

Reconsidering Goliath: An Iron Age I Philistine Chariot Warrior

JEFFREY R. ZORN

Department of Near Eastern Studies
409 White Hall
Cornell University
Ithaca, NY 14853
jrj3@cornell.edu

The text of 1 Sam 17:4–7 gives a detailed account of the arms and armor of the Philistine champion who battled David in the Elah Valley, a description unmatched for detail in any other biblical text. The text seems to contain enough information to provide an approximate sense of Goliath’s appearance. However, this is where the heart of the debate lies. Previous approaches have viewed the description of Goliath as modeled on an infantry man, be it a Mycenaean warrior of the Iron Age I, a Greek hoplite of the sixth century, or something of a mix of the two. However, if he is understood as a chariot warrior, a member of the Philistine elite warrior class, there is nothing in the description of his equipment that demands a late date for the text’s origin. In fact, all his gear matches well with what might be expected of an Aegean-Levantine chariot warrior of the Iron I period.

INTRODUCTION

In recent years several scholars have revisited the issues surrounding the description of the weapons and armor of the Philistine warrior who fought the famous duel with a youthful David in the Elah Valley (1 Sam 17:4–7). Some, such as Finkelstein (2002: 142–48) and A. Yadin (2004: 375–76), favor in one way or another the approach laid out by Galling (1966: 150–69), according to which the description of this gear was fabricated by late Deuteronomistic editors and has little, if anything, to do with the material cultural realities of the Iron I period.¹ Others, such as Millard (2009: 337–43), Garsiel (2009: 404–9), King (2007: 350–57), Stager (1998: 169; 2006a: 381), King and Stager (2001: 228), and Dothan (1982: 20), argue that Y. Yadin’s (1963: 265–67, 354–55) understanding is essentially correct, and that the description of the Philistine’s gear corresponds to that of a late Mycenaean or Sea Peoples soldier from the end of the Late Bronze Age/Iron I period. While not doubting the late editing of the biblical text, or that the editor’s knowledge of earlier times might be imperfect or limited,

the question remains whether these late editors were aware of and relied upon earlier traditions, including those of Philistine weaponry and armor, or whether Goliath’s kit is a priori a late fabrication, if anything reflecting the equipment of Greek mercenaries of the era of the editors. After all, Homer recalls authentic touches of a Mycenaean military kit when he describes boar’s tusk helmets, tower shields, etc. (Lorimer 1950: 132–306), showing that a writer working centuries after the events he describes can preserve at least some memories of the distant past. Given the flurry of recent studies on this topic, a legitimate question is whether another review of the subject is warranted. While various scholars have contributed many valuable insights on this subject over the years, the contention advanced here is that a fundamental misunderstanding has always been made in the approach to this passage. Because the duel took place on foot, scholars have assumed, without comment, that the Philistine described was an infantry man, or foot soldier. However, it is the very combination of weapons and armor with which he was equipped—and which to some have seemed a cultural hodge-podge, suggesting a completely non-historical character—that are actually the key to understanding the nature of this figure. If, instead, one sees Goliath as a chariot warrior, most, if not all, of the problems associated with an early dating for the description

¹ Ca. 1200–980 B.C. by the Modified Conventional Chronology (Mazar 2005: 16, table 2.1) or 1200–920 B.C. by the Low Chronology (Mazar 2005: 23).

of his gear disappear; he fits very well into an Iron Age I material culture context. Indeed, it is just during the era of Saul and David that Philistine chariots are attested in the Bible and in the material culture record. For example, chariot fittings themselves are attested from the Philistine sites of Ashkelon (Stager 2006b) and Ekron (Dothan 1993; Dothan and Drenka 2009). According to the biblical text, in the Philistine invasion of the central hill country leading up to the battle in the Michmash Pass, the Philistines are said to have mustered 30,000 chariots (1 Sam 13:5; or 3,000: McCarter 1980: 224–25)! Similarly, Philistine chariots are found at Saul’s final battle at Mt. Gilboa (2 Sam 1:6). Even if the first set of numbers is exaggerated, it seems likely that Philistine armies routinely included chariots, and if so, their crews would be among the elite troops of the army.

This study will not deal with the literary development of the story, or with the complexities of its literary transmission, or how it functions in the overall narrative.² Nor will the historical parallels for the contest of champions, often discussed in this context, be examined. The focus here is only on the narrower topic involving military equipment and terminology and how it illuminates the nature of the Philistine champion.

