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# Playing finger cymbals in the Roman Empire: an iconographic study

 $\mathbf{F}^{\mathrm{INGER}}$  cymbals are iconic of certain types of Middle Eastern dance, today called *Raqs Sharki* in Egypt or Oryantal Dansı in Turkey.1 These dances, which are characterized by isolated movements of the torso, belly and hips, are descendants of Middle Eastern dances that have existed for at least three centuries.2 Many 18th- and 19th-century drawings, paintings or photographs from Egypt, the Ottoman Empire and Persia show Middle Eastern dancers who accompany their dance with small cymbals, one pair in each hand.<sup>3</sup> These finger cymbals often have the shape of a cup surrounded by a flat rim, as in the left panel of illustration 1. Persian paintings from the 18th century sometimes show dancers holding cup-shaped finger cymbals without rims, as in the right panel of illustration 1. In all cases, these cymbals are attached to the thumbs, and either the middle or index fingers, by straps attached to the cymbal's central hole that form a loop around one finger. Finger cymbals belong to the family of concussion idiophones, i.e. 'two or more complementary sonorous parts, or clappers, struck against each other?4 In principle, the maximal diameter of finger cymbals is limited by the length of the fingers to approximately 10cm, because larger cymbals would pinch the palms of the hands. However, surviving finger cymbals from the 18th or 19th centuries often have a smaller diameter (see, for instance, illus.2a, which shows a set of four brass Egyptian finger cymbals, with an average diameter of 4.6cm).5

In the Middle East, the use of finger cymbals by professional dancers decreased throughout the 20th century because of various cultural and sociological factors, but it can still be observed.<sup>6</sup> In Egypt today, finger cymbals are frequently used by musicians, for instance in orchestras accompanying dancers, in Sufi religious music, or in the modern popular music called shaabi.7 Finger cymbals are now used by dancers in Western countries, and especially in North America, where Middle Eastern dances have gained in popularity since the 1950s.8 Today's manufacturers produce finger cymbals with diameters that span the interval 4.45cm to 10.5cm at least (see, for instance, illus.2b).9 These cymbals feature a cup and a rim, which is sometimes curved for so-called Turkish models (see model b, from illus.2b). They are made of brass, bronze or German silver. The cymbal's single central hole is often replaced by two slits, which allow for a more stable binding to the fingers. Dancers now routinely tie finger cymbals to their thumbs and middle fingers.<sup>10</sup> Overall, in Middle Eastern performing arts, finger-cymbal practice is a popular tradition that has endured for at least three centuries.

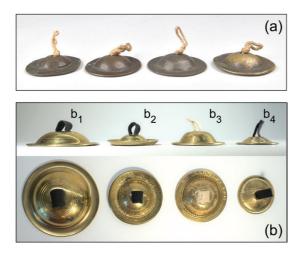
Cymbals are amongst the oldest musical instruments. Cymbals with hollow cups (and also flat rims in many cases) are featured in ancient representations, for instance in Babylonian, Assyrian, Hittite, Greek and Roman arts." In many of these representations, the musicians hold one cymbal in each hand and clap the two cymbals together. Ancient metal cymbals have been found in archaeological sites.<sup>12</sup> They are often made of bronze or a copper alloy and can reach 20cm in diameter.<sup>13</sup> However, many smaller cymbals (i.e. with a diameter smaller than 10cm) have been found across the Mediterranean region.14 These small cymbals are especially numerous for the Roman period and look similar to modern finger cymbals. A few examples of small cymbals from Roman Egypt, with diameters between 4.7cm

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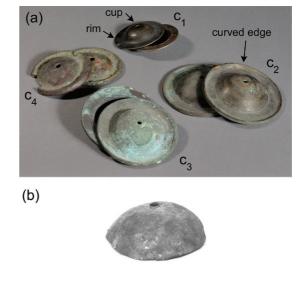
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<sup>1</sup> Left panel: A dancing girl, taken from *Souvenirs d'Égypte* by Alexandre Bida and Prosper Barbot, 1851 (Lemercier (Paris), public domain, courtesy of the New York Public Library Digital Collections); right panel: Persian painting, Dancing Girl with 'Castanets', first quarter of the 19th century (© The State Hermitage Museum; photo by Vladimir Terebenin)



2 (a) Brass finger cymbals from Egypt, made at the end of 18th or beginning of 19th century (see details in n.5). These four cymbals belong to the same set of two pairs, with an average diameter of 4.6cm (©The Trustees of the British Museum). (b) Four different types of brass finger cymbals manufactured around 2018–20, viewed from the side and the top (see details in n.9); diameters vary between 4.45cm and 9.9cm (© Audrey Cottet)



3 Examples of bronze instruments from the Roman period, found in Egypt: (a) cymbals with a diameter between 4.7cm and 7.3cm (see details in n.15) (© 2003 Musée du Louvre, dist. RMN Grand Palais/Christian Décamps); (b) ancient rimless cymbal or bell, with a diameter of 6.3cm (see details in n.15) (© Musée du Louvre, dist. RMN Grand Palais/Pierre et Maurice Chuzeville)

and 7.3 cm, are shown in illustration 3a.<sup>15</sup> These cymbals have a single central hole. Some of them, like cymbals  $c_1$ , are a cup surrounded by a flat rim. Others have a rim with a curved edge (see cymbals  $c_2$ ,  $c_3$  and  $c_4$ ). In some cases, the curved edge is as thick as the cup, and the rim is so narrow that it becomes a simple furrow that separates the cup from the edge (see cymbals  $c_4$ ). It is tempting to imagine that these small cymbals were played in the modern Middle Eastern tradition. For instance, in 1940, the musicologist Curt Sachs claimed that 'small cymbals may have been played like those ancient cymbal-castanet which dancers play, castanet-like, between thumb and middle finger up to this day'.<sup>16</sup>

Nevertheless, the mere existence of ancient small cymbals is not sufficient to prove the existence of a finger-cymbal practice, defined in the present study as two cymbals in each hand, attached directly to two different fingers. Indeed, ancient small cymbals could be played in many other ways. First, one could hold just one cymbal in each hand and clap the two together, a practice going back millennia with larger cymbals.17 The mosaic with street musicians from Pompeii, dated between the 2nd century and the beginning of the 1st century BCE, shows a well-known example of musician with one cymbal in each hand (see illus.4). The two cymbals are of a size similar to the palms of the musician's hands, and thus have a diameter of the order of 10cm. In principle, these cymbals are small enough to be played like finger cymbals, though this is not what is happening in this mosaic. In Roman times, dancers also used small cymbals mounted on tongs (see illus.5), an instrument commonly called 'crotala'.18 This terminology lacks specificity, since it is used by ancient and modern authors alike to refer to other types of wooden or ivory castanet-like instruments from ancient times.<sup>19</sup> Hence, for clarity, I will call the instrument in illustration 5 'cymbal tongs'.20 On the basis of iconographic sources, it seems that cymbal tongs were especially popular in the Roman Empire from the 3rd century CE onwards.<sup>21</sup> Some well-preserved examples from this period are to be found in museum collections. The metallic cymbals of these have a diameter that is less than 10cm, and the tongs can be made of metal (see illus.5) or wood.22 Although archaeo-musicologist Hans Hickmann claimed that small ancient cymbals which were found alone did not come from cymbal tongs, many cymbal tongs were probably damaged over time.



