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A PAIR OF CYMBALS AND A METALWORKER

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The resonant, clashing sound of metal cymbals was a familiar and necessary accompaniment to some religious celebrations in the Greek and Roman worlds, increasing the orgiastic excitement and frenzy that was such a striking component of some cults. Although the Greeks apparently played cymbals only at these types of celebrations, the Romans also used them on secular occasions—at performances of mime and pantomime.¹ They were played by holding one in each hand and clashing them together, as we know from representations in ancient art (Fig. 1).²

Ancient Greek and Roman cymbals were small, generally with a diameter of 10-14 cm, and had a rounded central boss and narrow rim that contrasts with modern cymbals, which have a wide and prominent rim and are larger.³ Ancient cymbals have been well studied, beginning as long ago as 1876 with what is still a good account of the subject by Max Fränkel.⁴ His work and that of later scholars demonstrated the role of cymbals in both religious and secular ceremonies, based on inscriptions on some of them, representations in art, and, in particular, references in ancient authors.⁵ From this evidence we know that cymbals were originally closely connected with the cults of Demeter, Dionysos, and Cybele. For example, Pindar refers to the goddess Demeter as bronze sounding (*chalkokrotos*), and the *Scholion* explains that cymbals were used in her cult, for the goddess went around with cymbals and drums in search of her daughter Persephone.⁶ The use of cymbals in the Eleusinian Mysteries—the secret rites and worship of Demeter at Eleusis in Greece—is thus old and well attested. The god Dionysos, too, is said to have used drums and cymbals in his great conquest of the East, but it was probably the women accompanying him who employed them.⁷ Cymbals were also used in worship of Cybele, for the geographer Strabo reports that Pindar addressed the “Great Mother” (Cybele) as one who was worshipped with the music of cymbals,⁸ and the same information can be found in Catullus, Lucretius, and Virgil, whose commentator, Servius, explains that the cymbals are connected with the Great Mother, because they are similar to the half-globes of heaven (*hemicycliis caeli*).⁹ As Fränkel showed, they were also considered appropriate offerings for the goddess

Artemis.¹⁰ Cymbals have sometimes been confused with the libation bowls called *phialai* (Greek sing. *phiale*), but Lilian H. Jeffery argued that shallow bowls with inscriptions, dating to an early period, more likely functioned as bowls rather than cymbals.¹¹ Shield bosses also resemble cymbals, but Anthony Snodgrass has collected a long list that differentiates between them.¹² Most scholars agree that not



Fig. 1. Maenad playing cymbals, detail from a red-figure volute-krater from Ruvo. Museo Archeologico Nazionale, Naples, Italy, 2411. Photo: Alinari/Art Resource, New York.

every rimmed bowl should be called a cymbal, but only those with prominent bowls and rims, with holes on top for chains or straps, and especially those that come in identical pairs.¹³

Several years ago an unusual pair of ancient cymbals was added to the collections of the Museum of Art and Archaeology.¹⁴ The cymbals each consist of a cast, brass disc with a rim and central boss pierced by a hole (Fig. 2).¹⁵ The boss, the diameter of which equals more than half the overall diameter, is flat on the top, and the sides are straight and flaring (Fig. 3). The rims have a small flange on the top and are slightly angled so that when struck together the point of contact is not at the edge. They give off a resonant, high-pitched sound. Part of a chain that may once have linked the pair has survived. Preserved are seven metal rings of three sizes (Fig. 4).¹⁶ Gouges in the inner face of several of them suggest that they were once linked by thinner rings, or S-shaped hooks.¹⁷ A loop of flattened wire, rectangular in section, is also preserved, for attaching the chain to one of the cymbals. The ends of the loop passed through the hole in the center of the cymbal and were then bent back to hold the loop in place.¹⁸

A faint cross-hatched pattern decorates the inner edge of the central depressions of the cymbals, but they are otherwise undecorated except for two sets of punched inscriptions that include the name and patronymic of the metalworker and are the cymbals'

most unusual feature (Figs. 2 and 5). The names of craftsmen in the ancient Mediterranean world do not often appear on their work, and none had



Fig. 2. Brass cymbals. Gift of Robert Haber in honor of Saul and Gladys Weinberg. Museum of Art and Archaeology, acc no. 85.124 a and b. [cymbal A at top; cymbal B at bottom]

hitherto been known on cymbals. Some painters of Athenian vases signed their names, as did some potters (or workshop owners), and the names of a number of Roman potters, or workshop owners, are also known; terracotta figurine- and lamp-makers, whose objects are mold made, frequently wrote their names in the molds; gem cutters sometimes put their names on their work; and a series of coins from Syracuse bears the names of some of the die engravers.¹⁹ But the majority of small artifacts produced in the Greek and Roman world in metal, pottery, terracotta, and semiprecious stones usually are not assigned to a specific artisan, and often not even to a specific workshop. The full name of a metalworker on