Goliath is, of course, first a literary character portrayed in epic fashion. He is unknown from contemporary sources outside of the Bible, itself a work of literature. It is unknown how many stories about him may have been transmitted in Israelite and Philistine circles, or even if he actually existed. For this article, this issue is not important. The aim is to ascertain how the storytellers and writers who transmitted this tale through the centuries, and the audiences who heard or read it, envisioned this Philistine champion, real or not.

It is important, then, to note that efforts to see the descriptions of Goliath’s gear as reflecting some sort of mercenary Greek hoplite (Finkelstein 2002: 143) or retrojection of a Hellenized “Philistine” culture of the sixth century and later into the past (A. Yadin 2004: 385–86) are not without their own problems. The scale armor worn by the Philistine and the existence of the shield-bearer who accompanies him are not part of the seventh to fifth centuries’ hoplite

repertoire (Finkelstein 2002: 145–46; Millard 2009: 338–39). To be added to this list of incongruous elements is the giant’s probable bronze sickle sword, a weapon of the second millennium. As will be clear from the following discussion, these three elements are part of the heritage of the ancient Near East. If the description of the giant is supposed to faithfully depict a Greek warrior of the editor’s era, this mixing of Greek and non-Greek elements is odd. On the other hand, the preponderance of bronze among the Philistine’s weapons and armor, save for the massive iron spearhead, is not a weighty argument against seeing him as based on a type of Greek hoplite from the editor’s era (contra Millard 2009: 341). Greek hoplite gear from 700 B.C. and later was mostly bronze (Snodgrass 1957: 38, 42–43), except for the iron spearhead (Snodgrass 1957: 50–53, 57; Hanson 2000: 71–84). However, the emphasis placed by the author on the bronze composition of certain pieces of equipment is significant and may suggest an early date (see below).

Before going on to a case-by-case analysis of the military equipment listed in 1 Samuel 17, it is next necessary to survey the obstacles facing scholars who would clarify this subject. This will eliminate certain theories and objections at the start. First and foremost, it must be stated that there are no late 11th-century B.C. sources that document the appearance of Philistine warriors that would be contemporary with the biblical Goliath. This is a crucial point. Those who argue against an Iron Age I context for this gear note that the 1 Samuel 17 descriptions do not match the appearance of the Sea Peoples warriors depicted in the mortuary temple of Ramesses III at Medinet Habu ca. 1175 B.C. (A. Yadin 2004: 375–76; Finkelstein 2002: 142–43; Rofé 1987: 132). This, however, is something of a red herring. It is well known that the material culture of the Philistines evolved in the period after their arrival in south coastal Canaan (Stager 1995: 334–35; Dothan 1982: 95–96). Ceramics offer the clearest example of this. The initial form of Philistine pottery is now known as Philistine Monochrome (formerly Mycenaean IIIC:1b). Within a generation, this had developed into the justly famous Philistine bichrome. By the end of the 11th century, many forms had disappeared and decoration became a hand-burnished red slip with dark brown decoration. If one aspect of Philistine material culture could undergo such a variety of changes over 150 years, we should not absolutely expect that the weaponry of the military aristocracy who used this pottery would remain static over the same period. Other useful data lacking for this investiga-

² The differences between the shorter LXX text and the longer Masoretic text fortunately do not have much bearing on the issues considered here. See Isser (2003: 28–34) for a recent summary and bibliography on these issues.

tion are intact burials of Philistine warriors and Philistine textual sources of any kind, such as the types of weapon inventories known from Crete.³ Also lacking are any further biblical passages detailing Philistine military gear. Thus, any study attempting to elucidate this topic is forced to evaluate the 1 Samuel 17 passage in comparison to the texts and material culture that stand at the distance closest to it both chronologically and geographically. The resulting image cannot help but be something of a pastiche; the only question is if the image created is largely early or late, or truly chronologically mixed.

It is now time to consider the actual list of gear with which Goliath is said to be armed. While some have considered this a hodge-podge of equipment that makes Goliath an almost ahistorical figure out of some fable (Galling 1966: 167), it is actually the very composite nature of his panoply that so strongly suggests his role as a Philistine chariot warrior of the late Iron Age I period. The text describing Goliath's weaponry and armor reads as follows (1 Sam 17:4–7 NRSV):

And there came out from the camp of the Philistines a champion named Goliath, of Gath, whose height was six cubits and a span. He had a helmet of bronze on his head, and he was armed with a coat of mail; the weight of the coat was five thousand shekels of bronze. He had greaves of bronze on his legs and a javelin of bronze slung between his shoulders. The shaft of his spear was like a weaver's beam, and his spear's head weighed six hundred shekels of iron; and his shield-bearer went before him.

