

An Incised Scapula from Kaman-Kalehöyük — A Musical Scraper?

Matahisa KOITABASHI

Tokyo, JAPAN

An incised animal bone was excavated from Kaman-Kalehöyük in 1994 (Group No. 94 N-Bo24, *Fig. 1*)^[1]. This animal bone was excavated from a residential area in the section VII (XXXII-55R) in the north of the site, and it belongs to the Stratum IId (Iron Age: end of the 2nd millennium B.C. or first of the 1st millennium B.C.)^[2]. This incised specimen is probably a fragment of scapula (shoulder blade) and is most likely to have come from a large size ruminant (i.e. a cow, *Bos taurus*)^[3]. What is this incised scapula?

Several notched animal bones have been found at sites in the ancient Near East (Iran, Mesopotamia, Syria, Palestine, and Anatolia) and Cyprus^[4]. All examples seem to be made from a long bone^[5], a rib bone^[6], or scapula^[7] of a large mammal, although

in numerous cases the species can not be identified because the fragment is too small. Where identifiable, the most frequently used bone is a bovine scapula^[8].

Fig. 2 shows the sites in Anatolia/Turkey at which incised scapula have been excavated: Kaman-Kalehöyük is situated in the northernmost of these sites. These notched scapulae were made during a long period ranging from the Paleolithic to first half of the 1st millennium B.C., though Bronze Age examples from Anatolia/Turkey are almost nonexistent (see *Fig. 3*)^[9]. Our example from Kaman-Kalehöyük belongs to the Iron Age. The notched scapulae found in Cyprus and the Levant dating to the Late Bronze Age/Iron Age transition are associated with “the Sea

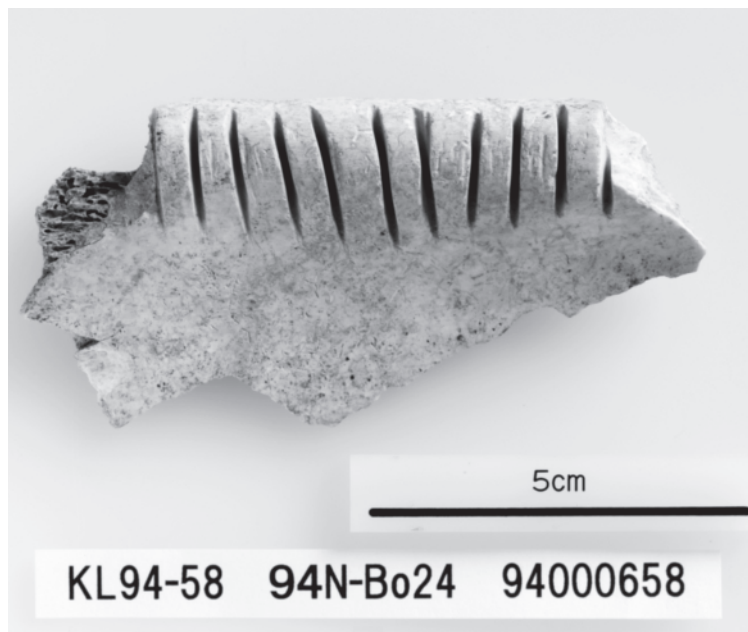


Fig. 1 An incised scapula from Kaman-Kalehöyük. Length 9cm. Surviving number of incisions: 11. (Photograph by T. Oshima.)

- [1] On the excavation report of Kaman-Kalehöyük in 1994, see Omura 1995, pp. 1-48.
- [2] *Ibid.* 1995, p. 6.
- [3] According to Dr. Levent Atıcı of the University of Nevada (personal communication, August 27, 2011).
- [4] A comprehensive catalog of incised scapulae was compiled by D. Reese (Reese 2002, pp. 183-198). See also Dunham's list of notched bone implements (Dunham 1994, pp. 38-39).
- [5] For an incised long bone from Ugarit, see Caubet 1987, p. 736, Fig. 2.
- [6] For an incised rib bone from Tell Al-Raqā'i, see Dunham 1994, p. 37, Figs. 1-3.
- [7] For incised scapulae, see the following ones: [Hayonim] Davis 1974, 162, Fig. 6 (gazelle); [Apamea] Orte, Gautier, and Bibuyck 1982, p. 85 (sheep or goat); [Norşuntepe] Driesch and Boessneck 1981, p. 73 Abb. 1 (sheep), Abb. 2 (sheep); [Kition] Webb 1985, Pl. A 4, Pl. B 5 (bovine); [Limassol Komissariato] Webb 1977, Pl. XXIII and Figs. 17, 176 (bovine).
- [8] Dunham counts 47 examples of incised bovine scapulae (Dunham 1994, p. 36).
- [9] The same can be said of Philistia (Zukerman, Kolska-Horwitz, Lev-Tov and Maier 2007, p. 69).