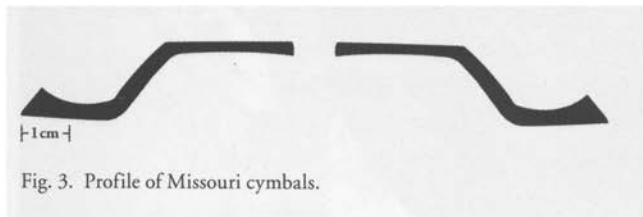


Fig. 3. Profile of Missouri cymbals.

this pair of cymbals thus adds considerably to their interest. The inscriptions are completely preserved and for the most part legible. The first consists of two signs that may be the letters M or Σ (m or s; *mu* or

sigma), repeated twice on each cymbal and located at points marking one quarter of the circumference (Figs. 2 and 5). On cymbal A one of the signs is written in the opposite direction from the others. These signs are formed from dots that are deeper and larger than those of the second texts. They were clearly inscribed first, because one of the signs on cymbal A forced a letter of the second inscription to be written at a lower level (Fig. 6). Also, another of these earlier signs may have caused the abbreviation of the last phrase of the second inscription on cymbal A (see below). The meaning of the signs (whether M or Σ) is obscure, but perhaps

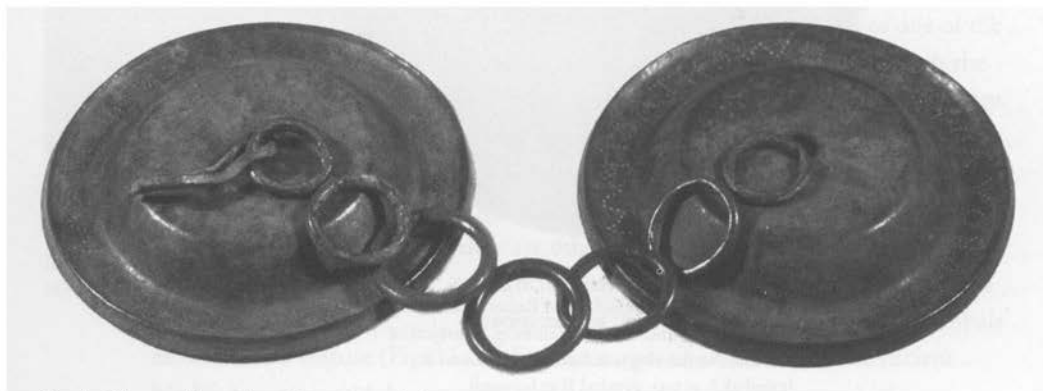


Fig. 4. Rings and loop from Missouri cymbals.

they marked the two members of this particular pair of cymbals, or (more likely) one of a great number of pairs made in the same workshop.

The second, and main, inscription begins with the name of a metalworker. The meaning of the inscription is clear except for the last phrase, which is obscure but may give the metalworker's ethnic (his city, or place of origin). The inscription consists of two sets of practically identical texts, one well written (A), the other not (B). They read as follows:

A: T(ίτος) 'Αριανός 'Αγαθοβούλου ἐποίησ(ω)εν Ταουαυ(μ)

B: T(ίτος) 'Αριανός 'Αγαθ<ο>ρούλου ἐποίησεν(μ)Ταουαυπ(μ)

The inscriptions exhibit a number of mistakes. In A, the lower curve of the s or lunate *sigma*, in the name 'Αριανός was written twice (Fig. 7); the s in ἐποίησεν was written at a lower level, because the preexisting ω had not left enough room (Fig. 6); and the last word or phrase of the inscription possibly had to be abbreviated because the inscriber ran out of space. In B, there are more mistakes than in A. The underlined letters indicate errors made by the copyist who also omitted a letter. Thus, the s of 'Αριανός is misformed (Fig. 8); the θ of 'Αγαθ<ο>ρούλου is incomplete; the first o of 'Αγαθ<ο>ρούλου was omitted, as was the bottom stroke of β, producing an ρ, or *rho* (Fig. 9); the π of ἐποίησεν is written with a second cross bar (Fig. 10); the s is written as an ο; the second e is incomplete (Fig. 11); and the first a of Ταουαυπ is written without a crossbar (Fig. 12). Finally, the last phrase of the main inscription on B consists of seven letters, whereas on A there are only six, perhaps because the scribe ran out of space. Evidently, when he inscribed the text on B, he was not copying the text from A, because he added this additional letter at the end.