If Goliath was a chariot warrior, it may seem odd that this passage does not mention his chariot and its driver. However, the biblical writers were often sparing of details unnecessary to their purpose. The chariot is not mentioned because the duel was fought on foot and the vehicle played no part in it; therefore, the writer left it out. Also, much information is encoded in biblical passages in terms that were readily accessible to the writer's audience but which may today slip past the modern reader unfamiliar with what the vocabulary used by the writer signifies. The language used by the author of the 1 Sam 17:4–7 text (as discussed below) would have made it abundantly clear to his audience that a chariot warrior, and no other type of soldier, was being described; the presence of a chariot was implicit in the very words used to depict Goliath.

³ See, for example, Uchitel 1988.

ARMOR

The author introduces Goliath's armor with *וְכִבֵּעַ נְחֹשֶׁת עַל-רֹאשׁוֹ*, “and a helmet of bronze was on his head” (17:5; LXX *περικεφαλαία*, not distinguished there as bronze). In 17:38, Saul gives his *קִבְעַת נְחֹשֶׁת* to David to wear. The term *קִבְעַת* / *קִבְעָה* is usually considered a loanword into Hebrew because of the interchange of *כ* and *ק* (Speiser 1950: 47; Sapir 1937: 75), possibly from Hittite (Sapir 1937: 75, Hittite *kūpaḥi*, “cap”; Ellenbogen 1962: 82; Rabin 1963: 124–25; Beal 1986: 642–43) or Hurrian (*kuwaḥi*; Tischler 1983: 640–41), though Palache thought it had a Semitic origin (1959: 40). Singer even considered it a possible loanword from the Philistine language (1994: 336). In the *Iliad* 15.536, the possibly related *κύμβαχος* suggests the top part of the helmet to which the crest/plume was attached (Szemerényi 1974: 153; Brown 1971: 5–6). Other than its likely foreign origin, however, little can be gleaned from the brief biblical description. No mention is made here of any decorative features, crests, etc. Since the materials from which the Medinet Habu type of helmets used by the Philistines were fabricated are unknown (none have been found), there is no way to know if Goliath wore this, or some other type of headgear (Dezsö 2001: chart 1 for helmets from the end of the second millennium).⁴

In 1 Sam 17:49, when describing how the sling stone wounds Goliath, LXX adds that the stone penetrated *διὰ τῆς περικεφαλαίας* “through the helmet,” perhaps suggesting that a helmet with some type of nose guard was envisioned. The lack of such a detail in the Hebrew may be accidental, or may indicate that Goliath's helmet did not have such a noseguard (Galling 1966: 163). The lack of a noseguard would include the Philistine “feathered” helmet (fig. 1), but could also include any number of other Bronze and Iron Age helmet types, from the various conical and crested Assyrian types (Yadin 1963: Vol. 2: 420–25, 452) to those worn by Canaanite charioteers or Egyptian nobles as depicted in Egyptian monuments (figs. 2, 3; Yadin 1963: Vol. 1, 192–93, 196 top, 242 top; Kendall 1981: figs. 2–3, 5–8). Canaanite chariot warriors

⁴ This is a basic problem underlying the work of Deem (1978), who assumes that Goliath must still have been wearing the same type of “feathered” helmet depicted at Medinet Habu around 150 years earlier. It is also difficult to envision how a typical Iron Age sling stone, about the size of a modern tennis ball, would not simply have broken Goliath's leg, if, as Deem suggests, it hit just above the top of one of his greaves, rather than incapacitating him by dropping down inside the top of the greave, a very unlikely scenario.



Fig. 1. Two Sea Peoples' chariots as depicted in the relief of the land battle on the walls of Ramesses III's mortuary temple at Medinet Habu. Both chariots have a driver and two warriors carrying two spears each. After *MH* 1: pl. 32; courtesy of the Oriental Institute of the University of Chicago.

are shown as late as Sety I (ca. 1285 B.C.) wearing plumed helmets (fig. 4; *RIK* 4: pls. 11, 23). Helmeted warriors either riding chariots or holding horses are also known from late Mycenaean vases (Vermeule and Karageorghis 1982: pls. 11.1B(?), 11.8, 11.28, 13.28(?)). A finely decorated, crested, 11th-century bronze helmet from Tiryns had protective cheek flaps (Kendall 1981: 227, fig. 10). Such helmets could be fabricated from sheet bronze, or from bronze scales, similar to those used for body armor (though most likely smaller and stitched to leather backing; see the discussion of Goliath's armor below), and were lined with wool. They could be plain or could have crests or plumes of different types (Dezsö 2002: 204–10). The helmets made of scales could weigh from about 2.0 to 3.5 kg, though sheet-metal types would have been lighter and therefore offered less protection (Kendall 1981: 211–14).