Fig. 2 Distributions of incised scapulae in Anatolia/Turkey



Fig. 3 Incised scapulae found in Anatolia / Turkey

Site	Date of Context	Source	Animal Species	Surviving Incisions	Findspot
Öküzini	Paleolithic (13000-10500 B.C.)	Yalcinkaya <i>et al.</i> , 1995, p. 575, fig.6:14	Large mammal	19	Cave
Çayönü	Neolithic (c. 7250-6750 B.C.)	Redman 1973, p. 260, Fig.6-4.	Small mammal	13	?
Girikihacıyan	Neolithic (c. 5500-5000 B.C.)	Watson & LeBlanc 1990, p. 93, Fig.6.6-1.	Bovine	25	Trash
		Watson & LeBlanc 1990, p. 93, Fig.6.6-2.	Bovine	29	Pit
		Watson & LeBlanc 1990, p. 93, Fig.6.6-3.	Bovine	11	Pit
Sakce Gözü	Neolithic	Taylor, Williams & Waechter 1950, p. 120, Fig.30:5	Deer or Bovine	21	?
Salat Camii Yanı	Neolithic	Miyake <i>et al.</i> , 2009, p. 98, Fig.15:8	?	18	?
		Miyake <i>et al.</i> , 2009, p. 98, Fig.15:9	?	16	?
Tell al-Judaiah	Neolithic to EB 1	Braidwood & Braidwood, 1960, p. 133, pl. 76:3	Gazelle	8	?
Tell Kurdu	Chalcolithic	Resse, 2002, p. 191.	Bovine	8	?
Kaman-Kalehöyük	the end of 2nd Millennium B.C. or the first of 1st Millennium B.C.	Koitaşhi, <i>Anatolian Archaeological Studies</i> XVIII, p.43, Fig.1.	Bovine	11	Residential area
Norşuntepe	the end of 2nd Millennium B.C. or the first of 1st Millennium B. C.	Driesch & Boessneck 1981, p. 73 Abb.1	Sheep	48	?
		Driesch & Boessneck 1981, p. 73 Abb.2	Sheep	10	?
Gözülü Kule (Tarsus)	c. 850-700 B.C.	Goldman 1963, p. 386, Fig.178:37.	?	7	?
		Goldman 1963, p. 386, Fig.178:38.	?	15	?

Fig. 4 Various suggestions for the use of incised bones

1	Connected with the manufacture of waxing of thread, weaving tools	Starr 1939, p. 488; Zukerman, Kolska-Horwitz, Lev-Tov & Maeir 2007, p. 71.
2	Some method of keeping quantitative records, tallies	Davis 1974, p. 181; Zukerman, Kolska-Horwitz, Lev-Tov & Maeir 2007, p. 74.
3	A primitive calendrical system	Redman 1973, p. 258.
4	Divination (scapulomancy), prognostication	Webb 1985, pp. 324-327; Stern 2000, p. 96.
5	Musical instruments (bridge of a lute)	Marom, Bar-Oz & Münger 2006, pp. 39-40.
	Musical instruments (scraper, raps, sound tools)	Dunand 1973, p. 75; Driesch & Boessneck 1981, p. 74; Caubet 1987, pp. 735-737; Kargeorghis 1990, p. 159; Dunham 1994, p. 36; Braun 2002, p. 176.

