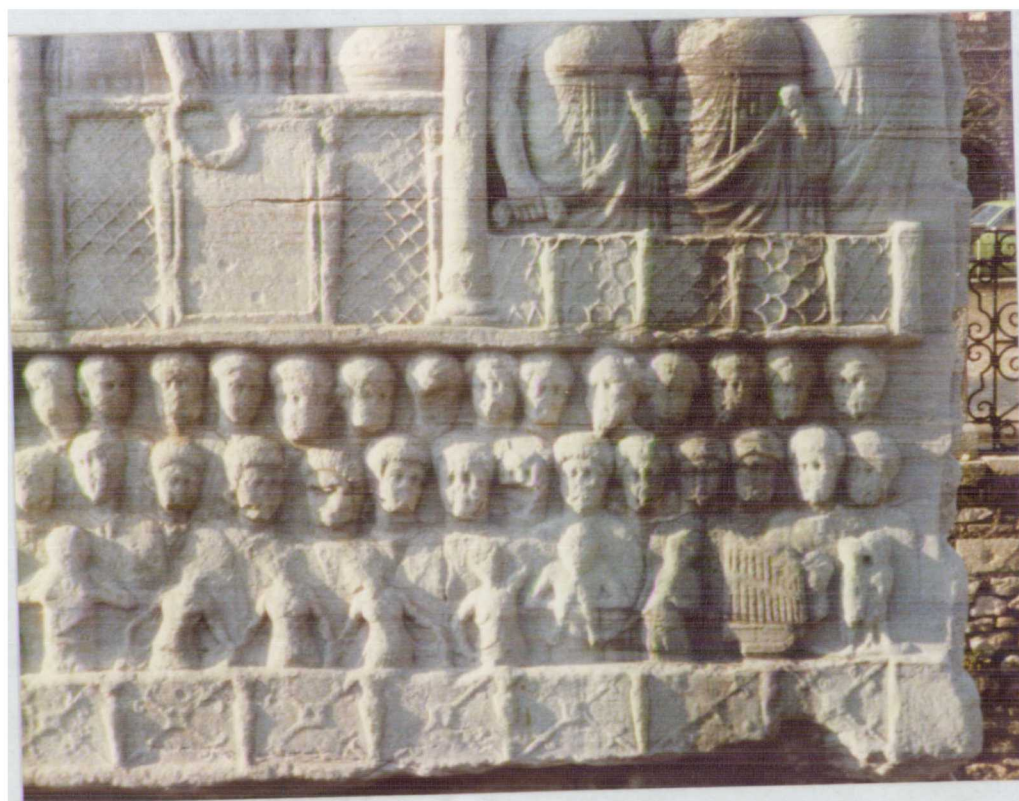


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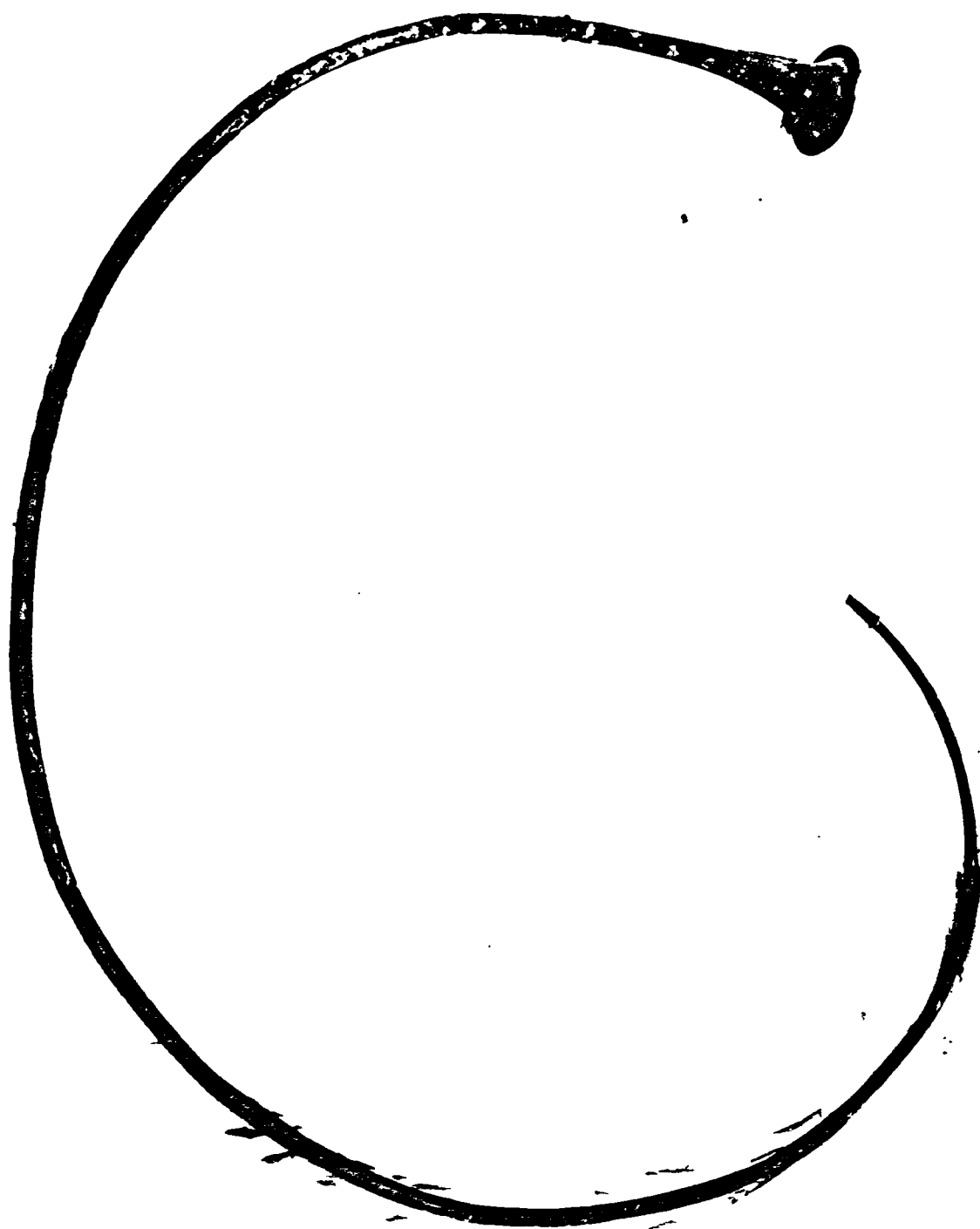
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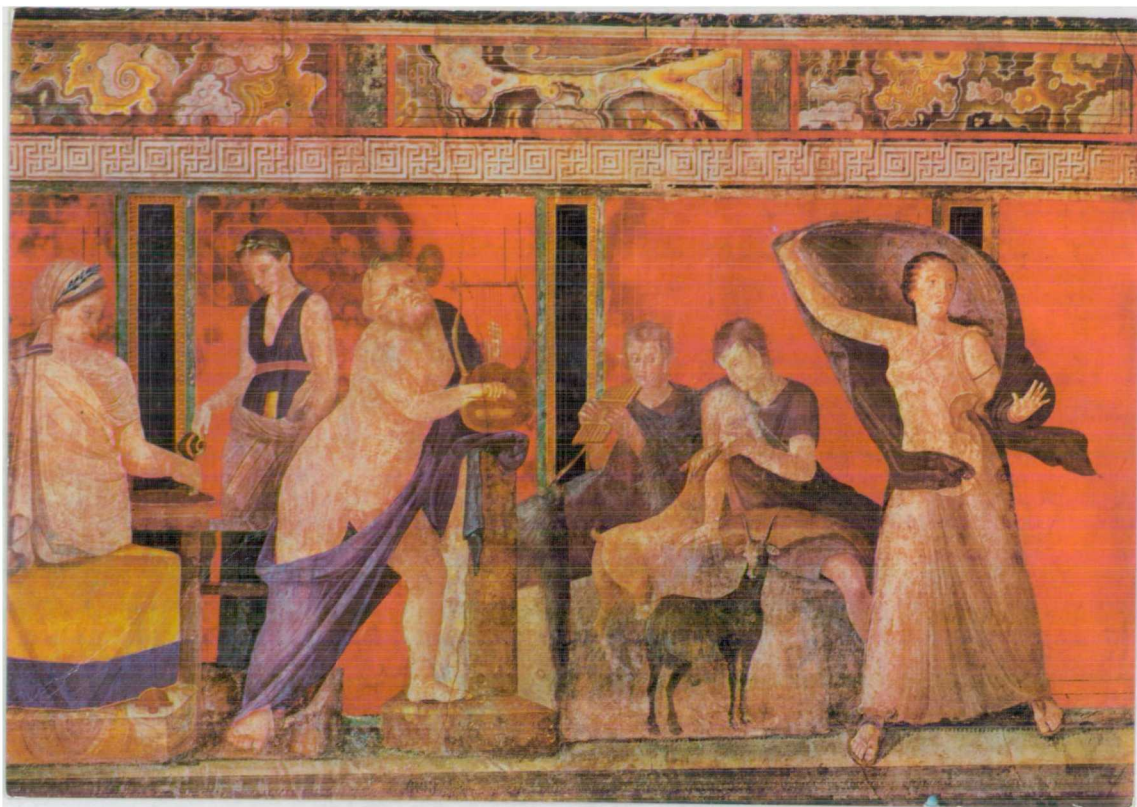