4 Detail of the 'Mosaic with Street Musicians' signed by Dioskourides of Samos, found at Pompeii and displayed at the National Archaeological Museum of Naples (photograph reproduced with permission of the Ministry of Culture; National Archaeological Museum of Naples; photo by Giorgio Albano [detail])



5 Cymbal tong from the Roman period, found in Egypt and conserved at the British Museum (inventory number EA26260). This instrument consists of two small cymbals fixed to a metallic handle in the shape of tongs (© The Trustees of the British Museum)

For various specimens conserved in museums, the binding between the cymbals and tongs is a small metallic pin. This component, more fragile than the thick cymbals, could break or corrode.<sup>23</sup> Moreover, tongs made from wood were obviously fragile and many cymbal tongs are thus likely to have survived as isolated cymbals. For completeness, it should also be mentioned that true small cymbals (with cups and rims) were also sometimes included in Gallo-Roman variations of the sistrum, a kind of rattle originally from Egypt.<sup>24</sup>

Unfortunately, ancient textual sources rarely help to clarify the history of finger-cymbal practices because they mention metallic idiophones with few descriptive terms. The author Dicaearchus of Messana reported the use of 'crembala' ( $\kappa \rho \epsilon \mu \beta \alpha \lambda \alpha$ ) by Greek people in the 4th or 3rd centuries BCE.25 These instruments, 'more popular than one thought', were used to accompany women's dances and songs. They produced a soft sound when fingers made them resonate. That crembala were metallic is confirmed in a verse from Dicaearchus, who mentions that 'golden-looking brass crembalas' (χρυσοφάεννα κρέμβαλα χαλκοπάραα) were played with the hands to accompany a song in honour of Artemis. Another reference to metallic idiophones can be found in the Bibliotheca of Apollodorus, now considered an anonymous work, probably written around 200 CE.26 This book relates, among other myths, the Twelve Labours of Heracles. It states that Athena gave 'bronze crotalas' ( $\chi \alpha \lambda \kappa \epsilon \alpha \kappa \rho \delta \tau \alpha \lambda \alpha$ ) made by Hephaestus, god of metalworking, to Hercules.27 The demigod used them to frighten the Stymphalian birds, which implies that they were loud instruments, in contrast to Dicaearchus's crembala. It is not clear, however, whether these instruments existed or were mythological. Another possible evocation of metallic idiophones relates to the dancing girls from the city of Gades (now Cádiz) in Andalusia, Spain, who were mostly slaves. They were present in Rome, where their performances were highly appreciated, but also maybe in other places, since the girls were a prized trade 'item' for several centuries.28 At the end of the 1st century CE, Martial evokes one of these dancers, Telethusa, skilled in the use of 'Baetica crusmata', which is usually translated as 'castanets from the Baetican region, an area that included Andalusia.<sup>29</sup> Unfortunately, no physical description of these idiophones can be found in written sources. It is likely that they were metallic since Martial mentions afterwards that one can 'sound the Tartessian bronze using one hand' (Tartesiaca concrepat aera manu).<sup>30</sup> Around the same period, Statius mentions a Saturnalian feast where a group of performers uses 'cymbals' and represents the 'jingling Gades' (cymbala tinnulaeque Gades), although this does not establish that the 'Baetica crusmata' were a particular type of cymbals, since Gades dancers could have been trained in several types of idiophone.<sup>31</sup> Overall, surviving ancient texts do not provide details of the morphology and holding of metallic idiophones. It is thus important to investigate pictorial sources in order to glean information about finger-cymbal practice.

In the following pages, I present an iconographic study of finger-cymbal playing in the Roman Empire. Three examples are considered: one mosaic, and two stone reliefs dated from the 2nd to the 4th centuries CE. Many types of idiophones existed in ancient times.<sup>32</sup> In particular, for the period of the Roman Empire, the musical iconography shows not only cymbal tongs and rattles, but also tongs made of two clapper-sticks, or boot-shaped clappers, inherited from the Greek tradition.33 In order to clearly identify finger cymbals in a representation, it is important to recognize their distinctive features. In the representations discussed below, various characteristic elements of finger cymbals are visible, such as their round shape, their rims, their straps, or the characteristic position of the cymbals in relation to the performer's fingers. A photographic reconstruction is made with modern finger cymbals, to propose an interpretation for various non-trivial features of the ancient images. Some hints about the Roman technique for finger-cymbal playing can be gleaned, provided the images are deemed reliable enough.

Prior to this iconographic study, it is useful to profile the acoustic properties of today's finger cymbals and their playing method. Since modern instruments are similar to their ancient ancestors, this may help in the interpretation of ancient images. Today's finger-cymbal playing technique can be observed on stage, and it is also taught in dance or percussion classes, and described in manuals.<sup>34</sup> Most of the time, the two cymbals in a given hand are struck together by a movement that acts like a pair of tongs, because the thumb is opposed to the other fingers. Dancers generally clap the left- and right-hand pairs of cymbals alternately, which enables faster rhythms to be played. They can also clap the two pairs of cymbals simultaneously to produce accents. The pitch of a cymbal depends on its diameter, the depth and shape of its cup, and the metal from which it is made. A few dancers thus use two different pairs of cymbals, one in each hand, to produce two different notes and emphasize rhythmic patterns, though this is presently a minority practice.35 Most dancers simply modulate their striking technique to vary the cymbals' timbre or quality of sound. As early as 1799-1801, Guillaume Villoteau reported that Egyptian dancers could strike their finger cymbals in different ways, to produce different types of sound.<sup>36</sup> They could thus match their cymbal playing to the nuances of the dance; a similar practice can still be observed today.<sup>37</sup> Nowadays, in the default hand-position, the two cymbals of a pair are placed such that their rims approximately face each other, the fingers avoid contact with the rims, and no more than two fingers are in contact with the cup of each cymbal. This technique lets the cymbals ring optimally, because the ringing corresponds to a vibration that develops mainly on the rim and the outer circumference of the cup, while the centre of the cup does not vibrate.38 From this position, different types of strike are possible. First, if the rims of two cymbals are struck together around their whole circumference and left in contact, a clapping sound is produced, similar to the impact of horses' hooves on a hard ground. Second, if the rims of two cymbals are struck together and then separated, a ring similar to the resonance of a bell follows the clap. The clap is brief, whereas the ring can easily last several seconds with good-quality cymbals. A third possibility is to hit the cymbals briefly on a narrow area of their rims to produce pure rings (without 'claps'). To obtain this effect, players start from the default hand-position, described above, and turn their fingers to an angle so that the side of one cymbal briefly touches a small area on the rim of the other. Some players occasionally cup the cymbals opposite the thumbs with the index and little fingers to muffle the sound. It is also possible to place the cymbals' rims either exactly face to face, or slightly misaligned to vary the brightness of the sound. Many variations of

the above-mentioned techniques exist and are used, depending on the performer's musical training or preferences.<sup>39</sup> For instance, some professional musicians or dancers recommend avoiding having the cymbals ring, because this long-lasting sound can blur rhythmic patterns or drown out other musical instruments, while others use the cymbals ringing occasionally or even extensively. It will be seen below that knowing the varieties of modern fingercymbal technique can help in the interpretation of ancient representations.

The 'Procession of Dyonisos' mosaic, which was discovered a decade ago in the city of Stara Zagora in Bulgaria, has so far garnered little attention from archaeo-musicologists. From 2009 to 2011, excavations took place in a rich Roman private dwelling in the city, which was known as Augusta Traiana in Roman times. The mosaic, which was revealed on the floor of a reception room, is now on display at the Regional Museum of History in Stara Zagora.<sup>40</sup> Stratigraphic observations made during the excavation indicate that the mosaic dates from the third quarter of the 4th century CE.41 The centrepiece of the mosaic, or emblema, depicts the dance of a satyr and two Bacchantes with a rich colour palette and a lively representation of movement (see illus.6). On the right, the satyr takes a step towards his left while looking at the Bacchantes to his right. He holds a pedum (shepherd's crook), a standard accessory for a satyr, above his head. He is dressed in a dotted fabric or leopard skin, and wears a laurel wreath. The two Bacchantes wear colourful dresses with high girdles, fibulae on one shoulder, and bracelets on their arms and forearms. They take a step towards their right, but twist at the waist and turn their heads to look towards the satyr. The right-hand Bacchante holds cymbal tongs, which are reproduced with a good level of accuracy. The left Bacchante holds a pair of small circular instruments in each hand. She lifts her right hand above her head, with the palm of her hand facing towards the ground. Her left hand is lower, at shoulder level.

