

Branches of Service and Weapons of the Hittite Army
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The Hittite empire lasted from approximately 1815 B.C., by the Middle Chronology¹ to around 1180 B.C. Unfortunately, much remains unknown about the Hittite military. There are no contemporary descriptions of the army, and very few texts dealing with military administration. Pictorial representations tend to be either rather crude (Hittite) or rather tendentious (Egyptian). So we must rely on scattered references in Hittite texts, and actual examples of weapons and armor which have survived in the soil of Anatolia.

Chariotry

The elite weapon of the Hittite military was the chariot (GIŠGIGIR). The earliest Hittite text, which describes the exploits of kings Pithana and his son Anitta of Kussar and Kaniš around 1800 B.C., refers to “40 teams of horses” in action during Anitta’s siege of the Anatolian city of Salatiwara.² Chariots are frequently mentioned in military contexts from our earliest Hittite texts until the latest.³

Hittite chariots were made of wood,⁴ ox or goat leather,⁵ and perhaps copper.⁶ The cabs of Hittite chariots are shown on the reliefs of Seti I as essentially identical to

¹Pithana’s son Anitta ruled at Kaniš sometime during the Karum Ib period which is contemporary with the reign of Assyrian king Šamši-Adad I (1813-1781), see J.A. Brinkman, in A.L. Oppenheim, Ancient Mesopotamia² (1977)344.

²KBo 3.22:64-72 (OS), w. dupl. KUB 26.71 i 14 (NS), ed. E. Neu, StBoT 18 (1974) 14f.

³THeth 20:141-153.

⁴Note the GIŠ “wood” determinative on the Sumerogram GIŠGIGIR “chariot”. For the construction of chariots at Nuzi, see T. Kendall, “Warfare and Military Matters in the Nuzi Tablets”, PhD Dissertation, Brandeis Univ., 1974, University Microfilms No. 75-24810) [henceforth T. Kendall, Diss.] 236.

⁵“Now you who are leatherworkers of the house of the *taršipali*-functionary (and?) of the storehouse, and the overseer of ten of the *taršipali*-functionaries, you who make seatless (lit. of standing) chariots of the king, take (only) ox-hide and goat-hide from the kitchen; take no other!” (I.e., take the necessary hides only from the royal kitchen where they meet the royal standard of purity). KUB 13.3 iii 9-13 (instr. for palace servants, MH?/NS), tr. A. Goetze, ANET 207.

⁶“[x] MANA of copper and/as two cupbearers’ vessels [...] for four chariots. ... [x MAN]A of copper for three chariots.” KBo 18.161 rev. 3-4, 10 translit. S. Kořak, THeth 10 (1982):103

Egyptian chariots, with a bulge in the upper rear corner.⁷ On the reliefs of Ramses II, the Egyptian chariots continue to be portrayed in the same manner. However, the Hittite chariots are consistently shown differently. Some are portrayed as squarish,⁸ while others have the upper rear corner considerably rounded.⁹ An old color painting shows one of the squarish chariot cabs as entirely blue and ribbed horizontally. One wonders if these strips were intended to represent rows of scale armor. Note that Arraphan and Middle Babylonian texts often speak of a chariot with its scale armor (*sariam*).¹⁰ Some of the chariots with the rounded cabs have several yellow horizontal strips at the bottom, but brown or yellow vertical ribbing above this.¹¹ It has been suggested that these strips represent wooden slats, with which the body was made.¹² An edging along the back and top frames this vertical ribbing.¹³ A large yellow dot lies in the upper front corner. Another chariot with a rounded cab has a wider edging with a string of dots running parallel to the edge. The bottom edge shows short vertical ribbing. Within this frame

⁷The Epigraphic Survey, *Reliefs and Inscriptions at Karnak IV: The Battle Reliefs of King Sety I*, OIP 107 (Chicago, 1986), plate 34.

⁸See W. Wreszinski, *Atlas zur altägyptische Kulturgeschichte* (Leipzig, 1935) vol. 2, pl. 21 from left, top chariots 1, 3, 6, 9, middle 3?, 5; pl. 21a bottom nos. 2, 6, 9, 10; pl. 22 top left, middle no. 2, bottom nos. 3, 5; pl. 97 top row nos 1, 3, second row no. 4; pl. 106 no. 3; pl. 172 left second row no. 2, right fourth row no. 2, fifth row nos. 1, 3, 5, left bottom nos. 2, 3; pl. 173 top nos. 2, 3; pl. 174 top nos. 2, 4, 6, left edge no. 2, bottom no. 3; pl. 176 right second row no. 1.

⁹See W. Wreszinski, *Atlas*, vol. 2, pl. 21 (from the left), top nos. 2, 4, 5, 7, 8, middle nos. 2, 4; pl. 21a bottom nos. 1, 3, 4, 7, 12, 13; pl. 22 middle nos. 1, 3, bottom nos. 1, 2, 4, 6; pl. 86 top row, vertically first row from right nos. 1, 2, second row no. 1; pl. 87 left first row, second row nos. 1, 2, third row nos. 1, 2, 3, right (2 exx.); pl. 98 right (all); pl. 99 left (2 exx.); pl. 103 rt. edge (2 exx.); pl. 106 nos. 1, 2, 4, 6, 7, 8, 10; pl. 172 left second row nos. 1, 2, third row, bottom no. 1, 4, officer, right fourth row no. 1, fifth row nos. 2, 4; pl. 173 top nos. 2, 3; pl. 174 top nos. 2, 4, 6, left edge nos. 1, 3, bottom nos. 1, 2, 4, in the carnage (3 exx.); pl. 175 bottom right; pl. 176 right top row nos. 1, 2, second row no. 2, fourth row no. 1.

¹⁰CAD S 314 s.v. *siriam* 1c.

¹¹I. Rosellini, *Monumenti dell'Egitto e della Nubia* (Pisa, 1832) part 1, plate 103; these drawings were reproduced as black and white line drawings in N. Stillman and N. Tallis, *Armies of the Ancient Near East, 3,000 BC to 539 BC* (Worthing: Wargames Research Group, 1984) 146f.; vertical ribbing was also seen by L. Champollion, *Monuments de l'Egypte et de la Nubie* (Paris, 1835) pl. XVII bis, as reproduced in Ch. Kuentz, *La Bataille de Qadech*, L'institut Francais d'archeologie orientale du Caire, *Memoires* 55 (Cairo, 1928) pl. XLIV & XXVI. This is not visible in the photo, Wreszinski, pl. 176 right. Note the chariots in the color restoration by Y. Yadin, *The Art of Warfare in Biblical Lands*, [henceforth Y. Yadin, *Warfare*], vol. 1:237 right side middle.

¹²N. Stillman and N. Tallis, *Armies* 146f.

¹³The edging can be seen on a few chariots in the photographs, W. Wreszinski, *Atlas*, vol. 2, pl. 172 left second row no. 1, and the officer; pl. 173 middle (wrecked); pl. 174 left edge no. 1, top no. 2.

there was a concentric lozenge pattern. It has been suggested that the sides of this chariot were laminated hides¹⁴, with the dots representing rivets holding the hides to the frame. One should note that also shown in yellow are the chariot pole which runs beneath the cab before curving upward and running between the horses, as well as two braces that run diagonally from the top front of the cab and join the pole and which were presumably made of wood.

An Old Hittite seal shows one chariot with a cross beam wheel, that is, instead of spokes, the wheel has one broad board one way and, at right angles, two smaller parallel boards.¹⁵ The same seal also shows another chariot, this with a four-spoked wheel.¹⁶ A fragment of an Old Hittite relief vase also shows a four-spoked wheel, but it is unclear whether the wheel belonged to a chariot or a cart.¹⁷ Another Old Hittite relief vase fragment also shows a chariot wheel with six spokes.¹⁸ By the New Hittite period, most Hittite chariots had six-spoked wheels, according to the Egyptian reliefs.¹⁹ Such a six spoked wheel has been found at Lidar Höyük in what was probably the Hittite appanage state of Isuwa.²⁰ On rare occasions the Egyptian reliefs portray a Hittite chariot wheel with eight spokes.²¹ This could simply be a mistake. However, the clay model of a wheel found at Boğazköy also shows an eight-spoked wheel.²² These different types of wheels could all have been used on Hittite chariotry, as four, six and eight spoked chariot wheels are attested at Nuzi,²³ a site contemporary with the Middle Hittite period. Hittite texts refer to two types chariot wheels. GIŠUMBIN seems to have referred to the normal

¹⁴N. Stillman and N. Tallis, *Armies of the Ancient Near East* 146, w. illus. 101b.

¹⁵R. Boehmer, *Die Reliefkeramik von Boğazköy, Boğazköy-Hattuša* 13 (Berlin, 1984) [henceforth BoHa 13], 36, w. fig. 22a. Note also the relief vase sherd, *ibid.* 37 fig. 24.

¹⁶*Ibid.* 36, w. fig. 22b.

¹⁷*Ibid.* pl. 15, no. 48.

¹⁸BoHa 13 pl. 15, no. 49.

¹⁹OIP 107 plate 34, W. Wreszinski, *Atlas*, vol. 2 pl. 21, 21a, 22, 86, 87, 98, 99, 103, 106, 173, 174, 176 and *passim* on Hittite chariots. See also Y. Yadin, *Warfare*, vol. 1:236-39.

²⁰M. Littauer, et. al., *ArchAnz* 1991:349-358.

²¹W. Wreszinski, *Atlas*, vol. 2, pl. 21. (The first Hittite chariot in the line of battle is shown with an eight-spoked wheel, all the rest have six.); pl. 21a bottom no. 8 may have eight spokes; pl. 24 a six-spoked and an eight-spoked chariot-wheel are shown among Hittite prisoners. All other Hittite chariots on Ramses' reliefs are shown with six-spoked wheels. The captured Hittite chariots being led back to Egypt are portrayed on the reliefs of Seti I with eight-spoked wheels (OIP 107 pl. 35). Those portrayed in the battle scene, however, have six-spoked wheels (OIP 107 pl. 34).

²²BoHa 13:40, fig. 28.

²³T. Kendall, *Diss.* 218-220.

spoked wheels, while *ATARTU* is considered by the Chicago Assyrian Dictionary, without any particular evidence, to mean "solid wheeled".²⁴

Chariots were not simply instruments of war, but were ridden by the king when he was travelling the festival circuit.²⁵ The provincial governor also traveled by chariot,²⁶ as did a prince-diplomat.²⁷ Sahurunuwa, a high military officer, owned a chariot, for it is mentioned in the division of his estate.²⁸ An É GIŠGIGIR, a chariot barn or perhaps a chariot cab, is mentioned in the land grant of the Middle Hittite royal couple Arnuwanda I and Asmunikal to the woman Kuwattalla.²⁹ Outside Hatti, personal chariots are similarly attested at contemporary Nuzi.³⁰ Chariots in which one could sit, GIŠGIGIR *asannas*/AŠABŠI are known primarily from the royal funerary ritual, but also from inventories and from one reference where "they sit in a chariot."³¹ Perhaps this type of chariot was used for longer journeys. When one needed to be specific, the regular chariot could be called a "chariot of standing" (GIŠGIGIR *tiyawas*).³²

When chariots were used for war, how were they manned and equipped? From the earliest days they were pulled by a team of horses.³³ According to the Egyptian reliefs Hittite war chariots were pulled by two stallions.³⁴ The chariots contained two men as can be seen from a Hittite magic ritual which instructs one to make a model

²⁴CAD A/2 (1968) 486f., 510. Cf. AHW 1498 (*w*)*atartu*(*m*) 3 "Scheibenrad". However, the references from Boğazköy are listed under a separate lemma, *Wattartu*, "ein Streitwagen".

²⁵For example, "The king goes from Tahirpa to Arinna by chariot." KBo 11.43 i 27 or "When they open the halentuwa-, the king comes either by chariot or by carriage (*huluganni*-) and goes into the palace." KBo 19.128 i 2-5. Passim in festival texts.

²⁶KUB 21.29 ii 10-11 (Tiliura decree, Hattusili III), tr. E. von Schuler, *Die Kaššäer* 146.

²⁷KUB 14.3 i 9-10 (Tawagalawa letter, NH), ed. F. Sommer, *AU* 2f.

²⁸KUB 21.43 obv. 4, w. dupl. KBo 22.55 i 2, ed. F. Imparati, *RHA* XXXII (1974):207 n.1.

²⁹KBo 5.7 obv. 30, ed. K. Riemschneider, *MIO* 6 (1958):346f. (= LS 1). CAD N/1 (1980) 359b understands *bit narkabtu* in pre-Persian period texts as "(part of a chariot)". This appears to be based primarily on the lexical text which has GIŠ É.GIGIR = É *narkabti*, since the other two references appear to be inconclusive. See, however, T. Kendall, *Diss.* 236. A. Salonen, *Die Landfahrzeuge des alten Mesopotamien*, AASF B 72 (Helsinki, 1951) 81f., translates GIŠ É.GIGIR as "Kasten des 2-rädrigen Wagens. He cites, however, an É GIŠGIGIR.RA/RI in Sumerian context, which he understands as a "chariot garage"(p. 69).

³⁰T. Kendall, *Diss.* 220, 230f.

³¹H. Otten, *HTR* 150 for *asannas*, see also KBo 8.62 rev.8; KBo 42.29 v 4, translit. S. Košak, *Theth* 10(1982):142, tr. of the word on 283; also KUB 52.96 obv. 2; IBoT 3.129 obv. 3

³²KUB 13.3 iii 9-13,

³³KBo 3.22:71 w. dupl. KUB 26.71 obv. 14, ed. E. Neu, *StBoT* 18:14f.

³⁴OIP 107:34, and e.g. W. Wreszinski, *Atlas*, vol 2, pls. 21, 21a etc.

chariot with its horses and its two people made of clay.³⁵ The Egyptian reliefs of Seti I similarly show Hittite chariots containing two men.³⁶ Hittite texts show that the chariot crew consisted of a fighter (*LÚŠUŠ*)³⁷ and a driver (*KARTAPPU*)³⁸. One reign after Seti I, the Qadesh reliefs of Ramses II show Hittite chariots containing three men.³⁹ As an inscription accompanying one of Ramses' reliefs states that Hittite chariots had a three man contingent⁴⁰ and as the reliefs make a clear distinction between the three man Hittite chariots and the two man Egyptian chariots, we can presumably trust the Ramses reliefs on this point. Presumably between the Hittite campaigns of Seti I and those of Ramses II there was a change in the complement of the Hittite chariot.

Hittite chariot personnel are shown on the Egyptian reliefs wearing a garment reaching down as far as their elbows and ankles. The reliefs show this garment with alternating horizontal blue, yellow, and red stripes.⁴¹ This is probably intended to represent scale armor.⁴² The skirt is either wrapped or has a long slit to facilitate movement.⁴³ What seems to be textual evidence for this armor comes from a description

³⁵ IBoT 3.93 + KBo 15.21 i 8-9, w. dupl. KBo 15.19 i 8-10.

³⁶ OIP 107 pl. 34.

³⁷ R. Beal, *THeth* 20 (1992) 162-178

³⁸ *Ibid.* 155-162.

³⁹ Kuentz, Qadech, plates passim.

⁴⁰ "The Literary Record" P-87, tr. A. Gardiner, *Kadesh* 9.