The text then continues with וְשָׂרִיּוֹן קֶשֶׁטִים, “and an armor of scales,” also made of bronze and weigh-

ing 5,000 shekels. The feminine form קֶשֶׁטֶת denotes “scales,” either of fish (Deut 14:9–10; Lev 11:9–10, 12) or of crocodile (Ezek 29:4). Literally, he wears a *širyôn* of scales. The terms *širyôn* (5×) / *širyān* (2×) / *siryôn* (2×) are variants of the word for “armor” (henceforth simply *širyôn*). It is a loanword from Akkadian *siriam* (*CAD S* 313–15) and is likely Hurrian in origin (*šaryanni*; Speiser 1950: 47–48; Oppenheim 1950: 193; Koehler and Baumgartner 2001: 769). In late biblical texts, *širyôn* seems to become a generic term for “body armor” (Neh 4:10, 2 Chron 26:14, Isa 59:17, perhaps Jer 51:3).⁵ The LXX generally renders *širyôn*

⁵ In general, it seems that scale armor, in which each scale is overlapped by scales in the same row, and by scales in the row above, is less common in the ancient Near East by the eighth century. It is often replaced by lamellar armor in which the rows do not overlap each other. Compare the illustrations in Stillman and Tallis 1984: figs. 15, 30, 87, 88, of the Late Bronze Age, with figs. 127, 128, 130, 141–46, 148, 153, and 154 of the eighth and seventh centuries. See also Yadin 1963: Vol. 2, 407, 418–19, 424, 430–32,



Fig. 2. Examples of helmets worn by Syro-Canaanite chariot warriors depicted on the chariot of Tuthmose IV. After Kendall 1981: fig. 8; courtesy of T. Kendall.

as *θώρακος* or breastplate, though in 1 Sam 17:5 it is rendered as a *θώρακα ἀλυσιδωτόν*, or a breastplate of chain mail, suggesting that the translator did not really understand the nature of the armor. In other passages, it is clear that this is a type of armor worn by elite mounted troops, especially charioteers (Jer 46:4). In 1 Kings 22:34/2 Chron 18:33, King Ahab of Israel is hit by an arrow *בין הַדְּבָקִים וּבֵין הַשְּׁרָיִץ*, probably the area where the armored sleeves connect to the main body armor, while fighting from his chariot (Yadin 1963: Vol. 1, 196 top). Saul tries to equip David in his own

set of *širyôn* armor (1 Sam 17:38).⁶ 1 Sam 17:5 is the only passage where the *širyôn* is specifically likened to scales, perhaps to make clear to the audience that it is exactly this kind of chariot warrior scale hauberk or tunic that is intended.

The *širyôn* in this passage is not “mail” as in the sense of chain mail, but a type of hauberk composed of overlapping bronze scales sown onto an underlying tunic of wool, linen, or leather (the most extensive discussions are Kendall 1974: 263–86; Hulit 2002;

442–43, 446, 452 and 458 for the Assyrian types. Mallowan (1966: 410 fig. 336a, d) presents some excavated examples and notes on p. 409 that the majority of armor recovered was iron. Such later Assyrian armor tended to be short-sleeved and reached to about the waist. The term *širyôn* would describe both scale and lamellar armor.

⁶ Saul has a helmet, sword, and perhaps armor apparently very much the same as Goliath. 1 Sam 13:22 indicates the rarity of swords among the Israelites. That Saul would be so equipped would be very appropriate for the Israelite leader, since he would have the best gear in the Israelite army and, because of his status, would perhaps have even possessed a chariot. Of course, it might simultaneously function as a literary device to indicate to the reader that the similarly equipped Saul should have been the one to fight Goliath.