The colours used in the mosaic give precious information on the nature of the materials represented. Vivid yellow tesserae appear on the fibulae of both Bacchantes, the cymbals of the cymbal tongs held by the right-hand Bacchante, and most bracelets of both Bacchantes. These tesserae are clearly



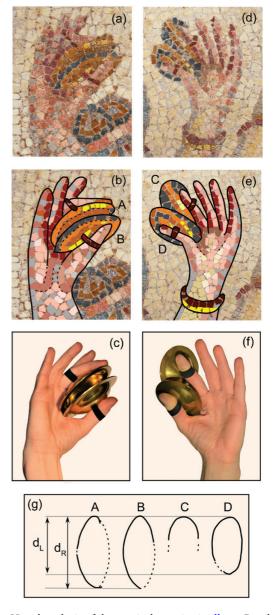
6 'Procession of Dionysos' mosaic found in Stara Zagora in Bulgaria. The surface shown in this picture measures about 1.55 × 1.8m (© Regional Museum of History—Stara Zagora/Tsvetan Chetashki)

intended to depict a yellow metal. The rather large proportion of vivid yellow tesserae on the fibulae and bracelets of the left Bacchante suggests a shiny yellow metal, such as gold, or clean bronze (see illus.7). Closer inspection of the instruments held by the left Bacchante reveals a few similar yellow tesserae, which suggest metallic reflections (see illuss.8a and 8d). The remainder of these instruments has been rendered with orange and black tesserae, which seem to be organized to depict the volume of the instruments and shadows. These colours could also depict the oxidation of bronze, the surface of which becomes progressively darker with time, unless it is regularly cleaned. In addition to the metallic nature of the instruments and their circular shape, three other features suggest that the left Bacchante is using finger cymbals. First, dark-red tesserae on her hands depict straps that tie the centre of the instruments to her fingers, as happens with modern finger cymbals. Second, with the right hand, the Bacchante, like modern finger-cymbal players, uses the opposition between the thumb and fingers to play her instruments (the position of the Bacchante's left hand is less usual and will be commented on below). Third, the organization of the yellow, orange and black colours on the instruments of the left hand may evoke a distinction between the cymbal rims and cups (see the black dotted lines in illus.8b). On the cymbals of left hand, the distribution of colours is less clear. This may be meant to depict light effects resulting from the metallic nature of the cymbals. Additionally, if a cymbal is relatively flat on account of a low cup, the rim edge may be less visible. In the following, the Bacchante's cymbals will be denoted with letters A and B for the right hand and C and D for the left hand (see illuss.8b and 8e).

In order to distinguish the shape of the finger cymbals and hands of the left Bacchante more clearly, I have overlaid the mosaic tesserae with colours and highlighted with black lines the contours of the drawing thereby revealed (see illuss.8b and 8e). This task is straightforward because of the consistent colour code used in the mosaic, except



 7 Detail of the 'Procession of Dionysos' mosaic from Stara Zagora (© Regional Museum of History—Stara Zagora/ Tsvetan Chetashki)



8 Visual analysis of the musical practice in illus.7. Panels (a) and (d) show a close-up of the hands of the left dancer; panels (b) and (e) overlay the colours of tesserae and outline the elements with black lines; and (c) and (f) are photographic reconstructions with modern finger cymbals (see details in n.43). Panel (g) compares the contour of the instruments shown in panels (b) and (d) (mosaic photographs: © Regional Museum of History—Stara Zagora/ Tsvetan Chetashki; drawings and photographic reconstruction: © Audrey Cottet)

for two details that require closer examination. The first is the determination of the length of the middle finger of the right hand (illus.8b). If this finger is represented only by the pink tesserae, it is definitely too short. It is more likely that we should include the three light-brown tesserae, which continue from, and align with, the pink ones. This also helps to define the shape of cymbal A. If the three light-brown tesserae were included in cymbal A, it would distort the cymbal contour to a shape very different from that of cymbal B. The scheme used in illustration 8b gives two circular cymbals A and B of identical diameter, d<sub>R</sub>. Second, in the black zone between the thumb and the index finger of the left hand (illus.8d), the edges of cymbals A and B are not obvious at first glance if one relies purely on the colours of the tesserae. However, the lower black tesserae are likely to belong to the lowest cymbal because they are organized radially around the centre of this cymbal. This reasoning leads to the cymbal contours C and D shown in illustration 8e, which again suggest two identical cymbals, with a diameter d<sub>L</sub>.

It is interesting to consider whether finger-cymbal practice as we define it is consistent with the details of the Augusta Traiana mosaic. A comparison of the contours of the four cymbals is reproduced in illustration 8g. As mentioned above, the diameter of a cymbal is one of the parameters that fixes the musical note made by the cymbal: the pitch becomes lower when the diameter increases. The cymbals that are in the same hand, A and B, or C and D, can be supposed to produce the same note, since they are of the same size. However, the ratio  $d_{R/}d_{L}$  is about o.8, which means that, in principle, the significantly larger cymbals of the right hand would have a lower pitch than those of the left hand.42 As indicated above, this technique can be used to emphasize a rhythmic pattern, and is used by some finger-cymbal players today. Interestingly, in both hands, the Bacchante's fingers other than the thumb and index finger are straight and held away from the cymbals, and contact with the rims is avoided. In today's technique, this position is known to optimize the ringing of the cymbals. Finally, it is necessary to consider the position of the dancer's hands. In the Bacchante's right hand, the rims of the cymbals A and B oppose each other, as in default modern finger-cymbal placement. In contrast, the position of the left hand seems strange: the cymbals are orientated such that cymbal C is held to the left of dancer's index finger and its edge strikes a narrow area on the inside of cymbal D. To understand whether this is realistic and consistent with finger-cymbal practice, a photographic reconstruction is useful (see illuss.8c and 8f). For the right hand, I used cymbals with a total diameter  $d_L$ =8.6cm, a cup height of 1.8cm, and a rim width of 0.9cm. For the left hand, I used cymbals with a smaller total diameter  $d_1$  = 6.8 cm, a rim width of 0.8cm and a cup with a lesser height of 0.9cm.43 These cymbals reproduce well the ratio  $d_{R/} d_{L} \sim 0.8$ visible in the mosaic. The resulting pictures bear a surprisingly close resemblance to the schemes outlined in illustrations 8b and 8e. They show that the unusual position of the Bacchante's left hand is feasible, although it is not used by today's players. On playing these cymbals myself, I noticed that pure rings are produced very reliably by the right hand, because cymbal C can only touch cymbal D in a restricted area, which prevents any accidental clap. In contrast, cymbals A and B, which are face to face, can produce pure claps, or rings with claps. This suggests that the Bacchante might use two different striking techniques, one for each hand. Of course, these suggestions for the Bacchante's playing technique are only valid if we accept that the mosaic image is sufficiently reliable.