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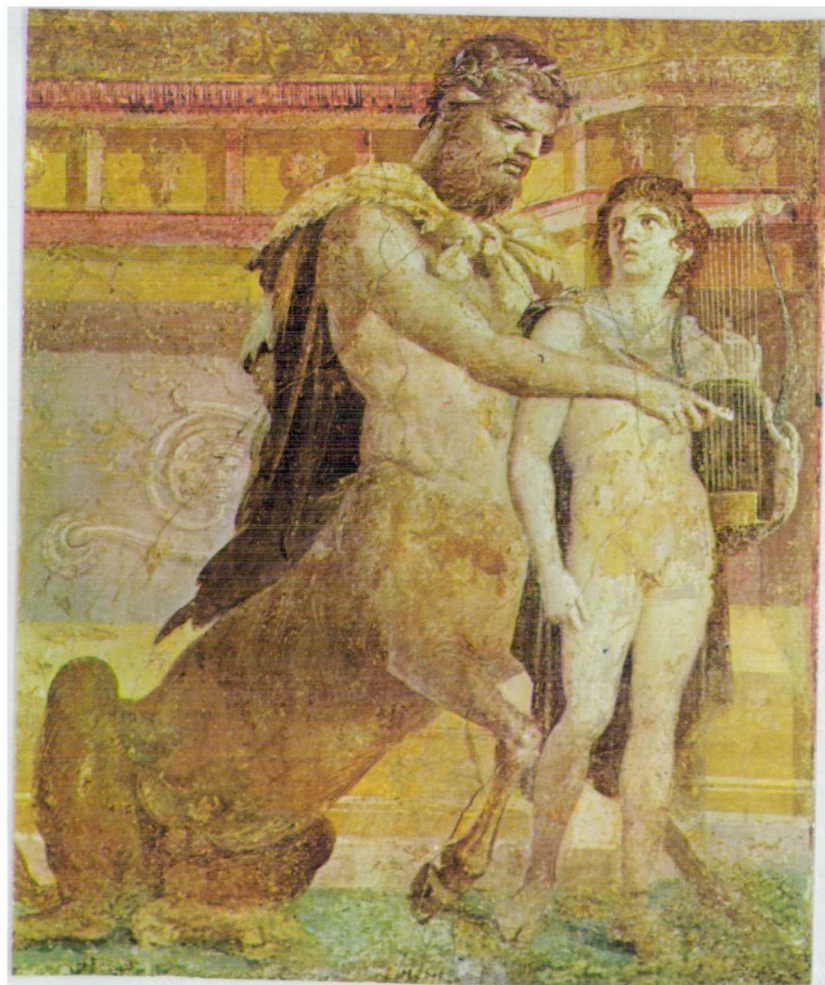


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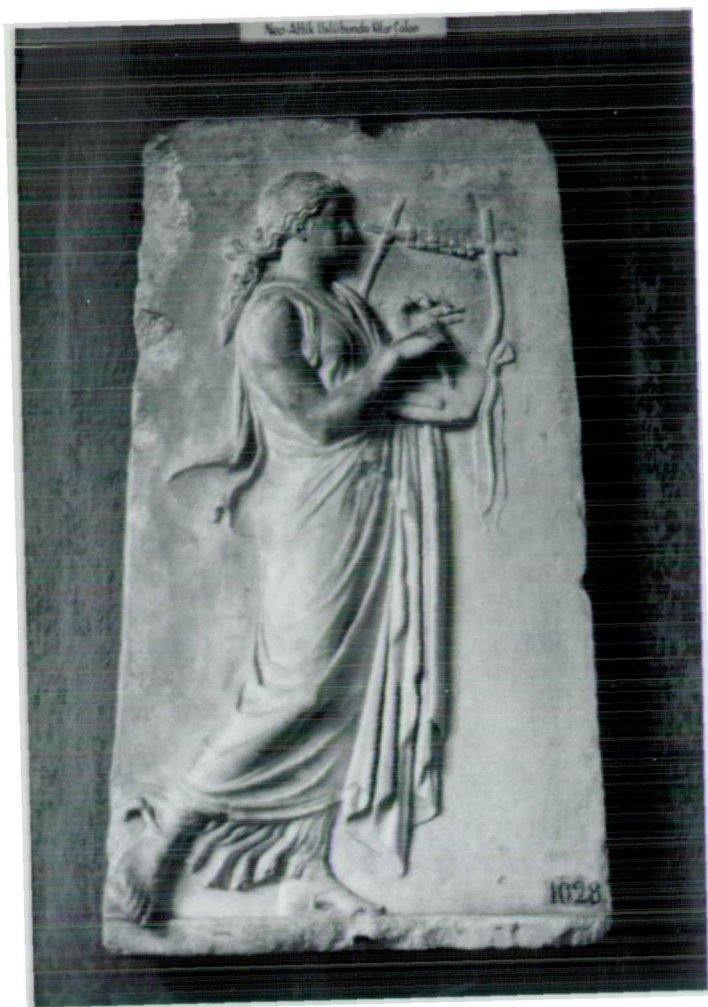


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PI. 62



PI. 63





