MUSIC ARCHAEOLOGICAL DATA FOR CULTURE CONTACT BETWEEN SUMER AND THE GREATER INDUS AREA: AN INTRODUCTORY STUDY

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Though Sir Mortimer Wheeler, an important archaeologist of early South Asian cultures during the mid-1940s (Kenoyer 1989, viii), suggested that 'the *idea* of civilization' came to the ancient Indus region from Mesopotamia (Wheeler 1968, 25, 135), more recently a new perspective has been cogently presented, based on new data. This view explains the urban Indus civilization (*c*.2500–2000 BC) as the result of local evolutionary developments over a span of some eight thousand years (Asthana 1985). Accepting this regional orientation for understanding the genesis and growth of cultural patterns that lead to the mature Harappan era,[2] it is nonetheless clear that the Harappan peoples enjoyed notable trade contacts with ancient Mesopotamia and certain cultures in between (Parpola et al. 1977; Ratnagar 1981), and also with areas to the north, in present day northern Iran and the contiguous area of Central Asia, known generally as Turkmenia (Masson and Sarianidi 1972). Due to the uneven availability of music archaeological data in these four large areas, our main concern in this study is limited to music archaeological evidence that suggests culture contact between ancient Mesopotamia and the Indus region.[3] In a few instances, however, as noted below, data from the Dilmun culture of the Persian Gulf and from Turkmenia are brought into the discussion.

Through time Harappan trade with Mesopotamia appears to have fluctuated. It has been argued, based on the distribution and chronology of certain iconographic motifs, proceeding from Mesopotamia to the Indus area, that contacts between the two regions may date from as early as *c*.2500 BC (During Caspers 1979). Later, during the Akkadian era in Mesopotamia, *c*.2300–2200 BC, data in cuneiform texts strongly suggests direct maritime contact between the two regions (Parpola et al. 1977, 130–1). By comparison, it is thought that trade after this time was conducted indirectly through the Dilmun culture in the Persian Gulf (Ratnagar 1981, 228). It has also been argued that around 2050 BC certain texts from the city of Tello in Sumer record the presence of Harappans as partially acculturated residents (Parpola et al. 1977), and that Sumerians were present in some of the Harappan centres as well (During Caspers 1984b). Thus it is reasonable to assume that, through several centuries at least, some opportunity existed for music culture contact between the two regions. In support of this argument, it may be noted that

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2. In this study 'Indus' and 'Harappan' as identifying adjectives are used interchangeably, the latter being derived from Harappa, a famous Indus urban site.

3. Sumer as used in the title of this paper refers specifically to the region of southern Mesopotamia. The latter term, strictly speaking, connotes a much larger area. In this study, however, Mesopotamia and Sumer are used interchangeably in general, thus making Mesopotamia more specific most of the time, but not necessarily in every instance in which it is used.

numerous correlations have been observed in the glyptic art of Mesopotamia and the Indus area (Parpola 1984).

Though chronology in Sumer has become settled to a remarkable degree, it has been a major problem in South Asian archaeology, due in part to the absence of stratigraphic excavations during initial work in the second decade of this century (Kenoyer 1989, vii). Other factors include unreached 'natural soil' at major sites such as Mohenjo-daro and Chanhu-daro—where excavations are hindered by the current water level—and substantial differences of opinion among influential archaeologists working in the area (Thapar 1984, 19–20). And so it is a source of frustration that dates for Harappan artefacts in this study are not as precise as one might expect. Indeed, with reference to the music archaeology of the Indus area, extensive work is still needed to inventory artefacts adequately and to determine more precisely their respective dates and circumstances of discovery.[4]

Keeping these limitations in mind, a previous survey has noted various aspects of music archaeological data in the Indus civilization, *c.*2500–2000 BC (Flora 1988). Though several comments in that discussion refer to similar music archaeological data in Sumer and the Indus region, especially with respect to rattles and clappers, two types of chordophone, and one membranophone, a detailed investigation of similar evidence and its significance lay outside the parameters of that inquiry. The intention there was to bring together disparate data to provide an initial survey of the Indus situation. Musical instruments and dance activity provided several focal points for our investigation.

By comparison, the purpose of the present study is to present a more comprehensive view of similar music archaeological data between the Sumerian and Harappan cultures. It was felt appropriate to consider evidence about Sumer/Indus music culture contact in more detail before proceeding with specialised Indus work as suggested above, in order to provide a broader framework for Indus music archaeological studies. In evaluating evidence for music culture contact between the two regions, attention will be given to the chronology of the data, and also to the function of the data within each cultural area.

As with our previous study, it seems most feasible to conduct our inquiry according to the Hornbostel/Sachs classification of musical instruments. For ready reference, archaeological sites are identified on two maps. Map A includes sites noted throughout this study. Map B focuses specifically on the category of pellet rattles.[5]

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4. A communication from Dr. A. Ardeleanu-Jansen of the Forschungsprojekt Mohenjo-daro in Aachen (Rheinisch-Westfälische Technische Hochschule), dated 27–2–1992, notes that 'at least 273 bird figurines' have been excavated at Mohenjo-daro. This number is in marked contrast to the ten instances of bird-shaped vessel flutes from the Indus area known in various archaeological reports (Flora 1988, 209). Though not all the bird figurines may be vessel flutes, this large discrepancy nevertheless indicates that much detailed work awaits music archaeologists interested in the Indus area. I am grateful to Dr. Magdalene von Dewall of the South Asian Institute at the University of Heidelberg for drawing attention to the Forschungsprojekt Mohenjo-daro during the discussion of my paper at the conference.

5. I am grateful to Mr Gary Swinton and Ms Natasha Velleley of the Department of Geography, Monash University, for assistance with the preparation of maps, tables, and signs of the Indus script that appear in this study.

IDIOPHONES

In this section three types of musical instrument will be considered: pellet rattles, clappers, and clay percussion pots. Data for pellet rattles are much more extensive than for either of the other two categories.

PELLET RATTLES

The collation of data about rattles from Mesopotamia, nearby regions, and the greater Indus area, in association with data from Turkmenia, presents a fascinating picture. Firstly, eleven types may be identified. Secondly, a particular type among the earlier artefacts is the most fully developed, in both material and design. Finally, the rattles in each region are linked by a common feature. They are pellet rattles, with one or more interior pellets. The data may initially be divided into two simple groups according to shape: (1) pellet rattles without a handle, and (2) pellet rattles with a handle.

Concerning the first group, this type shows further division according to two large geographic areas, east and west. Somewhat unexpectedly, data from the greater Indus area appears to precede data from Mesopotamia.

To the east the rattles are made of clay. Their shape is basically spherical, or occasionally ovoid. The first evidence has been found at two sites in the Quetta Valley of Baluchistan, Damb Sadaat and Kile Gul Mohammad, and dates from *c.*2600 BC (Fairservis 1956, 228–9). These data consist of fragments and a complete artefact (fig. 1a).[6] In total they show a smooth surface, a completely perforated surface, and a partially perforated surface. One fragment (fig. 1a:e) shows both a complete perforation and partial perforations. Additionally, several fragments are decorated with incised circles. One fragment (fig. 1a:f) with a smooth surface shows painted concentric circles of 'black or reddish brown' (Fairservis 1956, 229). Another fragment (fig. 1a:g) is decorated with dots.

Between the Quetta Valley and the core Indus area, two further sites have yielded pellet rattles, Mehrgarh and Sibri (Flora 1988, 213). Some rattles show painted designs in geometric style (fig. 1b; see Jarrige and Lechevallier 1979, 530). One rattle from Sibri has incised signs which, according to Santoni (1984, 56–8, fig. 8.4.C.), 'could represent numbers'.

Rattles with a smooth surface and painted designs appear in greater number in the core Indus area (Flora 1988, 211–3), where some are perforated (fig. 1c), and others are partially perforated (Vats 1974, 454). One rattle from Harappa (fig. 1d) is incised with two signs of the still undeciphered Indus script ().

The sign to the left on the Harappan rattle is commonly found on many Indus seals (Mahadevan 1977, 597–653, also *ibid.* 35, sign no. 342). It is also found in several instances as the initial left sign with various sets of marks inscribed on pottery from Mohenjo-daro (Dales and Kenoyer 1986, 259, 341, 415, 417, 456–8). By comparison, the sign to the right appears only eleven times in the corpus of Indus texts (Mahadevan 1977, 481–2; also *ibid.*, 34, sign no. 226). According to Mahadevan (*ibid.*, 737), these two signs appear together as a 'pairwise combination' only three times in the corpus, of which our rattle seems to be one instance. The appearance of the signs on a rattle is an unsolved problem for both philology and music archaeology. On a different but related issue, the evidence suggests that the practice of incising clay pellet rattles progresses from incised

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6. I am grateful to Mr Brian Carr and Ms Rhonda Joyce of the Department of Geography, Monash University, for their assistance in preparation of the illustrations for this study.

circles in the Quetta Valley, to signs in the Indus borderlands, to elements from the Indus script at Harappa.

Data from the eastern area may conveniently be collated as in Table 1, which simulates geographic realities to some extent, and coincidentally may reflect a chronological sequence as well. In this comparative overview, numbers in parentheses identify six types of pellet rattle without a handle from the greater Indus area.

Turning to the western area, it seems unusual that the earliest known pellet rattles in this region are much more refined than the rattles characteristic of a later period. The early rattles are made of copper, ovoid in shape, and are exceedingly rare. From the Barbar temple on Bahrain, one of these artefacts (fig. 2a) 'with sides pierced by triangular holes and a lug at either end corresponds with a rattle found in the area near the royal tombs in Ur' (Mortensen 1971, 396). The Barbar artefact was excavated 'from the foundation deposit of the second temple', and has been dated *c.*2600–2370 BC. Three other similar rattles have been found in a grave at Tepe Giyan, in west central Iran. They have been dated *c.*2050 BC (Mortensen *ibid.*).

From the somewhat later Old Babylonian Period in Mesopotamia, *c.*1950–1530 BC, two types of clay pellet rattle survive, determined by shape. A zoomorphic type (fig. 2b) includes eight different animals, among them birds, a Bactrian camel, turtles, wild pigs, and hedgehogs (Rimmer 1969, 20 and pls IIIa–b; Rashid 1984, 98–101). Rashid (1984, 98) has noted that a bird rattle from Nippur dates a few centuries earlier, *c.*2350–2150 BC. A rattle in the shape of a hedgehog has also been found at Tepe Giyan nearby in Iran.

The second type of pellet rattle without a handle (fig. 2c) from the Old Babylonian Period has been given the apt descriptive appellation 'pie-crust' by Joan Rimmer (1969, 20). These circular rattles contain one and sometimes two holes. Both the zoomorphic and the 'pie-crust' rattles are widely distributed in Mesopotamia, having been found at eight different sites. Approximately thirty zoomorphic rattles have been excavated, as well as more than one hundred of the 'pie-crust' type (Rimmer 1969, 48; Rashid 1984, 100). Data for the three types of pellet rattle without a handle from the western region—types 7, 8, and 9—may also be conveniently summarised (Table 2).

Proceeding now to the second fundamental morphological category, pellet rattles with a handle (fig. 3a), artefacts of this type also are exceedingly rare. They are made of clay and known by only six examples; a damaged rattle and complete rattle from Shah Tepe in Turkmenia (Arne 1945, 76–7, fig. 65.7; 259–60, fig. 542), three rattles from Mesopotamia (fig. 3b; see Rashid 1984, 100–1), and one artefact from Harappa (fig. 3c; see Vats 1974, 454). These data also appear to fall into two sub-groups, again according to eastern and western geographic areas.

The rattles from Shah Tepe and Mesopotamia are perforated, and the Shah Tepe rattle shows a tapering pointed handle. The body of these rattles flows more or less evenly into the handle. Part of the handle on the Kish artefact appears to be broken off. Given the Shah Tepe artefact, one may assume that the handle on the Kish rattle also tapers to a point. By comparison, the singular instance of a pellet rattle with a handle from the Indus area shows a marked shoulder. This feature seems to define a junction of handle and body. The handle also appears to be basically cylindrical, relatively short, and terminates abruptly. Nonetheless, the length of the Harappa rattle is similar to that from Shah Tepe. The latter artefact measures 8cm. (Arne 1945, 259) while the Harappa rattle is '2.9 inches' (Vats 1974, 454), or approximately 7.3cm. The ultimate meaning of these rather subtle differences and similarities, even determining whether they are in some way significant or not, can only await the discovery of relevant additional artefacts.

The damaged rattle from Shah Tepe also has the handle broken off, and has been dated approximately one millennium earlier than the complete artefact, *c.*3000 BC, in contrast

to *c.*2000 BC (see Arne 1945, 77, 259, 323). The date of the complete artefact from Shah Tepe accords much better with the similar rattles in Mesopotamia, which have been dated to the Old Babylonian Period, *c.*1950–1530 BC. The data for pellet rattles with a handle, both east and west, may be usefully summarised (Table 3). As an aid in documenting the limited artefacts of this basic type, catalogue numbers have been included in our summary.