⁴¹ OIP 107:109, 113; W. Wreszinski, *Atlas*, vol. 2 pl. 103 left edge, just below sprawls someone else with a painted belt and three bands of paint preserved just above the knees. Both are short sleeved. A third example is seen on pl. 106 just above chariots nos. 5 and 6. See the drawing of these reliefs (pl. 101). Cf. Y. Yadin, *Warfare* vol. 1:85, 237. Note, however, that those who are supposed, according to Yadin's picture, to be Hittite chariotry breaking into the Egyptian camp ride in Egyptian chariots (open with crossed quiver and bowcase) and carry Egyptian style shields. Furthermore, these figures are clearly portrayed as two Egyptian princes and an Egyptian high official in carvings of the same scene elsewhere (W. Wreszinski, *Atlas* vol. 2, pls. 82 and 93. More clearly Hittite are the two empty chariots on the right and the disarmed, fallen soldiers still under attack.

⁴² Y. Yadin, *Warfare* vol. 1:85.

⁴³ See for example, Wreszinski, *Atlas* vol. 2, pl. 171 bottom (among the prisoners). One should note, however, that the garments of Hittite chariot crews as portrayed in the color painting in I. Rosellini, *Mon. dell' Egitto*, part 1, pl. 103, give a different impression. The garments are drawn as a beige tunic, with sleeves reaching to the elbows. The upper portion shows horizontal ribbing and the lower portion vertical ribbing, but from the drawing this appears to be simply the natural folds of the garment. The overgarment is shown as either brown, red or blue. It is tied over the left shoulder, leaving the right shoulder uncovered and covers the front and right sides of the body. Both garments appear to be full length. If these early drawings are to be trusted, it is possible that these Hittite chariot crews were not armored. However, N. Stillman and N. Tallis, *Armies of the Ancient Near East* 146f. w. nos. 102-103, suggest that since the over garment leaves

of the Stormgod of Wattarwa: The statue "wears a *gurzip* and carries a mace in his right hand and a copper *henzu* in his left."⁴⁴ Another text tells us that the city of Kanza[...-]nas possessed a statue of the heroic Stormgod (d10 UR.SAG) as a man, standing, (made of) wood, wearing a *gurzip*.⁴⁵ A third statue wears a horned crown and a *gurzip*.⁴⁶ A cult inventory mentions 2 *gurzips* with wing(s).⁴⁷ Finally an inventory mentions "Three MANA of silver (and) one eagle-weight for two *KURPIŠI*HI.A."⁴⁸ While these texts date from the New Hittite period, it is clear from a text describing Old Hittite king Hattusili I's siege of Uršu (ca. 1620) that the wearing of *gurzips* by soldiers was normal throughout Hittite history. In this text the exasperated king sarcastically asks his unsuccessful general if it is the puppies who are wearing the *gurzips*.⁴⁹ The Hittite word *gurzip* is clearly borrowed from Akkadian *gurpisu/gursipu*.⁵⁰ The *gurpisu* was a piece of leather armor, generally reinforced with metal scales. According to evidence from Nuzi in the Mittannian tributary state of Arrapha, which is approximately contemporary with the Middle Hittite period, the *gurpisu* was made of leather (goatskin) padded with wool or horsehair. It was then covered with metal scales (called *kursintu* at Nuzi) sewn onto the leather with thongs.⁵¹ In Neo-Assyrian times, the term *gurpisu* referred to a sort of gorget or coif, covering the head, neck and ears, and worn under the helmet. This is confirmed by a Hittite text which reads, "The exorcist puts on a red shirt. On his head he puts on (*tarna-*) a bronze *gursip*."⁵² The use of the verb *tarna-*, a verb used for putting on hats,⁵³ shows that the *gurzip* was a type of head covering. Contemporary texts from

both arms free, it is likely to have been thick and inflexible, and may thus have been some sort of textile armor.

⁴⁴KBo 2.1 ii 21-23, ed. C.-G. von Brandenstein, Bildbeschr. 63f., Ch. Carter, "Hittite Cult-Inventories", Ph.D. Dissertation, Univ. of Chicago, 1962 (henceforth Carter, Diss.) 54, 64.

⁴⁵KUB 38.6 obv. 27-28, translit. L. Rost, MIO 8 (1961):186.

⁴⁶KBo 26.147:8.

⁴⁷KUB 17.35 ii 35 (cult inv.), ed. Ch. Carter, Diss. 128, 142.

⁴⁸KUB 26.66 iii 6, ed. S. Košak, THeth 10 (1982):66, 68.

⁴⁹KBo 1.11 rev. 15, ed. G. Beckman, JCS 47 (1995) 25f.

⁵⁰von Brandenstein, Bildbeschr. 63 n.1, followed by J. Friedrich, HW 120, H. Berman, Diss. 140, H. Kümmel, StBoT 3 (1967):105f. For the adjectival form in *-ant-* see N. Oettinger, MSS 40 (1981):143-153. CAD G (1956) 139-140 ("leather hauberk covered with metal scales (as part of armor for soldiers and horses)"), E. Salonen, StOr 33 (1965):101-104, AHW 929 s.v. *qurpi(s)su(m)* ("ein Panzerueberwurf mit Nakenschutz fuer Menschen und Pferde").

⁵¹T. Kendall, Diss. 191.

⁵²KBo 15.9 iv 18-20 (substitute king ritual), ed. H. M. Kümmel, StBoT 3 (1967):66f. and discussion on 105f.

⁵³A. Goetze, NBr 65.

Nuzi tell us that between 140 and 200 scales were used for the *gurpisu*. The *gurpisu*'s weight would have been around five pounds.⁵⁴ While "gorget" or "coif" seem to be good translations, some *gurpisu* may have covered more. At Nuzi there is attested a "*gurpisu* of the body".⁵⁵ The Hittite expression a "*gurpisu* (with) wing(s)" may refer to a crest or plume or perhaps to sleeves or a shoulder covering.⁵⁶ In any case the descriptions of the Hittite deities seem to be describing an armed statue dressed in scale armor that covered at least the head, ears, and neck.

The remainder of the body was covered by a *saryanni*, a word borrowed by the Hittites from the Hurrians, and which is clearly cognate to the Akkadian *sariam*.⁵⁷ A Hurrian language text from the Hittite capital describes the goddess of war, Sausga as having, among other war materiel, "bow, arrow, quiver, *saryanni*, and *gurpisi*".⁵⁸ When Mittannian prince Sattiwaza fled to Suppiluliuma I, Suppiluliuma gave him, among other things, "chariots plated with gold, horses, chariots and a *sariam* [...] ..." ⁵⁹ In the letter from Hattusili III to the Assyrian king, it seems that the Assyrian had sent *sariams* to the Hittites and requested blades in return.⁶⁰ It should be mentioned in the context of royal trade that two *sariams* are listed among the precious objects sent by Mittannian king Tusratta to Egypt as part of his daughter's dowry.⁶¹ When the Middle Assyrian king Šalmaneser I (?) heard that the Hittite king was coming for battle against him, he ordered his herald to tell his army to "pull on your *sariyanus* and mount your chariots."⁶² Finally

⁵⁴T. Kendall, Diss. 192; see also C. Zaccagnini, *Assur* 2/1 (1979):4-7, 26-27.

⁵⁵JEN 527:15f., T. Kendall, Diss. 190. Kendall's reference to a *gursipu birki* "a *gurpisu* that reaches the genitals" is based on CAD G (1956) 139's translation of ARMT 7.255:2. The text, contra Kendall, however, has UŠ not *birki*. E. Salonen, *Waffen*, StOr 33 (1965):101, 103, points out that another Mari text, ARMT 7.240:3-4, cited but not translated in CAD, also mentions *gurpisu* UŠ. This time, however, the UŠ is contrasted with SAG. SAG and UŠ are a common pair in administrative texts meaning "first quality" and "second quality" (see K. Veenhof, *Trade* 206-209, followed by AHw 972 s.v. *reštu* I.4 and p. 1329 s.v. *ta/erd/tennu* 3). What is quite obvious from ARMT 7.240, as E. Salonen, p. 103, notes, is that the original editor, Bottero, rather than CAD, is correct in translating UŠ as "second quality". Therefore, the "*gurpisu* that reaches the genitals" does not exist. Interesting, as E. Salonen 103, points out, the *gurpisu* of ARMT 7.255:2 has a GI "reed" determinative. Perhaps it had reed rather than metal scales.

⁵⁶Ch. Carter, Diss. 194 translates "helmet with flaps".

⁵⁷See E. Laroche, GLH 215.

⁵⁸KUB 27.6 i 18, w. dupl. KUB 27.1 iii 48-49, ed. I. Wegner, AOAT 36:99; and cf. KUB 21.1 ii 9, ed. I. Wegner, AOAT 36:98 w. nn. 342, 346.

⁵⁹KBo 1.3 obv. 32, translit. E. Weidner, PD 42, tr. Beckman, *DiplTexts*² 50.

⁶⁰KBo 1.14:25-26, ed. A. Goetze, Kizz. 28f.

⁶¹EA 22 iii 37f.

⁶²RS 34.139 rev. 30-32, ed. S. Lackenbacher, RA (1982):144, 148f.

a *sariyanni* may be mentioned in an inventory from Boğazköy.⁶³ Thus we see that the goddess Sausga wore both *sariam* and *gurpisu*. The *sariam* was worn into battle against the Hittites by the Assyrians and was considered part of an important person's military gear by Suppiluliuma I. *Sariam* was the Akkadian word for the entire suit of scale armor.⁶⁴ This type of armor is thought to have been introduced into the Near East by the Mittannians and quickly spread to their friends and enemies. The Egyptians first mention it when they captured it in the battle of Megiddo under Thutmose III. They soon adopted it.⁶⁵ In addition, one finds the word and some pieces of armor at Ugarit.⁶⁶ The word is found in Middle Assyrian texts⁶⁷ and the scales themselves have been found on Middle Assyrian sites.⁶⁸ The word is also attested in Kassite Babylonia.⁶⁹

Archaeology provides further evidence for Hittite use of scale armor. Many scales from scale armor have been found at Boğazköy. The earliest is from the *karum* period level (ca 1800)⁷⁰, which should not be surprising⁷¹ since the Akkadian word *gurpisu/gursipu* was in use in at the contemporary site of Mari. Many more were found in New Hittite levels.⁷² They possess a reinforced midrib running most of the way lengthwise and range in size from 3.8 to 8.0 cm. long and 1.6 to 2.8 cm wide. Most have six holes for attachment to the leather coat.⁷³ Reconstructions of how similar scales were

⁶³KUB 42.36 obv. 2, translit. S. Košak, THeth 10 (1982):178. The line reads: 1-*EN ša-ri-ya-an*[...]. The line is flanked by paragraph lines. Lines 3-4 deal with pins; lines 5-10 with *hattalla*-maces. The entries between paragraph lines begin with the number of a type of object. The entry then continues with a description of the objects. S. Košak, THeth 10 (1982):178 takes *sariyan*[...] from *sariyant*-“woven, twisted”. However in the other passages in THeth 10 inventories where this word occurs, it is part of the description of an object, not the name of an object. Since the section in question begins with “one s.-object”, it seems reasonable to suggest that we are dealing with a *sariyanni* “suit of scale armor”.

⁶⁴E. Salonen, StOr 33 (1965):105f., AHW 1029 (“Panzer(hemd)”), CAD S (1984) 313 s.v. *siriam* (“leather coat, often reinforced with metal pieces”).

⁶⁵T. Kendall, Diss. 263-64; Y. Yadin, Warfare vol. 1:84f., 196f.

⁶⁶Cl. Schaeffer, Syria 18 (1937):fig. 9; RS 15.83:6, ed. Ch. Virolleaud, PRU 2:154 no. 123.

⁶⁷Tukulti-Ninurta edict “iii” 39 (CAD S 313).

⁶⁸T. Eickhoff, Kar Tukulti Ninurta: Eine mittelassyrische Kult- und Residenzstadt, ADOG 21 (Berlin, Gebr.Mann, 1985) 64, 90, pl. 14 (nos. T 56, T 340a, and T 340b).

⁶⁹PBS 2/2.99:4-5, see A. L. Oppenheim, JCS 4 (1950):193 and CAD S (1984) 313.

⁷⁰BoHa 7:102-104 w. pl. 25 no. 803.

⁷¹See the comment in BoHa 10:22 n. 78.

⁷²BoHa 7:102-104, w. pl. 25 nos. 804-808A; BoHa 10:22 w. pl. 14 no. 3145; P. Neve, ArAnz, 1983:438 w. fig. 12, 447; 1984:349, 370, 371.

⁷³BoHa 7:102-104, w. pl. 25 nos. 804-808A; BoHa 10:22 w. pl. 14 no. 3145.

attached are shown for Nuzi by Kendall,⁷⁴ and for sixth-century Cyprus by Boehmer⁷⁵. From outside Hatti scale armor has been found at Nuzi (approximately Middle Hittite Period) and at various other sites in the Near East.⁷⁶ As the Nuzi texts imply, different sized scales were used on different parts of the suit. On one preserved suit, scales ranged from 6.4 x 3.6 cm to 11.8 x 6.3 cm.⁷⁷ One scale found on a gate tower at Kar-Tukulti-Ninurta, however, is a mere 3.5 x 2.7 cm.⁷⁸ Texts from Nuzi tell us that between 400 and 600 big scales went into the body's armor, 160 to 500 small scales went into the armor for the arms.⁷⁹ The weight of a suit of scale armor (*sariam* and *gurpisu*) at Nuzi was between 37.3 pounds and 57.6 pounds.⁸⁰

As scale armor would have been expensive, at Nuzi only some of the troops had it. Others had *sariams* of just leather or leather scales.⁸¹ These, though less effective, would have been far lighter and would have afforded greater mobility to the wearer.⁸² A passage in the Instructions for the Governor of a Border Province that seems to describe the war material necessary for a chariot and its crew mentions what is very likely to be read [TÚG?GÚ].È.A ZABAR, literally "a bronze tunic".⁸³ One would not expect this to be plate armor, but it is not clear whether TÚGGÚ.È.A ZABAR is the Sumerogram for *sariam* or whether it is a different type of armored garment.

Horses could also wear *sariams/sariyannis/siriyannis*.⁸⁴ These are mentioned in a letter by a foreign Great King to the Hittite Great King.⁸⁵ While these are not otherwise attested at Boğazköy, the Egyptian Qadesh reliefs in the color drawings of Rosellini and Champollion, occasionally confirmed by the photographs,⁸⁶ show a covering for the

⁷⁴T. Kendall, Diss. 273, 274.

⁷⁵BoHa 7:102 fig. 35.

⁷⁶See BoHa 7:102-104 with footnotes and BoHa 10:22 n. 78 for bibliography. For the finds at Nuzi see T. Kendall, Diss. 267-278 and Y. Yadin, Warfare, vol. 1:196 bottom. See also C. Zaccagnini, Assur 2/1 (1979):26f. For Middle Assyrian Kar-Tukulti-Ninurta see T. Eickhoff, *Kar Tukulti Ninurta* 64, 90, pl. 14 (nos. T 56, T 340a, and T 340b).

⁷⁷T. Kendall, Diss. 277f. They averaged 2 mm. in thickness, Y. Yadin, Warfare, vol. 1:85.