Does the mosaic from Augusta Traiana represent an isolated musical practice? The answer can be found on the 'Pillar of the Satyr' (le Pilier du Satyre) from the city of Arlon in Belgium (known as Orolaunum in Roman times). This huge parallelpiped stone belonged to a funerary monument and could date from around 160 CE, according to a recent stylistic comparison with other monuments from the same area.44 Discovered in 1854, the 'Pillar of the Satyr' had been reused, like many other funerary stones from Orolaunum, to build the foundations of the Roman city wall, presumably at the end of the 3rd century or the beginning of the 4th.<sup>45</sup> The stone is carved on three sides in a high-relief technique. On one of the narrower sides, a naked female dancer with a long shawl, or chlamyde, is visible (see illus.9), and on the opposite side, a satyr is represented. Thus the dancer is probably a Bacchante engaged in a Dionysiac ritual. Although the representation is a

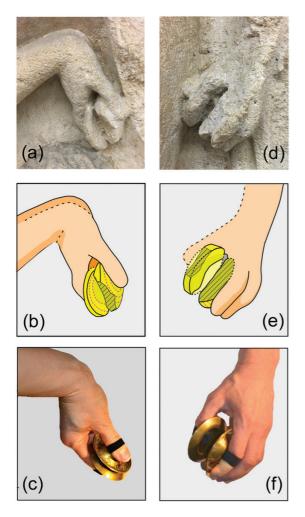
little naive (in particular, her bust is strangely small in comparison with the lower part of her body), her movement is dynamic as she takes a step to her right with her left foot but looks to her left, holding her right hand above her head. Her right palm faces the sky, not the ground, while her left hand is down, but, overall, her position is similar to that of the



9 'Pillar of the Satyr', side showing a dancer (height 140cm; width 57cm) (© Musée Archéologique d'Arlon)

player of the finger cymbals from Augusta Traiana. She holds small instruments in her hands, but they are significantly damaged, which may explain why there has been no clear consensus among authors on the nature of these instruments. In 1854, M. Roulez alludes to cymbals, but he did not specify their number.<sup>46</sup> In 1873, G. F. Prat mentions a single cymbal in each hand of the dancer; in 1905, J. Sibenaler states there are two, 'without any doubt'.<sup>47</sup> Other authors used the word 'crotales' as a descriptive.<sup>48</sup> No one, however, provides any details of the dancer's hands and instruments.

Close inspection of the dancer's hands reveals that the instruments are probably finger cymbals, based on three details (see illuss.10a and 10d; for greater clarity, these features are highlighted in the drawings of illuss.10b and 10e). First, in the right hand, both instruments were clearly circular, even though one is now broken (see illuss.10a). The instruments of the left hand are severely damaged but some portions remain, and these also reveal a circular shape (see illuss.10d). Second, the position of the instruments suggests that they are tied to the dancer's fingers, like finger cymbals. No traces of the cymbal straps remain (if they were ever represented), but the left and right thumbs are obviously attached to a cymbal, otherwise the instruments would fall. On the left hand, the index finger is directly in contact with a cymbal, whereas the middle finger lies a bit behind. Therefore, this cymbal can only be attached to the index finger. On the right hand, the middle finger was not represented because it is hidden behind the hand, but the index finger is well aligned with the centre of this cymbal suggesting that it is attached. Thus, for both hands, the cymbals seem tied to the thumbs and index fingers. Third, the curvature of the instruments suggests cymbals. They are simply represented as slightly curved thick discs, but the medium of the sculpture may not have allowed a detailed rendering of the cup, rim and curved edge of a cymbal. The slight curvature of the instruments, highlighted with pink-dashed lines in illustrations 10b and 10e, evokes the general shape of a cymbal, with a prominent cup. As noted earlier, some Roman cymbals had a low cup and a rim surrounded by a curved edge almost as high as the cup, so that the cymbals could look like thick curved discs if seen from a distance (see for instance the cymbals c<sub>4</sub>



10 Visual analysis of the musical practice in the high relief from illus.9. Panels (a) and (d) are close-up photographs of the hands of the dancer (© Musée Archéologique d'Arlon); panels (b), (e) and (c), (f) are drawings of these details and photographic reconstructions with modern finger cymbals (see details in n.49) (© Audrey Cottet)

from illus.3a); this could conceivably be the type of cymbal represented in the sculpture. Illustrations 10c and 10e are photographic reconstructions of the dancer's hands with modern cymbals with curved rims.<sup>49</sup> Whilst it does reveal an anatomical inaccuracy (the flexion of the right wrist in the sculpture is exaggerated and cannot be reproduced in reality), the position of the dancer's hands otherwise seems rather realistic. The two cymbals in each hand face each other: the cymbals in the right hand almost touch each other, but the space between the two cymbals of the left hand is significant, and this may suggest that the Bacchante claps the left- and righthand cymbals alternately.

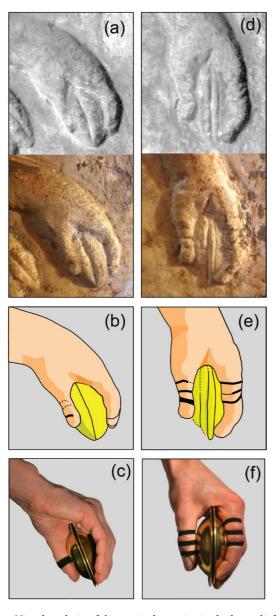
The two examples discussed above confirm that finger-cymbal practice existed in the Roman Empire; but was it present in Rome itself? This brings us to the Podocataro Palace on Via Monserrato in Rome, which houses Roman antiquities collected by Cardinal Ludovico Podocataro in the late 15th century.<sup>50</sup> Although the palace is private, this collection has been mentioned by a number of authors. A low relief featuring a dancer with small idiophones is sealed on the walls of the palace staircase. The exact provenance of this relief is unknown, but it is estimated to be from the 2nd or 3rd century CE, and may have been part of a sarcophagus.<sup>51</sup> This relief was reproduced in two drawings from the 17th century that belong to the 'Paper Museum' of Cassiano dal Pozzo.<sup>52</sup> The relief also seems to feature in two early archaeology books, one by Jacques Spon in 1683 and another by Frederick Adolphe Lampe in 1700; Lampe and Spon have probably copied the Cassiano drawing, even though the source is not explicitly cited.53 Authors classify the instruments held by the dancer variously as cymbals, castanets or crumata 'made of bone or shell'.54 According to Jacques Spon, this last type of idiophone was the ancestor of Spanish castanets.<sup>55</sup> In the discussion that follows, I will examine the more reliable photographs of the relief itself, rather than the drawings, to clarify the nature of the dancer's instruments. Surprisingly, such photographs have not yet been considered by archaeo-musicologists.

I was able to access two complementary sets of pictures of the Podocataro low relief, which were taken under different lighting conditions. The negative of the picture shown in the left-hand panel of illustration 11 is kept at the Istituto Archeologico Gemanico in Rome. Its exact date in uncertain, but it was listed in a 1933 inventory by Margarethe Gütschow.<sup>56</sup> In addition, the right-hand panel of illustration 11 is a photograph taken in 2020 by a present occupant of the Podocataro Palace, Marco Alvarez de Castro. Authors variously describe the dancer as female, male, or do not specify.<sup>57</sup> As the robust arms, strong chin and nose seem rather



11 Low relief sealed in a wall of the Palazzo Podocataro in Rome (height 80cm; width ~40cm). The left picture dates from 1933 at the latest (photo: © Istituto Archeologico Germanico, M. Gütschow, Neg. D-DAI-ROM- 33.857). The right picture dates from 2020 (photo: courtesy of Marco Alvarez de Castro)

masculine, I will use the male gender for convenience. The proportions of the dancer are unrealistic. In particular, his hands seem too big in comparison with his head. He wears a long, sleeveless tunic with many folds. He steps to his right, but twists at the waist and turns his head to his left. He holds a pair of instruments in each hand. His right hand is above his head with the palm facing the ground and his left arm is down, a position very similar to that of the Augusta Traiana dancer. In spite of the naiveness of this relief, interesting details of the dancer's instruments can be discerned. First, marks on the thumb and index finger of the dancer's left hand are clearly visible (see illus.12d; reproduced in the drawing in illus.12e). These marks obviously represent straps that tie the instruments to the dancer's fingers. Also remarkable are the 'lips' that are visible on the edge of the left-hand instruments (illuss.12d and 12e): these look like cymbal rims viewed from the side. The significant thickness of these could evoke cymbals with curved edges, such as cymbals c<sub>2</sub> or c<sub>3</sub> of illustration 3.