In considering contexts of performance for pellet rattles, interesting specific data and general observations by Rashid and Hickmann may be mentioned. As noted, the copper rattles were found in the Barbar temple and near the royal graves of Ur, and also in a grave in Tepe Giyan. The first two locales suggest a high socio-cultural status for the respective artefacts. Such an interpretation is also supported by the use of copper, and additionally by the high level of craftsmanship required to produce the finely wrought rattle of the Barbar temple. In discussing the function of rattles, Rashid (1984, 98) has noted as follows:

> 'Gefässrasseln aus gebranntem Ton lassen sich in der frühesten Zeit der gesellschaftlichen Entwicklung bei sämtlichen alten Kulturen einschliesslich des eruopäischen Neolithikums nachweisen. Im Glauben an ihre magische Wirkung finden sie bei der Beschwörung der Geister, bei Regenzauber und Krankenheilung, bei Fruchtbarkeits kulten und Opferriten Verwendung.'

Rashid then includes a quotation from Hans Hickmann (1963, 10), the well-known music archaeologist of ancient Egyptian culture, which is also germane to our discussion:

> 'Die mit Ösen oder anderen Aufhängevorrichtungen versehenen Tonrasseln der Vorgeschichte sind oft zu mehreren gefunden worden. Sie wurden am Gürtel des Priesters oder Zauberers aufgereiht. Aus den rhythmischen Bewegungen des tanzenden Priesters entstand dann erst sekundär die musikalische Bedeutsamkeit der an Hüfte, Handgelenk und Fuss aufgehängten Rasseln oder der im Takt geschwungenen, zu Beschwörungsliedern, Initiationsriten oder bei anderen Festen verwandten Handgriff-rasseln.'

The lugs on the Barbar rattle seem to suggest a similar function, that they existed for tying the rattle to something or someone.

By comparison, the clay pellet rattles, as examples of quite a different technology, may have been accorded a different, perhaps lower, socio-cultural status. In general they are not as impressive as the copper artefacts. Additional research is needed to determine more clearly the contextual circumstances of the Tepe Giyan copper rattles, the clay rattles with a handle from Shah Tepe, Mesopotamia and Harappa, and as well the numerous clay pellet rattles without a handle of Mesopotamia and the Indus area.

To summarise the data, it is informative to note the similar and contrasting patterns. The story with pellet rattles seems to be one of regional norms. Although the concept of 'pellet rattle' is a continuing link across time, type, and geography, on the Mesopotamian side copper rattles of an ovoid shape appear to be succeeded by two types of clay pellet rattle also without a handle, those with zoomorphic shapes and the 'pie-crust' shape. By contrast, only clay rattles are known in the greater Indus area, and six types of spherical and sometimes ovoid pellet rattle without a handle may be discerned. Painted geometric designs, partial and full-fledged perforations in large numbers per rattle, and the practice of incising circles, signs, and script, stand in marked contrast to the zoomorphic and 'pie-crust' pellet rattles in Mesopotamia. Whereas data in the greater Indus area show

variety in the treatment of the surface of a clay rattle, the Mesopotamian data show variety in material of construction, and in zoomorphic shapes. In the eastern region the various methods of treating the surface appear to become manifest first not in the Indus area, but in the Quetta Valley.

In contrast to data for regional norms for pellet rattles without a handle, pellet rattles with a handle argue for culture contact. In this case the contact is not directly between Mesopotamia and the Indus area, but between Shah Tepe and Mesopotamia. A link between Shah Tepe and Harappa is possible but not certain, as the pellet rattle with a handle from the east is noticeably different. Future excavations may reveal new artefacts that will clarify this issue. Additional data for culture contact is the basic concept 'pellet rattle' itself, which is common to all the regions noted above, east and west.

Though five copper rattles have been excavated in the western region, clay pellet rattles are notably dominant in Mesopotamia, and clay is the sole material of rattles in the Indus area. Also notable is the variety of clay rattles in both regions, and the large number of these artefacts found in Mesopotamia. Data for pellet rattles in the large inclusive geographic area may be condensed into a useful overview (Map B). To conclude this section, the pellet rattles of east and west may be collectively tabulated according to type and location (Table 4).

CLAPPERS

Concerning another sub-category of idiophone, known generally as clappers, the comparative situation between Sumer and the Indus area is not clear. The clapper artefact reported from Harappan culture has not been observed by this author, its current location is not certain, nor has anything more than a very general description of this musical instrument been found in the literature. Mackay (1935, 184) has noted a pair of 'castanets', which suggests non-metallic material such as wood, ivory, or bone. Another archaeologist (Dikshit 1939, 30) has described the artefact as 'like a modern *karatāla*'. As *karatāla* is a generic term in South Asia (see Dick 1984b), that description is not satisfactory for our purposes. Concerning the location of this evidence, Dikshit was in charge of the excavation of a certain area at Mohenjo-daro, the DK section. Mohenjo-daro is a second important urban site of the greater Indus area. The artefact could well be from this area of this site, and thus be among the 'DK' Mohenjo-daro artefacts in a museum in Pakistan or elsewhere. To establish the relevance of this artefact within the context of musical culture contact between Sumer and Harappan culture when the artefact is sighted, an outline has been prepared which summarises clapper data in Sumer and lists additional possibilities according to current ethnographic data in South Asia (Table 5). Seven different types are noted, an interesting variety of possibilities for the Indus artefact. Contexts of performance are included as well. Each type is also visually documented (figs 4a–d and 5a–c).[7]

The data collated in Table 5 suggest chronological change in clapper morphology in Sumer from type 1 to type 4, except that an illustration of type 1 (fig. 4a) occurs in the period of type 3, on a cylinder seal dated *c.*2450 BC. If clappers of type 1 had fallen out of

7. Fuller documentation for the seven types of clappers is as follows: (1) Rashid 1984, 48–9, fig. 16; 52–3, fig. 29; Stauder 1980, 197; (2) Rashid 1984, 48–9, fig. 15; 50–1, fig. 23; 52–3, fig. 30; (3) *ibid.*, 40–1, fig. 8; 64–5, fig. 42; (4) *ibid.*, 64–5, fig. 44; (5) Dournon 1984, 422; (6) Kothari 1968, 23, pl. 3; (7) Henry 1988, 201, 215, photo 18. For details of the various contexts of clapper use in Sumer, see Rashid 1984, 48, 50–1, fig. 23; 52–3, figs 29 and 30; Stauder 1980, 197.

use by *c.*2450 BC, this illustration could represent the persistence of an iconographic motif, or an earlier cylinder seal found in a later stratum. Moreover, Stauder (1980, 197) has reported evidence for hinged clappers on 'a fragment of inlaid work of the Mesilim period', *c.*2650 BC, which suggests that type 4 (fig. 4d) may have been in use in Sumer considerably earlier than indicated on the documentation cited here, *c.*2300 BC. Thus, the morphology of clappers in Sumer appears to be a relatively complex issue. New data may confirm or deny the change in clapper morphology in Sumer implied in Table 5.

CLAY PERCUSSION POTS

At the end of our discussion about idiophones it is interesting to note another musical instrument that could have been a part of musical culture in the Indus area. In their recent extensive study of pottery from Mohenjo-daro, Dales and Kenoyer (1986, 465, pl. 28b) include a photograph showing the current use of large 'ordinary pots' as percussion instruments by Sindhi musicians in southern Pakistan. For music archaeology in South Asia, the implications of this observation for ancient Indus musical culture, a culture known for its prolific manufacture of pottery, has a delightful and not unfamiliar ring, especially given the widespread use of large pots of baked clay as percussion instruments today in the subcontinent, from the *māṭki* of Rajasthan and the *nut* of Kashmir to instruments much further afield from the Indus area, such as the *ghaṭam* used in the classical Karnatak tradition of South India (Kothari 1968, 26; Dick 1984a). Before this notion of the possible use of percussion pots in ancient Indus musical culture can become anything more substantial, however, and maintaining a sense of caution due to the limitations of ethnographic analogy for issues in music archaeology (Lund 1985), an argument needs to be advanced based on artefacts, or new data relevant to this issue need to be excavated. Percussion pots do not appear to have been used in ancient Sumer.

MEMBRANOPHONES

Within this family two types concern us here, the frame drum and the goblet-shaped drum. Though data for music culture contact are more convincing for the first type than the second, certain problems arise in each instance.

FRAME DRUMS

The frame drum is well known in Sumerian music culture (Rashid 1984, 40–1, 96–7), with early evidence dating from *c.*2450 BC, when it appears placed horizontally on the lap of a jackal or fox in an unusual scene that shows two animals playing musical instruments and a third perhaps dancing or clapping (fig. 4c). In succeeding eras the instrument appears in iconographic data more frequently, especially during the Old Babylonian Period, *c.*1950-1530 BC. In total, twelve different illustrations of the frame drum from Mesopotamian antiquity have been published in two valuable music archaeology sources and in a more general discussion (see Rimmer 1969, pl. VI:a and c; Rashid 1984, figs 8, 58–9, 91–5; also p. 76, text illustration; Mallowan 1965, ill. 142).

The great majority of these illustrations consist of small terracotta reliefs showing a nude female with either a small or a relatively larger frame drum. In most of these instances the instrument is held before the chest of the musician (fig. 6a), and in a few

instances to the musician's left and slightly higher at the shoulder (fig. 6b). Different hand positions suggest that a certain variety of playing techniques may have been used. It is thought that these small terracottas may have been votive objects associated with the cult of Ishtar (Rashid 1984, 96). As noted in Part II of the outline just above, Stauder (1980, 197) has stated that in Sumer frame drums replaced clappers 'in the performance of ritual dances'. Stauder (1970, 184) has also observed that Akkadians introduced frame drums into Sumerian culture (see Rashid 1984, 96 n. 9). At least five sites in Mesopotamia have yielded these objects, and according to Rashid (*ibid.*, 96), numerous artefacts of obscure provenance of this type are found in museum collections.

In marked contrast to the numerous depictions of a frame drum in the hands of isolated single figures as above, three illustrations show the drum being played with different stringed instruments (Rashid *ibid.*, 74–7). In one instance it is played with a lute (fig. 7a). In two other instances it is played with a lyre (fig. 7b). In the first of these illustrations, which is explicitly erotic in nature, the frame drum is played by a female and the lute by a male. This gender association for the frame drum accords with females being depicted on the numerous terracottas showing frame drums, and with the participation of females in cult dances playing clappers, and then, in later centuries, drums (Stauder 1980, 197; Rashid 1984, 84). In the remaining two illustrations, however, this gender association is reversed. In each case a nude female is shown playing a lyre, while before the lyre player a male wearing a knee-length skirt plays a frame drum, and is squat with right leg extended straight forward and left leg folded to the back.

Rashid interprets this stance as depicting a type of vigorous or acrobatic dance, and notes a similar position in contemporary folk dances from Central Asia (Rashid *ibid.*, 76), such as among the Cossaks. Another scholar of Mesopotamian culture, Moortgat, has linked the latter two reliefs with the Tammuz cult, and possibly with its new year festival (Rashid *ibid.*). Whatever the relatively specific cultural interpretation given to the two latter terracottas, which show a male playing a frame drum and dancing before a female lyre player, in considering these two reliefs in combination with the scene showing a female playing a drum and a male lutist, one picks up a suggestion of what is perhaps a more broadly based female/male duality or symbolic theme. In each of the three instances of a frame drum with another instrument just noted, the two musicians depicted are of opposite gender.

In Harappan culture a single male figurine with a frame drum held at its chest (fig. 6c) was excavated from the lower levels of Mohenjo-daro (Mackay 1938, 280). The instrument represented appears to be relatively small, and Mackay (*ibid.*, 266) interprets the bandy legs of this figurine as depicting a dance posture. The small size of the frame drum accords well with a small drum shown on a terracotta from Tello in Sumer (fig. 6a.) Moreover, the theme of a male musician playing a frame drum and dancing, as suggested by Mackay for the Mohenjo-daro figurine, has been noted in Mesopotamia. A lower level at Mohenjo-daro points to a middle date in the Indus epoch, *c.*2250–2150 BC, but later dates in Mesopotamia suggest the last few centuries of the mature Indus era, if a link may be established in the data, and if some type of diffusion of music culture from Sumer to the greater Indus area is accepted. Holding to this latter assumption for the moment, notwithstanding the male gender of the Mohenjo-daro figurine when compared with the marked preponderance of females with frame drums in Mesopotamian data, the evidence for a frame drum in Harappan culture has notable models in Sumer. The male gender of the Indus figurine calls for a more detailed investigation of the rare instances of male musicians with a frame drum in Sumerian data. The small size of the frame drum represented on the Mohenjo-daro figurine should also be kept in mind. In Mesopotamian data the two males depicted with a frame drum appear to play a larger instrument.

In contrast to this data for the presence of a frame drum in Indus culture, a second figurine (fig. 6d) from Mohenjo-daro is problematic. Though its right leg has been broken off, its left leg is similar to the first Mohenjo-daro figurine, a stance which according to Mackay (*ibid.*, 266–7) suggests another illustration of a dance pose. In this instance, however, the item that may represent a frame drum is a larger circular form held at the chest, which shows a relatively small hole near its centre.

A third male figurine has rather similar bandy legs and arms held moderately outwards, without any suggestion of the presence of a frame drum (Mackay *ibid.*, 278, and pl. LXXV:13). This figurine is also interpreted by Mackay as depicting a dance pose. Research is needed to define more clearly the contextual circumstances of the excavation of these three Mohenjo-daro figurines. Excluding the last figurine, which is briefly noted here as it is similar in stance to the other two and may add to the data for music or dance in the Indus area, data for frame drums in Mesopotamia and Mohenjo-daro may be usefully collated for an overall view (Table 6).