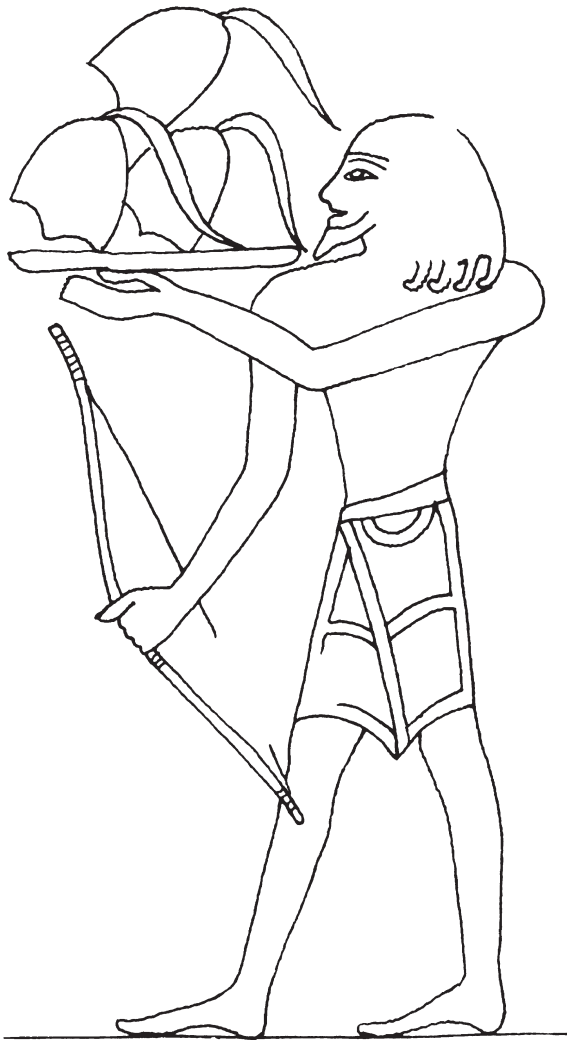


Fig. 3. Syro-Canaanite plumed helmets brought as gifts, from the tomb of Menkheperre-Seneb (TT 86), Thebes. Reign of Tuthmose III. After Kendall 1981: fig. 2b; courtesy of T. Kendall.

Ventzke 1986; also Oppenheim 1950: 192–95; *CAD S*: 313–14; Dezsö 2002; 2004; Yadin 1963: Vol. 1, 84–85, 192–93, 196–97, 214, 216–17, 237, 240–41). Such a tunic could reach to the knees and could also have sleeves to cover the arms as far as the elbows (or even the wrists), collars, and flaps hanging from the waist (figs. 2, 5; Kendall 1981: 202–3), though shorter versions, protecting only the upper torso, with or without sleeves, also existed. Different parts had different size scales; for example, scales covering the body were larger than those covering the arms. The body of such a tunic could have 400–600 scales, and the arm sec-

tions warranted an additional 150–550 smaller scales. Armor of this type is known from depictions in three Egyptian tombs: those of Kenamun (Davies 1930: pl. 16), Paimosi (Lepsius 1849–1856: Plates Vol. 5, Sect. III pl. 64), and Ramesses III (Champollion 1845: Plates Vol. 3, pl. 262). Such a suit of armor gave its wearer a great deal of protection and a good degree of flexibility.⁷ Examples of such hauberks recorded in the Nuzi texts have been estimated to have weighed typically around 16.8 kg, with some examples as much as 26.3 kg (Kendall 1974: 276–78). Bronze scales excavated at Kamid el-Loz suggest a weight of ca. 15.4 kg for a hauberk covering the thighs, and ca. 20.7 kg for one reaching to the shins (Ventzke 1986: 173–79). Goliath's scale hauberk of 5,000 shekels of bronze weighs about 56.7 kg. Thus Goliath is credited with wearing armor somewhat over twice the weight of the heaviest Nuzi and Kamid el-Loz reconstructions. In the second millennium, such armor could be made entirely of bronze, as credited to Goliath (Dezsö 2004: 320; 2002: 195–98). The cost of the materials and labor involved in fabricating such a bronze scale hauberk, however, meant that it was only used by elite chariot warriors at Nuzi; and similar use by only the most important or elite chariot warriors probably was the rule across the ancient Near East at this time.⁸ Scale armor made entirely out of leather, such as a specimen found in Tutankhamun's tomb (Hulit 2002: 86–99), or of composite leather and bronze scales, as suggested by the Nuzi texts, would have been cheaper to produce and likely more common (Hulit 2002: 99–100). Less affluent chariot warriors had to make do with leather armor, or composite bronze-leather armor (Kendall 1974: 278–79; Dezsö 2002: 197–98). Infantry also typically made do with leather armor (if they had any at all). Single scales of bronze armor from

⁷ Experiments by Hulit (2002: 116–33) with replica Egyptian archery equipment and sections of replica leather, bronze, and composite leather-bronze scale armor showed the effectiveness of such armor. At a range of only 7 m, the arrows used were not capable of penetrating either of the latter two types of armor, and even the all-leather armor was quite effective against several types of arrows. In actual combat, at increased range, all these types of armor would provide significant protection for a chariot warrior.

⁸ For example, in a section of the text of Tuthmose III's Megiddo campaign related to chariot equipment, he carries off only two suits of bronze armor from the rulers of Kadesh and Megiddo, but 200 suits of leather armor (Lichtheim 1976: 33–34). Similarly, among the lavish list of presents sent to Egypt by Tušratta of Mitanni are several suits of armor for a chariot (EA 22:37–41). Two suits of leather armor are for the horses, another suit of leather armor is for a warrior, but there is only one suit of bronze armor for another warrior, presumably the Egyptian king (Moran 1992: 55).