12 Visual analysis of the musical practice in the low relief from illus.11. Panels (a) and (d) are close-up photographs of the hands of the dancer (same copyrights as in illus.11); panels (b), (e) and (c), (f) are drawings of these details and photographic reconstructions with modern finger cymbals (see details in n.58) (© Audrey Cottet)

The representation of the straps and rims on the left hand strongly suggests that the dancer is using finger cymbals. The instruments in the right hand do not have similar rims, which I will comment on below.

Illustrations 12c and 12f are photographic reconstructions of the dancer's hands, using modern cymbals with a diameter of 8.6cm, a rim width of 0.9cm and a cup height of 1.8cm.<sup>58</sup> A comparison between illustrations 12b and 12c reveals a slight anatomic inconsistency: it is strange that the right hand of the dancer hides so much of the top part of his cymbals. Otherwise, the hold of the dancer can be readily reproduced. For both hands, all the fingers are well in contact with the cymbals, in contrast to the Augusta Traiana mosaic. In practice, such a position attenuates the intensity and ringing of the sound produced by the cymbals.

Two further details call for attention. First, the representation of the cymbals straps is unusual. On the low relief, three approximately parallel lines appear on the thumb and index finger of the left hand. For each finger, only the lowest of the three lines seems aligned with the centre of the cymbal. Illustration 12f proposes one interpretation: the cymbal strap, which is folded into two pieces, comes out of the cymbal's central hole, where it is fixed by a knot. It is then laced around the fingers, going towards their bases. The three parallel loops formed by the straps are maintained by knots hidden between the fingers and the cymbals; this lacing secures the cymbals to the dancer's fingers. Second, the absence of rims on the cymbals of the right hand is surprising. The rims may have been erased by erosion of the stone, since the straps one would expect on the right thumb are not (or hardly) visible. However, considering the depth to which the cymbals rims have been sculpted for the other hand, this explanation is uncertain. The instruments used in the right hand might actually correspond to finger cymbals without rims. Indeed, rimless cymbals seem to be represented on a few Roman artworks from the 4th to the 6th centuries.59 Object AF6912 conserved at the Louvre, for example, could be a rimless cymbal (see illus.3b). It looks like the tiny bells that were sometimes used to adorn the handles of cymbal tongs, but with a much larger diameter of 6.5cm and a height of 2.5cm.60 With these dimensions, this instrument could have been used as a finger cymbal and would present the interest of emitting a different sound from the lefthand cymbals, given that a cymbal without a rim is

likely to emit weaker 'claps'. Considering the naiveness of the relief, however, this scenario remains hypothetical.

As mentioned above, Jacques Spon suggested the supposed ancestors of Spanish castanets, the crembala, as the instruments in his representation of the Podocataro relief.<sup>61</sup> More generally, finger cymbals are often described as metal castanets or castanetlike instruments.<sup>62</sup> This comparison is convenient because it evokes the well-known Spanish castanets. Before concluding this article, it might therefore be useful to consider the difference between the playing techniques for finger cymbals and Spanish castanets. The two castanets from a pair are tied to the same finger, either the thumb or the middle finger. Additionally, the thumb remains inactive while the other fingers bend towards the palm of the hand to activate the castanets.63 In contrast, the two finger cymbals from a pair are attached to two different fingers of the same hand; the thumbs and fingers are generally placed in opposition and function like a pair of tongs that claps the two cymbals together. The two practices are thus visually distinct.

To summarize, on the basis of this iconographic study of finger-cymbal playing in the Roman Empire, using the examples of two Roman stone reliefs from the 2nd to 3rd centuries and a mosaic from the 4th century, it may be concluded that Roman dancers played two small cymbals per hand, attached to two different fingers, like modern Middle Eastern dancers. The identification of this finger-cymbal practice is supported by features such as the cymbals' circular shape, their hollow cups, rims, straps, and the position of the cymbals in relation to the dancer's fingers. The three representations originate from Rome, Belgium and Bulgaria respectively, which suggests that finger-cymbal playing was widespread. Roman dancers apparently attached finger cymbals to their thumbs and either their index or middle fingers. Further musicological conclusions are advanced with caution because they depend on the accuracy of the representations, which is difficult to evaluate. For instance, left and right hands may each have used two different types of cymbals or playing techniques; the dancers' fingers seem in close contact with the cymbals or have minimal contact; and the Arlon dancer may be clapping the left and right cymbals alternately.

In all three representations, strikingly, the dancers are depicted in the same body position: they hold one hand above the head, and take a step in one direction, while twisting at the waist to look back in the other direction. This stance is also frequently shown in Roman representations of cymbal-tongs dancers.<sup>64</sup> The cymbal-tongs dancer of the Augusta Traiana mosaic has the same pose, except that her arms are held low, suggesting that finger-cymbal players and cymbal-tongs players danced in the same way. The Augusta Traiana mosaic reveals that they could even perform together. One might speculate that some dancers were able to play both finger cymbals and cymbal tongs, since the two practices seemingly required comparable coordination skills. However, cymbal tongs are much more common than finger cymbals in Roman iconography. From the 3rd to the 5th centuries, tens of representations of dancers using cymbal tongs or similar instruments are known;65 in the same timeframe, there are countless representations of dancers with only one cymbal per hand. It is therefore possible that finger cymbals played 'two-in-a-hand' was only an emerging practice in the Roman world.

Regarding the genesis of finger-cymbal practice, one can only speculate. Further iconographic research may reveal that a finger-cymbal practice similar to that of modern Middle Eastern dancers existed before the Roman period. However, in the Roman period, since cymbal tongs were very fashionable, many small cymbals were available. One can imagine that when a pair of cymbal tongs broke, an emergency solution was for a dancer to use their own fingers to replace the tongs. This kind of accident might have promoted finger-cymbal practice. Another interesting question is whether finger cymbals were played continuously from the Roman era to modern times, or forgotten and reinvented much later in the Middle East, but that subject lies beyond the scope of this article.

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<sup>1</sup> Morocco (C. V. Dinicu), You asked aunt Rocky: answers and advice about raqs sharqi and raqs shaabi (Virginia Beach, 2011). The naming of today's Middle Eastern dances is discussed in Part III of this book.