Identical texts on pairs of cymbals seem to be standard, and misspellings of supposedly identical inscriptions are not unknown. The name of the owner on an inscribed pair in Heidelberg is misspelt on one (Fig. 13).²⁰ There are also an inscribed pair in New York and another in London that repeat the name of the owner, but correctly (Fig. 14).²¹ A pair of cymbals

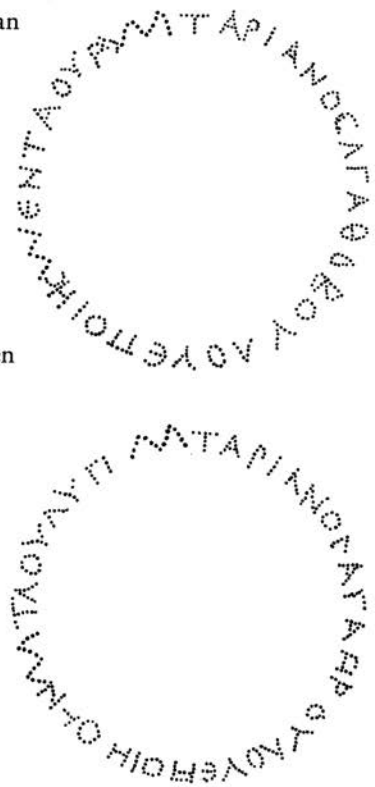


Fig. 5. Inscriptions on Missouri cymbals. [cymbal A at top; cymbal B at bottom]



Fig. 6. Detail of inscription on cymbal A: *sigma* written at lower level. Photo: Howard Wilson.

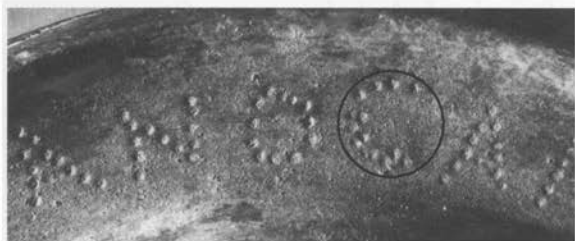


Fig. 7. Detail of inscription on cymbal A: lunate *sigma* written twice. Photo: Howard Wilson.



Fig. 8. Detail of inscription on cymbal B: misformed *sigma*. Photo: Howard Wilson.

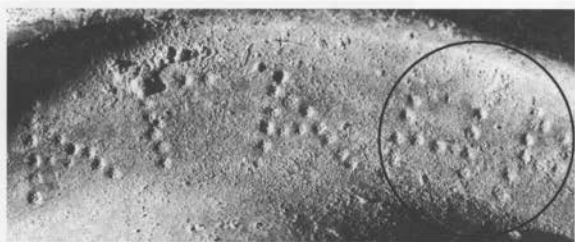


Fig. 9. Detail of inscription on cymbal B: incomplete *theta*, *beta* written as *rho*. Photo: Howard Wilson.

with the same name as on the London pair is now in the National Museum in Copenhagen.²²

The translation of the first part of the second set of inscriptions on the Missouri cymbals is clear. They both say “T(itos) Arianos (son of) Agathoboulos made...” There are problems with the full interpretation, however, because of the obscure meaning of the final phrase. Considering the conventional signatures, one would expect here either the ethnic of the manufacturer—his city, or place of origin—or a reference to the manufactured object. Both are possible here. Taoua might be a corruption of Taua, or Taba, the name of a city in the Egyptian Delta, known in the Roman period.²³ The additional letters $\upsilon\pi$ on B may refer to ‘Lower Taua.’ If this interpretation were correct, it would provide us with evidence that many of the cymbals found in Egypt were not only used there but also made there.