⁷⁸T. Eickhoff, *Kar-Tukulti-Ninurta* 65 w. pl. 14 (no. T 56).

⁷⁹T. Kendall, Diss. 192; see also C. Zaccagnini, Assur 2/1 (1979):4-7, 26-27.

⁸⁰T. Kendall, Diss. 277f.; see also C. Zaccagnini, Assur 2/1 (1979):26f.

⁸¹T. Kendall, Diss. 265, 278f., and EA 24 iii 37-39, discussed by A. L. Oppenheim, JCS 4 (1950):193 (as VS 12.199).

⁸²T. Kendall, Diss. 278-280.

⁸³KUB 40.56 iv! 2, restoration courtesy of H. A. Hoffner,

⁸⁴AHw 1029 and CAD S (1984) 314.

⁸⁵KUB 3.52 obv. 3, cf. CAD S (1984) 314a.

⁸⁶I. Rosellini, *Monumenti dell'Egitto e della Nubia*, part 1 (Pisa, 1832) pl. 103; L. Champollion, *Monuments de l'Egypte et de la Nubie*, (Paris, 1835) pl. XVII bis, as reproduced in Ch. Kuentz, *La Bataille de Qadech*, L'Institut Francais d'archeologie

horse's back and sides, held on by straps around the belly and neck of the animal. This covering is shown with the same characteristic horizontal striping seen on the soldiers' outfits. Rosellini's drawings even show the colored bands divided into scales. This would be the horse's *sariam*. Three representations of horse *sariams* are also preserved in the photographs of the Ramesseum's Qadesh reliefs.⁸⁷ Rather than being striped, one is checked and the other polka-dot. Perhaps these represent cloth coverings over scale armor.⁸⁸ As the *sariam* was portrayed in paint, which has largely disappeared, it is unclear whether all Hittite chariot horses were once portrayed wearing *sariams*.⁸⁹ Horse *sariams* are mentioned in the archives of the Hittite tributary state of Ugarit.⁹⁰ They are also attested from Mittanni (via El Amarna),⁹¹ Nuzi,⁹² and Kassite Babylonia.⁹³ At Nuzi, some of the *sariams* for horses, like some of the *sariams* for men, were made just of leather.⁹⁴

The old color drawings of Egyptian reliefs show for Hittite and Egyptian horses a separate piece of horse scale armor stretching from just behind the horse's eyes and protecting the animal's head and neck.⁹⁵ This piece was presumably the horse's

orientale du Caire, *Memoires* 55 (Cairo, 1928) pl. XLIV. Note particularly the central band of chariots moving to the left. (These are all typical three man Hittite chariots according to the photograph [W. Wreszinski, *Atlas*, vol. 2, pl. 175] against the drawing.) If one uses one's imagination, one may be able to see traces of the striping in Wreszinski, pl. 175 chariots 7 and 11. Note also the chariots in the drawing (Ch. Kuentz, *Qadech*, pl. XLIV) above in §XX (again the photo shows that these are Hittite chariots). Unfortunately no paint is visible on these in the photograph [W. Wreszinski, *Atlas*, vol. 2, pl. 172 right fifth row no. 2]), in §XXV (no paint is visible in the photograph, W. Wreszinski, *Atlas*, vol. 2, pl. 172 right fifth row no. 2]), and below in §XXVI (again no paint survives on the photo, W. Wreszinski, *Atlas* vol. 2, pl. 176 right). See also the color drawing in I. Rosellini, *Mon. dell' Egitto* (1832) part 1, pl. 103. W. Wreszinski, *Atlas*, vol. 2, pl. 176 right top row nos. 1 and 2 show clear traces of striping (though this was not indicated by Champollion). Also Egyptian horses (vertically) nos. 1, 3-5 on this plate seem to show traces of armor as Champollion did indicate.

⁸⁷W. Wreszinski, *Atlas*, vol. 2, pl. 102, top nos 1, 3 (polka-dot), 5 (check).

⁸⁸N. Stillman and N. Tallis, *Armies of the Ancient Near East* 146f. w. no. 101, suggest that what is shown as polka dotted armor is meant to represent cloth studded with metal.

⁸⁹Note that all Egyptian horses were not armored, see Y. Yadin, *Warfare*, vol. 1:214f. (Tutankhamon hunting), which portrays both armored and unarmored horses.

⁹⁰RS 15.83, ed. Ch. Virolleaud, PRU 2:154 no. 123.

⁹¹EA 22 iii 39f., cf. CAD S (1984) 314.

⁹²T. Kendall, *Diss.* 284-286, cf. CAD S (1984) 314.

⁹³PBS 2/2.99:4f., see A. L. Oppenheim, *JCS* 4 (1950):193, cf. CAD S (1984) 314.

⁹⁴Kendall, *Diss.* 284-86.

⁹⁵I. Rosellini, *Mon. dell' Egitto*, part 1 (1832), pl. 103. With imagination one can still see traces of this on the neck of a Hittite chariot horse in one of the photographs: W. Wreszinski, *Atlas*, vol. 2, pl. 102 top chariot 3. Since some of the Hittite horses in Rosellini's painting seem to have their lower necks uncovered, it is possible that there

gurzip/gurpisu. Horse *gurzip/gurpisus* are not yet attested in the texts from Boğazköy, but are mentioned in texts from Mittanni (via El Amarna)⁹⁶ and her subject city, Nuzi.⁹⁷

In addition to their scale armor, the reliefs of Pharaoh Seti I show Hittite chariotmen wearing plumed helmets.⁹⁸ Hittite reliefs at Hanyeri and Hemite show Hittite royal princes wearing a hemispherical helmet with ear-flaps. The god portrayed on the so called “king’s gate” wears a helmet in the shape of a sort of low rounded cone. It has clear earflaps, neckguard and a long plume attached to the top. (The horns indicate that the figure is divine.) While all of these gentlemen are shown on foot, they belong to the social class that would presumably have served the military as chariot-fighters. Textual references to helmets, literally “bronze caps” (SAG.DUL = *kupahi*) do not so far indicate a branch of service for the wearer. “Then fourteen soldiers are bathed. Each places (on) a bronze cap of the Stormgod (of) Manuzzi. They hold their weapons.”⁹⁹ In addition the section of the Instructions for the Governor of a Border Province that deals with military equipment mentions “caps decorated with crescents, and shields,”¹⁰⁰ which presumably also refers to helmets.

The bow (*GIŠBAN*) and arrow were certainly the main offensive weapon of the war chariot, whether Hittite or enemy. In the Old Hittite “anecdotes” the Overseer of One Thousand Chariot Fighters supervises the training by a training sergeant (*uralla*) of new chariot fighters in weapon handling, archery and horsemanship. When they have graduated there is an archery exhibition before the king. He who hit the mark got wine to drink, while he who missed got a bitter cup.¹⁰¹ Mursili II’s chariot is described as “a harnessed chariot with bow, quiver, and horses.”¹⁰² Bow and quiver are also associated with the chariot in another ritual.¹⁰³ In a dream of the king, *IŠTAR*/Sausga sought from the king “a chariot with quiver”, “a quiver filled with arrows.”¹⁰⁴ In the list of implements of war that the governor of the border province is to look after, the bow and

was a third type of garment fitting between the head and neck protector and the back and flank protector or that some head protectors were longer than others.

⁹⁶EA 22 ii 41.

⁹⁷T. Kendall, Diss. 192f.

⁹⁸OIP 107 pl. 34, 35.

⁹⁹KBo 20.60:12-14, w. dupl. KBo 15.52 v 23-25 (*hisuwa-fest.*, MH?./NS).

¹⁰⁰KUB 40.56 iv! 7, see H. A. Hoffner, BiOr 40 (1983):411 and CHD 3/3 (1986):287 s.v. *menahhanda* 10 a 2’.

¹⁰¹KBo 3.34 ii 21-35 w. dupl. KBo 3.36:25-27, ed. THeth 20:535f.

¹⁰²KBo 4.2 iv 26-27, ed. A. Goetze and H. Pedersen, MSpr 10f. rev. 14-15, R. Lebrun, Hethitica 6 (1985):107,111 rev. 10-11.

¹⁰³VBoT 24 i 14f., ed. E. Sturtevant and G. Bechtel, Chrest. 106f.

¹⁰⁴KUB 15.5 iii 22-26, ed. J. de Roos, “Hettitische Geloften,” Ph.D. diss., Amsterdam 1984, 207f., 346f.

arrow is listed in the first paragraph with armor (lit. a bronze tunic), and leather *kili*-s ("quivers"?). As the paragraph begins with "horses/horse-troops", there is a good likelihood that this paragraph deals with chariotry equipment.¹⁰⁵ An inventory mentions that "a chariot is included, together with wheels, 40 bows, [...], *hatuli*-wood/wooden *hatuli*-, five quivers, 17,160 arrows, [...], five pairs of reins with bronze bits." After listing shoes for men and women and linen-material, the inventory continues with "[x] pairs of blinkers(?) and 13 pairs of *ṣ̣baratis* of reins."¹⁰⁶ On the reliefs of Ramses II the Hittite chariots are usually shown unarmed¹⁰⁷ or in rare cases with a lance. This is clearly a misrepresentation.¹⁰⁸ The inscription accompanying the Qadesh reliefs mentions the arrows of the Hittite chariotry.¹⁰⁹ An Old Hittite relief vase fragment shows a chariot with a bow case attached to the cab,¹¹⁰ just as in the reliefs of Seti I. The Hittite list of items stolen from the queen mentions bow and arrow among the weapons which follow the mention of chariots, but as we saw above this list may or may not enumerate items carried by the chariots.¹¹¹ Chariots belonging to the Hittite tributary kingdom of Ugarit also seem to have carried archers, for a tablet dealing with chariots sent to the palace workshops notes "two chariots are without quivers". This indicates that other chariots did have quivers.¹¹² Additionally, bows and arrows were the primary weapons of the Egyptian and Arraphan chariotry, not to mention the later Neo-Assyrian chariotry.¹¹³ Finally, frequently when a Hittite king or prince is portrayed in art he is portrayed with a bow slung over his shoulder.¹¹⁴ Even though these carvings show the

¹⁰⁵KUB 40.56 iv! 1-9, see H. Hoffner, BiOr 40 (1983):411f. and CHD L-N (1986):287 s.v. *menahhanda* 10 a 2'.

¹⁰⁶KBo 18.170a rev. 6-11, ed. S. Kořak, THeth 10 (1982):110f., J. Siegelová, Verw. 486f.

¹⁰⁷For Hittite chariots with shields but clearly without spear see *ibid.* pl. 21 top chariots nos. 2-7, 9-10, bottom 3, 4; pl. 21a bottom 10, 11; pl. 22 top 1, second row 2, 3?, 4?, third row 2-4; pl. 85 upper photo bottom nos. 8, 9, 10, (perhaps also 3-7), lower photo bottom 3-7; pl. 88 left (all), right (both?); pl. 97 top 1-5, second row 1-4, third row 1-4, fourth row 1-4; pl. 102 top nos. 1?, 2-4, bottom 1-4; pl. 106 fifth row 2-4; pl. 172 right fourth row nos. 1, 2; pl. 176 right top no. 1?.

¹⁰⁸One should note that an old color drawing of a small section of a Qadeš battle relief shows one of the soldiers in two different Hittite chariots wearing a red quiver on his back (I. Rosellini, Mon. dell' Egitto, [1832] part 1, pl. 103.)

¹⁰⁹A. Gardiner, Kadesh 10 P130ff., p. 11 P200-205.

¹¹⁰BoHa 13 pl. 15 no. 49.

¹¹¹KUB 13.35 iii 44-48 (Ukkura depos., NH), ed. R. Werner, StBoT 4 (1967):12f.

¹¹²RS 15.34:1-7, ed. Ch. Virolleaud, PRU 2 (= MRS 7) 152 no. 121.

¹¹³For Egypt see A. Schulman, Military Rank 76 & 192; for Arrapha (Nuzi) see T. Kendall, Diss. 240; for the Neo-Assyrian empire see J. Reade, Iraq 34 (1972):103.

¹¹⁴K. Bittel, *Die Hethiter* 180 fig. 201; 181 figs. 202; 182 fig. 203; 173 fig. 194 and 176 fig. 198; K. Kohlmeyer, "Felsbilder der hethitischen Großreichzeit," AcPrAr 15 (1983)

figure on foot, as we suggested above, he is likely to have been of social class who fought from chariots, and so we are probably looking at a dismounted chariot fighter. In summary, the evidence seems to show that bows and arrows were the primary weapons of the Hittite chariotry.

The bow was so important a part of the Hittite army that it was used as the symbol of masculinity.¹¹⁵ The loyalty oath and ritual for the army reads, "He who transgresses this oath and seeks evil against the king and queen, let these oath gods change man into woman. Let them turn his army into women. Let them dress like women. Let them put a scarf (*kuressar*) on their (heads). Let them even break (their) bows, arrows and weapons (*GIŠTUKUL.HI.A*) in their hands and let them place spindle and distaff (symbols of femininity) in their hands."¹¹⁶ In a ritual against impotence, the practitioner takes away from the patient the symbols of femininity which he has been given and gives him a bow and [arrow]. He tells him that he took away womanhood from him and gave him back manhood.¹¹⁷ In a prayer to *IŠTAR* of Nineveh, the goddess is asked to "take away from the (enemy) men, manhood, valor, vigor and *mal*, maces, bows, arrows and swords and to bring them to Hattusa. She is then asked to place in the enemy's hands the spindle and distaff of women and to dress them like women (etc.).¹¹⁸ Perhaps related to this is a ritual in which *karas*-grain, barley and a bit of *p*.-bread together with a bow and three arrows are placed in a basket under someone's bed and they remain with him overnight.¹¹⁹ The bow and arrow was not only one of the primary weapons of the army, but was also one of the primary weapons of the hunter.

Hittite bows (referred to by the Sumerogram *GIŠBAN*) seem to have been composite bows, since a bit of the telltale backward curve appears to be visible on the Hanyeri relief, as well as on the hunting scene from Alaca Höyük.¹²⁰ This is not

87 and pl. 32, 92 and pls. 35, 36.2, 83 upper left, 70 and pl. 24.1; P. Neve, *Hattuša, Stadt der Götter und Tempel* 76 figs. 213-214.

¹¹⁵H. Hoffner, JBL 85 (1966):326-34 and idem., FsGordon (1973) 73f.

¹¹⁶KBo 6.34 ii 46- iii 1 (Soldier's oath, MH/NS), ed. N. Oettinger, StBoT 22 (1976):10-13, tr. B.J. Collins, CoS 1:166; for the translation "spindle and distaff" see H. Hoffner, Finkelstein Mem. 108-109. For a treatment of all the texts concerning the bow and arrow as symbols of masculinity see H. Hoffner, JBL 85 (1966):328ff.

¹¹⁷KUB 9.27 i 23-27 (Paskuwatti's rit., MH/NS), ed. H. Hoffner, AuOr 5 (1987) 272, 277. Cf. KBo 25.184 ii 60-61.

¹¹⁸KBo 2.9 i 25-29 (MH/NS), ed. V. Haas and G. Wilhelm, AOATS 3:67, A. Archi, OA 16 (1977):299f., CHD 3/2 (1983):124, tr. H. Hoffner, JBL 85 (1966):331, B.J. Collins, CoS 1:164.