<sup>2</sup> See K. W. Fraser, *Before they were belly dancers: European accounts of female entertainers in Egypt, 1760–1870* (Jefferson, NC, 2015); H. D. Ward, *Egyptian belly dance in transition: the raqs sharqi revolution, 1890–1930* (Jefferson, NC, 2018); V. Lo Iacono, 'Dance as living cultural heritage: a transcultural

ethnochoreological analysis of Egyptian raqs sharqi' (PhD diss., Cardiff Metropolitan University, 2019); J. Mansbridge, 'The Zenne: male belly dancers and queer modernity in contemporary Turkey, Theatre Research International, xlii (2017), pp.20-36. In this article, the Turkish term 'zil' refers to a finger cymbal (the plural is 'ziller'). <sup>3</sup> On Egypt, see C. Niebuhr, Reisebeschreibung nach Arabien und andern umliegenden Ländern (Copenhagen, 1774), pl.XXVII (https://digi.ub.uni-heidelberg. de/diglit/niebuhr1774abd1/0555); and E. W. Lane, An account of the manners and customs of the modern Egyptians (London, 1836), ii, ch.vi: 'Public dancers' and the illustration 'Dancing girls' on p.99; J. A. St John, Oriental album, characters, costumes and modes of life in the valley of the Nile, illustrated from designs taken on the spot by E. Prisse (London, 1848), pl.2 (https://gallica. bnf.fr/ark:/12148/btv1b73004801). On the Ottoman Empire, see the watercolour 'Zhengui Turque', fol.22 of Costumes Turcs, vol.ii, circa 1790 (www.britishmuseum.org/collection/ object/W\_1974-0617-0-12-2-22; and the watercolour 'Mevlevi dancer' in vol.i of Paintings illustrating Turkish costumes (London, 1802), reference Ms. 60368 (http://digital.soas.ac.uk/ LOAA003750/00001) from the notice of the SOAS library (London); the latter was probably painted by Marcel Cousinéry before 1795. On Persia, see S. J. Falk, Qajar paintings (London, 1972), pl.45, which shows a dancer with finger cymbals (with rims); Z. Fanaei, B. Rahimzadeh and S. Ali Mojabi, 'An analytical and comparative study of male and female images in Qajar dynasty paintings during the reign of Fath-Ali Shah

(1797–1834)', *Middle Eastern Studies*, liii (2017), pp.420–41, in which fig.12 is the painting of a dancer with finger cymbals (with rims); and L. S. Diba, *Royal Persian paintings: the Qajar epoch*, *1785–1925* (New York, 1998), p.209, which discusses the painting shown in illus.1, right panel, of the present article.

<sup>4</sup> E. M. von Hornbostel and C. Sachs, 'Classification of musical instruments: translated from the original German by Anthony Baines and Klaus P. Wachsmann', *Galpin Society Journal*, xiv (1961), pp.3–29, at p.14.

<sup>5</sup> The finger cymbals shown in illus.2a come from the collection of the British Orientalist Edward William Lane (1801–76). They were donated to the British Museum in 1883 (inventory number Af,+.1775.a–b). The British Museum conservatory service dates their production to between 1750 and 1836. They were published in Lane's work in 1836. The diameters of the four cymbals are 4.3cm, 4.5cm, 4.7cm and 4.9cm.

<sup>6</sup> See Morocco (C. V. Dinicu), You asked aunt Rocky; Princess Farhana (P. Gehman), The belly dance handbook: a companion for the serious dancer (Los Angeles, 2014); J. Blades, Percussion instruments and their history (Westport, CT, 4/1992); and Mansbridge, 'The Zenne'.

<sup>7</sup> S. L. Marcus, *Music in Egypt* (Oxford, 2007), ch.3, discusses religious Sufi music in which large finger cymbals (*tura*) are used, illuss.9.4 and 9.5 from this reference show four dancers with finger cymbals participating in a zaffa (wedding) procession and chapter 10 discusses shaabi music. Finger cymbals can be heard in the songs of popular contemporary shaabi artists such as, for example, Hakim and Nancy Ajram. <sup>8</sup> See Lo Iacono, 'Dance as living cultural heritage', and A. Rasmussen, 'An evening in the Orient: the Middle Eastern nightclub in America', *Asian Music*, xxiii (1992), pp.63–88. Presently, there exist several highquality finger-cymbal makers in North America: Saroyan Mastercrafts (USA), Turquoise International (USA), Zildjian (USA, previously in Turkey) and Sabian (Canada). The finger cymbals from the Egyptian maker Ghawaret El Fan are also sold worldwide.

<sup>9</sup> The TinkerZills cymbals from the company Saroyan Mastercrafts (USA) have a diameter of 4.45cm (see cymbals b, of illus.2b). The tura cymbals from Ghawaret El Fan (Egypt) have a diameter of 10.5cm. In illus.2b, Cymbals b, are the Al-Taj model (diameter Ø = 9.9cm, height h = 1.8 cm) from the company Saroyan Mastercrafts (USA); cymbals b, are the Turkish model ( $\emptyset = 6.4$ cm, h = 1.3 cm) by Turquoise International (USA); cymbals b, are made by the company Ghawaret El Fan (Egypt)  $(\emptyset = 6 \text{cm}, h = 1.5 \text{cm})$ ; and cymbals b, are the TinkerZills ( $\emptyset = 4.45$ cm, h = 0.85cm) by Saroyan Mastercrafts.

<sup>10</sup> J. Salimpour, An illustrated manual of finger cymbal instruction: history, evolution, and related instruments (n.p., 1977); Dawn Devine, A. Westerfeld and G. Goncalves, Zills, music on your fingertips—all about finger cymbals (n.p., 2016). Information (personal communication) from Hassan Abdel Khalek (Egyptian percussionist), finger-cymbal classes (Paris, 2018–20) and Nicolas Derolin (French percussionist), finger-cymbal classes (Paris, 2020).

<sup>11</sup> See M. Duchesne-Guillemin, 'Music in ancient Mesopotamia and Egypt', World Archaeology, xii (1981), pp.287– 97; S. de Martino, 'Music, dance and processions in Hittite Anatolia', in Civilizations of the ancient Near East, ed. J. Sasson (New York, 1995), iv, pp.2661–9; S. Alp, Song, music and dance of Hittites: grapes and wine in Anatolia during the Hittite period (Ankara, 2000); T. Şare, 'Women

and music in ancient Anatolia: the iconographic evidence, in Questions, approaches, and dialogues in the eastern Mediterranean archaeology: Studies in honor of Marie-Henriette and Charles Gates, ed. E. Kozal et al. (Münster, 2017), pp.555-80; S. McNally, 'The maenad in early Greek art', Arethusa, xi (1978), pp.101-35 (a cymbalist is visible on a Greek vase in illus.2 of that reference); Α. Λιβέρη (Α. Liveri), 'Κύμβαλα και κυμβαλίστριες από αρχαία ελληνικά ιερά' (Cymbals and cymbalists from ancient Greek sanctuaries), in Crossroads: Greece as an intercultural pole of musical thought and creativity, ed. E. N. Sampson, G. Sakallieros, M. Alexandru, G. Kitsios and E. Giannopoulos (Thessaloniki, 2013), pp.1087-1117; C. Vendries, 'Pour les oreilles de Cybèle: images plurielles de la musique sur les autels tauroboliques de la Gaule romaine', in Chanter les dieux: musique et religion dans l'Antiquité grecque et romaine (Rennes, 2001), pp.197–217; J. A. Latham, 'Roman rhetoric, Metroac representations: text, artifacts, and the cult of Magna Mater in Rome and Ostia, Memoirs of the American Academy *in Rome*, lix/lx (2014/15), pp.51-80; D. Parrish, 'A mythological theme in the decoration of late Roman dining rooms: Dionysos and his circle', Revue Archéologique, new ser., ii (1995), pp.307–32; J. Habetzeder, 'The impact of restoration: the example of the dancing satyr in the Uffizi', Opuscula Annual of the Swedish Institutes at Athens and Rome, v (2012), pp.133-63 (this article explains that the motif of 'Satyrs with cymbals' is attested within the Roman sculptural repertory, even though restorers often added cymbals to ancient sculptures of satyrs with missing arms).

<sup>12</sup> See de Martino, 'Music, dance and processions'; Alp, Song, music and dance of Hittites; Liveri, 'Cymbals and cymbalists'. See also K. Bittel, 'Cymbeln für Kybele', in Festschrift für Wasmuth zum 80. Geburtstag (Tübingen, 1968), pp.79–82; C. Ziegler, Les instruments de musique égyptiens au musée du Louvre (Paris, 1979); *Musical instruments as votive gifts in the ancient world*, ed. A. Bellia and S. D. Bundrick (Pisa, 2018); C. Homo-Lechner and C. Vendries, *Le carnyx et la lyre: archéologie musicale en Gaule celtique et romaine* (Besançon, 1993).