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PI. 65





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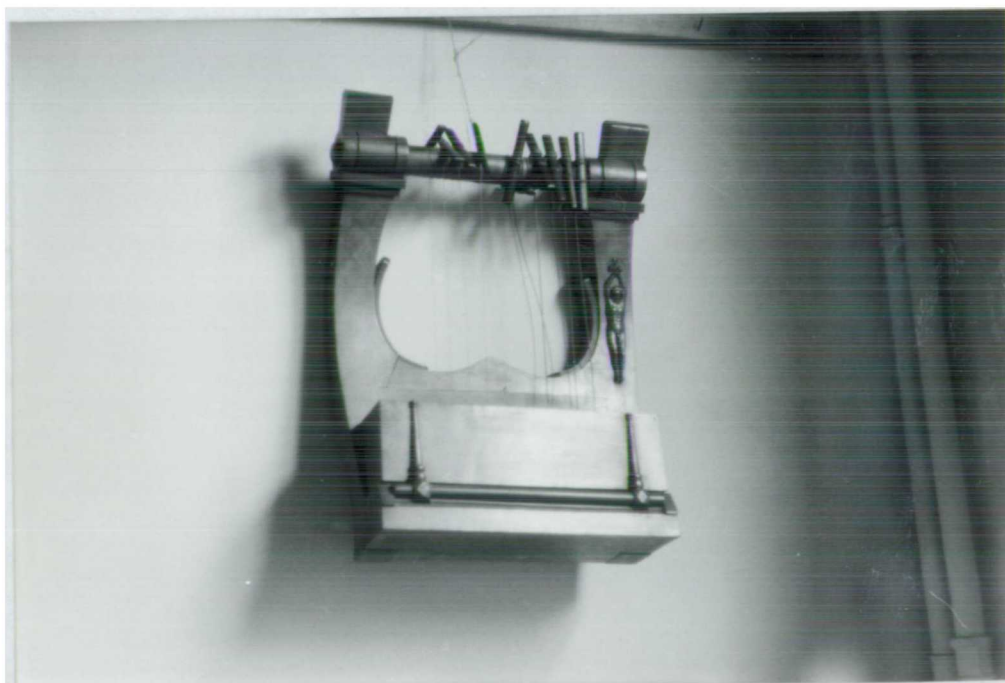
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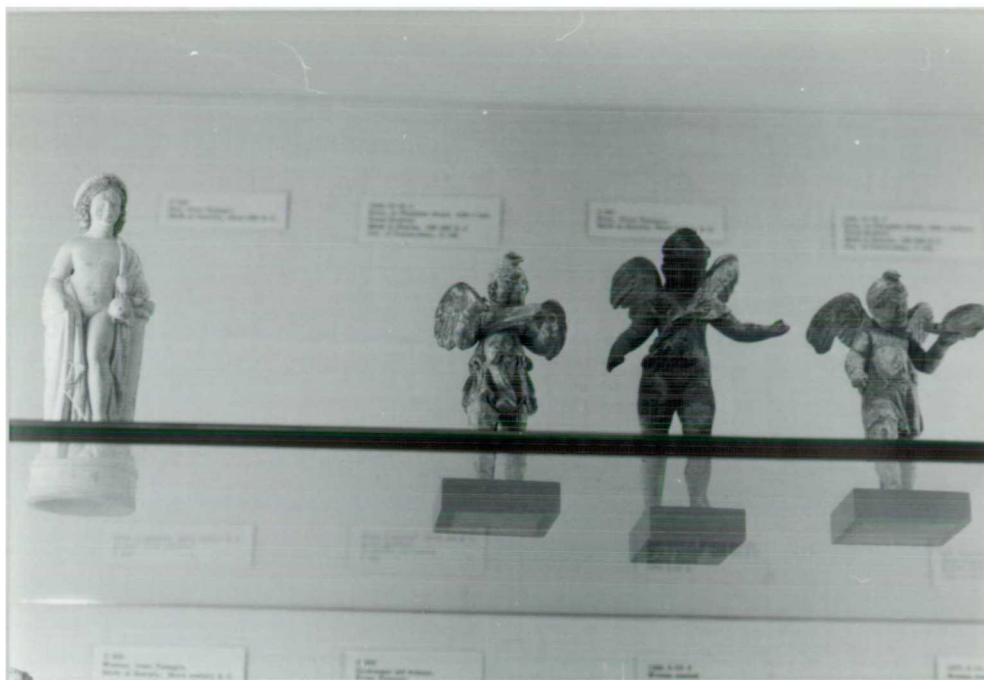