¹¹⁹KUB 24.11 ii 23-24 (Alli rit., MH/NS), ed. L. Jakob-Rost, THeth 2 (1972):38f.ii 44-46.

¹²⁰K. Bittel, Die Hethiter 180 fig. 201, and p. 197 fig. 225. For the shape, manufacture, and usefulness of the composite bow and of other bows see Y. Yadin, *Warfare* vol. 1:6-8.

surprising, for both the Egyptians and their enemies are portrayed as having such bows already on the reliefs of Thutmose IV.¹²¹ While most Hittite references simply refer to “bows”, there are a few that specify a type of bow. A cult inventory reads “four small bows, one of which is a Kaskean bow.”¹²² “A good Hanigalbatian bow” is mentioned at Ugarit.¹²³ Words for bowstring are *SÍGistaggai-* and probably *ishunau-*, the latter otherwise known to be a part of the body, and probably equivalent to the Sumerogram *UZUŠA* “sinew, tendon”.¹²⁴ One magic ritual reads, “let their (the enemy’s) bowstring, arrow, and stone of Alminala-city be placed (down), and let them freeze.”¹²⁵

As the composite bow tended to be affected by the weather,¹²⁶ it was provided with a leather bowcase called a *KUŠpardugganni-*, in which a strung bow could be kept ready for action. A fragment of an Old Hittite relief vase shows a chariot with attached bowcase (or perhaps quiver).¹²⁷ The Hittite chariot portrayed on Seti I’s relief and the Hittite king’s chariot on two of the Qadesh reliefs of Ramses II are shown with attached bow case.¹²⁸ The bowcase is only once mentioned in Hittite texts: “The quartermaster (gives) him a strung bow. It is placed in a bowcase/holder. He gives him the quiver (added later:) of a [...]l-man filled with arrows.”¹²⁹ Bowcases are also attested in Egypt¹³⁰ and Mesopotamia.¹³¹

Another part of the chariot’s gear was the quiver (Akkadogram *KUŠIŠPATU*, or Sumerogram *KUŠÉ.MÁ.URU₅.URU* and variants). “A harnessed chariot with bow,

¹²¹Y. Yadin, *Warfare* vol. 1:88; for contemporary Egyptian bows see *ibid.* 80f., 193f, 195, 199, 201f., 240f.

¹²²That is of the type invented by the barbarians north of Hatti. KBo 18.172 obv. 9

¹²³That is of the type invented by the inhabitants of northern Mesopotamia. RS 20.184 rev. 10-14, ed. J. Nougayrol, Ugar. 5:98f.

¹²⁴*istaggai-* see J. Friedrich, HW 90, J. Puhvel, HED 1-2:451. *ishunau-* see E. Laroche, OLZ 57 (1962):30f., followed by J. Friedrich, HW 3.Erg. 17; J. Puhvel, BiOr 38 (1981):351, HED 1-2:403f.

¹²⁵KUB 7.58 i 11-12 (rit. for a defeated army), ed. E. Laroche, OLZ 57 (1962):30f.

¹²⁶Y. Yadin, *Warfare*, vol. 1:81.

¹²⁷BoHa 13 pl. 15 no. 49.

¹²⁸OIP 107 pl. 34; W. Wreszinski, Atlas, vol. 2, pls. 21a (left side of the chariot), 99 (right side of the chariot).

¹²⁹IBoT 1.36 ii 39-41, ed. H.G. Güterbock & Th. van den Hout, *The Hittite Instruction for the Royal Bodyguard*, AS 24 (1991) 18f., 52. The editors read “quiver of a spearman” but the traces in the copy are very indistinct.

¹³⁰Y. Yadin, *Warfare*, vol. 1:81, 185, 192, 196, 199, 210, 215, 216.

¹³¹*bīt qašti/qalti* (É *GIŠBAN*); see CAD Q (1982):155. In Hittite the Sumerogram É *GIŠBAN* is attested. However, it seems not to be a bow case but a building, for the king arrives at its gate and makes offerings. KUB 2.3 iii 40-43, w. dupl. KBo 25.66 i 16-18 (KILAM fest., OH/NS), translit. Singer, StBoT 28 (1984):67, cf. StBoT 27 (1984):80.

quiver and horses" was sent to the god to try to cure Mursili II's aphasia.¹³² A ritual associates a man's chariot with bow and quiver.¹³³ Elsewhere one finds "a chariot with quiver" and "a quiver filled with arrows".¹³⁴ In the procession, when the king left the palace, a palace servant walked beside the left wheel of the carriage, carrying a strung bow in a bowcase and one quiver of an [...] -man, filled with arrows.¹³⁵ The Egyptian reliefs show Hittite chariot fighters wearing red quivers on their backs.¹³⁶ Egyptian chariots had, in addition to this quiver, another quiver fitted to the outside of the chariot. It sloped toward the back of the chariot, crossing the forward sloping bowcase at right angles. However, they do not portray Hittite chariots with such quivers.¹³⁷ On the other hand, a text from a chariot repair shop at Ugarit reports "eight chariots entered the palace with their wheels, their arrows and their *tr*. Two (of these) chariots are not provided with quivers."¹³⁸ Thus it would appear that the chariots not just of the Egyptians but also of Hittite tributary Ugarit had attached quivers. It seems more likely, then, that Hittite chariots also carried their own quivers, like those of Egypt and Ugarit. Perhaps Hittite chariots had their quivers mounted on the opposite side of the chariot from the bowcase, and since all the Hittite chariots seen on the Seti I relief are going in the same direction, we can only see one side of a chariot, that carrying the bow case. Alternatively, perhaps Hittite chariot quivers were mounted inside the box and were thus impossible for the Egyptian artist to represent.

Quivers could be closed (*istappanza*)¹³⁹, full (*suwant-*) of arrows,¹⁴⁰ or empty (*sannapili*).¹⁴¹ Gods, of course, as archers have quivers.¹⁴² The bow, arrows and quiver of a deity along with his other weapons often received offerings.¹⁴³ There was also a

¹³²KBo 4.2 iv 26-27 and dupl. KUB 12.27 rev. 14-15, ed. A. Goetze and H. Pedersen, MSpr 10f. rev. 14-15, R. Lebrun, Hethitica 6 (1985):107, 111 rev. 10-11.

¹³³VBoT 24 i 14-15 (rit. of Anniwiyani, MH/NS), ed. E. Sturtevant and G. Bechtel, Chrest. 106f.

¹³⁴KUB 15.5 iii 25, 23

¹³⁵IBoT 1.36 ii 39 (instr. for *MEŠEDI*, MH/MS), ed. Güterbock and van den Hout, Royal Bodyguard 18f.

¹³⁶Clear for Seti I: OIP 107, pl. 34. They appear in the color drawings of I. Rosellini, Mon. dell' Egitto, part 1 [1832] pl. 103 (Ramses II), but are no longer visible in the 20th c. photographs., and so were presumably not carved but portrayed only in paint.

¹³⁷See for example Y. Yadin, *Warfare*, vol 1:234f.

¹³⁸RS 15.34:1-7, ed. Ch. Virolleaud, PRU 2:152 no. 121.

¹³⁹KUB 7.54 iii 25 (rit. of Dandanku's rit.), ed. H. M. Kümmel, StBoT 3 (1967):101.

¹⁴⁰KUB 15.5 iii 23, 25 (vow); IBoT 1.36 ii 39 (instr. for Royal Bodyguards).

¹⁴¹KBo 18.172 obv. 4 (description of deities).

¹⁴²KUB 29.4 i 49, KUB 7.54 iii 25, KUB 5.7 rev. 23.

¹⁴³125/r iii 4, w. dupl. KBo 23.47 iii 6, translit. Beal, Diss. 583 n. 1794.

deity called the "Protective Deity of the Quiver".¹⁴⁴ The quiver is among the military equipment that was to be looked after by the governor of the border province.¹⁴⁵ Quivers of Hittite, Hurrian and Kaskean type are mentioned in Hittite inventory texts.¹⁴⁶ There is one description of a type of quiver. The Gurparanzahu legend states that "they decorated a quiver like a tower."¹⁴⁷ Several pictures of quivers survive. The clearest is on the frieze on the stag rhyton in the Schimmel Collection.¹⁴⁸ The quiver appears to be a sort of cylindrical cone. Muscarella¹⁴⁹ suggests that it appears to have been covered with cloth. The feathered ends of the arrows appear to protrude from the wide end. It has a strap and two flaps (or further straps). A different type of quiver occurs in the hunting scene on the Kink bowl. This quiver is more cylindrical than the stag-rhyton quiver and has a flat bottom, in addition to the shoulder strap.¹⁵⁰ Rather stylized representations of quivers are also to be found on two seals showing the same scene as on the rhyton.¹⁵¹ These appear to be crenelated and may represent "a quiver like a tower" similar to the one mentioned in the Gurparanzahu legend. In addition, it has been suggested by Alp¹⁵² that a curiously shaped stone vessel was intended to represent a quiver, its handle being the strap and its feet the "flaps" seen in the drawings. The quivers worn by Hittite chariot fighters on the relief of Seti I are worn on their backs and held in place by a strap running over the left shoulder and diagonally across the chest. They appear to have a cuff around their mouths.¹⁵³ A Hittite quiver is also portrayed loose amid the carnage on one of the Egyptian reliefs showing the Battle of Qadesh.¹⁵⁴ This quiver also appears to have a cuff

^{144d}LAMMA of the quiver: KUB 25.32 i 9, KUB 34.93 obv. 12; 320/t:2; ^dAala- of the quiver: KUB 2.1 iv 4, KUB 44.16 iv 7.

¹⁴⁵KUB 40.56 iv! 6, see H. Hoffner, *BiOr* 40 (1983):411f. and CHD L-N (1986):287 s.v. *menahhanda* 10 a 2'.

¹⁴⁶KUB 42.81 obv. 7-9, ed. S. Kořak, *THeth* 10 (1982):99. Note also [#MÁ.URU.U]RU₅ Ga-aš-ga KBo 18.172 obv. 6.

¹⁴⁷KUB 36.67 ii 18-19 (Gurparanzahu and the bow), ed. H. G. Güterbock, *ZA* 44 (1938) 86f.; interpretation courtesy of H. A. Hoffner.

¹⁴⁸O. W. Muscarella, *Ancient Art: The Norbert Schimmel Collection* (Mainz: Philipp von Zabern, 1974) no. 123; S. Alp, *Tempel*, Fig. 6 f, g, h; H. G. Güterbock, *Anadolu* 22 (1981-1983, publ. 1989) 1-5.

¹⁴⁹Schimmel Collection no. 123.

¹⁵⁰K. Emre and A. Çınaroğlu, *FsNÖzguç* 689.

¹⁵¹S. Alp, *Tempel* 98f. and fig. 12, 11 and H. G. Güterbock, *Anadolu* 22 (1981-1983, publ. 1989) 1-5 and fig. 2, 3; and Alp, *Tempel*, fig. 11.

¹⁵²S. Alp, *Tempel* 98. The object is published in K. Bossert, *Altanatolien* pl. 76 fig. 381.

¹⁵³OIP 107 pl. 24.

¹⁵⁴W. Wreszinski, *Atlas*, vol. 2, pl. 106 (above the heads of the occupants of chariot no. 10).

around its mouth and a strap. Two shallowly incised lines may represent the “flaps” seen in the Hittite representations.

Several Sumerograms were used at Boğazköy for the concept “arrow”. The primary one is ^{GI}KAK.Ú.TAG.GA. One also finds simple ^{GI} “reed”. The Hittite reading for the latter is at least sometimes *nata-/nati-*. An arrow (*nata-/GI*, ^{GI}KAK.Ú.TAG.GA) was shot (*siya-*), by means of a bowstring (*ishunau-*), from the bow (^{GI}ŠBAN). It travelled across (*pariyan iya-*) and either struck (*hazziye-*), or missed (*wasta-*).¹⁵⁵

Arrow points found on Hittite period sites show some diversity of shape. The common characteristic of virtually all of those found is that they have a tang for mounting the arrow onto the shaft.¹⁵⁶ In length, the tang ranges from about half the length of a large tipped point to about four times the length of a small tip, which sometimes makes the overall length of a small tipped point longer than that of a point with a much larger tip. This said, there is much variety in the shapes of the points.

The most common shape in the Old Hittite levels is the bolt (Bolenspitze), a small more or less elongated pyramid-shaped tip atop the tang. These are also found in Middle Hittite levels. The tip tends to be about 1 cm long and the tang between 1.6 and 3.3 cm long.¹⁵⁷ One unstratified example from Boğazköy has a 3.1 cm tip and a 5.5 cm tang.¹⁵⁸ Two other unstratified examples from the same site have conical tips.¹⁵⁹

The Old Hittite levels at Boğazköy and Alişar have also produced several unusual types of points. One type has a triangular tip with distinct midrib.¹⁶⁰ Another point has a cross section like the other points with midrib, but at the center, where it should be thickest, it has on either side a furrow.¹⁶¹ A third unusual type is flat on one side and only slightly thickened in the middle on the other.¹⁶²

¹⁵⁵For shooting, see KBo 10.37 ii 8 and KBo 4.14 iii 50 ed. R. Stefanini, AANL 20 (1965) 46f. For “travelling across” see KUB 36.67 ii 18 (Gurparanzahu legend). For “striking” see KBo 3.36 obv. 8 (anecdotes). For “missing” see Bo 2740+ 24-28, ed. E. Neu, StBoT 18:82f. “Arrow shaft” is *hapusessar* (C. Watkins, FsNeumann 456, HED H 132).

¹⁵⁶Y. Yadin, *Warfare*, vol. 1:157, shows how this mounting was accomplished.

¹⁵⁷R. M. Boehmer, BoHa 7:104-109, no. 812 (from Old Hittite levels at Yazılıkaya); R. M. Boehmer, BoHa 10:22-24, nos. 3146 (from Unterstadt (USt.) 3 [Old Hittite]), 3148 (from USt. 2 [MH]), 3151 (from USt. 2 or older), 3165-3168B (from unstratified USt.), 3169 (from unstratified USt.).

¹⁵⁸No. 3169, BoHa 10:22-24, and pl.15.

¹⁵⁹Nos. 3167, 3168, BoHa 10:22-24, and pl. 15.

¹⁶⁰From Boğazköy: No. 3147, BoHa 10:22-24, and pl. 14; also in unstratified context: Nos. 3163 and 3164, BoHa 10:22-24, and pl. 15; from Alişar: H. H. von der Osten, OIP 29:264 fig. 291 d 1747 and e 2217.

¹⁶¹BoHa 7:104-109, and pl. 26, no. 813.

¹⁶²BoHa 7:104-109, and pl. 26, no. 814.