GOBLET-SHAPED DRUMS

The second type of membranophone, a goblet-shaped drum, has also been identified on a Mesopotamian figurine of unknown provenance (fig. 8a) dated to the Old Babylonian Period (Rashid 1984, 96–7). Though the goblet-shaped form is clearly attested in this evidence, regardless of damage at the upper rim of the instrument, information derived from the single Indus figurine that possibly illustrates this type is not clear (fig. 8b). As Mackay (1931a, 346) has noted, it shows 'a woman holding some kind of utensil, or perhaps a drum, under her left arm'. This figurine is also from the lower levels of Mohenjo-daro.

Due to the later history of hourglass-shaped drums in South Asia, such a possibility for the identification of this 'drum' was suggested in our previous study (see Flora 1988, 217–8). The position of the object under the left arm would agree with this hypothesis. Nonetheless, as the head of our Indus 'drum' appears to be somewhat concave, uncharacteristic for a taut membrane covering a circular opening on a drum type, a drum interpretation for the Mohenjo-daro figurine, either goblet-shaped or hourglass-shaped, cannot be advanced with confidence.

CHORDOPHONES

Unlike the plentiful and dramatic evidence for highly developed and richly ornamented chordophones in Sumer, data for stringed instruments in the Indus area are very limited. Two artefacts may be remnants of a lute. Further, data for the presence of a harp and two different types of lyre consist of only a few abstract representations. These images may not reflect the presence of harps and lyres in the musical culture of the Indus people, but the eastward diffusion of symbols for these instruments. A discussion of the data representing harps and lyres in the Indus region and their antecedents in Sumer and Dilmun, and the two 'lute' artefacts, in light of Sumerian data, will illustrate the need for more extensive evidence before cultural contact with respect to chordophones between the Indus area and regions further west may be brought into sharper focus.

HARPS

Two 'harp' representations are known in Harappan culture, where they appear as signs in the undeciphered Indus script. Though basically similar, they are also appreciably different. The first instance appears as one of three signs in a text attested on a square seal from Mohenjo-daro (fig. 9a). In the convex or positive reading produced by this seal (fig. 9b), first published by Marshall in 1931 (pl. CV:46), the sign consists of an arch open to the right with three vertical lines. Though not identical with Sumerian data, this sign appears to correspond to three illustrations of a pictographic arched-harp motif there, each of which shows an arch open to the right with three vertical lines. The additional element in the Sumerian data (Rashid 1984, 52–3), not present in the sign from Mohenjo-daro, is that in each instance a lower boat-shaped resonator is also depicted (figs 10a–c).

In addition to the three pictographic characters from Sumer, dated *c.*3000 BC, well before the Indus epoch, two additional illustrations of a three-stringed arched harp from Sumer date from a later period, *c.*2650–2600 BC, and show the instrument in two different contexts. In the first instance the harp is shown open to the right in the hands of a standing musician in a symposium scene (fig. 11a). In the second instance the instrument is open to the left, and a seated musician appears to hold the instrument on her/his lap in what may be a pastoral scene (fig. 11b). The arms of the musician are outstretched to the middle of the instrument, a feature also depicted in the first contextual illustration. Both illustrations also clearly show a lower resonance chamber.

Concerning the second Indus 'harp' character, it is found in two instances of a different text on bas-relief tablets from Harappa (fig. 9c), on artefacts 680 and 692 (Vats 1974, pl. C:680 and 692; also pl. CXIII, sign 323a). In this case, however, artefact 680 shows an arch open to the left, opposite to the Mohenjo-daro sign, with three vertical lines, which corresponds to the Mohenjo-daro sign. The photograph of the other 'harp' sign from Harappa, on artefact 692, is too dark to read clearly. One assumes that this sign is the same as on artefact 680, as the other two signs of 692 match those of the clearer reproduction. This being the case, the Harappa 'harp' sign opening to the left as originally published by Smith and Gadd (Marshall 1931, pl. CXXIV, sign CLXXXVIII), and as subsequently reproduced by Deva (1978, 267) and Flora (1988, 214), is incorrect in the detail of showing four vertical lines instead of three.

In his sign manual for artefacts from Harappa, Vats (*ibid.*, pl. CXIII, sign 323) interprets this 'harp' sign as the variant of an arch facing left that is closed by a single vertical line, D . In Mahadevan's comprehensive concordance of the texts of the Indus corpus, however, this latter sign and five similar signs occur numerous times, D , which may represent a bow and arrow, occurring approximately seventy times in the Indus corpus according to Mahadevan's data (Mahadevan 1977, 553–6). The four other signs similar to D in the Indus corpus could be interpreted as a schematic drawing of an arched harp, with string ends projecting from the top of the arch; namely, the signs D , D , D , and D (Mahadevan *ibid.*, 553, 790). The last sign occurs in three texts, the second of these with three strokes in one text (*ibid.*, 553). The first and third signs are considered to be variants of sign four (*ibid.*, 790).

One other point should be noted concerning the two texts with opposite 'harp' signs. The left sign in the Mohenjo-daro text has five horizontal strokes, while the left sign in the Harappan text has seven. According to Vats (1974, pl. CXII, sign 268), the sign with five lines occurs in thirty texts in the Harappan corpus. The sign with seven lines occurs in only four Harappan texts (Vats *ibid.*, pl. CXII, sign 271), one of which also includes the Harappan 'harp' sign.

In light of the interpretation by Vats that  is a variant of  , and given the four new 'harp' sign possibilities noted above in Mahadevan's concordance, one would be justified in doubting whether the 'three-stringed harp' signs from Harappa and Mohenjo-daro actually represent or symbolise a chordophone at all. Nonetheless, an argument supporting a 'harp' interpretation is that the ends of the arch project beyond the longest vertical line, reminiscent of the Sumerian signs. This feature also accords with much later illustrations of the arched harp in ancient South Asian music culture (fig. 11c). Aware of the pros and cons associated with the two more convincing 'harp' signs in the Indus corpus, and taking cognisance of four additional possible 'harp' signs as well, this issue must remain at loose ends until new data is received or a new argument put forward.

BULL LYRES

In a stimulating development, Asko Parpola (Parpola 1988) has recently identified what he considers to be two illustrations of the bull lyre in Harappan culture, an instrument well known in Sumer (fig. 12a; see Stauder 1980, 196). These representations are found on two seals from a third site in the Indus area, Chanhu-daro (figs 13a and b). The abstract of Parpola's paper,[8] presented to The Indian Ocean in Antiquity Conference held at The British Museum in July 1988, succinctly states his argument:

> 'The motif engraved on [the first] seal [CH 1801] is not "an antelope standing in a thicket", as suggested by Mackay (1943, 142), but the Sumerian "bull-lyre" known from both directly preserved examples and glyptic art, especially from the Royal Cemetery of Ur. In the Mesopotamian seals the "bull-lyre" motif is associated with the "banquet scene". It appears in the Early Dynastic A period and is most common in the Early Dynastic B period.
>
> The other seal (CH 1652) is round with a pierced knob in the back and made of grey pottery. It clearly represents a post-urban Jhukar period. The motif is described by Mackay (1943, 290) as 'two animals (oxen?), one placed above the other. Vertical markings above.' Actually this very rough carving renders a variant of the above mentioned "bull-lyre" theme... Similar lyres comprising two bulls are seen on two approximately contemporaneous round stamp seals of the "Dilmun type", which have been found on the Failaka island in the Gulf.
>
> The "bull-lyre" motif is not otherwise known from the Indus iconography. These two seals suggest that the Harappans continued their sea-trade with the Gulf in the early second millennium BC and that people from Chanhujo-daro were actively involved in this trade.'

Though the bull lyre of Sumer is well known and has received extensive coverage in the literature,[9] the idea of the figure of an animal being placed upon the resonator of any lyre, not to mention a bull lyre, may seem far-fetched. Nonetheless, a stylized bull-type figure with a similar quadruped standing on its back is depicted on the two circular seals

8. I am grateful to Dr Stephen Wild, Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, for drawing my attention to Parpola's paper.

9. See Woolley 1934, 252–8, pls 75–6, 104–8, 113b–19; Barnett 1969; Rimmer 1969, 12–18; Stauder 1970, 178–82, and 1980, 196; Rashid 1984, 28–35, 38–41, 44–5, 50–1, 60–1, 64–7.

from Failaka Island at the head of the Persian Gulf (figs 13c and d). These have been dated 'in the early 2nd millennium BC' (During Caspers 1984a, 23). Both seals focus on a lyre. On one seal the three strings of the instrument extend from the cross-bar to the large resonator, without touching the smaller quadruped (fig. 13c). On the other seal, however, four strings appear to reach only the upper quadruped, which is not very much smaller than the figure on which it stands (fig. 13d). In this latter instance it appears that a craftsman may have rendered a more stylized account of the other illustration. A second possibility, however, is that the artist meant to illustrate that only the upper figure serves as the resonator, this in turn then being mounted on a more largely constructed quadruped. Whatever the case may be, the positive image of each seal shows the lyre player to the right. Additionally, the post at the front of each lyre projects upwards from the smaller figure, not from the larger animal.

To consider a similar musical instrument from Sumer, an unusual boat-shaped lyre 'with a rampant stag attached to the fore-post' (Barnett 1969, 100–1, pls XV, XVI:c) has been excavated from the Royal Cemetery of Ur, in grave pit PG 1237 (fig. 12b). It has been dated *c.*2450 BC, which is several centuries earlier than the Failaka Island seals. This rather curious instrument may have been unique in Sumer, perhaps made there by royal command, or as an experiment by an enterprising instrument maker, possibly in imitation of an instrument from further south.

Among some archaeologists the instrument depicted on the Failaka Island seals has become known as the 'Dilmun harp' (During Caspers 1984a, 23), named thus after the Dilmun cultural area of the Persian Gulf, consisting in antiquity of Failaka Island, Bahrain Island, and probably parts of the adjacent western gulf littoral (During Caspers 1979, 123). Technically, this instrument must be classified as a lyre, due to its two vertical posts and the yoke or cross-bar to which the strings are attached. It is conceivable that the boat-shaped lyre with an ornamental rampant stag from a royal grave pit in Ur may have been imported from the Dilmun area.

Approximately mid-way chronologically between the 'rampant stag' lyre of Ur and the two Failaka Island seals appears a rather dramatic illustration of a 'double bull lyre' from Tello, dated *c.*2100 BC (fig. 12c). It is found on a limestone stele which measures 1.25 by 0.63 metres (Rashid 1984, 66). As noted by Rashid, it shows eleven strings, similar to a bull lyre excavated at Ur, which dates *c.*2450 BC, and it is associated with a cult scene. Due to the evidence on this stele, Stauder and Hartmann have both suggested that by the end of the third millennium BC, the earlier meaning of the bull lyre had been forgotten in Sumer (Rashid *ibid.*). Consequently, they view the bull motif on the resonator of the lyre as being ornamental. According to the chronology of the evidence, the later Failaka Island seals may have been derived from a Sumerian model, and from there transmitted further eastward, perhaps as far as the Indus area.

This brings us to the two seals from Chanhu-daro. Though both are evocative of musical traditions further west, as Asko Parpola has pointed out, both are also problematic. The main difficulty is that in both instances a horizontal line appears to bisect the vertical strings and the two posts (figs 13a and b). Is this horizontal line a cross-bar? If that was intended, it is not represented at the top of the instrument as on one of the Failaka Island seals (fig. 13c). On the other Failaka Island seal, the upper end of the lyre does not appear to be defined by a horizontal line (fig. 13d). In this case one may assume a cross-bar at the top that is not represented.

In many respects it is reasonable to assume that a cross-bar could have been represented at the top of the strings and lyre posts on each Chanhu-daro seal, had the seal maker so desired. To counter this critique, however, perhaps the seal maker in each instance was working from incomplete or confusing secondhand knowledge. Regardless

of this uncertainty, no remnants of a lyre have been identified in the corpus of materials. This situation is the same for harps in the Indus area as well.

Placing these doubts aside for the moment, the presence of what may well be iconographic motifs for at least three different types of stringed instrument in Harappan culture, an arched harp and two different types of lyre, raises the possibility that these instruments may have been part of the musical culture of the Indus people. If future excavations uncover a storage area for musical instruments in the Indus area which yields data for music archaeology of a magnitude comparable to that obtained from instruments recovered from the royal graves of Ur, new and exciting evidence would be provided about this issue. Such data would begin to redress the current paucity of information about music culture in the greater Indus area.

LUTES

In Mesopotamian data two Akkadian cylinder seals from *c.*2350–2170 BC show a musician playing a long-necked lute (figs 14a–d). Both these illustrations and much additional later data from Mesopotamia have been carefully discussed by H. Turnbull in an important paper on the origin of the long-necked lute (Turnbull 1972).[10] Briefly, Turnbull argues that the first documentation of a lute, figs 14a and c in our study, shows a two-stringed instrument being played in an indoor religious scene. It is plucked and held in the lap. Turnbull suggests that its playing technique was freer than the lute depicted in later illustrations, which show an instrument held at the chest and played by isolated individuals, probably in an outdoor pastoral or secular context. Our illustration of a later lute with a frame drum (fig. 7a), however, appears to be an exception to Turnbull's observation. For Turnbull the earlier illustrations suggest an instrument with a higher status. The later illustrations suggest an instrument with a lower status. In either case Turnbull (*ibid.*, 63) tentatively assigns the origin of the long-necked lute to the nomads northwest of Mesopotamia. From there the instrument entered Mesopotamian culture, perhaps in two separate waves. In the early illustrations the evidence for two strings, discussed in detail by Turnbull, is entirely convincing. Two hanging tassels at the end of two strings may be seen in each instance (figs 14b and d).