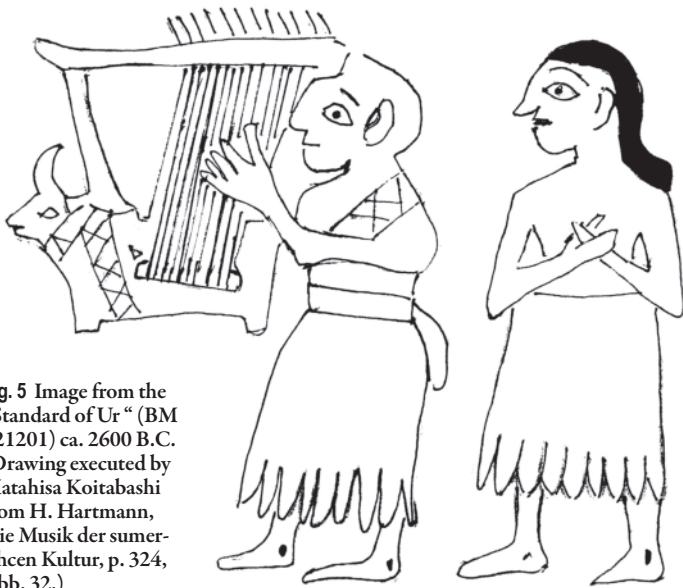


Fig. 5 Image from the “Standard of Ur” (BM 121201) ca. 2600 B.C. (Drawing executed by Matahisa Koitabashi from H. Hartmann, *Die Musik der sumerischen Kultur*, p. 324, Abb. 32.)

Peoples’ phenomenon”^[10]. Is the Kaman-Kalehöyük scapula connected to the Sea Peoples’ phenomenon or the culture of Cyprus? We need further investigations of these influences at Kaman-Kalehöyük.

Looking at the incised scapulae from Cyprus, incisions are mostly engraved along the posterior border of the ventral face of right-hand scapulae^[11]. The ridges of the posterior border is a good location for making incisions. It is convenient for a right-handed person to execute incisions while grasping the neck of bone in the left hand^[12]. In the case of the bone from Kaman-Kalehöyük it is possible that the incisions are executed on the ridge of the ventral face although we do not know whether the artifact is part of a right-hand or a left-hand scapula.

The function of these incised animal bones remains uncertain. Several suggestions for the use of incised bones have been put forward (see *Fig. 4*), and of course, not all incised bones necessarily had the same function.

The grooves on the bone from Kaman-Kalehöyük are not so well-proportioned for combing woolen yarn, one suggested function. The possibility that the incisions are related to account-keeping of commodities, can not be excluded completely. However, we have to explain why a scapula was chosen, because it is a hard work to engrave numbers

of goods on a scapula. Wood, clay tablets and pottery shards may be easier materials on which to record. It is possible that this scapula was “used for account-keeping of commodities produced for cultic use or brought to the cultic place as offerings or taxes”^[13].

Webb hypothesized that notched scapulae were used in divination rites of scapulomancy^[14]. However, the evidence that Webb cites comes from cultures that are geographically and chronologically distant from the Bronze and Iron Age Near East^[15]. There is no evidence for divination rites of scapulomancy in textual and iconographic evidence related to the ancient Near Eastern magical and divination rites^[16].

Marom, Bar-Oz, and Münger suggest that the scapula from Tel Kinrot functioned as the bridge of a lute^[17]. The number of surviving incisions on the Kinrot scapula, seven, is not suitable for the number of strings of a lute. Visual representations of lutes from the ancient Mesopotamia and Egypt indicate that a lute has three strings^[18]. Seven strings would be suitable for a lyre or harp, and of these two instruments, a lyre has a bridge.

The shape of the incised scapula from Kaman-Kalehöyük does not seem to be suitable as a bridge of a stringed instrument if we take as an example the bridge of a lyre on the Standard of Ur (*Fig. 5*). Also, the incised scapula from Kaman-Kalehöyük may be a fragment that was originally like the complete (or almost complete) ones from Cyprus and Palestine. A complete scapula cannot serve as a string bridge because of its shape.

When detail is provided in the descriptions of excavated incised bones, mention is often made of

[10] *Ibid.*, p. 73.
 [11] Webb 1985, pp. 317-319.
 [12] *Ibid.*, p. 319.

[13] Zukerman, Kolska-Horwitz, Lev-Tov, and Maier 2007, p. 74.

[14] Webb 1977, p. 79, Webb 1985, pp. 325-327. Webb relates the incised animal bones from the ancient Near East to the Chinese scapulomancy. However, they are not incisions but cracks that are seen on the oracle bones from the Shang dynasty (2nd millennium BC), which were produced by heating with very high temperature.