Middle Hittite levels at Alaca Höyük have also produced several odd types of points. One has no midrib and is chisel-shaped when seen from the side. It has an unusual round tang.¹⁶³ Another has a midribbed 6.4 cm long tip, but a flattened tang which broadens into a lobe in which is a single rivet hole.¹⁶⁴

In the Middle Hittite and New Hittite periods, two other styles of arrow points dominate. First there is a type that is more or less willow-leaf shaped which is called "Lanzettförmig" by Boğazköy's excavators. These thicken in the center to midribs. The tang tends to be much shorter in relationship to the overall size of the points, for example a tip of 5.7 cm and a tang of 2.5 cm.¹⁶⁵ Examples range in total length from 5.5 cm to 14.4 cm. They have been found in Middle and/or New Hittite levels at Boğazköy, Maşat Höyük, Kuşaklı, Fıraktin, Alaca Höyük, Alishar, and Kara Höyük-Elbistan.¹⁶⁶ Arrow points of this variety are also attested in the Karum period and in the Phrygian period.¹⁶⁷

The other major style consists of rather narrow triangular points, with a distinct midrib. The edges of the blade are sometimes slightly convex or slightly concave. The edges of the blade continue into a barb on either side. They are called "winged" (Flügelpfeilspitze) by the excavators. They range in size from a tiny 1.7 cm to 12.45 cm. Some have small tips and long tangs. For example one has a 2 cm long tip and a 7.7 cm long tang.¹⁶⁸ Others have much larger tips and proportionately smaller tangs; for example a 6 cm tip and only a 1.5 cm tang.¹⁶⁹ Some have large tangs and tips, one having a 4.9 cm tip and a 7.5 cm tang.¹⁷⁰ Others are small, one having a 1.1 cm tip and

¹⁶³H. Z. Koşay and M. Akok, TTKY 5/6:196 Al h 196 pl. 131.

¹⁶⁴Ibid. 196, Al h 193, p. 133.

¹⁶⁵BoHa 10:22-24 and pl. 14 no. 3147A.

¹⁶⁶BoHa 7:104-109, and pl. 26 no. 816 (USt. 2), pl. 27 nos. 826-829 (USt. 1), pl. 30 nos. 876-879 (USt. unstratified); BoHa 10:22-24 pl. 14 no. 3147A (USt.2 or older), nos. 3149-3150 (USt.2), pl. 15 no. 3157A (USt 1 or older), pl. 41 nos. 3161A-3161B (USt. 1), pl. 15-16 nos. 3176-3182 (USt. unstratified). Arrow points, perhaps including some of this type, have also been found in Temple VI and House 12 in the NH Upper City, but have not yet been described by the excavators. P. Neve, *ArAnz*, 1983:447; 1984:370, 372; T. Özgüç, *Maşat Höyük II*, TTKY 5/38a:113, pl. 55:7-9; A. Müller-Karpe, *MDOG* 131 (1999) 65f.; N. Özgüç, "Finds at Fırakdin", *Belleten* 19/75 (1955):304 fig. 25-28; TTKY 5/6 pl. 46 e 4, e 40, i 252, i 223, i 224; OIP 29 fig. 291 d 2255 and e 2270; T. and N. Özgüç, TTKY 5/7:93 no. 8; nos. 1 and 6 are similar but may be spear points..

¹⁶⁷N. Özgüç, *Belleten* 19/75 (1955):304; T. Özgüç, *Maşat Höyük II* 113.

¹⁶⁸BoHa 10:22-24 and p. 15 no. 3155. Measurements of the tip and the tang are made from a spot halfway between the endpoint of the side barb and the junction of tip and tang. Cf. 2.3cm tip and 6.4cm tang, BoHa 10:22-24 and pl. 15 no. 3164 and 3.3cm tip and 7.5 cm tang, BoHa 7:104-109 pl. 28 no. 845.

¹⁶⁹BoHa 10:22-24 pl. 15 no. 3159; cf. a 5.3cm tip and 3.5cm tang, BoHa 10:22-24, pl. 15 no. 3154.

¹⁷⁰BoHa 10:22-24 pl. 16 no. 3188B

preserving 0.6 cm of tang.¹⁷¹ These are extremes; many sizes and proportions in between are attested. At Boğazköy they are found, among other places, in storerooms with other military equipment,¹⁷² as well as in two places, the West Gate and another building, both said by the excavators to have been hotly fought in and around at the time of the fall of the city.¹⁷³ They have also been found in Hittite levels at Maşat Höyük, Alaca Höyük, Alishar, Tarsus and in Late Bronze Age Cyprus.¹⁷⁴ They can be shown to be a type used by the Hittites, for one is portrayed on the hunting scenes on the Alaca Höyük reliefs¹⁷⁵ and the Kınık bowl.¹⁷⁶ Boehmer¹⁷⁷ suggests that powerful arrowheads such as these were particularly useful against large wild game and armored foes.

In addition to the numerous tanged points discussed above, three socketed points (Schäftungstülle) were found in New Hittite or unstratified levels in Boğazköy's Lower City. They are ordinary "winged" points with tips of 2.2, 3.4 and 3.7 cm respectively, but with sockets of 3.5, 6.1 and 5.2 cm instead of tangs.¹⁷⁸

The reliefs of both Seti I and Ramses II show one of the Hittite chariot crew carrying a shield. Hittite shields, as they are portrayed on the Egyptian reliefs, were rectangular, sometimes with straight sides,¹⁷⁹ and sometimes with convex edges on top

¹⁷¹BoHa 10:22-24 pl. 15 no. 3156.

¹⁷²P. Neve, *ArAnz* 1983:447-438 w. fig. 13; *ArAnz* 1984:360, 371.

¹⁷³West Gate: BoHa 10:23 nos. 3188A-3188C; building: BoHa 7:105, 107 n. 754a.

¹⁷⁴T. Özgüç, *Maşat Höyük II*:112 w. pl. 55 nos. 2, 3, 4, 6; *TTKY* 5/6:131 and p. 45 Al 1 12, l 46, e 3, e 18, e 140; *OIP* 29:266, fig. 291 nos. 2462, 2791. Note that this type is also found in Neo-Hittite levels at Malatya, see S. Puglisi, *Türk Arkeoloji Dergisi* 15/2 (1966):84 fig. 9; H. Goldman, *Excavations at Gözlü Kule, Tarsus II* (Princeton, 1956) 283, 291 (apud. BoHa 7:106 n. 728); P. Dikaios, *Enkomi*, (Mainz, 1969) 278 pl. 134 no. 10, 13, pl. 163 nos. 27, 30, 36.

¹⁷⁵K. Bittel, *Die Hethiter* 197 fig. 225 and BoHa 7:105 fig. 37.

¹⁷⁶K. Emre and A. Çınaroğlu, *FsNÖZguç* 688-689.

¹⁷⁷BoHa 7:105.

¹⁷⁸BoHa 7:104-109 and pl. 30 no. 884; BoHa 10:22-24 pl. 15 no. 3157; BoHa 7:104-109 and pl. 30 no. 884A. The 17 cm long socketed point from Alaca Höyük, Al j 1633, called an arrow point by Koşay, *TTKY* 5/6:197 seems too long to be an arrow point. Note that it is called a spear-point ("mızrakucu") on p. 77 and a tool by Akok on p. 127.

¹⁷⁹*OIP* 107 pl. 34, all; W. Wreszinski, *Atlas* 2, pl. 21 top nos. 1, 3, 6, 9, middle nos. 3, 5; pl. 21a nos. 1, 2, 6, 9, 10; pl. 22 top 1, bottom 5. (Note that on these Abydos reliefs, all but one (pl. 21a no. 1) of those carrying square shields ride in a chariot with a square body. Furthermore all those riding in square-bodied chariots have either short curly hair and beards or are beardless with a single plume (or long lock of hair) protruding from the top of their head/helmet. The distribution of types seems far more random on the other reliefs. Therefore it is unclear whether it was a real distinction noticed only by the Abydos sculptor or whether it was an artificial distinction invented by the Abydos sculptor.) Other square shields are to be found on pl. 85 top photo bottom nos. 3, 5, 7, 8, 10, bottom photo nos. 1, 4, 6, 8, 9?; pl. 86 bottom row right side; pl. 97 top row 1, 3, second row nos. 2, 4, third row no. 2, fourth row nos. 2, 4, right (among the carnage); pl.

and bottom and concave edges on the sides.¹⁸⁰ These shapes are consistently different from the Egyptian style, a rectangle with convex top.¹⁸¹ The Hittite shields appear to have been about one and a half to two feet high and about a foot wide. The Akkadogram used for "shield" is KUŠARITUM. The KUŠ determinative makes it likely that leather was a major component of a Hittite shield. They were probably made of wood covered with leather. An old color drawing of one of the Egyptian reliefs shows both types of shields having a scale pattern on both front and back.¹⁸² Perhaps this was intended to represent a sort of scale armor strengthening of the shield.¹⁸³

The Egyptian evidence for Hittite chariotry carrying shields finds little support in the Hittite texts. There are only two mentions of shields in conjunction with chariots. One comes from a badly broken section of the instructions for the governor of the border province which lists various military equipment with which the governor must concern himself.¹⁸⁴ The first paragraph mentions "horses" and the third the "chariot fighter" (LÚŠUŠ), and so the equipment mentioned in these might have to do with chariots. It is, however, in the second paragraph that a shield is mentioned, and since this paragraph begins with the word "troops" (ERÍN.MEŠ-az), it is unclear whether this paragraph deals

98 right bottom nos. 1, 2, 4, 5, top 3, left (amid the carnage); pl. 99 second row, left (amid the carnage); pl. 102 top no. 2, bottom 2, 4; pl. 106 nos. 1, 3, 5; pl. 172 right fourth row nos. 1, 2, fifth row nos. 2, 4, 5, left bottom nos. 1, 2, 4, 5; pl. 173 top nos. 1, 2, 3; pl. 174 top nos. 1, 3, 5, bottom nos. 1, 2, 4; pl. 175 middle (those going right to left) nos. 3?, 7, bottom no. 3; pl. 176 right first row no. 2.

¹⁸⁰Ibid. pl. 21 top 2, 4, 5, 7, 8, 10, 11, bottom 2, 4, 6; pl. 21a bottom 3, 4, 7, 11, 12, 13; pl. 22 second row 1, 2, 3, third row 1, 3, 4. On these Abydos reliefs those carrying double concave shields have long hair and are beardless and ride in chariots with a rounded rear corner. See further in the previous note. Other double concave shields are to be found on pl. 85 upper photo top (all), bottom nos. 1, 2, 4, 6, 9, 11, 12, lower photo top (all?), bottom nos. 2, 3, 5, 7; pl. 86 bottom right side nos. 1, 2; pl. 88 bottom left nos. 1, 4, right nos. 1, 2; pl. 97 top row nos. 2, 4, 5, second row nos. 1, 3, 5, 6-10, third row nos. 1, 3-8, fourth row nos. 1, 3, fifth row nos. 1-4; pl. 98 right top no. 2, bottom no. 3, left amid the carnage; pl. 99 edge first row; pl. 102 top nos. 1, 3-7, bottom 1, 3, 5; pl. 105 amid the carnage; pl. 106 nos. 2, 3, 6-10, amid the carnage; pl. 174 top 2, 4, 6 bottom 3; pl. 175 middle nos. 4, 6, 8?, 9?, bottom nos. 1, 2, 4, 5-8, 10, left edge nos. 2, 3; pl. 176 right first row no. 1, second row no. 2, third row no. 1, fourth row no. 1.

¹⁸¹There are four chariots among the Hittites that were drawn as Egyptian chariots and then had the shields corrected to Hittite style: W. Wreszinski, *Atlas*, vol. 2, pl. 85 lower photo top nos. 3-6.

¹⁸²I. Rosellini, *Mon. dell' Egitto* (1832), part 1, plate 103.

¹⁸³N. Stillman and N. Tallis, *Armies of the Ancient Near East* 148, suggest that Hittite shields were wickerwork covered with leather. They claim that some had a boss on the front.

¹⁸⁴KUB 40.56 iv! 1-10, H. Hoffner, *BiOr* 40 (1983):411f. and CHD L-N (1986):287 s.v. *menahhanda* 10 a 2'.

with infantry or chariotry equipment. The other mention occurs in a list of objects stolen from the queen.¹⁸⁵ The list begins with twenty chariots with GIŠUMBIN-wheels and a chariot with ATARTU-wheels. There follows a number of different types of weapons. Again we cannot be sure that the shield and these weapons have anything to do with the armament of the chariots, for the list also mentions gold, silver, and two types of clothing with are less easily related to the chariots. However, despite the lack of clear Hittite textual references to chariot personnel employing shields, the Egyptian reliefs agree that they did, and it surely makes sense for them to have carried a shield for their defense. Since the chariot fighter, an archer, needed both hands to shoot, whereas the driver only needed one hand to drive, presumably it was he who held the shield in the two man chariot.

What, then, of the seven or eight foot long spears shown carried sometimes point-upwards at the back of the chariot, sometimes underhanded diagonally with the point foreward, by one member of a number of the Hittite chariot crews on Ramses II's reliefs?¹⁸⁶ Hittite textual evidence is entirely lacking for spears being carried on chariots although the list of chariotry equipment to be overseen by the governor of the border province does mention in broken context some bronze object,¹⁸⁷ which could have been a spear, although there are other possibilities. The Egyptian text describing the battle of Qadesh, however, does mention the Hittite chariotry's spears ("javelins" according to Gardiner).¹⁸⁸ One Egyptian relief shows an Egyptian chariot crewman using a spear.¹⁸⁹ Later Neo-Assyrian chariots carried spears, strapped upright to the chariot body, for use in emergency defense.¹⁹⁰ The Hittite reliefs portraying princes show them not just with

¹⁸⁵KUB 13.35 iii 44-48 (NH), ed. R. Werner, StBoT 4 (1967):12f.

¹⁸⁶W. Wreszinski, Atlas vol. 2 pl. 21 (left to right) nos. 8, 11, 12, middle nos. 2, 5, 6; pl. 21a nos. 2, 7; pl. 22 third row nos. 1, 5; pl. 85 upper top nos. 2, 3, 4 (from the right!), upper bottom nos. 1, 2, 4, lower third row nos. 1, 2 * pl. 86 top row right; pl. 86 second row right, first row vertically no. 1, second row vertically no. 1; pl. 97 second row no. 6?, fifth row nos. 1, 3; pl. 98 right bottom nos. 2, 3, 4?, 5; pl 102 top no. 5; pl. 106 nos. 7, 8, 10; pl. 172 left row two, nos. 1, 3, right row five nos. 3, 4, left bottom nos. 3, 4; pl. 174 top nos. 1, 2, 3, 6, left edge vertically nos. 1, 2, 3; pl. 175 middle (right to left) nos. 1, 2, 3, 5, 6, 9, 10; bottom nos. (1, 2), 4, 5, 6, 7, 8, 9. Those carried by chariots on pl. 21 middle no. 5 and pl.21a nos. 2, 7, may be far shorter and could perhaps even be arrows; more likely the artist neglected to show the back end of the spear. Many other Hittite chariots are shown with only shields. N. Stillman and N. Tallis, Armies of the Ancient Near East 65, consider spears to have been the main weapon of Hittite chariotry.

¹⁸⁷KUB 40.56 iv! 3.

¹⁸⁸A. Gardiner, Kadesh 10 P130-140.

¹⁸⁹A. Schulman, Military Rank 129 no. 281, quoting W. Wreszinski, Atlas vol. 2:67.