Among artefacts from Lothal, a town in the south-eastern region of the Harappan culture area, thought to have been a harbour by some, Prajnanananda (1963, 87–8) has identified a small piece of shell with two semi-circular indentations along one edge as the bridge of a lute (fig. 14e). The artefact has been dated *c.*2000 BC. Measurements are unavailable and the edge opposite the two indentations which may have supported the strings of a chordophone is damaged, casting some doubt on such an interpretation. Nonetheless, a plectrum associated with this artefact may have been excavated, as S. R. Rao, the archaeologist in charge of the diggings at this site, has made an obscure reference to a 'twang' of shell (Rao 1973, 112), presumably a device to make a string on a chordophone vibrate. Shell precludes a 'twang' being part of the string itself.

From a later Mesopotamian era, the Old Babylonian Period (*c.*1950–1530 BC), Rashid has included ten additional illustrations of long-necked lutes in his extensive monograph (see Rashid 1984, 74–5, fig. 57; 92–4, text illustrations 1–5, figs 81–4). These are of the second type noted above. Adding the eleven later instances to the two earlier illustrations, there would appear to be ample antecedents in Sumer for a lute in Harappan culture. The

10. I am grateful to Dr Maurice Byrne for calling attention to this source in his response to my paper during the conference.

bridge of a two-stringed lute and a plectrum, if confirmed from Lothal, would add a new and exciting dimension to the history of the two-stringed lute in Antiquity.

AEROPHONES

A certain irony presents itself in the comparative data for aerophones. Small vessel flutes of clay have been excavated in both areas, but with this observation the similarity seems to end. Vessel flutes of two types from Harappan culture are numerous and are relatively simple in construction (Flora 1988, 209–11). By comparison, only two instances of a vessel flute have been reported from Sumer, and both are duct flutes with two fingerholes (see Engel [1864], 75–7; Galpin 1936, 14–5, pl. IV:2; Rashid 1984, 46, text illustration and drawings). This type is significantly more complex technologically than the Harappan vessel flutes.

In the Indus area, one type is shaped like a bird, with a single insufflation hole on its back near the tail (fig. 15a). The other type is pear-shaped, with an insufflation hole at the top and a fingerhole on the side (fig. 15b). The first type has been found at all levels, the second type at middle and lower levels.

In Sumer the vessel flute is triangular in shape externally, generally isosceles, but round in the interior air chamber below the 'window' at the end of the duct, which begins at the truncated end of the longer point of the triangle (fig. 15c). The two fingerholes beyond the window, on the right and left side, plus the window of the flute, give the instrument an abstract anthropomorphic appearance. The instrument reported by Rashid has been dated in the Late Uruk Period, *c.*3000 BC, well before the Indus Valley civilization.

In a manner similar to rattles in the two areas, the concept of a small vessel flute of clay is common, but the morphological details are distinctly different in the two regions. Additionally, in notable contrast to the situation with rattles, in which many more have been found in Sumer than in the Indus area, many more vessel flutes have been found in the Indus area than in ancient Sumer.

SUMMARY

Considering the specifics for music culture contact between Sumer and the Indus region, the most challenging evidence is perhaps that most recently noted, the two seals from Chanhu-daro showing what may be a lyre motif. Harp characters in the Indus script are also suggestive, as would be two 'lute' artefacts from Lothal if confirmed. Further, the male figurine with a frame drum from Mohenjo-daro may represent the southeastward extension of a Sumerian musical tradition, as may the clappers reported from Harappan culture. At a conceptual level, pellet rattles of clay and vessel flutes of clay are common to the two regions.

Nonetheless, until more substantial data for musical instruments are known in the Indus area—through iconography, the remnants of instruments themselves, or names identified in the Indus script—the extent and significance of musical influence between Sumer and Harappan culture will remain tentative and unclear. Several unresolved issues continue. A satisfactory solution in each instance will help clarify the question of music culture contact between Sumer and the Indus region.

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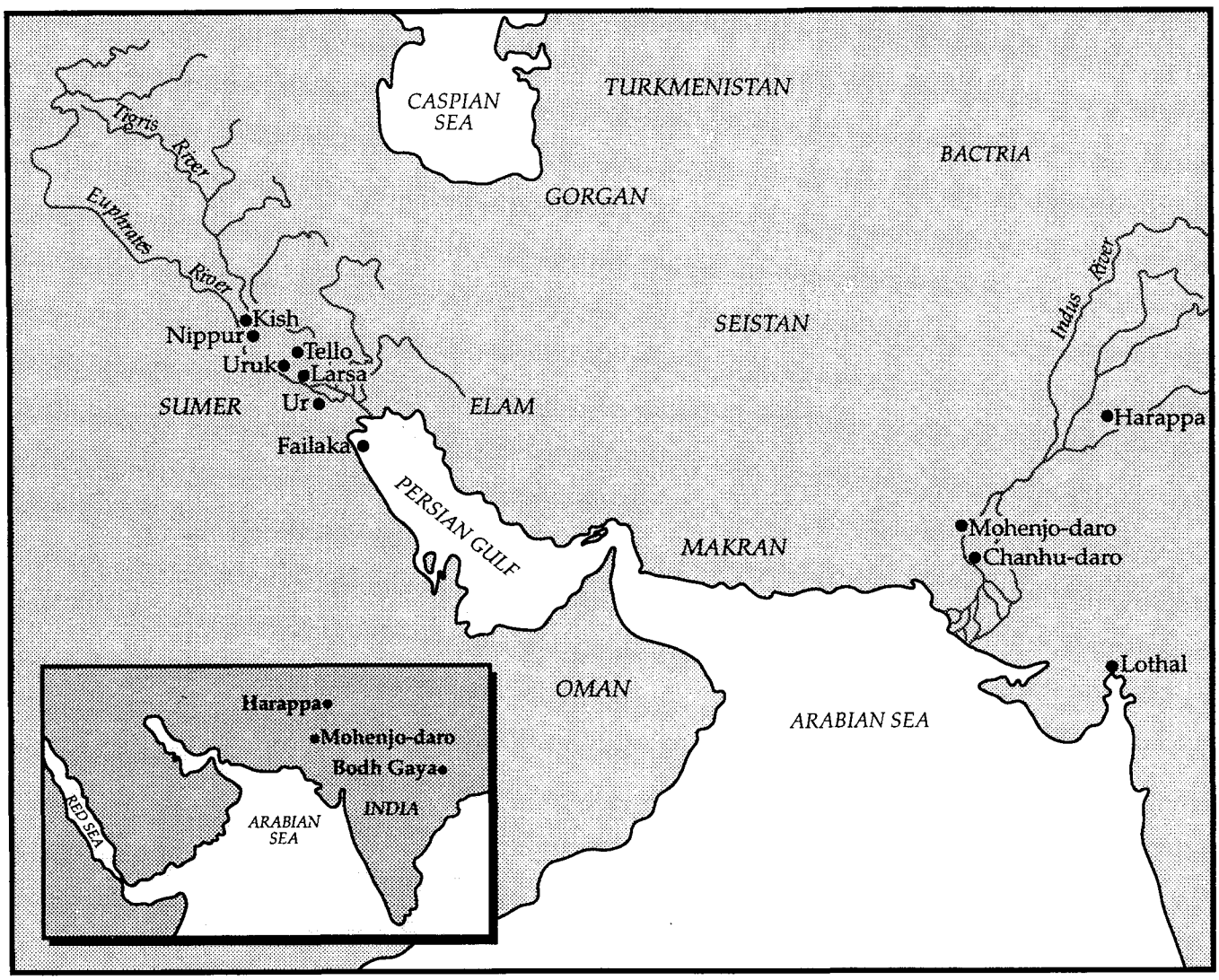
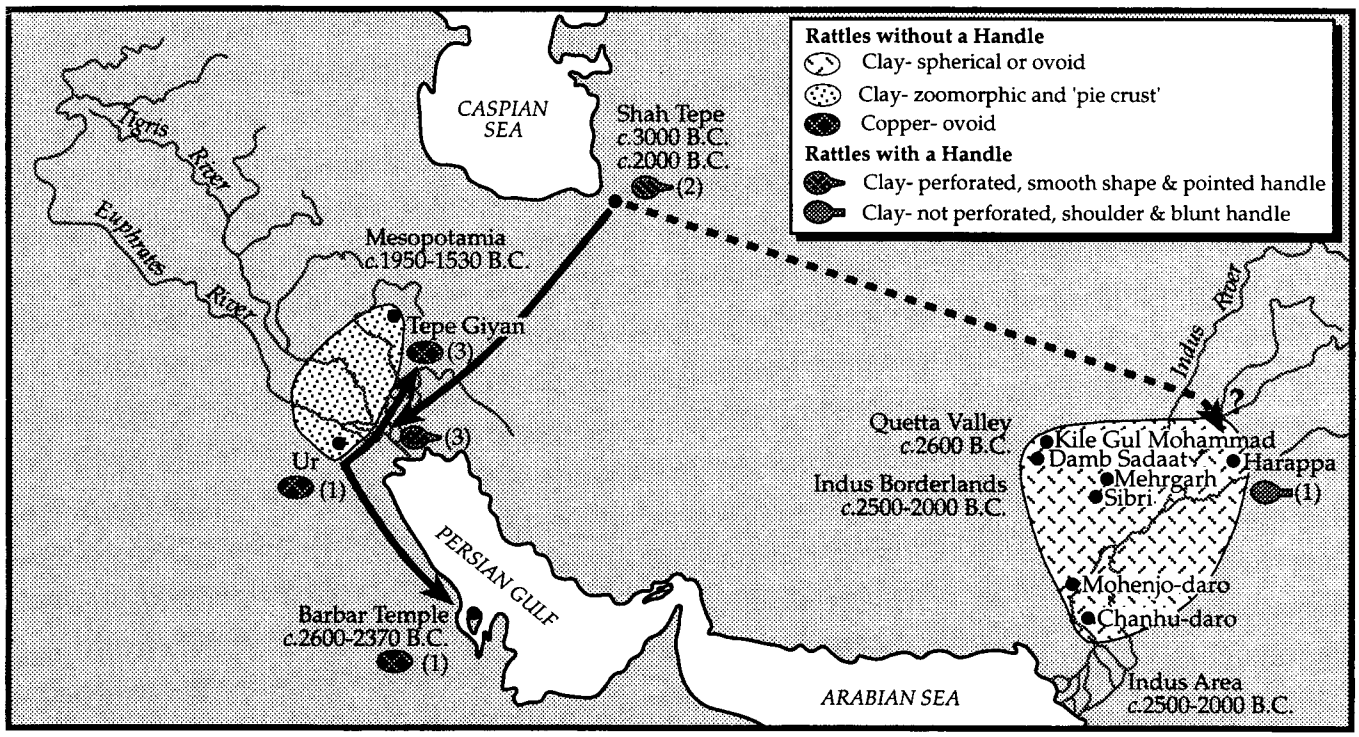
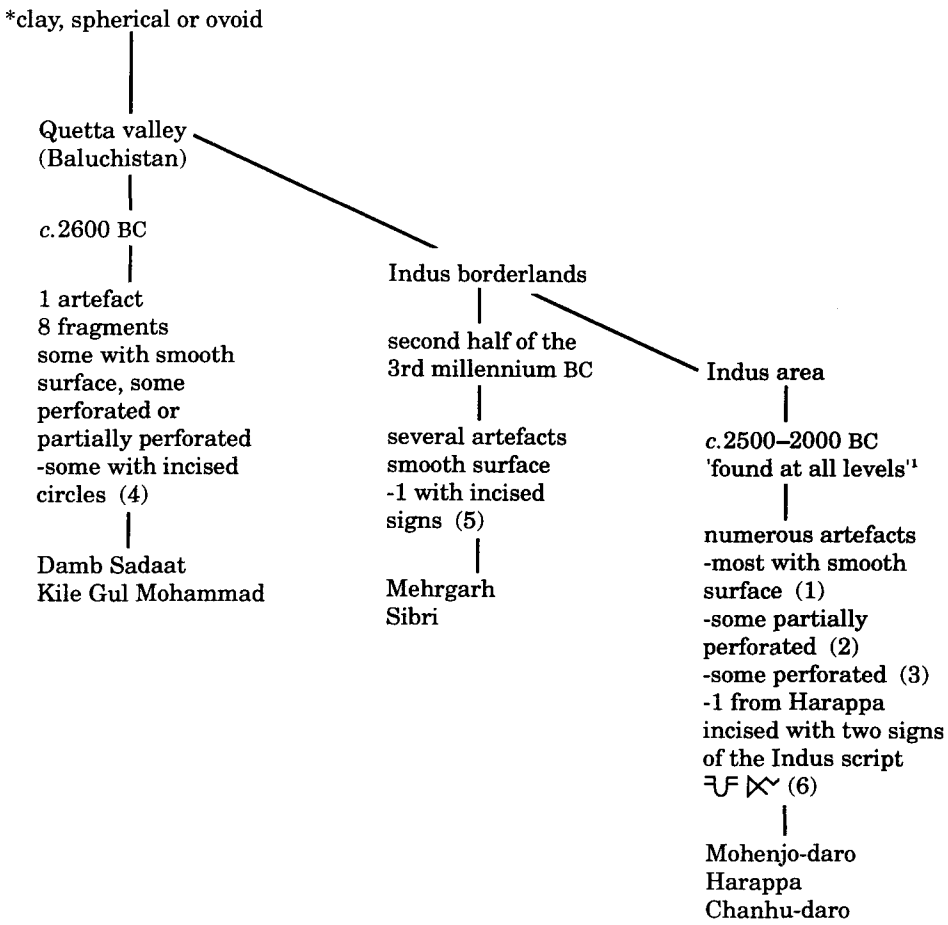