<sup>13</sup> A few cymbals made out of other metals, for instance silver, have been found (see Şare, 'Women and music in ancient Anatolia'; Liveri, 'Cymbals and cymbalists'; and T. Özgüç, 'New finds from Horoztepe', *Anadolu*, viii (1964), pp.1–17. The Metropolitan Museum of Art conserves a pair of large cymbals from Thebes in Egypt (inventory number 08.202.51a, b). They are dated from the Roman period (30 BCE–364 CE). They have a diameter of 20.5cm and 20.25cm respectively.

<sup>14</sup> H. Hickmann, 'Cymbales et crotales dans l'Egypte ancienne', Annales du Service des Antiquités d'Egypte, xlix (Cairo, 1949), §X.

<sup>15</sup> This note gives details on the instruments of illus.3, kept at the Louvre. The pair  $c_1$  (inventory number E 13548 a-b) has a diameter  $\emptyset = 4.7$ – 5cm, and height h = 1.1–1.2cm; the pair  $c_2$  (E 12567 a-b) has  $\emptyset = 7.3$ cm, h = 1.5cm; the pair  $c_3$  (E 12568 a-b) has  $\emptyset = 6.8$ –7cm, h = 1.5–1.6cm; and the pair  $c_4$  (E 22191 a-b) has  $\emptyset = 5.6$ cm–5.7cm, h = 1cm. The rimless cymbal from illus.3b (AF 6912) has  $\emptyset = 6.3$ cm, h = 2.5cm (see Ziegler, *Les instruments de musique égyptiens*, pp.67–68, 70).

<sup>16</sup> C. Sachs, *The history of musical instruments* (New York, 1940).

<sup>17</sup> A. Bélis, 'Musique et transe dans le cortège dionysiaque', Actes du colloque de Montpellier Transe et danse, Cahiers du GITA, iv (1988), pp.9–29. See also Duchesne-Guillemin, 'Music in ancient Mesopotamia and Egypt'; Şare, 'Women and music in ancient Anatolia'; McNally, 'The maenad in early Greek art'; Liveri, 'Cymbals and cymbalists'; and Parrish, 'A mythological theme'.

<sup>18</sup> Ziegler, *Les instruments de musique égyptiens*; Hickmann, 'Cymbales et crotales'.

<sup>19</sup> Jacques Spon, 'Huitieme dissertation', *Recherches curieuses d'antiquité* (Lyon, 1683); C. V. Daremberg and E. Saglio, *Dictionnaire des Antiquités grecques et romaines* (Paris, 1877–1919); J. G. Landels, *Music in ancient Greece and Rome* (London, 1999); S. Olsen, *Solo dance in archaic and classical Greek literature: representing the unruly body* (Cambridge, 2020), ch.6.

<sup>20</sup> Following the usage in J. Adato and G. Judy, *The percussionist's dictionary: translations, descriptions and photographs of percussion instruments from around the world* (Melville, NY, 1984).

<sup>21</sup> See Hickmann, 'Cymbales et crotales', and M. E. Ginsberg-Klar, 'The archaeology of musical instruments in Germany during the Roman period', *World Archaeology*, xii (1981), pp.313–20 (pl.80 shows a cymbal-tongs dancer on a mosaic from the second half of the 4th century CE).

<sup>22</sup> Hickmann, 'Cymbales et crotales', mentions examples of cymbal tongs whose cymbals have a diameter ranging from 5.5cm to 7.8cm. An Egyptian pair of cymbal tongs from the Roman period is conserved at the British Museum (inventory number EA54014). The cymbals are made of bronze, and the two branches of the tongs are made of wood, connected by a leather handle. From Elisabeth O'Connell, duty curator at the British Museum: the natural fibre strings which tie the cymbals to the tongs are most probably recent. The full length of the instrument is 36cm, and the cymbals' diameter is 6.5cm. An Egyptian pair of cymbal tongs from the Roman period is conserved at the Museum of Fine Arts, Boston, with the inventory numbers 06.2373 and 06.2374. The two wooden branches of the tong are now separated but from the museum description they 'were tied together with some sort of fabric or leather, and the carved section acted like springs, making the instruments into a sort of "tong". The cymbals of this instrument have a diameter of 5.8cm. They are attached to the tongs by metallic bounds.

<sup>23</sup> This is described in Hickmann, 'Cymbales et crotales', p.520.

 <sup>24</sup> C. Vendries, 'Un objet sonore méconnu: le sistre de Vermand (Aisne) et les "sistres tiges" gallo-romains', *Revue du Nord*, lxxxi (1999), pp.187–95.

<sup>25</sup> Athenaeus of Naucratis, *Deipnosophistae*, XIV.

<sup>26</sup> J.-Cl. Carrière and B. Massonie, 'La Bibliothèque d'Apollodore. Traduite, annotée et commentée', *Annales littéraires de l'Université de Besançon*, cdxliii (Besançon, 1991). See pp.9–12 for the dating of the *Bibliotheca*.

<sup>27</sup> Pseudo-Apollodorus, *Bibliotheca*, II.5.6.

<sup>28</sup> A. T. Fear, 'The dancing Girls of Cadiz', *Greece & Rome*, xxxviii (1991), pp.75–9.

<sup>29</sup> Martial, *Epigrams*, v1.71. See A. Rich, *Dictionnaire des Antiquités romaines et grecques* (Paris, 3/1883).

<sup>30</sup> Martial, *Epigrams*, XI.16. For authors of the Hellenistic period such as the Pseudo-Skymnos, the Andalusian cities of Cádiz (Gadir) and Tartessos were distinct. However, at the time of Martial, Tartessos had long since disappeared, and the word 'Tartessian' was used recurrently to refer to an area that included Cádiz (see S. Celestino and C. López-Ruiz, *Tartessos and the Phoenicians in Iberia* (Oxford, 2016)).

<sup>31</sup> Statius, Silvae, 1.6.71.

<sup>32</sup> See Duchesne-Guillemin, 'Music in ancient Mesopotamia and Egypt'; Daremberg and Saglio, *Dictionnaire des Antiquités grecques et romaines; Musicians in ancient coroplastic art: iconography, ritual contexts and functions*, ed. A. Bellia and C. Marconi (Pisa, 2016); and U. Seidl, 'Rattling and clapping Urartian girls: idiophones in Urartu', in *Archaeology of Armenia in regional context*, ed. P. Avetisyan and A. Bobokhyan (Yerevan, 2012), pp.163–70.

<sup>33</sup> For example, the bronze figure of a dwarf entertainer dancing and playing castanets, British Museum, object number 1824,0431.3, dated 1st century CE. L. Calero, 'Las *puellae gaditanae*, una coreografía con acento propio', *ANAS*, xxvii–xxviii (2014), pp.107–20, discusses a stone relief from Rome dated from the 2nd century CE. See also M. E. Blake, 'Roman mosaics of the second century in Italy', *Memoirs* of the American Academy in Rome, xiii (1936), pp.67–214 (pl.42 shows a mosaic found on Rome's Aventine hill, dated from the 2nd or 3rd century CE); Landels, *Music in ancient Greece* and Rome; and M. L. West, Ancient Greek music (Oxford, 1992).

<sup>34</sup> See Morocco (C. V. Dinicu), You asked aunt Rocky; Princess Farhana, The belly dance handbook; Salimpour, An illustrated manual of finger cymbal instruction; and Dawn Devine, Westerfeld and Goncalves, Zills, music on your fingertips.