¹⁹⁰See R. D. Barnett and M. Falkner, The Sculptures of Aššur-naṣir-apli II, Tiglath-Pileser III Esarhaddon from the Central and South-West Palaces at Nimrud (London,

bows also usually with a spear as well.¹⁹¹ If, as we have suggested, their social rank would have made them chariot fighters, then perhaps the spear was a weapon used aboard a chariot. Until further Hittite texts are found, the question boils down to this: would the Egyptians have portrayed the Hittite chariotry with a weapon that the Hittites did not have? If the third man on the chariot was introduced between the reigns of Seti I and Ramses II, perhaps the spears seen on the latter's reliefs, but not on the former's (if any of these reliefs are to be believed), were introduced along with the third man. For the time being the use of spears by the Hittite chariotry must remain problematical.

One final weapon very likely to have been on board a Hittite chariot was the sword. A short sword attached to the belt is one of the characteristics of many Hittite figures. The princes portrayed on the Hanyeri, Hemite, and İmamkulu reliefs, Kings Hattusili III at Fııraktın, Tudhaliya IV in his portraits at Yazılıkaya, Targasnawa of Mira on his seal,¹⁹² and Suppiluliuma II at the Südburg,¹⁹³ are all shown wearing swords.

A sword is listed among Mursili II's clothing, rather than with his chariot and weapons, in the ritual designed to cure his aphasia.¹⁹⁴ Another ritual, after a list of garments, goes on to mention "one bow, quiver, ax and sword, this of a man".¹⁹⁵ A ritual asks that the gods take away from the enemy "manhood, valor, *mal*, mace (GIŠTUKUL), bow, arrows, and sword."¹⁹⁶ Another ritual mentions together "bronze ax, bronze sword, strung bow and arrows."¹⁹⁷ The sword occurs in several statements whose literalness is open to question. His Majesty's father saved Madduwatta "from the sword of Attarsiya."¹⁹⁸ The Zalpa texts speaks of cutting down someone, together with his

1962) pl. IX (Tiglath-pileser III), CXVI right, CXVII left (Aššur-našir-apli II), and R. D. Barnett and A. Lorenzini, *Assyrian Sculpture* (Toronto, 1975) pls. 32, 37 (Aššur-našir-apli II, pls. 40-44 (Šalmaneser III), and pls. 95, 103-104, 117 (in lion hunting) 92, 123 (held by two crewmen)(Aššurbanipal)

¹⁹¹K. Bittel, *Die Hethiter* 180 fig. 201; 181 figs. 202; 182 fig. 203; K. Kohlmeyer, "Felsbilder der hethitischen Großreichzeit," *AcPrAr* 15 (1983) 87 and pl. 32, 92 and pls. 35, 36.2, 83 upper left. Tudhaliya II carries just a spear, P. Neve, Hattuša, *Stadt der Götter und Tempel* 40 fig. 100.

¹⁹²K. Bittel, *Die Hethiter* 180 fig. 201; 181 figs. 202; 182 fig. 203; 173 fig. 194 and 176 fig. 198; 214 fig. 249.; 168 fig. 185; K. Kohlmeyer, *AcPrAr* 15 (1983) 87 and pl. 32, 92 and pls. 35, 36.2, 83 upper left, 70 pls. 23-24.

¹⁹³P. Neve, Hattuša, *Stadt der Götter und Tempel* 76 figs. 213-214.

¹⁹⁴KBo 4.2 iv 25, ed. A. Goetze and H. Pedersen, *MSpr* 10f. rev. 13, R. Lebrun, *Hethitica* 6 (1985):107, 111 rev. 9.

¹⁹⁵KUB 29.4 i 49-50 (NH), ed. H. Kronassar, *Schw.Goth.* 10f.

¹⁹⁶KBo 2.9 i 25-27, ed. CHD 3/2 (1983):124 w. bibliography.

¹⁹⁷KUB 9.31 i 28f. (Zarpiya's rit., MH/NS), ed. H. Otten, *ZA* 51 (1955):125.

¹⁹⁸KUB 14.1 obv. 10 (MH/MS), ed. A. Goetze, *Madd.* 2f., tr. Beckman, *DiplTexts*² 154.

descendants, with a sword.¹⁹⁹ The Telipinu proclamation orders, "let no one seek the sword for (any royal prince)."²⁰⁰

The warrior gods too are portrayed wearing swords: Tessub at Fıraktin, gods Tessub, Sarruma, Tasmisu, Kumarbi and Simigi at Yazılıkaya,²⁰¹ the Stormgod on the Akçaköy stela, the gods at Gâvurkale, the god on the so-called king's gate at Boğazköy, the god at Karabel, the god on the stag from Yeniköy, the Stormgod and the mountain gods at İmamkulu, the mountain God Tudhaliya on one of Tudhaliya IV's seals, the two male figures seen on another of Tudhaliya IV's seals,²⁰² and the dancing god from temple 7 at Boğazköy.²⁰³ As would be expected from the representations, the sword is mentioned as a divine weapon. It is attested as one of the weapons of the war god ZABABA.²⁰⁴ In a text that makes offerings to various things belonging to the Stormgod, after his spear, ... mace and ax, bow, arrow and quiver, garment and belt, is listed his sword.²⁰⁵ Likewise a sword is among the weapons carried by the war goddess Sausga²⁰⁶ which received offerings.²⁰⁷ Finally, a ritual mentions deities who are referred to as "those who are girded (*ishuzziyant-*) with a sword, those who hold strung bows and arrows."²⁰⁸

Judging from swords portrayed on the reliefs, the sword was approximately one half meter long from the tip of the hilt to the point. The hilts are all portrayed as T shaped, with the top portion of the T curved into a crescent.²⁰⁹ The rounded section of the hilt was probably called the "cap" (*lupanni-*),²¹⁰ while the handle was perhaps called

¹⁹⁹KBo 3.38 obv. 30 (OH/NS), ed. H. Otten, StBoT 17 (1973):8f.

²⁰⁰KBo 3.1 ii 35 (OH/NS), ed. E. Sturtevant and G. Bechtel, Chrest. 188f., I. Hoffmann, THeth 11 (1984):30f.

²⁰¹Yaz2 no. 42, 44, 41, 40, 34, respectively.

²⁰²K. Bittel, Die Hethiter 184 fig. 207; 178-79 figs. 199-200; 321-32 figs. 267-268; 184 fig. 206; 212 fig. 247; 182 fig. 203; 172 fig. 193; 171 fig. 192.

²⁰³P. Neve, Hattuša, *Stadt der Götter und Tempel* 33 abb. 82.

²⁰⁴KUB 33.52 ii 7 (missing LAMMA), translit. E. Laroche, Myth. 88, tr. H.A. Hoffner, Hittite Myths² 30 ("knife"); KUB 38.1 i 4-7, ed. C.-G. von Brandenstein, Bildbeschr. 10f., tr. L. Rost, MIO 8 (1961):178.

²⁰⁵125/r ii 14-iii 6, w. dupl. KBo 23.47 iii 3-10, translit. R. Beal, Diss. 583 n. 1794.

²⁰⁶KBo 5.10:53, ed. I. Wegner, AOAT 36:98.

²⁰⁷KUB 27.1 ii 7-9, ed. I. Wegner, AOAT 36:98 w. nn. 342, 346

²⁰⁸HT 1 i 32-34, w. dupl. KUB 9.31 i 39-41 (Zarpiya rit., MH/NS), ed. B. Schwartz, JAOS 58 (1938):336-339, tr. Collins, CoS 1:163 § 8 ("daggers").

²⁰⁹K. Bittel, Anadolu 12 (1978-1980 [1987]) 24., K. Emre and A. Çınaroğlu, FsNÖzguç 688.

²¹⁰CHD 3/1 (1980):86, followed by J. Siegelová, Verw. (1986) 606. CHD's position is not accepted by S. Košak, THeth 10 (1984):200f., who argues that the items surrounding swords/knives in inventories may be entirely unrelated. He prefers a translation of *lupanni-* as "(head) band", thus reserving "cap" for SAG.DUL.

the "breast" (GABA).²¹¹ Both together were called the "head" (SAG.DU).²¹² The sword blade itself was called the tongue (EME =? *lala-*).²¹³ Texts attest to sword blades made of iron,²¹⁴ bronze,²¹⁵ and copper.²¹⁶ The swords worn by the hunters portrayed on the Kınık bowl, as well as the swords on some of the reliefs, appear to have a slight curve to the blade, and are to be compared to an actual sword found at Kültepe dating to the Karum Ib period, as well as to earlier Anatolian swords.²¹⁷ These relatively short swords were presumably the usual male weapon of personal defense. The large straight two edged mid-ribbed sword portrayed on the Swordgod-sword relief at Yazılıkaya,²¹⁸ is considered to be a different type.²¹⁹ A sword of this type is seen in use in an ivory plaque from the palace at Ugarit.²²⁰ Longswords, like the Mycenaen sword captured by Tudhaliya II on his Assuwan campaign,²²¹ or seen in use on a Mycenaen-esque plaque²²² seem not to have been favored by the Hittites.²²³

A number of the swords portrayed in Hittite art show a bend at the tip of the blade,²²⁴ and one even shows a three pronged bulb there.²²⁵ Therefore we are probably looking at swords in scabbards. It has been suggested that the word for "scabbard/sheath" was written with the Sumerogram (GIŠ)DÙG.GAN.²²⁶ This same Sumerogram, but

²¹¹KUB 12.1 iii 6-13, ed. CHD 3/1 (1980):86, J. Siegelová, Verw. 442f. (both translating GABA as "front(?)").

²¹²KUB 42.11 ii 10, ed. S. Košak, THeth 10 (1984):32, 35, discussion p. 37 (SAG.DU = "pommel"), J. Siegelová, Verw. 400f. (= "Knauf").

²¹³CHD 3/1 (1980):86, cf. however, CHD 3/1 (1980):26 where one is cautioned that "blade" is so far always written with the logogram EME.

²¹⁴KUB 42.11 v 4-6, ed. S. Košak, THeth 10 (1984):33, 36; KBo 18.158, ed. S. Košak, THeth 10 (1984):146, and see other references cited in CHD 3/1 (1980):25; also KBo 1.14 obv. 20-24, ed. Goetze, Kizz. 28f. (cf. F. Starke, BiOr 39 (1982):361).

²¹⁵KUB 42.11 v 4-6, ed. S. Košak, THeth 10 (1984):33, 36.

²¹⁶KUB 42.83 iii 2-3, S. Košak, THeth 10 (1984):100f

²¹⁷K. Emre and A. Çınaroğlu, FsNÖzguç 688, T. Özgüç, Kültepe-Kaniş II (1959) 109 fig. 62, pl. XLVIII/2, K. Bittel, Anadolu 12 (1978-1980 [1987]) 24.

²¹⁸K. Bittel, Die Hethiter 220 fig. 254; Yaz² no. 82.

²¹⁹K. Bittel, Anadolu 12 (1978-1980 [1987]) 24.

²²⁰Y. Yadin, Warfare, vol. 1:208.

²²¹A. Ünal, et. al., Müze 4 (1990/91) 46-52, idem, FsNÖzguç (1993) 727-730, A. Ertekin and I. Ediz, FsNÖzguç (1993) 719-725, P. Neve, AA 1993:648-651.

²²²K. Bittel, et. al., Boğazköy 6 taf. 12b

²²³See discussion, P. Neve, AA 1993:651f.

²²⁴Tudhaliya IV's seal, K. Bittel, Die Hethiter 171 fig. 192; the "king's" gate relief, K. Bittel, Die Hethiter 232 fig. 268.

²²⁵The Akçaköy relief, K. Bittel, Die Hethiter 184 fig. 207.

²²⁶H. G. Güterbock, FsOtten 83, followed by J. Siegelová, Verw. 636.

written with a KUŠ "leather" determinative, is probably a leather bag.²²⁷ The Sumerogram without determinative or with GIŠ "wood" determinative occurs in inventories of swords and parts thereof.²²⁸ A type of "bag" made at least partially of wood and listed in the midst of swords and their parts seems likely to have been the sword's scabbard/sheath.

Cavalry²²⁹

There is no evidence that the Hittites, or anyone else in the Bronze Age Near East, had cavalry, if by that we mean horsemen armed with swords or lances attacking in large formations. However, one of the other duties of cavalry was scouting. The Karnak relief of Seti I shows two Hittite horsemen, riding horses harnessed for riding, holding a bow and arrow, with a quiver on his back and a plumed helmet on his head. There are also three similarly armed "Syrian" cavalrymen allies of the Hittites shown. Seti's relief of the siege of Jenoam shows a "Syrian" cavalryman in the thick of battle. Ramses II's Qadesh reliefs show a mounted Hittite (apparently naked) falling off his horse into the Orontes, while his conquest of Debir relief shows another in the thick of fighting infantry and chariotry.²³⁰ The battle reliefs also show Egyptian armed horsemen. Hittite texts mention cavalry (*PITHALLU*) used as messengers. The paucity of references to cavalry is either a sign of their relative unimportance or of Hittitologists failure to associate some misunderstood word with this branch of service.

Infantry

²²⁷It is linked lexically to two Akkadian words for "leather bag": *tu(k)kannu* and *naruqu* see AHW and CAD s.v. In Hittite the leather KUŠDÜG.GAN is apparently equivalent to the Hittite word KUŠ*laggasda*-. CHD 3/1 (1980):19a. There is no evidence as to whether *laggasda*- is the reading of (GIŠ)DÜG.GAN in the meaning "scabbard/sheath". The KUŠDÜG.GAN and KUŠ*laggasda*- are attested holding grains, seeds and flours. Bo 3367 + Bo 7039 obv. 1-12, ed. H. Otten, ZA 68 (1978):158f.; 1328/z:14-18, ed. H.A. Hoffner, AlHeth (1974) 63 and H. Ertem, Flora (1974) 136-37; CHD 3/1 (1980) 19a s.v. KUŠ*laggasdus*.

²²⁸KUB 12.1 iii 6-7 (inv. of Mannini), KUB 42.42 iv 3-4, KUB 42.16 iv 15-16, KBo 18.178 obv. 2, ed. Siegelová, Verw. 442f., 474f., 416f., 434f. and with differing translation, S. Košak, Linguistica 18 (1978):2f., and THeth 10 (1984):58, 40, 42, 166f.

²²⁹R. Beal, THeth 20:190-198.

²³⁰See R. Beal, THeth 20:196f. for references.

Foot-soldiers (ERÍN.MEŠ GÎR) are mentioned beside chariotry in texts beginning in the Old Hittite period in the reign of Hattusili I down to that of late New Hittite king Tudhaliya IV. Far more frequent in all periods is the mention simply of “soldiers” beside “horses”. The armament of foot-soldiers is never mentioned in the texts. A single Middle Hittite text mentions archers, separate from chariot fighters. Hunting reliefs often show men on foot hunting with bow and arrow, often with a quiver nearby.²³¹ It is unknown whether or not there were infantry archers later at the Battle of Qadesh.

The Egyptian Qadesh reliefs show the Hittite infantry armed with spears and occasionally shields. Much earlier an Old Hittite relief from Boğazköy shows several figures spearing several others.²³² As mentioned above, Hittite reliefs often show an important personage on foot holding a spear, and with a bow over his shoulder and wearing a sword. We have suggested above, that due to the rank of these individuals, the reliefs may well be portraying a dismounted chariot fighter. If, however, Güterbock’s reading of a badly written word is correct and a palace attendant is handed “the quiver of a spear(?) -man, filled with arrows,”²³³ then perhaps infantry carried both spears for close order combat and bow and quiver slung across their back for longer distance combat.