The other interpretation explains the inscriptions as referring to the objects made, identified as $\tau\acute{\alpha}\ \omicron\upsilon\alpha$, possibly an abbreviation or corruption of $\tau\acute{\alpha}\ \omicron\upsilon\alpha\tau\alpha$. Homer and others use the word in the sense of “handles” or “ears.”²⁴ Could it be that in antiquity, cymbals were referred to as ears? Alternatively,

since it seems unlikely that cymbals themselves were called, or could be considered to be, “handles,” perhaps the reference is to the actual handles of the cymbals. The rings preserved with the Missouri cymbals may seem unworthy of special mention, but they may have replaced or been combined with more elaborate handles like those preserved with the pair of cymbal-clappers from Egypt, now in the British Museum (Fig. 15).²⁵ A similar elaborate handle is preserved in the Louvre.²⁶ The $\upsilon\pi$ in B may in that case be understood as referring to the position of the handles below the cymbals, and the inscription would read “made the handles below.” In this case the Missouri cymbals should more properly be called clappers.²⁷ They are, however, larger than the clappers in the British Museum and the Louvre Museum. The diameter of those clappers measures about 7 cm, some 4 cm smaller than the Missouri pair. A set of clappers on a plain bronze fork, now in the J. Paul Getty Museum, is also small.²⁸ Furthermore, the use of the word $\tau\grave{\alpha}$ οὔρα to mean handles is poetic and archaic. It seems unlikely, therefore, that it is being used here in the sense of handles.

The date of the cymbals and of the inscriptions can now be considered. Cymbals themselves are venerable musical instruments of Asiatic origin.²⁹ A very early example, dating to ca. 1300 B.C., comes from the shipwreck at Ulu Burun off the coast of Turkey.³⁰ Greek cymbals dating to the Archaic period, ca. sixth century B.C., are preserved in the National Museum, Athens.³¹ Other early cymbals are in

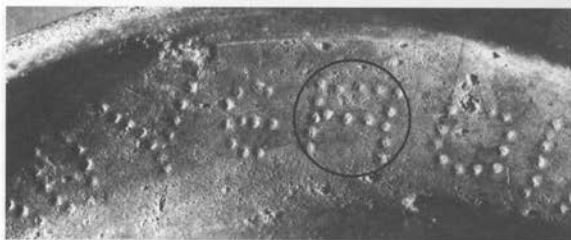


Fig. 10. Detail of inscription on cymbal B: *pi* written with double crossbar. Photo: Howard Wilson.



Fig. 11. Detail of inscription on cymbal B: lunate *sigma* written as O, second *epsilon* incomplete. Photo: Howard Wilson.



Fig. 12. Detail of inscription on cymbal B: *alpha* without crossbar. Photo: Howard Wilson.

Copenhagen, London, and Boston.³² The pair in Heidelberg are dated mid-third century B.C.³³ The shape of cymbals changed little over the centuries. One of the pairs in the British Museum is dated from the third century B.C. to the fifth century after Christ and is very similar to the earlier ones.³⁴ Shape is thus no indication of date. Even if it were, the Missouri cymbals differ from all other cymbals known to us; the latter all have a rounded central boss, whereas the Missouri cymbals are flat on

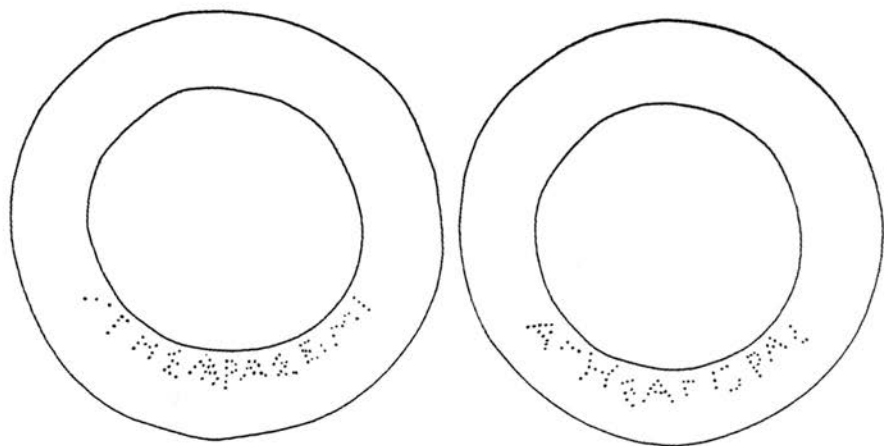


Fig. 13. Drawing of inscribed cymbals in Heidelberg, after Borell, *Heidelberg*, p. 44. Courtesy of the Antikenmuseum des Archäologischen Instituts der Universität Heidelberg, Inv. F 188.189.