Map A: Archaeological sites in Sumer, the Indus area, and in Eastern India (adapted from Joshi and Parpola 1987, 376)



Map B: Distribution of pellet rattles (adapted from Schwartzberg 1978, 9, pl. II.3.a)



[1]Mackay 1931b, 551

TABLE 1. Pellet rattles without a handle from the Indus area and neighbouring regions

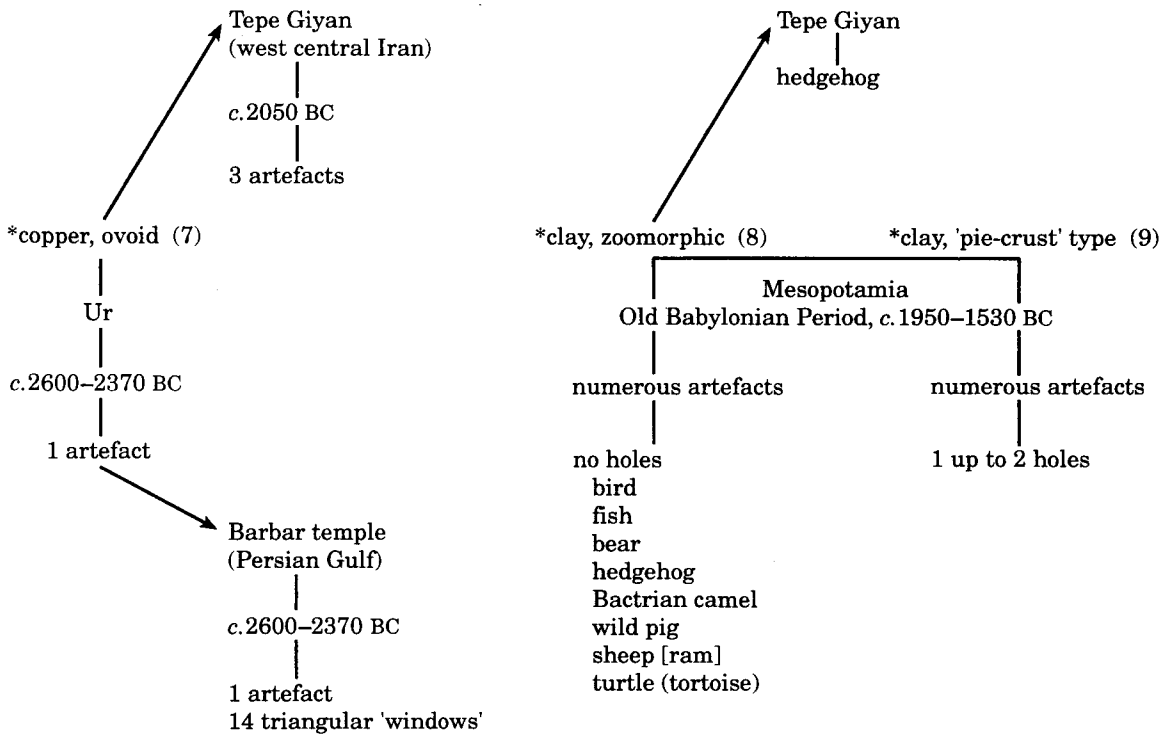


TABLE 2. Pellet rattles without a handle from Mesopotamia, the Barbar temple, and Tepe Giyan

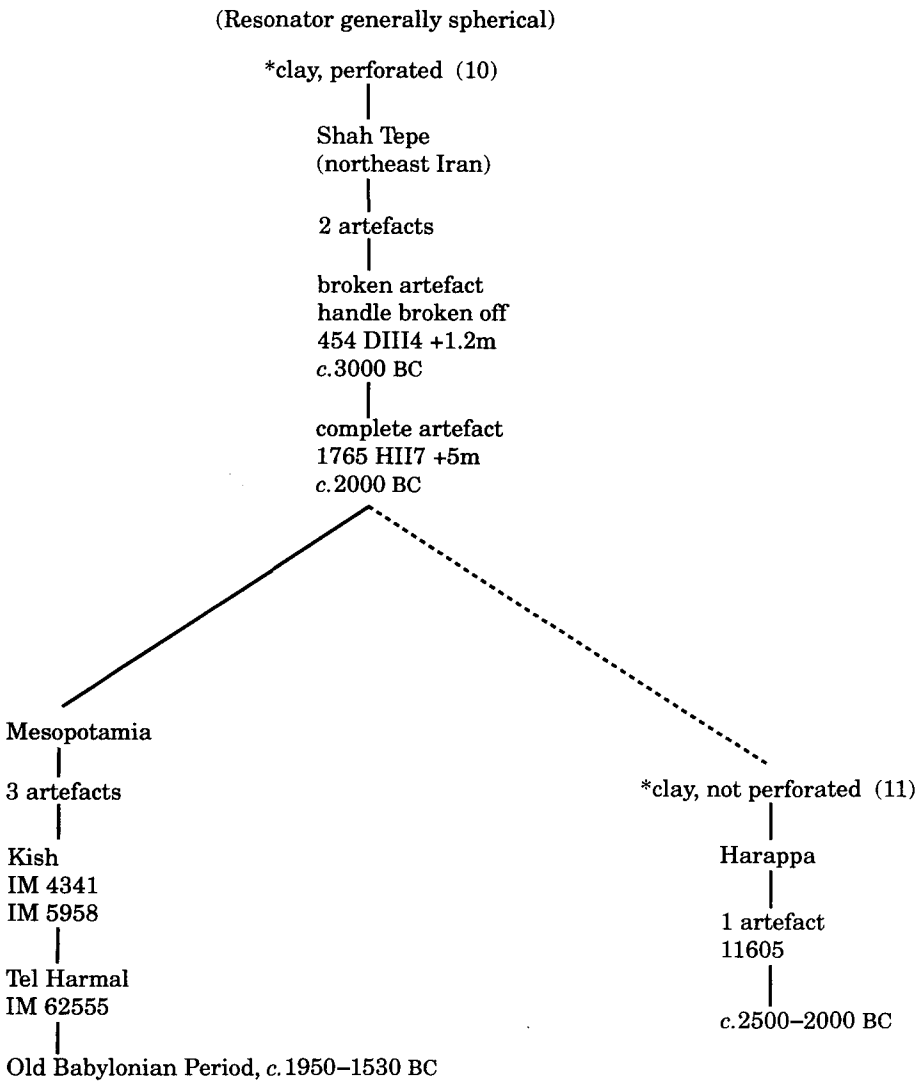


TABLE 3. Pellet rattles with a handle from Shah Tepe, Mesopotamia, and Harappa

Type	Area/Site
I. Without a handle	
A. Copper	
ovoid, with 'windows'	M/B/TG
B. Clay	
spherical/ovoid, painted geometric decoration	I
spherical/ovoid, partially perforated	I
spherical/ovoid, perforated	I
spherical/ovoid, incised circles, also with partial and/or full-fledged perforations	I
spherical/ovoid, incised signs	I
spherical/ovid, incised script	I
zoomorphic x 8 animals	M/TG
'pie-crust'	M
II. With a handle	
A. Clay	
spherical, not perforated	I
spherical, perforated	M/ST

TABLE 4. Pellet rattles arranged by type and location

I. Seven types of clappers are a possibility

*Sumer

1. Crescent- and S-shaped plaques, *c.*2700 BC — artefacts and iconographic data
   held at the bottom, one in each hand
   wooden handgrips
   15–30 cm long, 4 cm wide
   made of wood, animal horn, metal

2. Crescent-shaped plaques, *c.*2600 BC — iconographic data
   held in the middle
   no special handgrip

3. Sistrum type, *c.*2450 BC — iconographic data
   decorated panel on the front of a Sumerian lyre, Ur

4. 'A type of clappers held in one hand only....hinged clapper'[1] — iconographic data
   *c.*2350–2170 BC

*South Asia — contemporary ethnographic data

Small or medium-sized pair held in one hand
Two pairs are usually played, one in each hand
Used in various folk traditions and devotional music[2]

5. wooden plaques *(khartāl)*, solid and rectangular (western Rajasthan)
6. wooden frames *(kartāl)*, holes contain metal discs mounted on wire rods, as on a tambourine (Gujarat)
7. iron bars *(kartāl)*, narrow and pointed (eastern U.P.)

II. Wilhelm Stauder's argument for use in Sumerian cult music

Clappers ...	became replaced by ...	a small frame drum[3]
2700–2600 BC	2600–2350 BC	2150–1850 BC
Mesilim	Ur I	neo-Sumerian period
Dynastic Period I	Dynastic period II-III	Ur III

III. Summary of musical contexts in Sumer

played by females in 'ritual dances'
played with a harp — iconographic data
played with a lyre — *in situ* and iconographic data

[1]Stauder 1980, 197 [2]Kothari 1968, 23; Deva 1978, 55 [3]Stauder 1980, 197

TABLE 5. Clapper data summary

*Mesopotamia

Artefact 1	mosaic inlay *c.*2450 BC 'animal orchestra' accompanies a 'bull' lyre and held horizontally on its lap by a jackal that holds a sistrum with its right foreleg

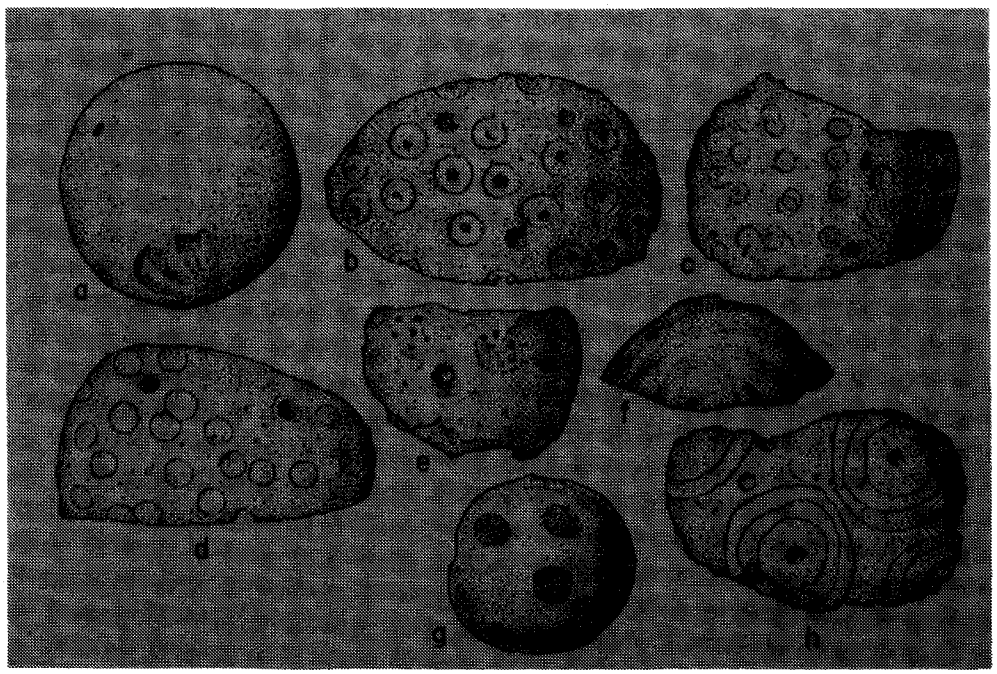
Old Babylonian Period, *c.*1950–1530 BC

Artefacts 2–9	terracotta reliefs showing females nude female with frame drum 8 frame drums 1 smaller frame drum held vertically in front of chest 7 larger frame drums 5 held vertically in front of chest 2 held vertically at left shoulder possibly votive objects, cult of Ishtar
Artefacts 10–12	terracotta reliefs 3 larger frame drums, paired with a lute or a lyre 1 played by a female opposite a lute and held vertically, away from the body 2 played by a male who dances opposite a lyre associated with the Tammuz cult and held vertically, away from the body, approximately at shoulder level, in playing position

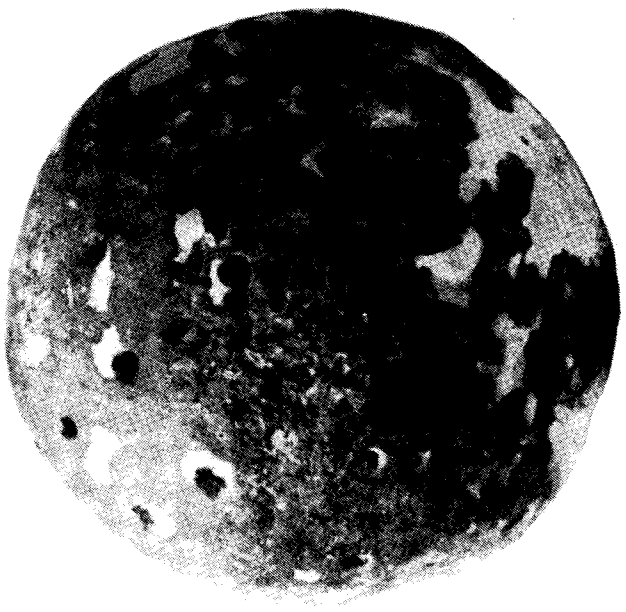
*Mohenjo-daro, *c.*2500–2000 BC

Artefact 1	male figurine, may represent dance found in 'lower levels' small frame drum held vertically in front of chest
Artefact 2	male figurine, may represent dance large circular object with small central hole held vertically in front of chest