The spear (GIŠŠUKUR) is one of the most commonly mentioned weapons in the Hittite texts. However, the only textual evidence for the use of the GIŠŠUKUR in combat comes from a fragmentary section of one of the texts dealing with Hattusili I’s (and Mursili I’s?) wars in Syria. “He struck [...] with a bronze GIŠŠUKUR-spear.”²³⁴ Also indicating the use of spears in battle is the passage in a ritual text: “he gave (each of) them a battle-ready, valiant GIŠŠUKUR-spear saying, ‘Let the hostile foreign lands perish by the hand of Labarna.’”²³⁵ The best attested military usage of the GIŠŠUKUR is its use by the palace and citadel guard, that is by the *MEŠEDI*-guards,²³⁶ by the “spearman” (LÚ ŠUKUR),²³⁷ and the “country-clansman” (*LĪM ŠĒRI*).²³⁸ Spears are also handed back

²³¹See K. Emre and A. Çınaroğlu, *FsNÖzgüç* 688-689.

²³²K. Bittel, et. al., *Boğazköy VI: Funde aus den Grabungen bis 1979* (Berlin, 1984) 93, w. pl. 11-12.

²³³IBoT 1.36 ii 40, in H.G. Güterbock and Th. van den Hout, *The Instruction for the Royal Bodyguard* 18f.

²³⁴KUB 36.100 obv. 15 (= 31), ed. S. Rosi, *SMEA* 24 (1984) 120f.

²³⁵KUB 57.63 ii 4-8 (OH or MH/NS), ed. F. Starke, *StBoT* 23 (1977):102 (as Bo 2489 + Bo 4008).

²³⁶IBoT 1.36 i 9-15, 50-59 and passim, ed. H.G. Güterbock and Th. van den Hout, *AS* 24:6f., 10f.; cf. KUB 20.19 iv 17.

²³⁷IBoT 1.36 iii 38-39, iv 9, 47, ed. H.G. Güterbock and Th. van den Hout, *AS* 24:26f., 32f., 38f.

²³⁸IBoT 1.36 ii 51-52 56--57, ed. H.G. Güterbock and Th. van den Hout, *AS* 24:20f.

and forth in many festival texts.²³⁹ Spears of wood,²⁴⁰ bronze,²⁴¹ copper,²⁴² and iron²⁴³ not to mention gold and silver²⁴⁴ are referred to in the texts. There is also a person known as "the man of the heavy spear" (LÚ ŠUKUR DUGUD),²⁴⁵ and another known as "the man of the bronze spear".²⁴⁶ Outside of the context of festivals and of the guarding of the king and palace, GIŠŠUKURs are seldom mentioned. The god of war ZABABA has a GIŠŠUKUR as well as a sword according to one text.²⁴⁷ Another tells us that ZABABA of Tarammeqa had weapons including one fist(?), two shields, one *IMITTU*-spear(?), three swords, one GIŠŠUKUR, one bronze mace (GIŠTUKUL) and one ax.²⁴⁸ In the Kessi legend, Kessi hunts with a GIŠŠUKUR.²⁴⁹ There are a number of representations of men on foot hunting with spears--hunting a deer on an Old Hittite relief vase²⁵⁰, a deer and a boar on a metal bowl from Kınık,²⁵¹ a lion on a relief from Alaca Höyük.²⁵² Spears as well as arrows appear among hunting equipment portrayed on the frieze of the stag rhyton in the Schimmel Collection as well as on several seals.²⁵³

One of the Hittite words for spear is GIŠ_{turi}-.²⁵⁴ It appears in the phrase "give him ... and a valiant (*tarhuili*-) GIŠ_{turi}-".²⁵⁵ Unfavorable things (*kallar uttar*) are pushed off

²³⁹E. g. KUB 10.54 ii 1, 9; KUB 11.23 v 5; KUB 11.26 v 15, 17; often involving royal guards KBo 4.9 iv 21, 23, v 3, 6; KUB 25.3 ii 11, 14.

²⁴⁰KUB 38.36 obv. 2 (cult inv.), ed. L. Jakob-Rost, MIO 9 (1963):197f.

²⁴¹KUB 36.100 obv. 15.

²⁴²KUB 38.1 i 6, ed. C.-G. von Brandenstein, Bildbeschr. 10f., L. Rost, MIO 8 (1962):178f.

²⁴³KUB 20.4 i 25

²⁴⁴Gold e.g. IBoT 3.62 v 5; FHL 36:5; silver, e.g. KUB 34.113 left col. 4.

²⁴⁵KUB 36.104 rev. 9 (anecdotes, OS).

²⁴⁶Ibid. 7.

²⁴⁷KUB 33.52 ii 6-7 (missing LAMMA), translit. E. Laroche, Myth. 88, tr. H.A. Hoffner, Hittite Myths² 30.

²⁴⁸KUB 38.1 i 4-8 (cult description), ed. C.-G. von Brandenstein, Bildbeschr. 10f., L. Rost, MIO 8 (1962):178f.

²⁴⁹KUB 33.121 ii 11-12, ed. J. Friedrich, ZA 49 (1949):234f.

²⁵⁰K. Bittel, Die Hethiter 146 fig. 146.

²⁵¹K. Emre and A. Çinaroğlu, FsNÖzgüç 713, and fig. 23.

²⁵²K. Bittel, Die Hethiter 198 fig. 226.

²⁵³O. W. Muscarella, Ancient Art: The Norbert Schimmel Collection (Mainz: Philipp von Zabern, 1974) no. 123; S. Alp, Tempel 98f. w. figs. 6 f, g, h, 11, 12; H. G. Güterbock, *Anadolu* 22 (1981-83, pub. 1989) 2-3, 5.

²⁵⁴See F. Sommer, ZA 46 (1940):24f. (= GIŠŠUKUR and GIŠPA, notes that GIŠŠUKUR-*an*, KBo 6.12 i 5, does not fit GIŠ_{turi}-), J. Friedrich, HW 229, 295; H. Hoffner, JCS 23 (1970):18-19 (= GIŠTUKUL), Neu, StBoT 18 (1974):29 (= GIŠTUKUL and GIŠŠUKUR), M. Popko, Kultobjekte 102 (= GIŠTUKUL), I. Singer, StBoT 27 (1984):58 n. 17 (= GIŠŠUKUR), J. Siegelova, "Eisen" 134f. (= GIŠŠUKUR according to two pairs of duplicates, not GIŠTUKUL)

with it in a ritual, which could indicate that the *GIŠ_{turi}-* was used for prodding and thrusting.²⁵⁶ There is a gate named after this weapon (*turiyas* KÁ.GAL).²⁵⁷ The term may be used in military context in the Old Hittite Anitta text, but the translation is far from clear.²⁵⁸ Otherwise the term appears in various rituals and festivals in contexts of little use to this study.²⁵⁹ They are attested as being made of bronze²⁶⁰ and iron.²⁶¹

Another Hittite word for spear is *GIŠ_{mari}-*. An iron *GIŠ_{mari}-* is held by a palace servant, while a palace guard holds an iron *GIŠŠUKUR*-spear. In addition to being carried around in festivals, the *mari*- of PN is thrown down as a sign of submission. Its use as a weapon is only seen in reference to deities. "The Protective Deity, standing ... he holds a silver *GIŠ_{mari}-* in his right hand; he holds a shield in his left hand." God's statues in this posture have been found.²⁶² Various other types of spears are so far only attested as part of the arsenal of gods: the *dupiyali*, *IMITTU* and perhaps *ARIKTU* ("long")

There is no textual evidence nor is there any Hittite pictorial evidence for javelin use by the Hittites. However an Egyptian relief portraying the battle of Qadesh shows the back man in a chariot holding a short thin spear. He holds it pointed forward, raised and overhand, as if he was about to throw it.²⁶³ He is not the driver so this cannot be the whip. It seems that the artist is either showing a javelin or an arrow to be used in an ideologically unportrayable bow. The following chariot²⁶⁴ shows the shield bearer holding diagonally a very short spear, explainable again as a javelin (or as the result of the stone carver having forgotten to carve the bottom end of a spear). The preceding chariot²⁶⁵ also shows a very short spear, held in the front of the chariot. Again this is possibly a javelin (or since the point is not visible, a whip). These three unclear and in

²⁵⁵KUB 43.23 rev. 16, 19 (benedictions for Labarna, OS), ed. A. Archi, FsMeriggi² 34.

²⁵⁶KBo 4.2 i 69-70, ed. CHD L-N (1983):184.

²⁵⁷KUB 30.32 i 16 (royal funerary rit.), and see I. Singer, StBoT 27 (1984):113 w. n. 75.

²⁵⁸KBo 3.22 obv. 53-54 (OS), ed. StBoT 18 (1974):12f. and cf. pp. 28f.

²⁵⁹A shepherd's *turi*- is mentioned in KUB 17.8 iv 24 (pre-NH/NS), translit. E. Laroche, Myth. 167f. An copper *turi*-[...] is mentioned in a ritual beside two agricultural implements: a hoe (^{URUDU}*tekan*) and a spade (^{URUDU}MAR) in 46/r i 8-9.

²⁶⁰KBo 25.155 i 2.

²⁶¹KBo 9.136 i 6, Bo 2839 iii 32, ed. V. Haas, KN 252.

²⁶²All references in this paragraph are from CHD L-N (1983) 183f. See also J. Siegelova, "Eisen" 139-141.

²⁶³W. Wreszinski, Atlas, vol. 2, pl. 21a chariot no. 3.

²⁶⁴Ibid. no. 2.

²⁶⁵Ibid. no. 4.

any case not entirely trustworthy Egyptian portrayals of Hittite chariots are the only evidence for the use of javelins by the Hittite army.²⁶⁶

Actual Hittite spear points have been found at Boğazköy, Alaca Höyük and Alişar. Leaf shaped tanged points, looking like overgrown arrow-points, sometimes with a flat and sometimes with a rolled up tang, were found in Middle Hittite and New Hittite levels²⁶⁷ at Boğazköy, Alaca Höyük, and Alişar. From Boğazköy comes an example with a rolled up tang but a more triangular blade²⁶⁸ as well as one having a tang flattened almost to the width of the blade.²⁶⁹ Similar to this, but with shorter tang, and a single rivet hole in the tang, are two examples from Alaca Höyük²⁷⁰ and one from Boğazköy.²⁷¹ There are also socketed points. One from Alaca Höyük has a socket which is about one and one half times the length of the blade.²⁷² Other socketed points come from Alişar.²⁷³ A ceremonial spearpoint, three times as long as the others (33.9cm) comes from Şarkışla.²⁷⁴ A different type of socketed point was also found at Şarkışla. This ceremonial hunting spear has a massive blade (47.5cm, 1.75kg) shaped like a midribbed sword.²⁷⁵ A further type of spearpoint, also socketed, comes from the New Hittite levels of Boğazköy as well as from Hittite Alişar. Instead of the double edged blade with flattened diamond cross section that the above types had, these are elongated cones

²⁶⁶J. Siegelova, "Eisen" 131, states, "Ich glaube, ..., das im hethitischen Raum nur die Stichwaffe in Erwägung kommt." The term *yakitu*, listed among war material sent as presents by Mittannian king Tušratta to Egypt (EA 22 iii 49-51, ed. CAD I (1960) 321b), is translated "javelin" (E. Salonen, StOr [1965]:87-88) because it has a "reed" determinative, but has (a point) of bronze or iron; only in a throwing weapon would it be desirable to have a shaft of reed. Perhaps, however, it is only a type of arrow. Thus it is unclear if javelins are attested for Mittanni.

²⁶⁷BoHa 7:75 and pl. 12 no.s 202, 203 (USt1), BoHa 10:8 and pl. 6 no. 2570 (unstratified), TTKY 5/6 pl. 46 Al f 46, OIP 29:266 fig. 291 no. d 2255. See also on the same plate bottom and top right.

²⁶⁸BoHa 10:8 and pl. 6 no. 2569A. (Lower city).

²⁶⁹Ibid. no. 2569 (Lower city, level 2 = Middle Hittite).

²⁷⁰TTKY 5/6:196 pl. 133 Al g 72, g 73. They are 17.9 and 17.7 cm long respectively. They are considered spear points by Koşay on pp. 77 and 197, but daggers by Akok on pl. 133.

²⁷¹BoHa 10:8 and pl. 6 no. 2571. Other spear points have been found in the New Hittite Upper Town at Bogazkoey, in Temple VII and Houses 9 and 12. In the former two they were found in conjunction with other military equipment. (P. Neve, ArchAnz1983:447; 1984:370-372.) These have not yet been categorized in print.

²⁷²TTKY 5/6:196 w. pl. 47 Al h 191.

²⁷³OIP 29:266 fig. 291 d 2447 and e 2323.

²⁷⁴K. Bittel, Anadolu 21 (1978/80 [1987]) 24f. and fig. 2.

²⁷⁵K. Bittel, Anadolu 21 (1978/80 [1987]) 25 and fig. 3.

(Lanzenschuhe as opposed to Lanzenspitzen).²⁷⁶ Conical spike points are also known from *karum* (USt. 4) levels at Boğazköy.²⁷⁷

A curious weapon is the *MEŠEDU*. From the hieroglyph used to write this word it appears to be a spear, held point downwards, with a crescent shaped blade (or perhaps hand guard) placed halfway up the shaft. It thus appears that it could be used lengthwise as a thrusting weapon or sideways as a blocking/crowd controlling weapon, and perhaps, depending on the accuracy of the portrayal of the real object in the hieroglyph, swung as a cutting weapon, such as a hauberk. The inner ring of royal guards are named after this weapon, although curiously they never carry this weapon, but rather a spear (*GIŠŠUKUR*). In fact outside the title of these guards the word is only attested twice in Hittite texts, once in its separate meaning of “chariot pole” and once in broken context, so it is far from clear if anyone (or even any god) during the period covered by our texts ever carried such a weapon.²⁷⁸

It seems likely that infantry as well as the chariotry, carried short swords in scabbards for personal defense. In addition to the evidence cited above, it should be noted that both an archer and a spearman hunting are shown with a sword in their belts.²⁷⁹

There is also evidence for Hittite long bladed sickle swords. These are portrayed carried on the shoulder by the twelve running gods in chamber B at Yazılıkaya as well as by a number of the other deities in Chamber A.²⁸⁰ No actual examples of this type of sword have yet been found at Boğazköy, which is not surprising considering that only one sword, and that foreign booty, has been found at Boğazköy. A sword of this type, however, is known. It has no provenience, but bears the name of the Assyrian king Adad-nirari I, an approximate contemporary of Hittite king Muwattalli II. It is a slitting weapon, for the curved section is sharpened on the outer (convex) side. Its handle is flanged to receive insets of wood or ivory.²⁸¹ A similar sword was found at Gezer in a

²⁷⁶BoHa 7:75 w. pls. 12-13 no. 204, 205, BoHa 10:8 w. pl. 6 no. 2572, BoHa 7:75 w. pl. 13 no. 206, OIP 29:266 fig. 291 d 2964.

²⁷⁷BoHa 7:75f. w. pls. 12-13 no. 201 (USt.4), no. 208.