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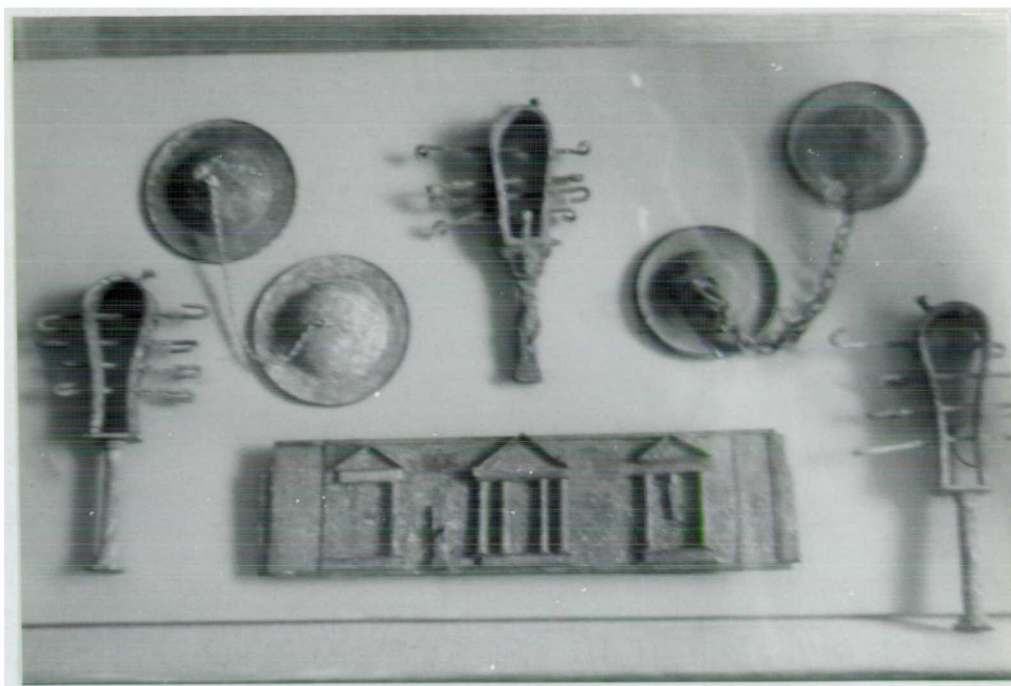


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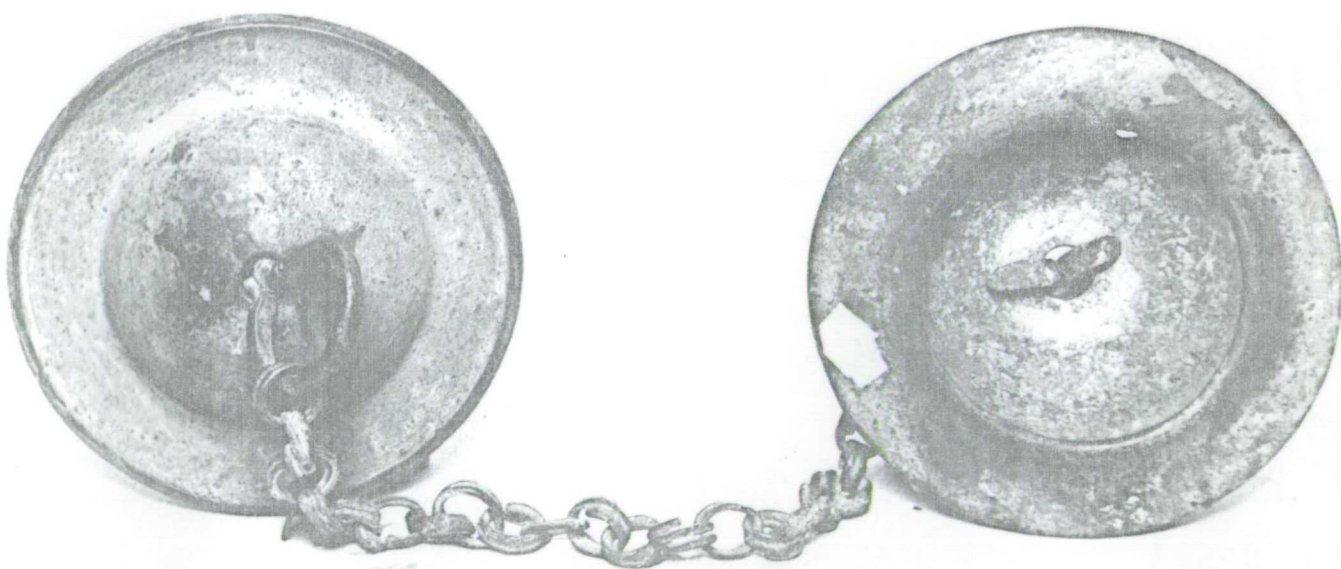


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