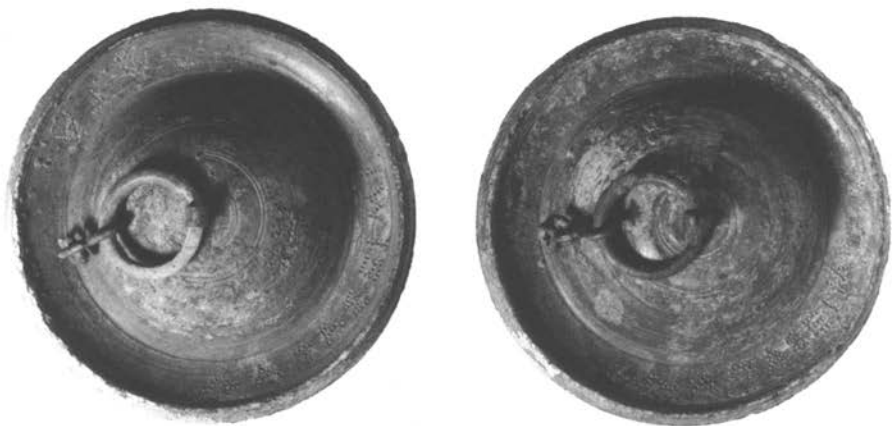


Fig. 14. Pair of cymbals in the British Museum. Photo: Courtesy of the Trustees of the British Museum.

top (Fig. 3).³⁵ For a date, therefore, of the manufacture of the Missouri cymbals we must depend on the inscriptions, as is mostly the case with all preserved cymbals. If the first inscriptions, the M or Σ, are really letters then they could be older than the second inscriptions. If the sign Σ is a *sigma*, its form places it in the late Hellenistic period, the first century B.C., whereas the letter forms of the second inscriptions are Roman in date, as confirmed by the full Roman name of the artisan. If the sign is a *mu*, it may be later than the Hellenistic period; M or Λ both occur. The forms of θ (*theta*), ε (*epsilon*), and c (*sigma*) in the second inscription belong in the second century after Christ.³⁶ It seems more likely that the engravings on the cymbals were done close in time, in the second century, but perhaps by two different engravers.³⁷ One can imagine that the cymbals were marked shortly after casting so that the pair would not become separated, while the inscriptions designating the manufacturer were added later by another craftsman. In conclusion, this pair of cymbals possesses unusual features. Their shape is apparently unique. They bear two inscriptions, one perhaps designating them as a pair, the second naming the manufacturer. The inscriptions may preserve an old use of a term for cymbals, calling them ears, or the term may refer to now missing handles. A third explanation of this part of the text is that it designates the city of Taua or Taba in Egypt, where there may have been a brass workshop.³⁸

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Jane Biers was Curator of Ancient Art at the Museum of Art and Archaeology, University of Missouri, Columbia. Her publications include a monograph on a Roman bath at Corinth and joint authorship of the volume on the university's excavations at Mirobriga, Portugal.

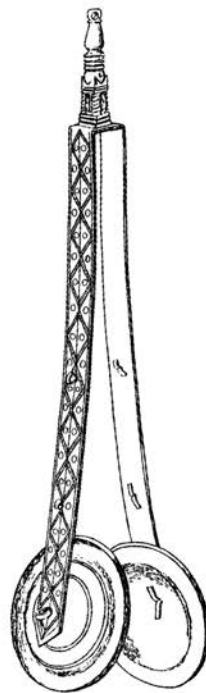


Fig. 15. Drawing of cymbal-clappers in the British Museum, after Anderson, *British Museum*, Fig. 39.

NOTES

1. For discussion of percussion instruments in Greek music, see Martin L. West, *Ancient Greek Music* (Oxford, 1992) pp. 122-128; John G. Landels, *Music in Ancient Greece and Rome* (London and New York, 1999) pp. 81-85; for cymbals in mime and pantomime, see Alain Baudot, *Musiciens romains de l'antiquité* (Montreal, 1973) pp. 59, 62.

The Greek word for a cymbal κύμβαλον is derived from κύμβη and κύμβος meaning “cup” and also “boat.” Strangely, ancient Greek authors invariably refer to cymbals in the plural rather than using the dual, the Greek form that specifically designated pairs of objects.

2. See also a sixth-century B.C. bronze figure in the Metropolitan Museum of Art (Gisela M. A. Richter, *Greek, Etruscan and Roman Bronzes, Metropolitan Museum of Art* [New York, 1915] pp. 13-15, no. 28); a nymph on the François vase (Museo Archeologico, Florence); and Daniel Paquette, *L'instrument de musique dans la céramique de la Grèce antique* (Paris, 1984) p. 206, P12-P14.

3. The firm of Avedis Zildjian in Norwell, Massachusetts, has been making cymbals since 1623, using a special alloy. The firm now makes 70% of present-day cymbals.