²⁷⁸For somewhat obsolete, but still useful discussion see THeth 20:219-224. For the identification of the hieroglyph Laroche no. 173 as “*MEŠEDU*” see S. Herbordt III. Uluslararası Hititoloji Kongresi Bildirileri--Çorum 16-22 Eylül 1996/Acts of the IIIrd International Congress of Hittitology, ed. S. Alp and A. Süel (Ankara, 1998) 313, confirming a suggestion by I. Singer, Tel Aviv 4 (1977) 186 n. 16. See further R. Beal, *NABU* 2001? (forthcoming).

²⁷⁹K. Emre and A. Çinaroğlu, FsNÖzgüç 713, and fig. 23.

²⁸⁰K. Bittel, Die Hethiter 216f. fig. 251; Yaz² nos. 69-80, and nos. 26, 27, 30, 32.

²⁸¹S. Smith, Early History of Assyria (London, 1928) 137, 138 fig. 12; Y. Yadin, Warfare, vol. 1:207 top far left.

second half of the second millennium period pit tomb. Fourteen leaf shaped spear-points were found in the tomb, while in a nearby pit 131 more were found. The sword is 58.4 cm long. It is sharpened and flanged like the Adad-nirari sword.²⁸² A sword like these was also found in the tomb of Tutankh-amon.²⁸³ Other similar swords were found at Byblos,²⁸⁴ and at Ugarit.²⁸⁵ Ivories from Megiddo show infantrymen carrying these swords on their shoulders²⁸⁶ just as the gods at Yazılıkaya are shown doing. Egyptian reliefs, including those of the battle of Qadesh show the weapon carried by the Egyptian infantry.²⁸⁷ It even replaced the mace as a symbol of Pharaonic authority.²⁸⁸ In summary, the use of this infantry weapon seems to have been fairly widespread in the Near East during the New Hittite period. Thus while the only indication of Hittite infantry using this weapon comes from the divine sphere, and there is no known word for it,²⁸⁹ it seems possible that some Hittite infantrymen carried the long bladed sickle sword.

Slingers are attested in Mesopotamia from the Ur III, Old Babylonian (contemporary with early Hittite rulers), and subsequent Neo-Assyrian periods. They are portrayed by the Egyptians in the Middle Kingdom, but not seen on any New-Kingdom reliefs, nor are they found portrayed on any Hittite artwork. Hittite texts on occasion mention enemy slingers, but there is no mention, so far recognized in any case, of Hittite slingers. Military administrative documents from Hatti's tributary, Ugarit do record slings and slingers.²⁹⁰ One lists 140 people by name and whether they have one bow or two, and/or one sling (*ql'*) or two. The periodic totals use the Akkadian word *kabābu*. The text shows 140 people with 265 bows and 102 slings.²⁹¹ Another text from Ugarit mentions two slings among forty bows, one thousand arrows, a set of horse armor, and a

²⁸²R. A. Macalister, *The Excavation of Gezer 1902-1905 and 1907-1909*, (London, 1912) vol. 1:312f., vol 3 pl. 75; Y. Yadin, *Warfare*, vol. 1:207 top far right.

²⁸³Y. Yadin, *Warfare*, vol. 1:207 left middle.

²⁸⁴Ch. Virolleaud, *Syria 3* (1922) 65 and 283; E. Pottier, *Syria 3* (1922):301-303.

²⁸⁵Y. Yadin, *Warfare*, vol. 1:206 center right. In general see K. Bittel, et. al, *Boğazköy 1:28f*.

²⁸⁶Y. Yadin, *Warfare 1:206f. bottom*.

²⁸⁷W. Wreszinski, *Atlas vol. 2pls. 16 top, 18 left, 19 right, 20, 24 left*.

²⁸⁸Y. Yadin, *Warfare 1:79*.

²⁸⁹S. Košak, *THeth 10* (1984):28, 256, and oral communication, suggests that the GÍR.KUN, literally "tail-sword/knife" of the inventory KBo 18.161 rev. 14, ed. S. Košak, *THeth 10* (1984):104f. might be the sickle sword. S. Alp, *Tempel 43 n. 49* suggests that the word *mari-* is to be translated "sickle sword", but see, however, *CHD L-N* (1983):183f.

²⁹⁰On this rather controversial point see Beal, *Diss. n. 2189*.

²⁹¹F. Thureau-Dangin, *RA 37* (1940-41):109-117 = *Corpus des Tablettes en cuneiform alphabetiques*, MRS 10, no. 119.

set of human armor.²⁹² A third text lists the receipt by various individuals of varying numbers of bows, quivers, slings and spears.²⁹³ Thus it appears that the army of one of Hatti's tributary states used slingers, as did some of her enemies. Whether the Hittites also employed slingers is unknown, but there is a good chance that at least some of the soldiers on the Hittite side at the Battle of Qadesh were slingers.

Battle axes are seen carried by the god on the "king's gate" relief at Boğazköy. It is a shaft hole ax. The blade edge curves back on each side to touch the narrow neck that connects it to the handle. On the other side of the socket, the ax is drawn out into four spikes. The handle curves for better balance.²⁹⁴ At Yazılıkaya, in the main scene, the god Sarruma carries an ax, which also appears to be a shaft hole ax. The blade is also somewhat similar. It has a considerable amount of metal on the other side of the shaft, but it is unclear whether there is a second blade on that side. The handle appears longer and straighter than that of the sculpture on the "king's gate".²⁹⁵

Three shaft hole axes have been found in the Boğazköy excavations. The blades flare slightly and are slightly rounded on the cutting end. They have a knob on the top for hafting. They are between 13 and 20 cm long.²⁹⁶ A shaft hole ax and a mold for one have also been found in the oldest Hittite level at Maşat Höyük (Terrace 5). These axes resemble others dating to the beginnings of Hittite history *karum* found at Kültepe, and Acemhöyük.²⁹⁷ None of the functional axes so far found has spikes on the side opposite the shaft hole. An elaborate ceremonial shaft hole ax which does have the spikes comes from Şarkışla.²⁹⁸

The texts refer to the ax carried by gods by the Hittite word *summittant*-²⁹⁹, the Hurrian word *ulmi* and the Akkadian word sign *HAŠŠINNU*. The ax is part of the armory

²⁹²RS 15.83:1-8, ed. Ch. Virolleaud, PRU 2:154 no. 123.

²⁹³RS 19.49:2ff., ed. Ch. Virolleaud, PRU 5 no. 47.

²⁹⁴K. Bittel, Die Hethiter 232 fig. 268.

²⁹⁵K. Bittel, Die Hethiter 208 fig. 239; Yaz² no. 44.

²⁹⁶BoHa 7:35-36, pl. 2 no. 17-19.

²⁹⁷T. Özgüç, Maşat Höyük II 113f., pl. 56.2-3 and fig. 91.

²⁹⁸K. Bittel, Die Hethiter 299 fig. 341. It is 19.5 cm x 9.2 cm and 1025 g. K. Bittel, *Beitrag zur Kenntnis hethitischer Bildkunst*, Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Phil.-Hist. Kl. 1976/4:19ff.

²⁹⁹The *summittant*- can have either a "copper" or a "wood" determinative, since it has a copper blade and a wooden handle. It occurs a *PÄŠU* (another type of ax, see note below). Its apparent interchange with *HAŠŠINNU* (KUB 8.51:4-6, ed. H. Otten, IM 8 (1958):112f.) has led Friedrich (HW 197) to the not unwarranted but also not demonstrable conclusion that *summittant*- is the Hittite reading of *HAŠŠINNU*.

of the war god ZABABA according to one text,³⁰⁰ while another mentions “the bronze ax” of this god.³⁰¹ A list of the various belongings of the Stormgod, to which offerings were made includes his spear and implements, his *GIŠhenapi*, mace and ax, his bow, arrow and quiver, his garments, belt ... and his sword.³⁰² The male aspect of the Goddess of the Night had a “bow, quiver, ax and sword”.³⁰³ A statue of the war goddess Sausga is described as holding a gold ax in her right hand and a gold “well-being” sign in her left. A Hurrian language text describes the same goddess as having a suit of scale armor (*gurpisu* and *sariam*), bow, arrow, quiver, sword(?) (*haseri-*), and shield (*eshe-*), and an ax (*ulmi-*).³⁰⁴ An inventory mentions “64 axes, 128 MANA ..., 46 axes, 92 MANA” and thus shows that two MANA was a standard weight for *HAŠŠINNU*-axes.³⁰⁵ Another inventory mentions two copper axes beside a copper spear.³⁰⁶ Axes and ax-men are mentioned in a festival.³⁰⁷ Whether Hittite mortals, like Hittite gods and apparently Egyptian soldiers, used axes in battle is still an open question.

Also frequently found on Hittite sites are socketless axes.³⁰⁸ These have, opposite the blade, a flat tongue, which is inserted into the handle. The ax is then secured to the handle by leather thongs.³⁰⁹ Small lugs are sometimes provided on the ax to facilitate this. These are never shown carried by men or gods on reliefs. They are presumably to be equated with the *ates-/PĀŠU*³¹⁰ of the texts, which occur among bronze implements in inventories,³¹¹ but are never attested as a divine weapon. An *ates* is mentioned in the company of other weapons in Zarpiya’s ritual: “They place on top (of the cheese bread) a bronze *ates-*, a bronze sword, a strung bow and one arrow.”³¹² Although the *ates-/PĀŠU* is mentioned beside *HAŠŠINNU*-axes, it seems usually to be employed as a utilitarian

³⁰⁰KUB 38.1 i 4-7, ed. C.-G. von Brandenstein, *Bildbeschr.* 10f., tr. L. Rost, MIO 8 (1961):178.

³⁰¹KUB 38.20 rev. 2 (cult inv.).

³⁰²125/r ii 14-iii 6, w. dupl. KBo 23.47 iii 3-10, ed. R. Beal, Diss. 583 n. 1794.

³⁰³KUB 29.4 i 49-50 (NH), ed. H. Kronasser, Schw.Goth. 10f

³⁰⁴KUB 27.1 ii 7-9, ed. I. Wegner, AOAT 36:98 with n. 342, 346

³⁰⁵KUB 42.71 obv. 1, 4, ed. S. Košak, THeth 10 (1982):95, cf. A. Kempinski and S. Košak, Tel Aviv 4 (1977):92.

³⁰⁶IBoT 1.31 rev. 4-5, ed. S. Košak, THeth 10 (1982):5, 7.

³⁰⁷KUB 9.18:18-19 and dupl. KUB 46.4 i 11-12.

³⁰⁸P. Neve, ArAnz1983:447; BoHa 7:37-38 w. n. 193, w. pl. 2 nos. 23, 24, 27, 28; BoHa 10:2 w. pl. 1 no. 2486, 2487, 2487A; Košay and Akok, TTKY 5/6 pl. 47 Al l 60 and Al l 18 (15 cm).

³⁰⁹See Y. Yadin, *Warfare*, vol. 1:184f. for a reconstruction.

³¹⁰See H. Otten, ZA 51 (1955) 124-126.

³¹¹Košak, THeth 10:290; J. Siegelová, Verw. 698.

³¹²KUB 9.31 i 28-29, ed. H. Otten, ZA 51 (1955):125, tr. B.J. Collins, CoS 1:163.

tool. Whether Zarpiya's ritual proves that some Hittite soldiers used an *ates-* in battle is unclear.

The mace is attested among weapons of Hittite gods.³¹³ They are also found in storehouse inventories: "Fifty-six iron sword blades [...] / eight cook's knife blades / sixteen black iron maces [...]."³¹⁴ Other inventories list "seventy maces [...] / two chariots [...] / two chariots [...]."³¹⁵ "One bow, twenty arrows, [...] / one mace back to the storehouse ..."³¹⁶ Note also, "horses, mace, arr[ows]".³¹⁷ A number of maces have been found on Hittite sites³¹⁸. Yadin³¹⁹ talks of maces being used from early times up to the Old Kingdom in Egypt and up to the Early Dynastic Period in Mesopotamia. He notes that maces were made useless with the development of helmets, and were replaced by axes. Thus despite some positive evidence³²⁰ from the texts, it is unclear if any Hittite soldiers ever carried maces.

³¹³KUB 38.1 i 4-7, KUB 38.2 ii 8, cf. ii 5, KUB 38.3 ii 11-12 all ed. C.-G. von Brandenstein, *Bildbeschr.* 10f., 6f., 18f.; 125/r ii 14-iii 6, w. dupl. KBo 23.47 iii 3-10, ed. R. Beal, Diss. 583 n. 1794. a mace in the right hand and a *henzu-* in the left, KBo 2.1 ii 23, ed. Ch. Carter, Diss. 54, 64; cf. *ibid.* iii 21, ed. Ch. Carter, Diss. 56, 66. At Yazılıkaya, seven of the deities, including Ea, Tasmisu, Tessub, and Mt. Tudhaliya carry maces (Yaz² nos. 18, 21, 24, 39, 41, 42, 83). The Stormgod of Heaven on Muwattalli's seal, the deity of Ini-Tessub's seal, and the deity Mt. Tudhaliya on king Tudhaliya's seal also carry maces. (K. Bittel, *Die Hethiter* 170 fig. 191, 167 fig. 182, 172 fig. 193).

³¹⁴KBo 18.158:3-5, ed. S. Košak, *THeth* 10:146. See also KUB 42.11v 1ff., ed. S. Košak, *THeth* 10 (1982):33, 36, where 3 maces and many sword blades are mentioned. KBo 2.1 i 29, ed. Ch. Carter, Diss. 52, 61; KUB 33.55 i 2 (rit. for ZABABA).

³¹⁵ABOT 54 rt. col. 3-5, ed. S. Košak, *THeth* 10 (1982):18f.

³¹⁶KUB 40.96 iii 26-27, ed. S. Košak, *THeth* 10 (1982):81f.

³¹⁷KUB 31.99 obv. 14, cf. KUB 13.35 iii 44-47 (NH), R. Werner, *StBoT* 4 (1967):12f., cf. *ibid.* iv 9-10, ed. *StBoT* 4 (1967):12f.

³¹⁸BoHa 7:218-219, w. pl. 88 no. 2233, 2254.; BoHa 10:55f. w. pl. 33 nos. 3735 and 3736; K. Bittel and H. G. Güterbock, *Boğazköy* 1, *APAW* 1935/1:30 pl. 9.4; K. Bittel, *Boğazköy, Die Kleinfunde der Grabungen 1906-1912 -- I: Funde hethitischer Zeit*, *WVDOG* 60 (Leipzig, 1937) 21 fig. 10; H. Z. Koşay and M. Akok, *TTKY* 5/6:176 pl. 36 no. Al e 67; cf. p. 177 pl. 36 no. Al e 125.

³¹⁹Warfare, vol. 1:40-41.

³²⁰Since the word sign for "mace" (GIŠTUKUL) is also the generic word sign for "weapon," it is often difficult to tell whether the texts speak of maces or just weapons. A ritual battle in which "the Hittites hold bronze GIŠTUKULs and the Mašans hold reed GIŠTUKULs" could be an example of an older type of warfare involving maces, but most probably the word merely refers to "weapons" (KUB 17.35 iii 11-13, ed. Ch. Carter, Diss. 129f., 143, , tr. O.R. Gurney, *Some Aspects of Hittite Religion*, The Schweich Lectures 1976 (Oxford, 1977) 27, both translating "weapons".)