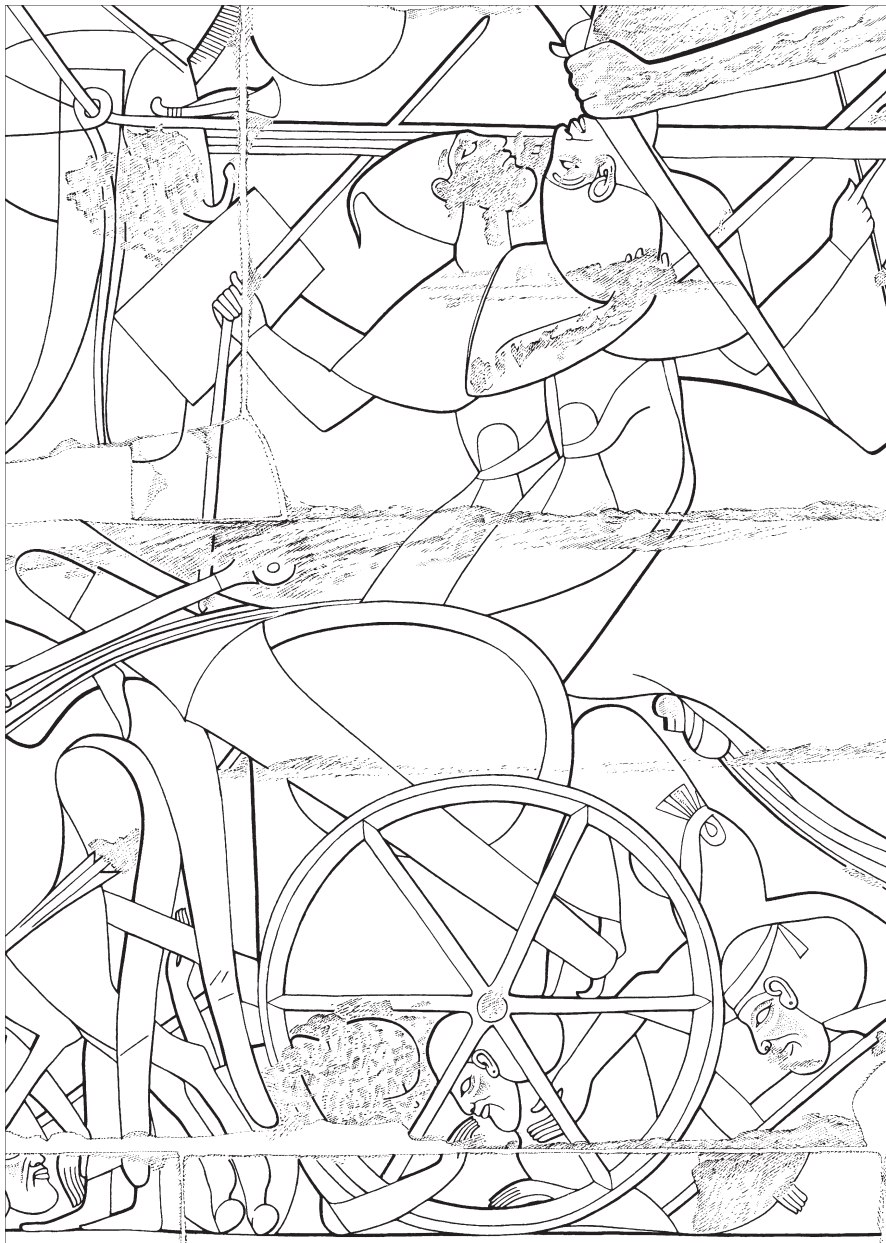


Fig. 4. Canaanite charioteers fleeing from Sety I. Note the plumed helmet and the typical rectangular Canaanite-style shield. Adapted from *RIK* 4: pl. 11; courtesy of the Oriental Institute of the University of Chicago.

Late Helladic IIIC (LH IIIC) Tiryns and Mycenae suggest that such armor was known in Greece just before the period of the Goliath story; however, the use to which such armor was put, either in a symbolic role or in actual combat, is uncertain (Maran 2004: 18–24; Catling 1970; Kendall 1981: 230). Iron Age Greek use of scales on linen corselets seems to be something picked up after coming into contact with Near Eastern

armies where scales were already in use (Snodgrass 1967: 90–91).