4. Max Fränkel, “Weihgeschenke an Artemis Limnatis und an Kora,” *Archäologische Zeitung* 34 (1876) pp. 28-33. Fränkel published three cymbals, two of which are inscribed dedications that he convincingly attributed to the sanctuary of Artemis Limnatis. The dedications were made by women, perhaps on the occasion of their marriage, since an epigram (*Anthologia Palatina* 6, 280) describes a girl's dedication of her toys, including drums, to Artemis Limnatis.

5. Edmond Pottier's review of the entire material in Daremberg-Saglio, *Dictionnaire des antiquités* (Paris, 1887) p. 1698, 18 s.v. “Cymbalum” emphasizes the oriental and religious origin of cymbals and their secularization throughout the Roman Empire. Hans Hickmann, “Cymbales et crotales dans l'Égypte ancienne,” *Annales du Service des Antiquités de l'Égypte* 49 (1949) pp. 451-545 is an extensive and important publication; Robert D. Anderson, *Catalogue of Egyptian Antiquities in the British Museum, 3, Musical Instruments* (London, 1976) pp. 23-28, nos. 22-28, supplements Hickmann. For Egyptian cymbals, see also Christiane Ziegler,

Les instruments de musique égyptiens au Musée du Louvre (Paris, 1979) pp. 65-66, 68-69; and Lise Manniche, *Music and Musicians in Ancient Egypt* (London, 1991) pp. 67-68. Other useful discussions of cymbals may be found in Max Wegner, *Das Musikleben der Griechen* (Berlin, 1949) pp. 63-64, 214 and *Musikgeschichte und Bildern*, 2A, *Griechenland* (Leipzig, 1963) pp. 60, 62, fig. 33; Paquette, *Instrument*, pp. 206, 212; and Brigitte Borell, *Katalog der Sammlung Antiker Kleinkunst der Archäologischen Instituts der Universität Heidelberg*, 3, i, *Statuetten, Gefässe und andere Gegenstände aus Metall* (Mainz, 1989) pp. 43-44, no. 46.

6. Pindar, *Isthmia*, 7. 3. A *Scholion* is a comment written in the margin of an ancient manuscript by an early commentator.

7. Diodorus 2. 38. 6. See also a wall painting from Pompeii, Naples Museum, inv. no. 8795, in which a pair of cymbals rests on a short flight of steps together with other items associated with the worship of Dionysos (John Ward-Perkins and Amanda Claridge, eds., *Pompeii AD 79* [New York, 1978] no. 192).

8. Strabo, *Geography*, 10. 3. 13.

9. Catullus, 63. 19-21; Lucretius, 2. 618-620; Virgil, *Georgics*, 4. 64. For Servius, a fourth century grammarian and commentator, see *The Oxford Classical Dictionary*, 3rd edition (Oxford, 1996).

A pair of cymbals from Egypt bears a Greek inscription “to the Great Mother” (Hickmann, “Cymbales et crotales,” pp. 460-462). A single cymbal in the Bibliothèque Nationale is inscribed with a Latin inscription to her (Ernest Babelon and J. Adrien Blanchet, *Catalogue des bronzes antiques de la Bibliothèque Nationale* [Paris, 1895] pp. 706-707).

10. Fränkel, *Weihgeschenke*. See note 4.

11. Lilian H. Jeffery, *The Local Scripts of Archaic Greece*, rev. edition (Oxford, 1990) p. 194, note 3. She points out that the inscription from Epidaurus on a *phiale* is a single dedication (not a pair) to Asklepios by a man, Mikylos (pp. 180, 182, no. 10); it would be the only dedication of a cymbal by a man and to Asklepios. Another inscribed *phiale* from Arcadia (pp. 210 and 215, no. 12) is a dedication of a woman Kamo to Kore. P.G. Kalligas, however, called both of these *phialai* cymbals (“Αρχαϊκὰ χάλκινα ἐνεπίγραφα ἀρχαῖα στὸ Ἐθνικὸ Ἀρχαιολογικὸ Μουσεῖο τῆς Ἀθῆνας,” *Horos* 5 [1987] pp. 166, 167, nos. 23 and 34). Two other examples

Jeffery may unjustifiably have called *phialai* (*Local Scripts*, pp. 194, 200, no. 39). These are the two dedications by women (Hoporis and P...nthos) to (Artemis) Limnatis, which Fränkel had already connected with the epigram of Timarete who dedicated to Limnatis before her wedding her musical instruments (*tympana*) and her various toys (Fränkel, *Weihgeschenke*, p. 29).