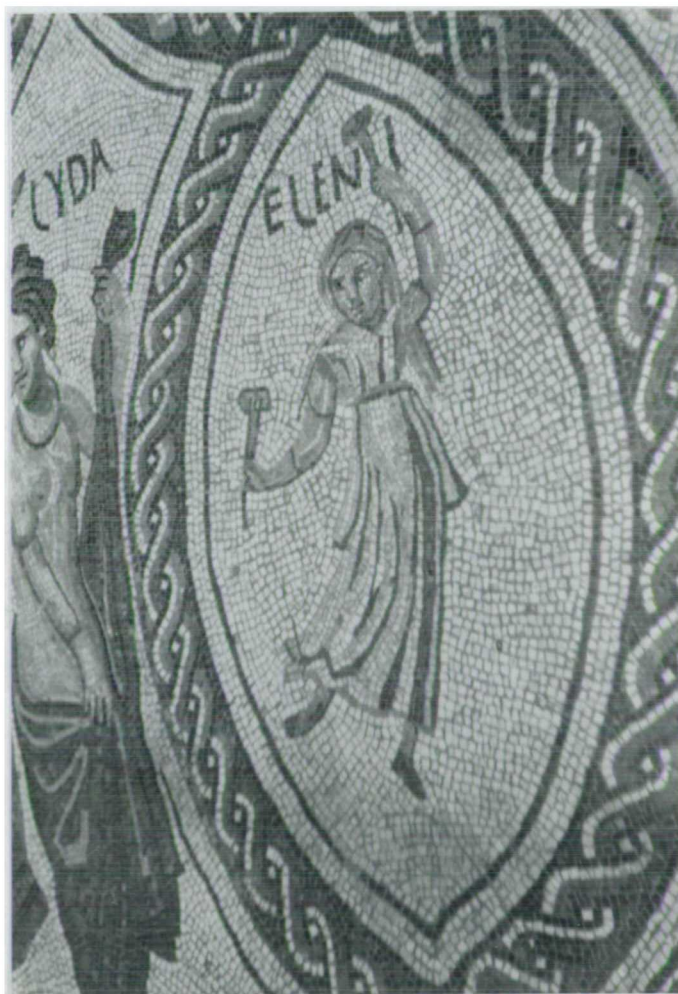
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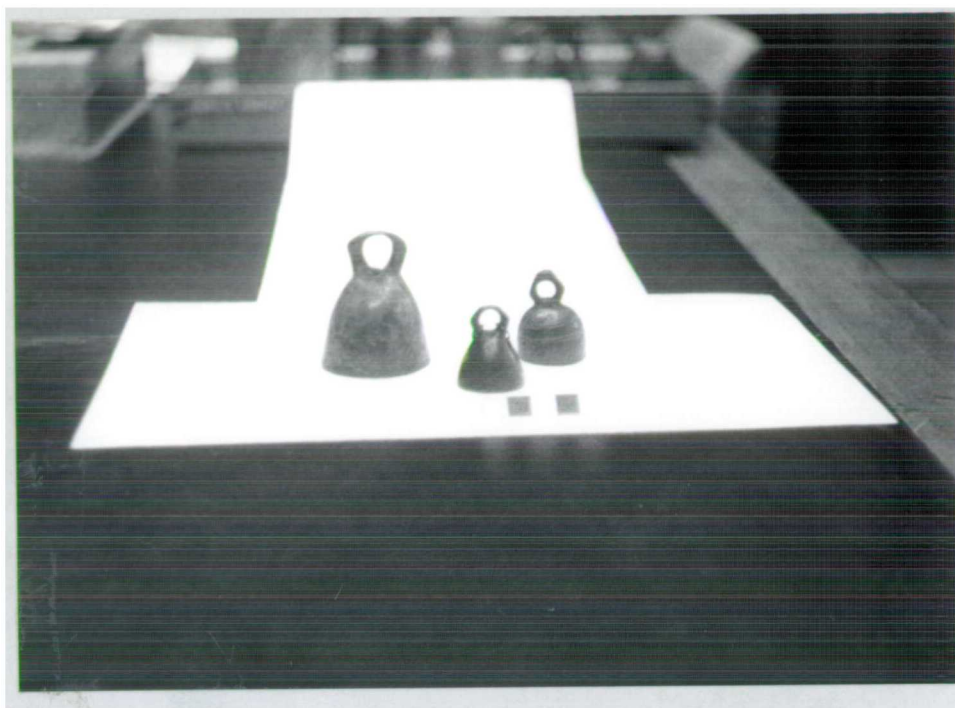




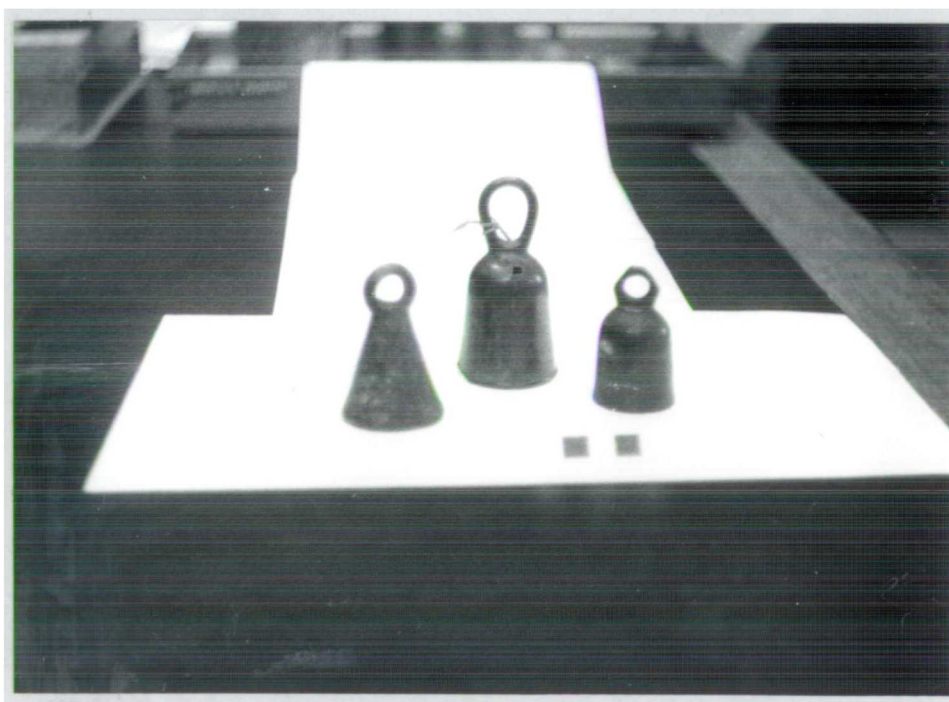
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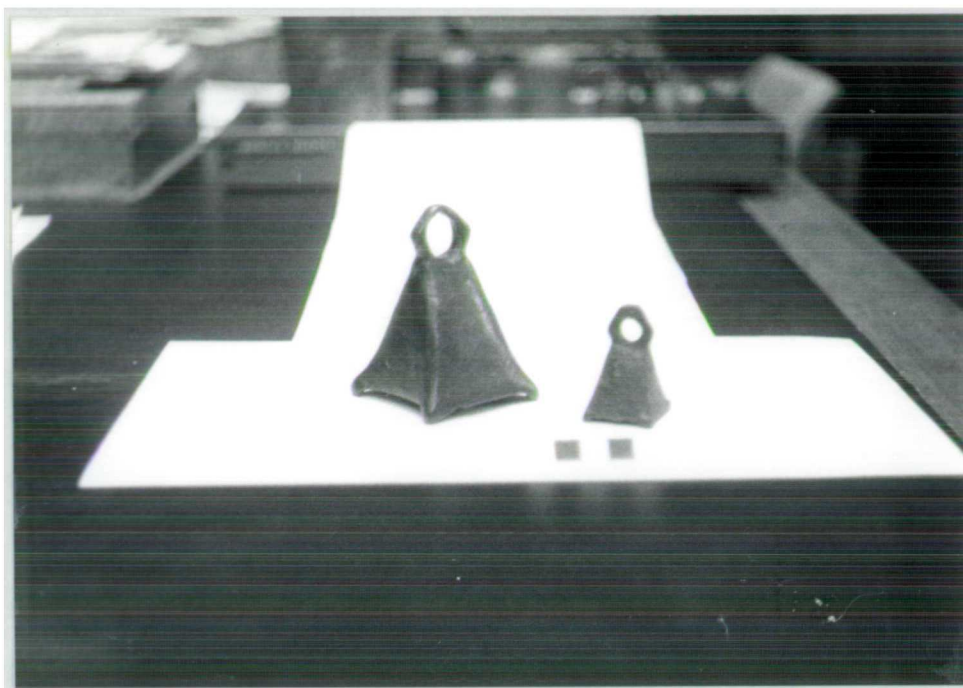