TABLE 6. Artefacts showing a circular frame drum from Mesopotamia and Mohenjo-daro



a



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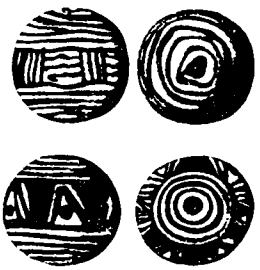
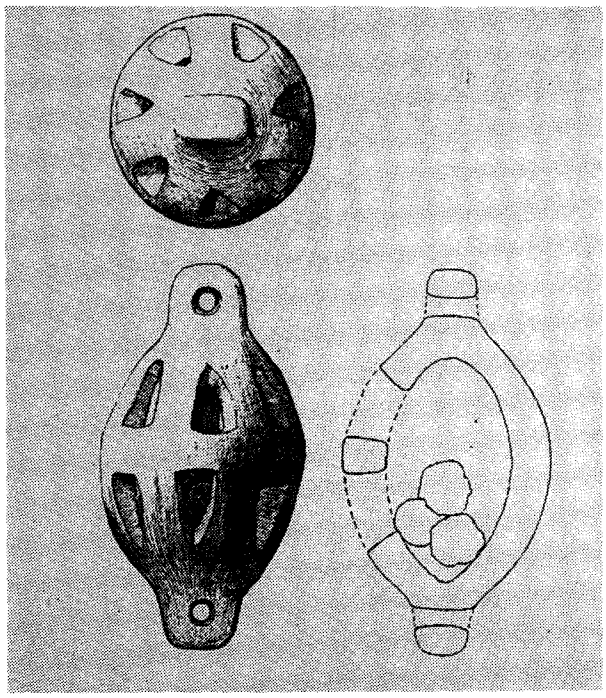


b

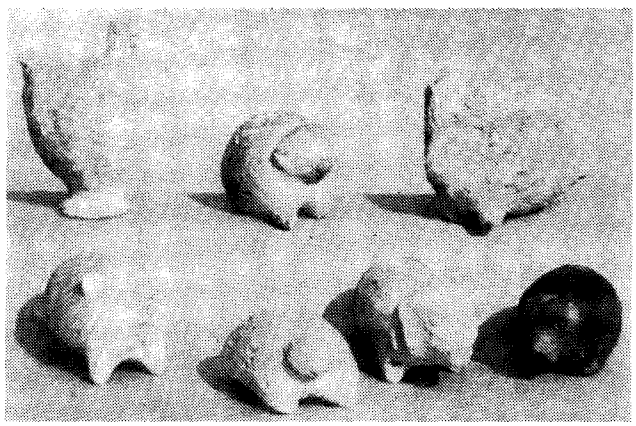
d

Fig. 1. Clay pellet rattles without a handle from the greater Indus area:

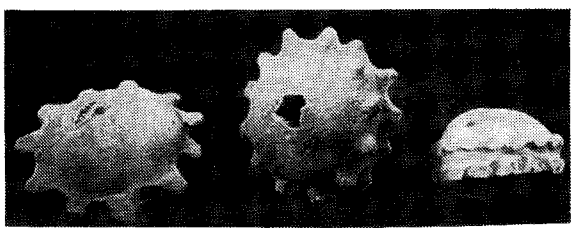
a. Damb Sadaat fragments and a complete artefact *c.*2600 BC. (Photo: Fairservis 1956, fig. 22)
b. Mehrgarh painted designs *c.*2600–2400 BC. (Photo: Jarrige and Lechevallier 1979, fig. 45:10–13)
c. Mohenjo-daro perforated rattle *c.*2250–2000 BC. (Photo: Hamblin et al. 1973, 125)
d. Harappa rattle with incised script *c.*2500–2000 BC. (Photo: Vats 1974, pl. CXX:30)



a



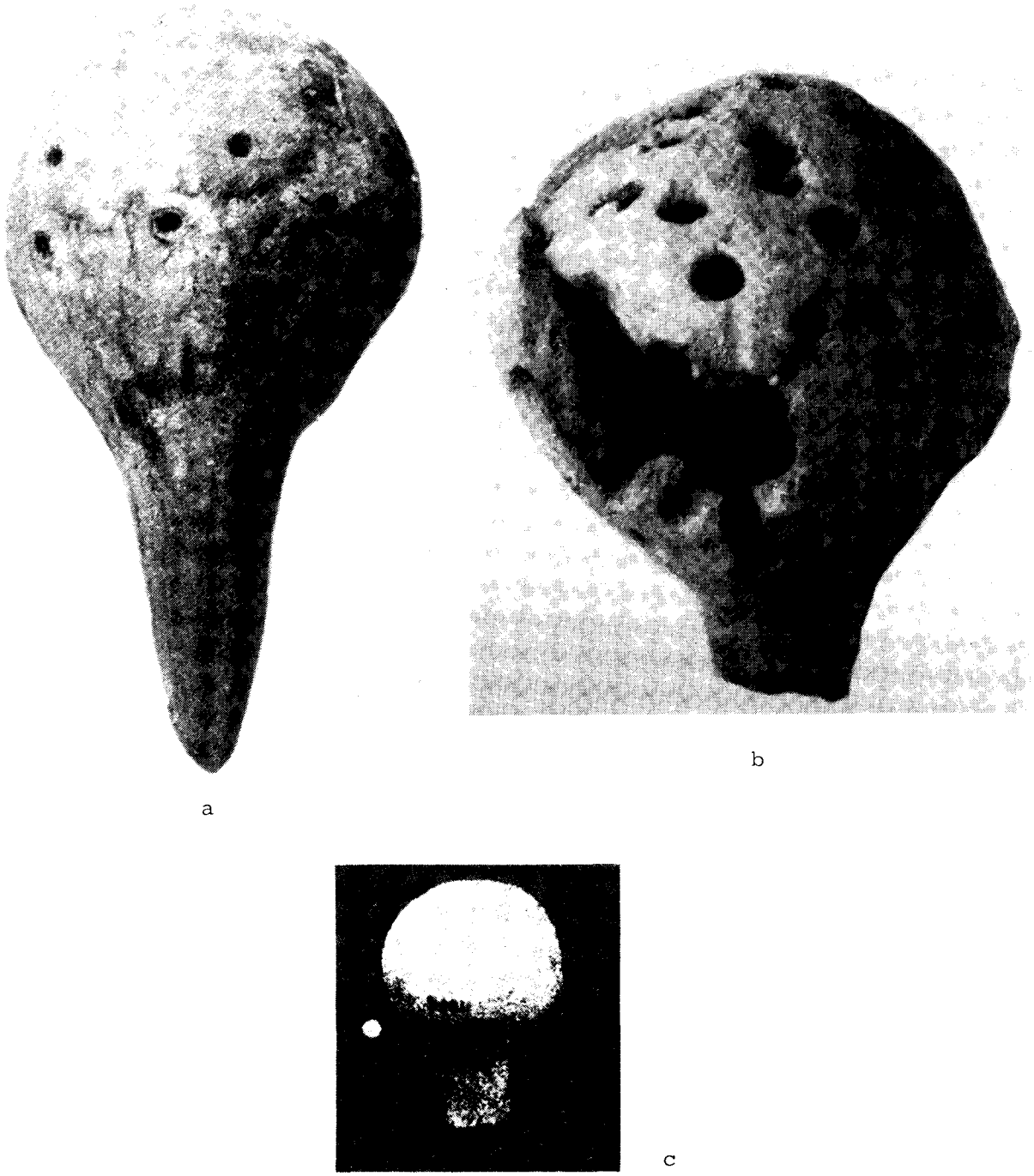
b



c

Fig. 2. Pellet rattles without a handle from Dilmun and Mesopotamia:

a. Barbar temple copper rattle *c.*2600–2370 BC. (Photo: Mortensen 1971, fig. 4)
b. Mesopotamia clay zoomorphic rattles *c.*1950–1530 BC. (Photo: Rimmer 1969, pl. IIIa)
c. Mesopotamia clay 'pie-crust' rattles *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 104)



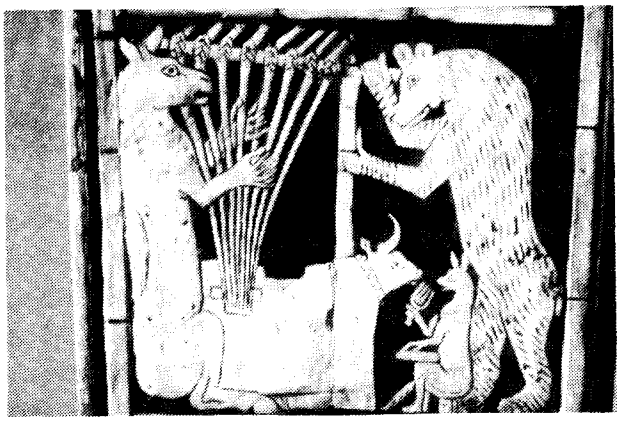
a b c

Fig. 3. Clay pellet rattles with a handle:

a. Shah Tepe *c.*2000 BC. (Photo: Arne 1945, pl. LXIX:fig. 542)
b. Kish *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 101)
c. Harappa *c.*2500–2000 BC. (Photo: Vats 1974, pl. CXX:32)

a

b



c

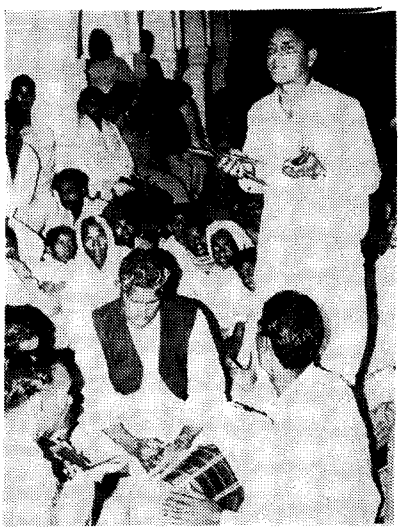
d

Fig. 4. Clappers, a frame drum, a bull lyre, and two arched harps from Mesopotamia:

a. Ur crescents held at the bottom, arched harp *c*.2450 BC. (Photo: Rashid 1984, fig. 29)
b. Kish crescents held in the middle *c*.2600 BC. (Photo: Rashid 1984, fig. 15)
c. Ur bull lyre, sistrum, frame drum *c*.2450 BC. (Photo: Rashid 1984, fig. 8)
d. Origin unknown, arched harp, hinged clappers *c*.2300 BC. (Photo: Rashid 1984, fig. 44)

a

b



c

Fig. 5. Contemporary clappers from South Asia:

a. Rajasthan *kamāicā* and *kharṫāl* (wood). (Photo: *New Grove MI* 2, p. 353)
b. Gujarat *kartāl* (wood and metal discs). (Photo: Kothari 1968, 23, pl. 3)
c. Uttar Pradesh *kharṫāl* (metal rods) and *ḍholak*. (Photo: Henry 1988, photo 18)