12. Anthony Snodgrass, *Early Greek Armor and Weapons* (Edinburgh, 1964) pp. 38-41, 44, 47, 56, 223-224, notes 6 and 11.

13. Berthold Fellmann, who devoted a whole chapter to cymbals in his publication of the bronze belt decorations from Olympia, agrees with Jeffery and Snodgrass (*Frühe Olympische Gürtelschmuckscheiben aus Bronze, Olympische Forschungen* [Berlin, 1984] pp. 100-102).

Independently of these discussions, Wegner claimed that a small inscribed bronze disk from the Acropolis in Athens is actually a cymbal (*Musikgeschichte*, pp. 60, 62, fig. 33). Neither the shape of the object nor the inscription encourage this interpretation.

14. Acc. no. 85.124 a and b; gift of Robert Haber in honor of Saul and Gladys Weinberg. Diameters: 12.1 cm (a) and 12.35 cm (b); weight: 333 grams (a) and 331.5 grams (b). Published: "Recent Acquisitions," *Muse* 20 (1986) p. 33; *Greek and Latin Inscriptions in the USA: A Checklist* (Rome, 1997) John Bodet and Stephen Tracy, eds, p. 134. Isabelle Raubitschek first recognized the importance of the cymbals.

15. Brass is an alloy of copper and zinc. The cymbals are not true brass since they have more than trace elements of tin. They are more properly called tin brass. The composition of both cymbals is similar, but there are slight differences. They were, however, probably made at the same foundry and may have been produced at the same time.

Analyses: Cymbal A (85.124a): copper: 88.11; lead: 0.17; tin: 3.40; zinc: 7.15.

Cymbal B (85.124b): copper 87.47; lead: 0.06; tin: 2.70; zinc: 8.64.

The analyses were done on the Cameca MBX electron microprobe in the Department of Earth and Planetary Sciences at Harvard University. We gratefully acknowledge the help of Henry Lie, Director of Conservation at Harvard University Art Museums, David Lange, Department of Earth and Planetary Sciences, Harvard University, and Dr. Paul Craddock, Department of Scientific Research, The British Museum.

For discussion of the use of brass and the manufacturing process in antiquity, see Paul T. Craddock, *Early Metal Mining and Production* (Washington, D.C., 1995) pp. 292-302; Justine Bayley, "The Production of Brass in Antiquity with Particular Reference to Roman Britain," *Occasional Paper No. 50, 2000 Years of Zinc and Brass* (British Museum, London, 1990) pp. 7-27.

16. Acc. Nos. 85.124 c-i. The two smallest (c and i, diameter 2.5 cm) are crudely made from wire that has been roughly flattened on three sides. (The fine striations left by the tool are still visible.) The second group consists of only one ring (e, diameter 3.4 cm). Formed of wire that has been flattened on two sides, it is better made than the two in the first group. The four rings that comprise the third group are the most substantial (d, f-h, diameters 2.9, 3.5, 3.6, 2.9 cm). The wire is round in section, and the rings are solid and heavy. The material of the rings has not been analyzed.

17. S-shaped hooks are preserved in the chain linking a pair of cymbals in Heidelberg (Borell, *Heidelberg*, no. 46). Cymbals could also be linked by a leather strap. See the pair carved on the tree trunk support for a marble centaur in the J. Paul Getty Museum (Marit Jentoft-Nilsen, "A Musical Instrument," *The J. Paul Getty Museum Journal* 11 [1983] pp. 157, fig. 1).

18. Acc. no. 85.124. j (length 4.5 cm). For a similar attachment for a chain of rings, compare a pair of cymbals from Pompeii, Naples Museum, inv. no. 76943 (*Pompeii AD 79*, p. 182, no. 188; M. Lista, "Oggetti di uso quotidiano," in *Le Collezioni del Museo Nazionale di Napoli*, [Naples, 1986] p. 197, no. 127; *Pompeii, Life in a Roman Town*, Annamaria Ciarello and Ernesto de Carolis, eds. [Milan, 1999] p. 268, no. 348). See also a pair in a private collection: *Mythen, Mensen en Muziek, Mededelingenblad* 75-76 (1999) no. 110.

19. William V. Harris concludes that skilled craftsmen in the ancient world were more literate than the general population (W. V. Harris, *Ancient Literacy* [Cambridge, Mass./London, 1989] p. 22).