<sup>35</sup> See for instance the performances of the American dancers Morocco (Carolina Varga Dinicu) and Sahira (Alesha Yamal) on YouTube and Morocco (C. V. Dinicu), *You asked aunt Rocky*.

<sup>36</sup> A. G. Villoteau, 'De l'État actuel de l'art musical en Égypte, ou Relation historique et descriptive des recherches et observations faites sur la musique en ce pays' and 'Description historique, technique et littéraire des instruments de musique des Orientaux,' in *Description de l'Égypte, ou Recueil des observations et des recherches qui ont été faites en Égypte pendant l'expédition de l'Armée française, publié par les ordres de Sa Majesté l'Empereur Napoléon le Grand Publication* (Paris, 1812), i, pp.605–1016.

<sup>37</sup> Princess Farhana, *The belly dance handbook*; Dawn Devine, Westerfeld and Goncalves, *Zills, music on your fingertips*; and the classes mentioned in n.10 above.

<sup>38</sup> This can be checked easily by touching the rim of a ringing finger cymbal, which stops the ring right away. The same effect occurs with bells. This is why these instruments are attached from their centre. See U. J. Hansen, 'Structural vibrations: normal modes in a hand-bell', *Proceedings of the Indiana Academy of Science*, cxxii (2013), pp.118–25. See also Hickmann, 'Cymbales et crotales'; and Villoteau, 'De l'État actuel de l'art musical en Égypte'. <sup>39</sup> There is one modern finger-cymbal strike where the finger position markedly differs from the default position: the strike sometimes called 'noss', from the Egyptian Arabic نص, which means 'half'. In the noss strike, the thumb cymbal is pressed at the basis of the thumb, which remains motionless. The side of the thumb cymbal is struck with the inside of the other cymbal which is cupped by the little to index fingers. Hence, the index to little fingers bend towards the top of the thumb. With the noss strike, the cymbals do not ring and do not emit claps, but only slight 'ticks'. However, this strike is used sparingly.

<sup>40</sup> M. Kamisheva, I. Vanev and S. Stanev, *The procession of Dionysos, a masterpiece of ancient mosaic art* (Stara Zagora, 2015).

<sup>41</sup> M. Kamisheva, *Antique mosaics from Stara Zagora* (Stara Zagora, 2015).

<sup>42</sup> This comparison is sensible because the two hands of the dancer are at approximately the same distance from the supposed viewer of the scene, and therefore, in principle, perspective effects do not come into play.

<sup>43</sup> The modern cymbals in the right and left hands in illuss.8c and 8f correspond respectively to the model b<sub>1</sub> of illus.8b and the model 'Grecian' by Saroyan Mastercrafts.

<sup>44</sup> Gabrielle Kremer (private communication).

<sup>45</sup> C. Dubois, 'Orolaunum: bibliographie et documents sur l'Arlon romain', *Annales de l'Institut Archéologique du Luxembourg*, lxxvii (Arlon, 1946), p.34 for the description of the 'Pillar of the Satyr', and p.25 for the dating of the Arlon Roman city wall. See also R. Brulet, *Les romains en Wallonie* (Brussels, 2008), p.450.

<sup>46</sup> M. Roulez, 'Rapport sur une découverte de monuments antiques de l'époque romaine à Arlon', *Bull. Acad. Roy. B.*, xxi (Brussels, 1854), pp.678–81, and no.8 at pp.685–6.

<sup>47</sup> See G. F. Prat, *Histoire d'Arlon* (Arlon, 1873), i, pp.115–16, and J. Sibenaler, *Guide illustré du* 

*lapidaire romain d'Arlon* (Arlon, 1905), pp.34–7, no.11.

<sup>48</sup> Dubois, 'Orolaunum'; and E. Espérandieu and R. Lantier, *Recueil général des bas-reliefs de la Gaule romaine* (Paris, 1907), no.4040.

<sup>49</sup> The modern cymbals used in illus.10c and illus.10f correspond to the model b, of illus.2.

<sup>50</sup> K. W. Christian, *Empire without* end—antiquities collections in *Renaissance Rome* 1350–1527 (New Haven, 2010).

<sup>51</sup> A. Claridge and E. Dodero, Sarcophagi and other reliefs. Part A.III of The Paper Museum of Cassiano dal Pozzo: a catalogue raisonné, 4 vols. (London, forthcoming 2022).

<sup>52</sup> *The Paper Museum*, Windsor, rl 8413, Bassi Relievi Antichi 4, fol.13*r*-*v*.

<sup>53</sup> See Spon, 'Huitieme dissertation', p.152, pl.XLIV, available at https:// digi.ub.uni-heidelberg.de/diglit/ spon1683/0169; and Frederick Adolphe Lampe, *De cymbalis veterum* (Utrecht, 1703), p.44. Another slightly different version of this drawing appears in N. J. Barker, 'Un-discarded images: illustrations of antique musical instruments in 17th- and 18th-century books, their sources and transmission', *Early Music*, xxxv (2007), pp.191–211, as illus.16 (centre panel).

54 As 'cymbals' in Barker,

'Un-discarded images'; as 'castanets' in Claridge and Dodero, *Sarcophagi and other reliefs*, and C. C. Vermeule, 'The dal Pozzo-Albani drawings of classical antiquities in the Royal Library at Windsor Castle', *Transactions of the American Philosophical Society*, lvi (1966), pp.1–170, at p.27, fol.13, no.8413 (the Palazzo Podocataro is named Palazzo Corsetti in this source); and as 'crumata' in Spon, 'Huitieme dissertation', p.152.

<sup>55</sup> Spon, 'Huitieme dissertation', p.153.

<sup>56</sup> Daria Lanzuolo (private communication).

<sup>57</sup> Female in Vermeule, 'The dal Pozzo-Albani drawings'; male in F. Matz and F. von Duhn, *Antike Bildwerke in Rom* (Leipzig 1881/2), iii, no.4059 (the Palazzo Podocataro is named Palazzo Corsetti in this source); unspecified in Spon, 'Huitieme dissertation', and Claridge and Dodero, *Sarcophagi and other reliefs*.

<sup>58</sup> The cymbals used in illuss.12c and 12f correspond to the model b<sub>1</sub> of illus.2b.

<sup>59</sup> This note gives three examples of Roman works of art on which rimless cymbals seem to be represented. The first is the Mildenhall Great Dish, which is a silver Bacchic platter found in England and dated from the 6th century CE. It is housed at the British Museum (inventory number 1946,1007.1). The second is the mosaic of the Bacchic Procession from Madaba (Jordan), dated from the first half of the 6th century CE; see M. Piccirillo, The mosaics of Jordan (Amman, 1993). The third is a floor mosaic from Sarrin (Syria), dated from the end of the 5th century or beginning of the 6th century CE; see J. Balty, La mosaïque de Sarrîn (Osrhoène) (Paris, 1990), pp.82-3.

pp.69–70. <sup>61</sup> Spon, 'Huitieme dissertation',

<sup>60</sup> See Ziegler, *Les instruments*,

pp.152–3 and pl.XLIV.

<sup>62</sup> See Lane, An account of the manners and customs of the modern Egyptians; Marcus, Music in Egypt; Sachs, The history of musical instruments; and Villoteau, 'De l'État actuel de l'art musical en Égypte'.

<sup>63</sup> J. de Udaeta, La castañuela española: origen y evolucion (Barcelona, 1989).

<sup>64</sup> See Ginsberg-Klar, 'The archaeology of musical instruments in Germany'; see also the mosaic pavement with a cymbal-tongs dancer, from Carthage in the British Museum (inventory number 1967,0405.1), dated from the 4th century CE.

<sup>65</sup> Sometimes, instruments are represented, which are very similar to cymbal tongs, except that the cymbals are replaced by the spoon-shaped endings to the tongs.

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