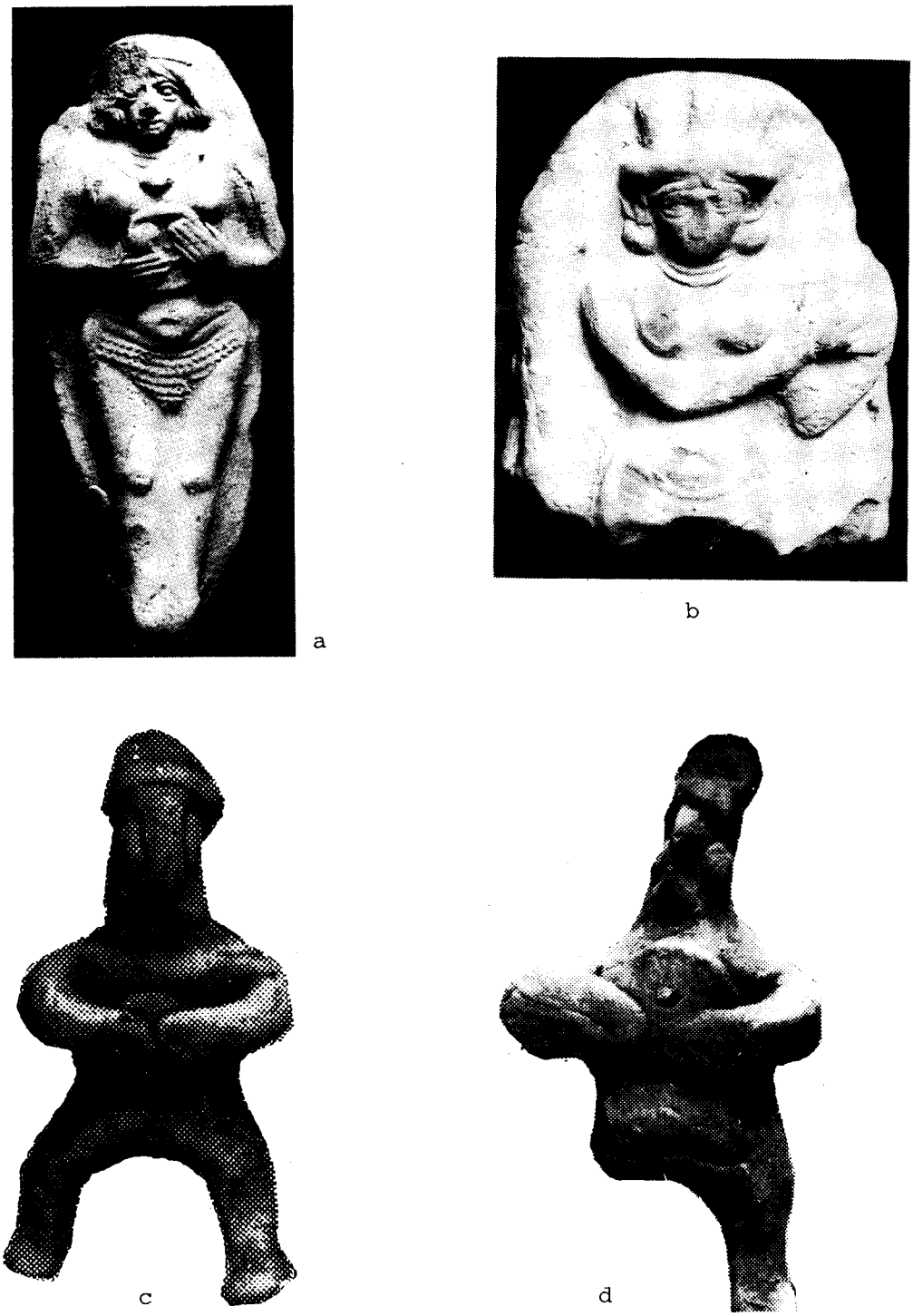
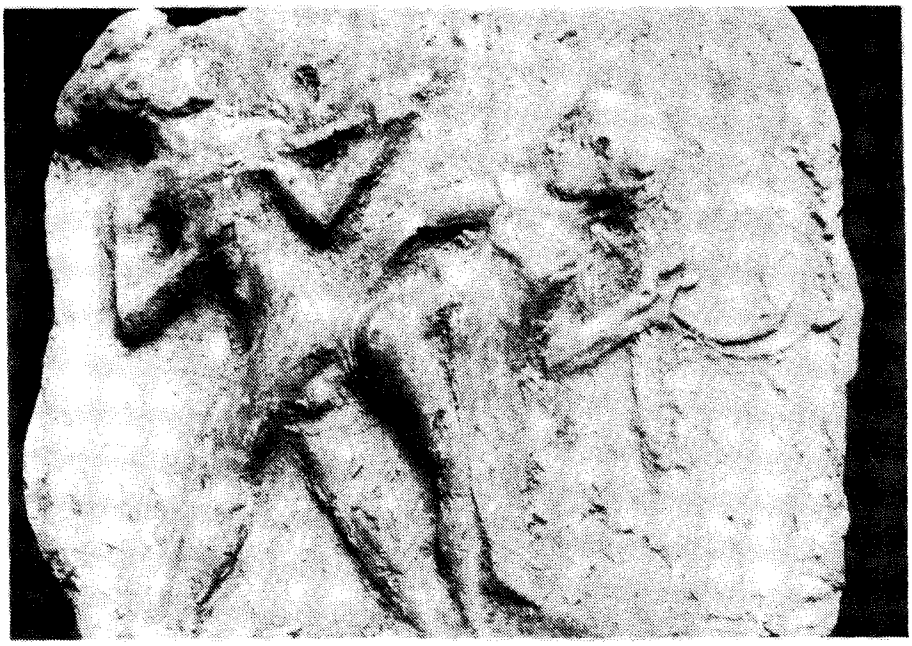


Fig. 6. Frame drums from Tello and Mohenjo-daro:

a. Tello, smaller size, *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 92)
b. Tello, larger size, *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 91)
c. Mohenjo-daro, smaller size, *c.*2500–2000 BC. (Photo: Mackay 1938, pl. LXXVI:6)
d. Mohenjo-daro, ?larger size, *c.*2500–2000 BC. (Photo: Mackay 1938, pl. LXXV:2)

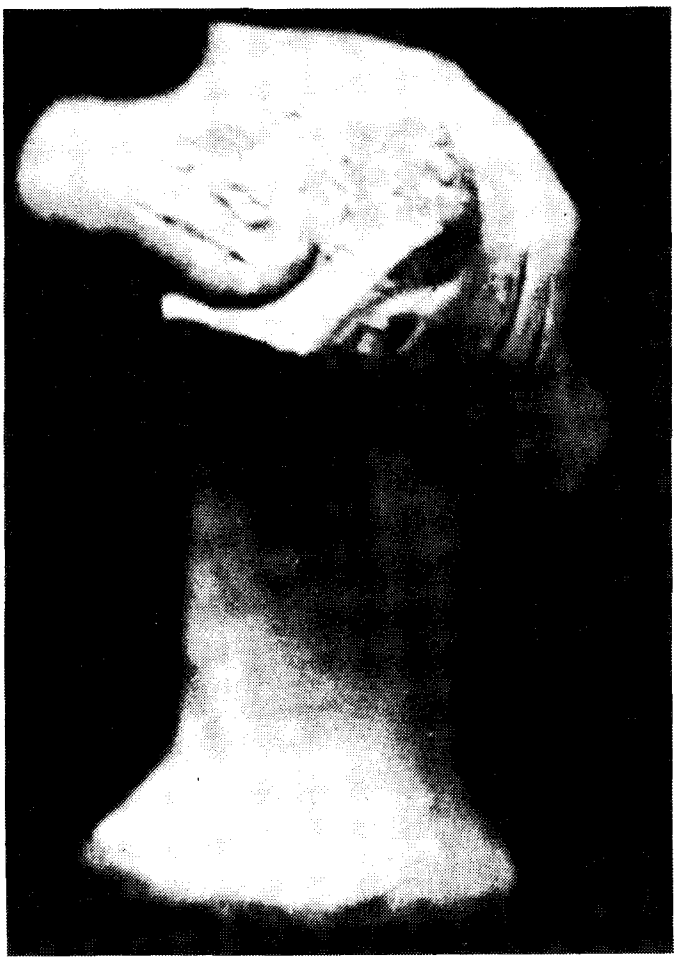


a

b

Fig. 7. Frame drums with stringed instruments:

a. Larsa female with male lute player *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 58)
b. Origin unknown; male with female lyre player *c.*1950–1530 BC from Mesopotamia. (Photo: Rashid 1984, fig. 59)



a

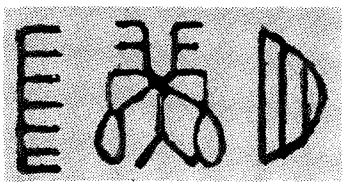
b

Fig. 8. A goblet-shaped drum and similar but ambiguous data:

a. Mesopotamia goblet-shaped drum *c.*1950–1530 BC. (Photo: Rashid 1984, fig. 96)
b. Mohenjo-daro clay pot or ?drum, goblet- or hourglass-shaped (?) *c.*2250–2000 BC. (Photo: Marshall 1931, pl. XCIV:13)

a

b

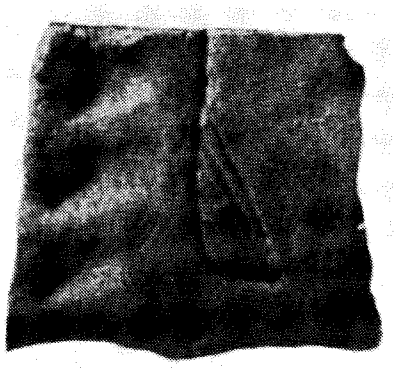


c

Fig. 9. Two Indus texts showing a 'harp' sign:

a. Mohenjo-daro seal, inscribed original, *c*.2200 BC. (Photo: Joshi and Parpola 1987, M–73a)
b. Mohenjo-daro seal, positive impression, *c*.2200 BC. (Photo: Joshi and Parpola 1987, M–73a)
c. Harappa text, *c*.2500–2000 BC (after Vats 1974, pl. CXIII, text J–283)

a

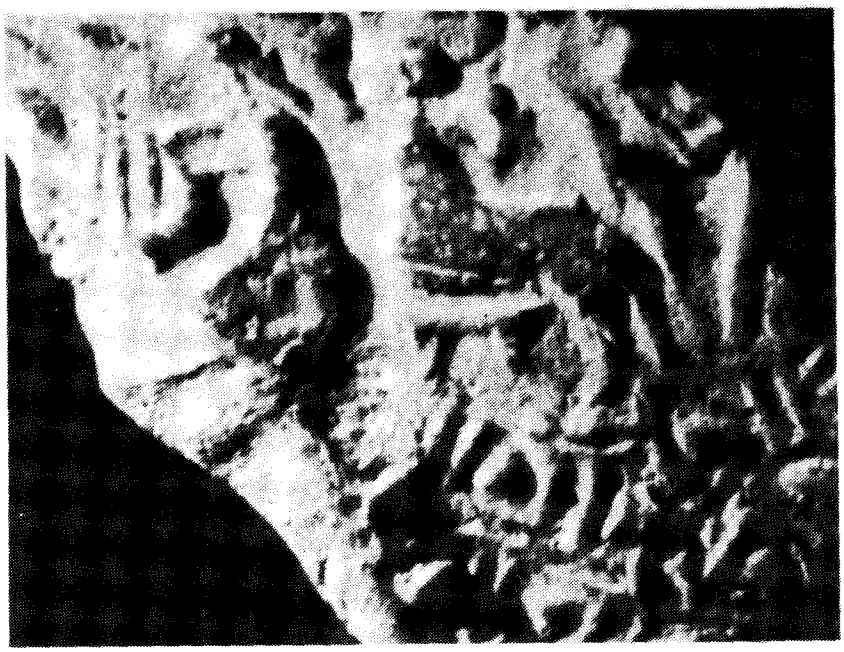


b

c

Fig. 10. Harp signs from Uruk showing three vertical strings and a resonator, *c.*3000 BC:
a. (Photo: Rashid 1984, 52, text ill. 1)
b. (Photo: Rashid 1984, fig. 27)
c. (Photo: Rashid 1984, 52, text ill. 2)

a

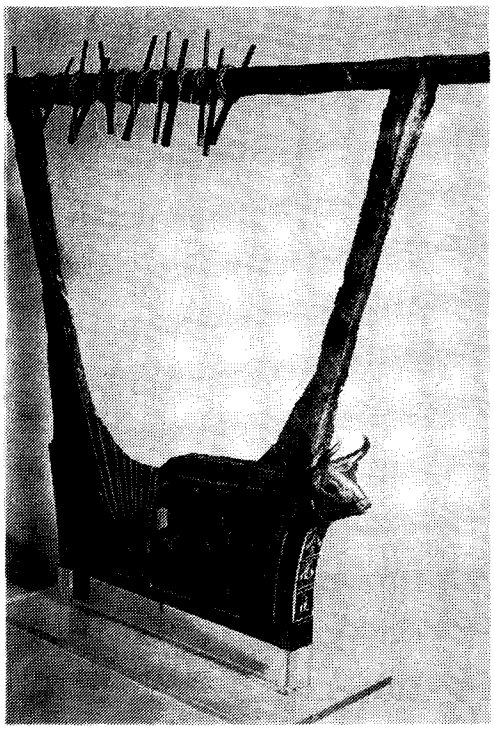


b

c

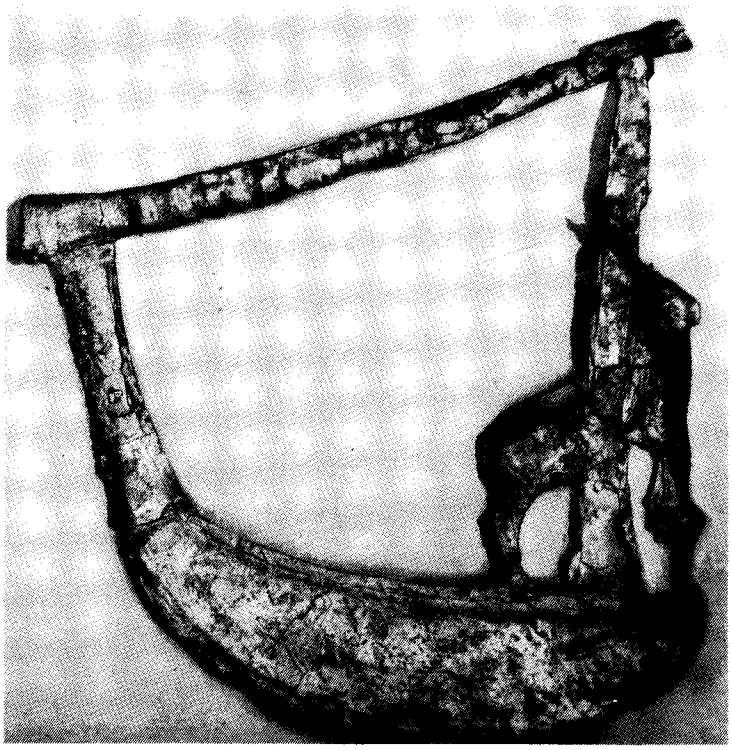
Fig. 11. Arched harps depicted in early Sumer and two and a f millennia later in South Asia:

a. Sumer, symposium scene, *c.*2600 BC. (Photo: Rashid 1984, fig. 28)
b. Ur, pastoral scene, *c.*2650 BC. (Photo: Rashid 1984, fig. 31)
c. Bodh Gaya, female with an arched harp, *c.*50 BC. (Photo: Kaufmann 1981, 52, text ill.)