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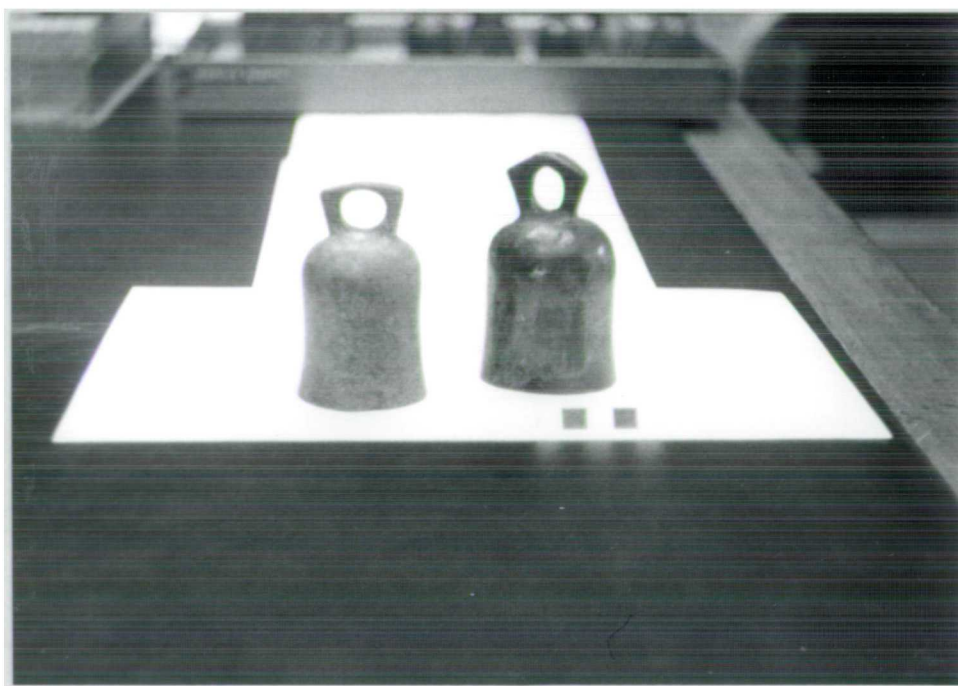
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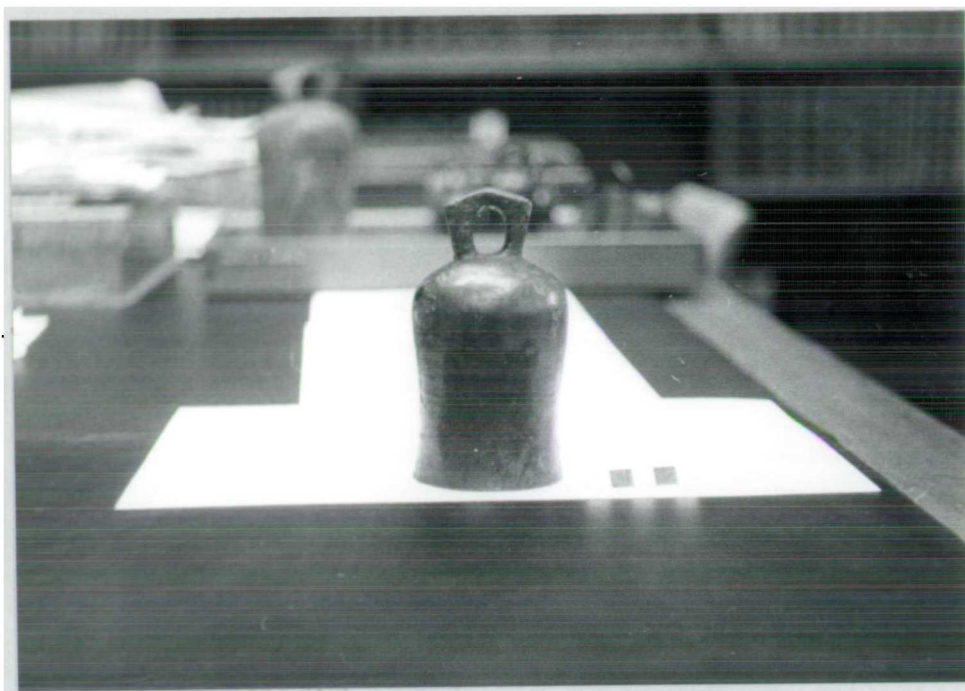