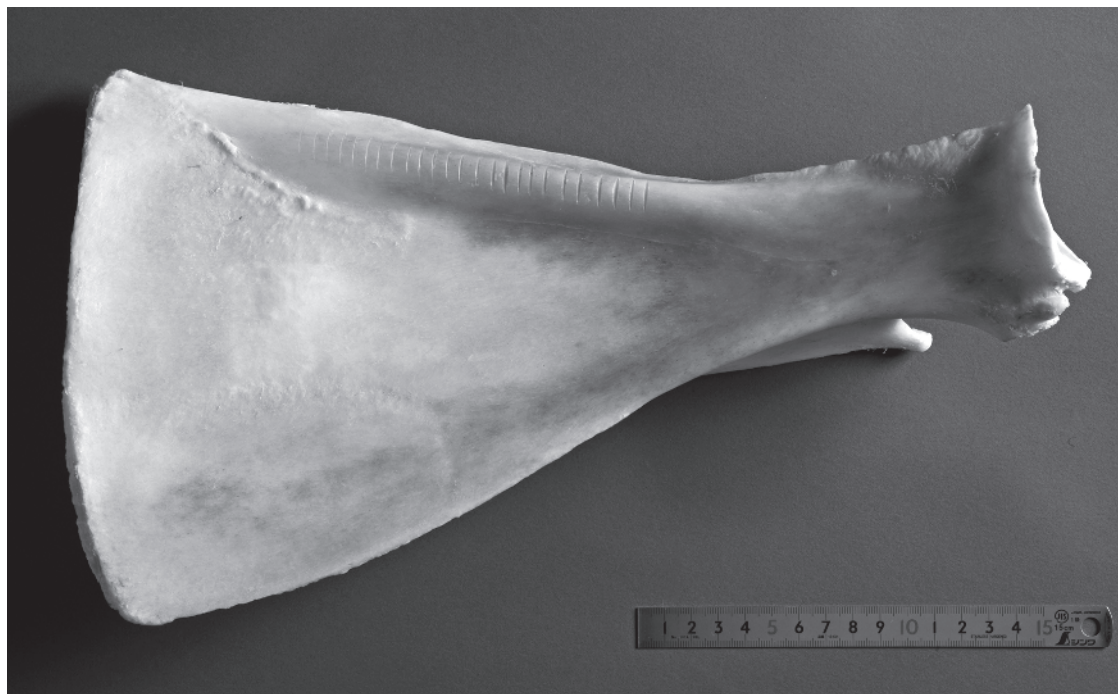
[15] Cf. Zukerman, Kolska-Horwitz, Lev-Tov, and Maier 2007, p. 69.

[16] Cf. Jeffers 1996; Bottéro 1992, pp. 125-137; Popko 1995, pp. 135-139; Beal 2002.

[17] Marom, Bar-Oz, and Münger 2006, pp. 39-40.

[18] Cf. Collon and Kilmer 1980, pp. 25-28.

Fig. 6 A bovine scapula with incision (right-hand) Length 34cm. Number of incisions 25. (Photograph by T. Oshima)



“polish” or “wear”. This polish or wear may have been the result of something rubbing back and forth across the bone^[19]. It is a convincing hypothesis that these incised animal bones were musical rasps or scrapers. Although there is no clear “polish” or “wear” on the Kaman-Kalehöyük scapula, the author executed incisions on a modern bovine scapula (see Fig. 6) to investigate the possibility that the archaeological example was a musical scraper. The sound created when a stick is rubbed across the modern notched bone is very clear and sharp and is similar to the clicking sounds of an abacus. Although one can not play a melody, different sounds are created by rubbing different parts of the stick. It can be said that the spine of the scapular on the lateral surface makes a space for a resonator.

Incised bones dating to the European Stone Age have been interpreted as musical scrapers^[20], as has

a terra cotta artifact from Iran dating to 1200-800 B.C.^[21] Scrapers are also used in North Africa, Asia, and Latin America even today^[22]. Scrapers were often associated with fertile rituals and funeral ceremonies and they are sometimes used along with song and dance^[23]. The sound of scrapers, as Curt Sachs says, might create “life-giving charms”^[24]. The incised scapula excavated from Kaman-Kalehöyük might be a musical scraper which was used in some ritual or ceremony along with song and dance.

[19] Redman 1973, p. 258; Karageorghis 1990, p. 159; Dunham 1994, p. 36.

[20] Jähnichen 1998, p. 1138. For an Iron Age musical rasp made of a cow’s scapula from Poland, see Malinowski 1981, p. 267.

[21] Duchesne-Guillemin 1976, p.103, Fig. 1 and 2.

[22] Jähnichen 1998, pp. 1138-1144.

[23] Sachs 1940, p. 43, pp. 194-195.

[24] *Ibid.*, p. 43.

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Matabisa Koitabashi
Tokyo Metropolitan Kitazono High School
matabisa@mj.biglobe.ne.jp