a

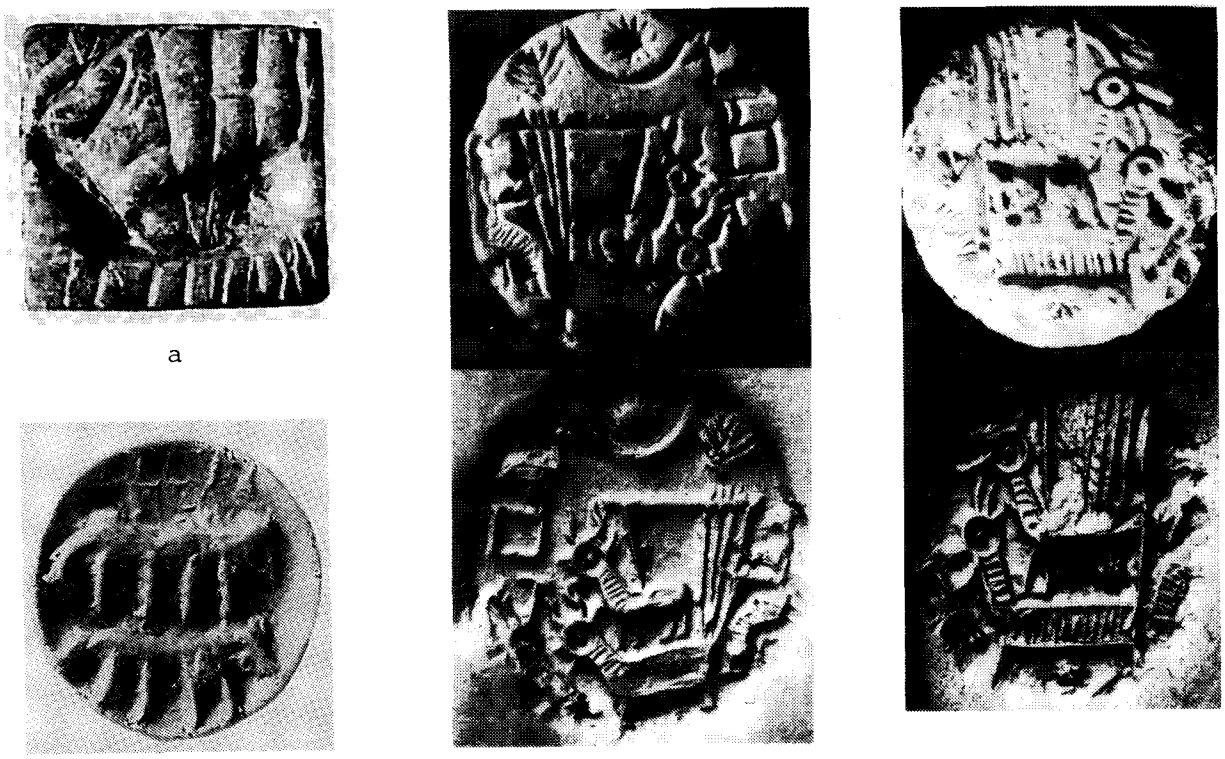
c



b

Fig. 12. Three lyres from ancient West Asia:

a. Bull lyre from Ur, *c.*2450 BC. (Photo: Rimmer 1969, front cover)
b. Lyre with ornamental rampant stag, possibly from Dilmun, *c.*2450 BC. (Photo: Rashid 1984, fig. 5)
c. Tello, bull lyre with ornamental bull, *c.*2100 BC. (Photo: Rashid 1984, fig. 45)



a

b

c

d

Fig. 13. Seals from Chanhu-daro and Failaka Island:

a. Chanhu-daro, CH 1801, positive impression, *c.*2500–2000 BC. (Photo: Joshi and Parpola 1987, C–26a)
b. Chanhu-daro, CH 1652, positive impression, *c.*2000–1800 BC. (Photo: Joshi and Parpola 1987, C–41a)
c. Failaka Island, incised seal above, positive impression below, *c.*2000–1800 BC. (Photo: Kjaerum 1983, no. 267)
d. Failaka Island, incised seal above, positive impression below, *c.*2000–1800 BC. (Photo: Kjaerum 1983, no. 268)

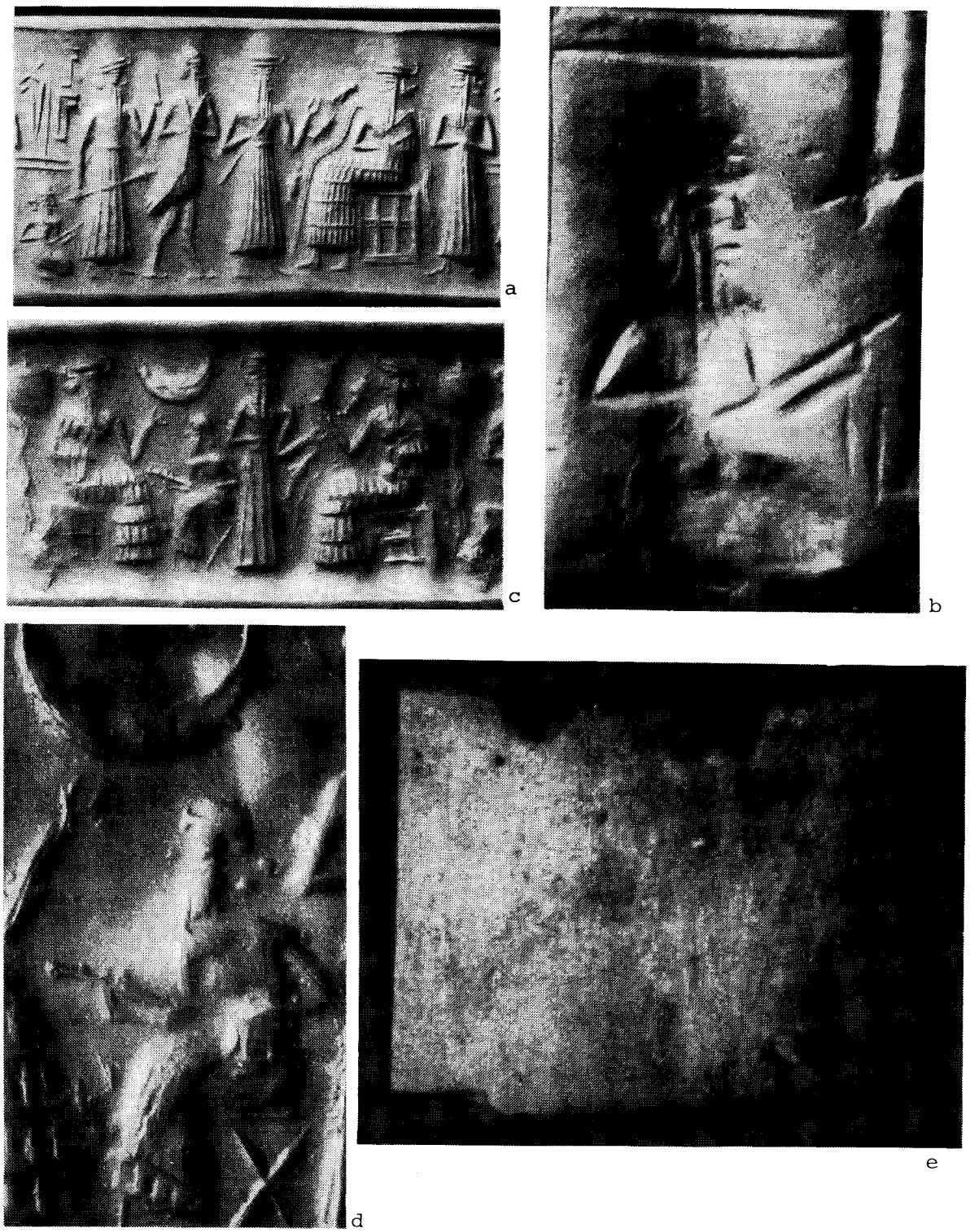


Fig. 14. Two-stringed lutes from Sumer and a shell artefact from Lothal:

a. Sumer religious scene with a two-stringed lute, *c.*2350–2170 BC. (Photo: Rashid 1984, fig. 38)
b. Musician and instrument detail in 'a'. (Photo: Rashid 1984, 62, text ill. 1)
c. Sumer religious scene with a two-stringed lute, *c.*2350–2170 BC. (Photo: Rashid 1984, fig. 39)
d. Musician and instrument detail in 'c'. (Photo: Rashid 1984, 62, text ill. 2)
e. Shell artefact from Lothal, *c.*2000 BC. (Photo: Prajanananda 1963, frontispiece)

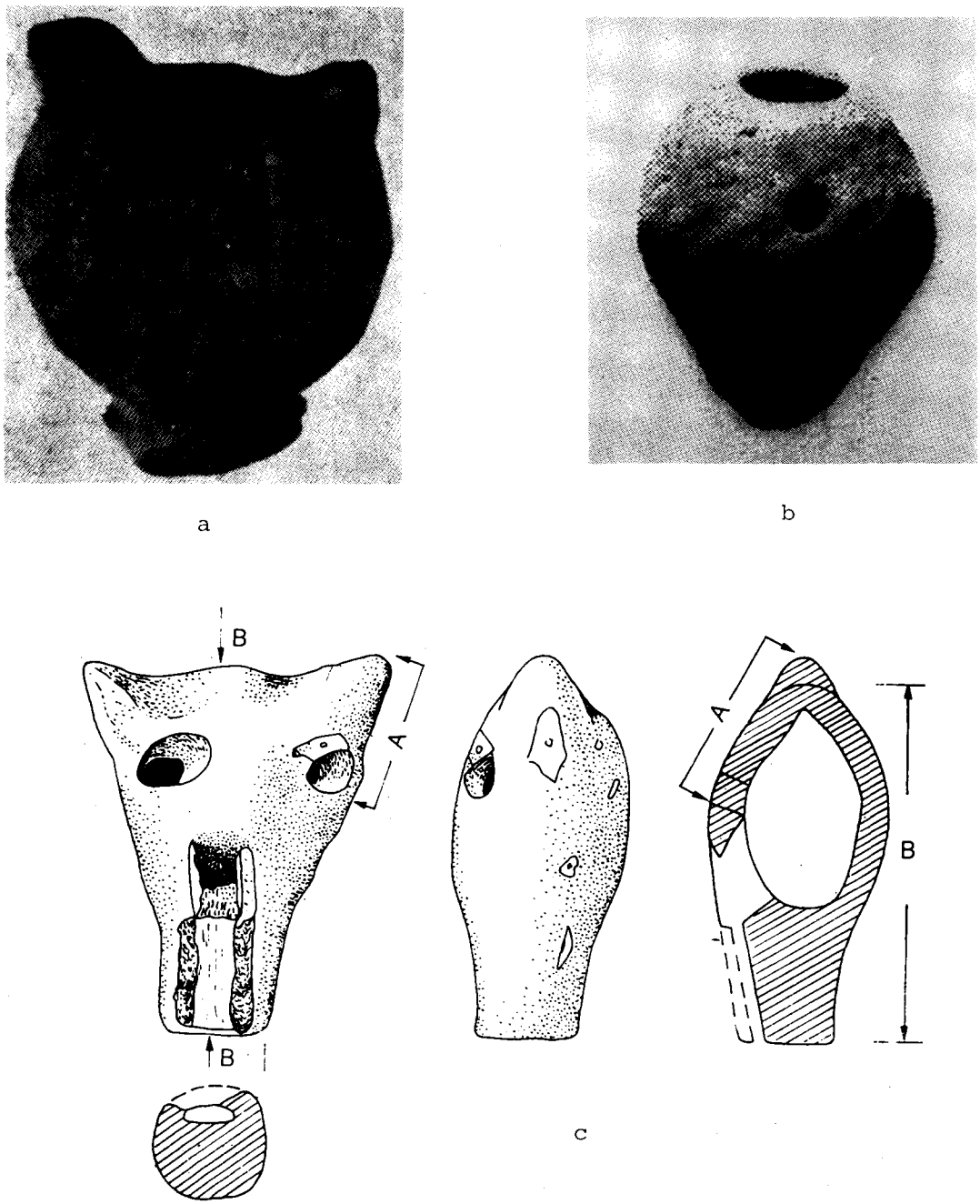


Fig. 15. Vessel flutes from the Indus area and Mesopotamia:

a. Chanhu-daro, bird-shaped vessel flute of clay, *c.*2500–2000 BC. (Photo: Mackay 1935, pl. XX:2)
b. Chanhu-daro, egg-shaped vessel flute of clay, one fingerhole, *c.*2500–2000 BC. (Photo: Mackay 1943, pl. LIX:20)
c. Uruk, clay duct flute, two fingerholes, *c.*3000 BC. (Photo: Rashid 1984, 46, text ills)