20. Borell, *Heidelberg*, no. 46.

21. New York: Richter, *Metropolitan Museum of Art*, pp. 454-456, nos. 1778, 1779, dated fifth to fourth century B.C. on the basis of the letter forms (name Kallistheneia); London: *British Museum Guide to Greek and Roman Life* (London,

1908) p. 220, fig. 230. On one of the British Museum pair the name (Oata) is written twice. A pair in the Allard Pierson Museum, Amsterdam (inv. 3568a-b) is inscribed with the name Timokles, dated fourth century B.C.: *Mythen, Mensen en Muziek*, no. 109.

22. Christian Blinkenburg, *Lindos, Fouilles et recherches – 1902-1914*, 1, *Les petits objets* (Berlin, 1931) p. 155, under no. 456, National Museum, Copenhagen, inv. no. 6335, said to come from a tomb in Elis, Greece. We thank John Lund, curator at the National Museum for information about this pair.

23. See Pauly-Wissowa, 6 (Stuttgart, 1931) cols. 2478-2479.

24. We searched the *Thesaurus Linguae Graecae* and Packard Humanities Institute data bases. We thank professor Eugene Lane, Classical Studies, University of Missouri, for his assistance.

25. Anderson, *British Museum*, pp. 26-27, no. 27, figs. 39, 40. Cymbal-clappers consist of two cymbals attached to a forked handle. They differ from castanets, which were made of wood and not attached to a handle (West, *Ancient Music*, p. 125).

26. Ziegler, *Louvre*, pp. 68-69, no. 92.

27. For good discussion of cymbal-clappers with bibliography, see Ziegler, *Louvre*, pp. 65-66, 68-69. Anderson publishes two still attached to their handles (*British Museum*, pp. 26-28). For figures playing clappers, see Ziegler, *Louvre*, p. 66, a small bronze figure holding clappers; for another bronze figure playing clappers, see Lenore O. Keene Congdon, *Caryatid Mirrors of Ancient Greece* (Mainz, 1981) p. 128, no. 3, pl. 2. A set was illustrated in *Hesperia Art* 14, no. 17.

28. *Getty Museum Journal* 11 (1983) pp. 157-158. The total height with their forked handle is 16.1 cm. We thank Dr. Jentoft-Nilsen for information about the Getty clappers.

29. See, for example, a terracotta plaque from Larsa, dated early second millennium B.C., showing a cymbal player (Joan Rimmer, *Ancient Musical Instruments of Western Asia in the Department of Western Asiatic Antiquities* [London, 1969] pl. V, b).

30. George F. Bass, "A Bronze Age Shipwreck at Ulu Burun (Kaç)," *American Journal of Archaeology* 90 (1986) pp. 288-289.
31. Athens, National Museum, inv. no. 7959, dated 500-480 B.C. We are indebted to the late Saul S. Weinberg for this reference.
32. Copenhagen: Blinkenburg, *Lindos*, p. 155; London: pair in British Museum, *Greek and Roman Life*, p. 220, fig. 230, inv. no. 1906.4-12.1, inscribed and dated fourth to second century B.C.; Boston: Mary Comstock and Cornelius Vermeule, *Greek, Etruscan and Roman Bronzes in the Museum of Fine Arts* (Greenwich, Conn., 1971) p. 428, no. 622, dated fifth century B.C. and, like the Copenhagen pair, also said to come from a tomb in Elis.
33. Borell, *Heidelberg*, no. 46.
34. British Museum, inv. no. GR 1814.7-4.702 and 702*. The single cymbal in the Bibliothèque Nationale, Paris, with a punched Latin inscription, although undated, was found with sigillata pottery. Its shape is no different from earlier cymbals. See Babelon and Blanchet, *Bibliothèque Nationale*, pp. 706-707.
35. Dr. Anderson, who has looked at many cymbals and published the ones from Egypt in the British Museum (see note 5), tells us that he has never seen ones of this shape but that this does not mean that the cymbals are suspect (personal communication).
36. Brass was rarely used before the first century B.C., but from that century onward was in general use in many parts of the Roman world. See Bayley, "Production of Brass," p. 7. The material of Missouri's cymbals cannot, therefore, be used as chronological evidence, except to suggest a late Hellenistic or Roman date.
37. In that case, the first set of marks should be the letter M, or *mu*, rather than s or *sigma*, since the second inscription uses lunate *sigmas*.
38. The cymbals unfortunately provide no clues to their use in antiquity, whether they were used in cult rituals, served as a dedication, or perhaps played a purely secular role in the second century after Christ. Cymbals and representations of cymbals were frequent offerings in tombs and sanctuaries in Egypt (Hickmann, "Cymbales et crotales," pp. 465-476).