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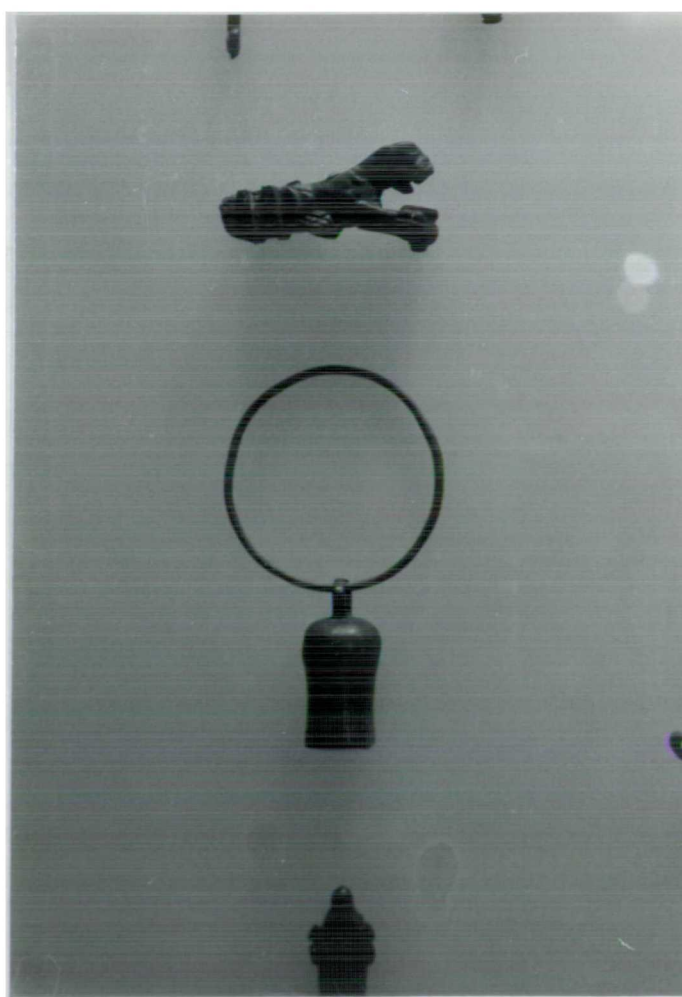


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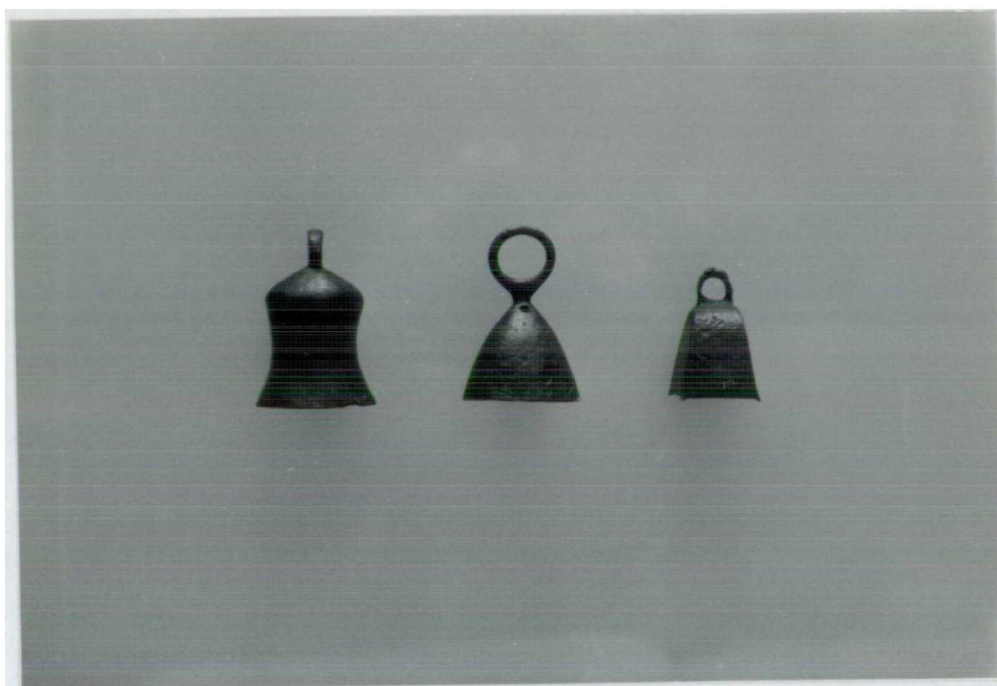
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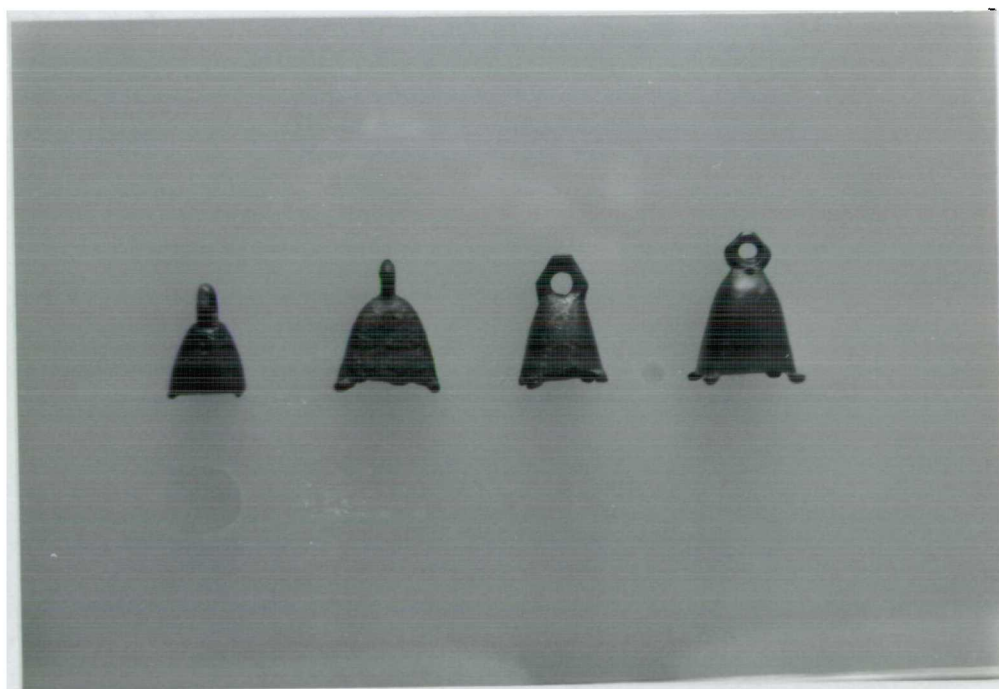