The weight of such an armored robe made it cumbersome and tiresome to walk very far. The bronze bell cuirass of the early Greek hoplite was similar in weight to the Nuzi armor and was a source of great discomfort to those wearing it, especially in a hot climate (Hanson 2000: 78–79). Riding into battle helped

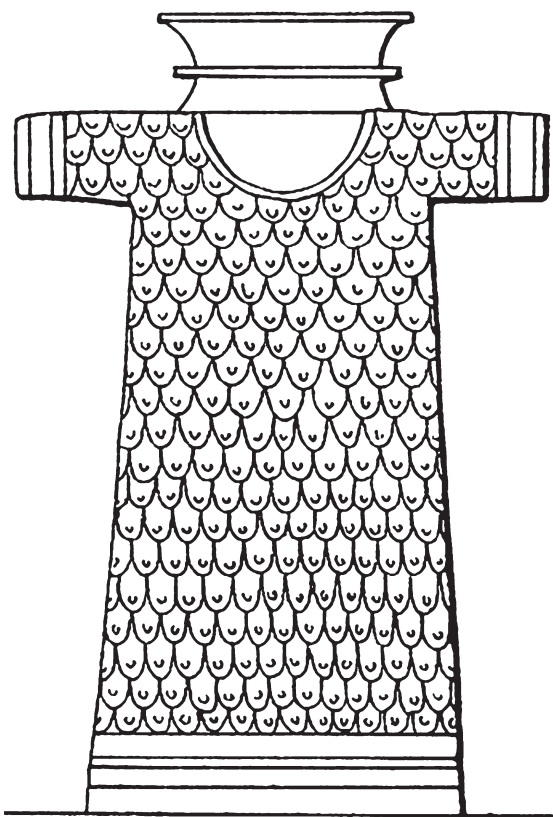


Fig. 5. Example of scale hauberk from the tomb relief of Kenamun. Minus the collar, which seems to have disappeared from use before the Ramesside era, this is the sort of armor worn by Goliath. After Davies 1930: pl. 16; Image © The Metropolitan Museum of Art. The Metropolitan Museum of Art, J. Watson Library (532 eg6 Q v. 5).

mitigate the armor's weight. During the first millennium, iron began to be commonly used for fabricating scale armor (Dezsö 2004: 323).

The text specially emphasizes how the armor is both like fish scales and is completely fashioned from bronze; this may be an indication of an early date (Millard 2009: 341).⁹ A writer working near the end of the Iron Age might have been expected to describe scale armor fabricated from iron, such as was known in Assyria at that time. In fact, LXX at this point describes the armor as *αλκοῦ καὶ σιδήρου*, “bronze and iron,” which is what one might expect from a source

⁹ If Goliath's *širyôn* was truly completely bronze, it could be taken as additional evidence in support of understanding him as a chariot warrior. However, it is uncertain whether the biblical writer would have bothered to differentiate between armor completely of bronze, and composite bronze-leather armor. See also n. 5 above.

late in origin. It may be, then, that when the author of the 1 Samuel 17 account likens Goliath's armor to fish scales, he is describing a type of armor no longer very common in his time and with which his audience would not be so familiar. If so, this might suggest a ninth-century or earlier context for Goliath's armor.

On his legs Goliath wears *רַמְצוֹת נְחֹשֶׁת*, or greaves of bronze (1 Sam 17:6). The Hebrew is singular (a dual, or perhaps dual plural, is expected), but most commentators follow LXX *κνημίδες* and render this expression in the plural (McCarter 1980: 286). *Miṣḥat* is a *hapax*, which is not surprising because greaves were not used in the Bronze or Iron Age Near East. Greaves, however, were well known in Bronze Age Greece, especially toward the end, in LH IIIC (Drews 1993: 176–77; Luce 1975: 102), and are mentioned in Homer's *Iliad* (Bowra 1961). They are common on Mycenaean vases from Greece, Cyprus, and even the Near East depicting warriors and hunters (Vermeule and Karageorghis 1982: pls. 9.2, 11.43, 11.49, 11.53) and also in wall paintings (Immerwahr 1990: pls. 64–65, 68, 73–74). Sometimes the greaves in these representations may be fabricated from cloth or leather, but some at least are made of bronze. The existence of bronze greaves is attested by actual examples found in excavations. Perhaps the most famous specimens were found with the elaborate suit of bronze plate armor from the tomb at Dendra (Verdelis 1977: 44–48, pl. 22), but other examples are known, again from the LH IIIC, in Greece and Cyprus (Papadopoulos 1979: 160–61; 1999: 268–69, 271, pls. 56c, 59a; Catling 1964: 140–42, pl. 18a–c). It seems, however, that this type of armor faded out of representational art in Greece by the end of the 12th century (Drews 1993: 177). It is important to note here that while the most famous depictions of greaves are shown on foot soldiers, as on the Warrior Vase (Vermeule and Karageorghis 1982: pl. 11.42), they are, however, also shown worn by chariot crews or warriors otherwise handling horses and so presumably members of chariot crews (fig. 6; Vermeule and Karageorghis 1982: pls. 11.3, 11.7, 11.16, 11.18, 11.28, 11.38, 11.59(?), 13.28–29).