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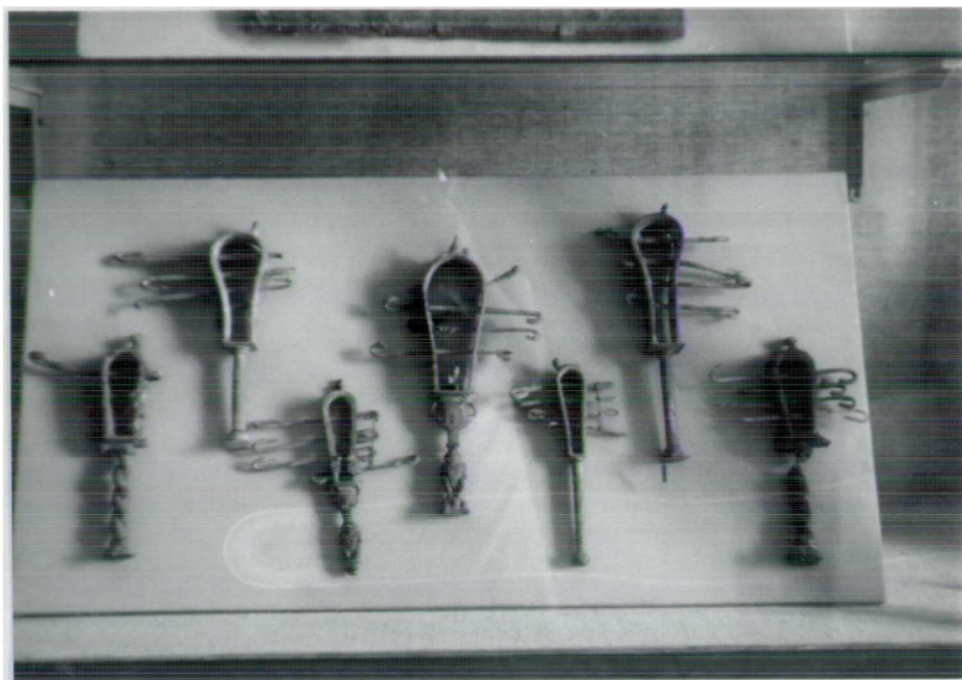


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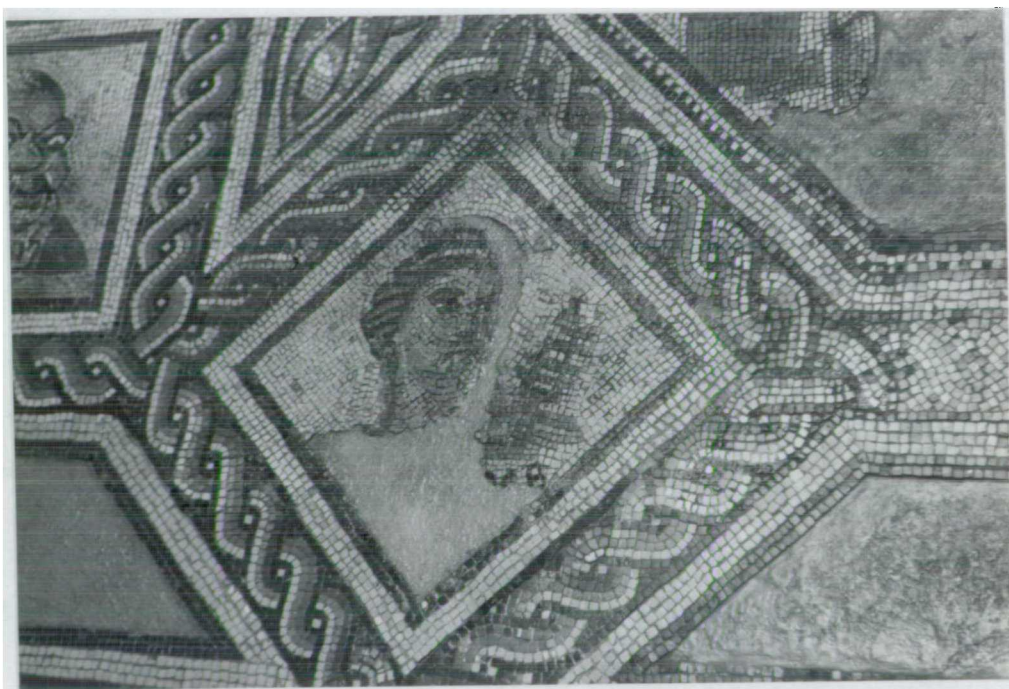


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