Every part of Goliath's panoply—his scale hauberk, helmet, and greaves—is armor worn by chariot warriors, either from the ancient Near East or Greece, and attested down to the very end of the Late Bronze Age.¹⁰

¹⁰ Garsiel (2009: 401–2, 409) correctly understands Goliath as well protected from missile fire, and as an elite member of the Philistine army, but does not see that this very panoply is what marks him out as a chariot warrior.

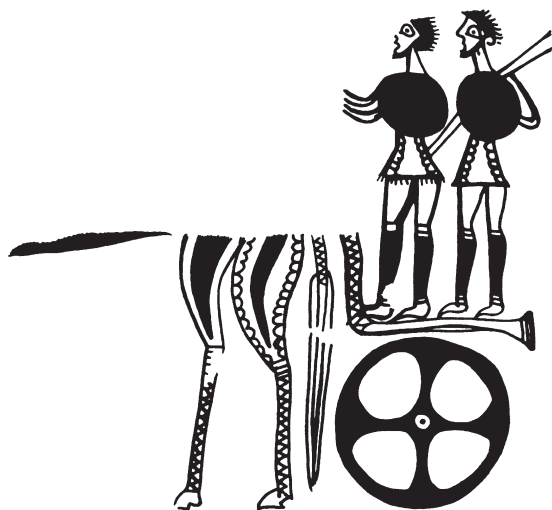


Fig. 6. LH IIIc rail chariot on a krater from Tiryns, showing warrior and driver both carrying shields and wearing greaves; the rear warrior is also equipped with two spears. After Crowell 1981: pl. 59; courtesy the Allard Pierson Museum.

WEAPONS

Between his shoulders Goliath carries a *קִידוֹן* וְחֶרֶב, some sort of bronze weapon (17:6). *Kidôn* is not a common word in biblical Hebrew. Besides occurring in this verse, and also later in 17:45, it is found only in Josh 8:18, Jer 6:23 and 50:42, and Job 39:23 and 41:21. There is considerable debate about its meaning. Some favor a javelin (*NRSV*; King 2007: 353), while others believe a sickle sword (fig. 7) or scimitar is intended (*NJB*; McCarter 1980: 292; Molin 1956 and Williams 1998 are the most extensive treatments and prefer the sickle sword identification).¹¹ In Josh 8:18, Joshua waves his *kidôn* as a signal for his troops to attack. In the Jeremiah passages, mounted invaders who will destroy Jerusalem and Babylon are equipped with bow and *kidôn*. In Job 39, it is one of several

¹¹ Emery (1998: 130–31) also surveys the material. He notes that the multiplicity of renderings in LXX may indicate that by the time of 1 QM 5: 7, 10–13, the key passages for understanding the weapon as a curved sword, the word may have taken on a completely new meaning, or simply that one of the meanings then current had been accepted, whether or not it was the intended meaning of the original Hebrew. Of course, the Qumran author may have had the correct sense. Emery's suggestion to consider the possibility that the *kidôn* was a mace or battle ax is even more problematic. In the Jeremiah and Job 39 passages the weapon is used by cavalry, and neither the ax nor the mace is depicted as a cavalry weapon in the first millennium.

weapons, along with the bow and spear, carried by a horse; and in Job 41, it is one of the weapons that prove ineffective against Leviathan. None of these passages offers a decisive context for understanding its meaning. LXX renders it in a variety of fashions, including as a spear/javelin, burning weapon, sword/dagger, and in this passage, as a shield, all of which suggests the word was not well understood, had a very generic meaning, or was in transition (Williams 1998).

The key problem with understanding the nature of the *kidôn* is how it is juxtaposed with other weapons in the 1 Samuel 17 passage. First, javelins were not carried slung across a soldier's back. Foot soldiers would carry them in a free hand or in the same hand as a shield, while chariots often had a special "quiver" attached to the vehicle for this purpose (Yadin 1963: Vol. 1, 233 upper). The second problem arises from 17:45, where David accuses Goliath of coming against him with *חֶרֶב* and spear and *kidôn*. Later, in 17:50–51, David draws the fallen Goliath's *hereb* out of its sheath and decapitates him with it. *Hereb* is the generic Hebrew term for a sword. If the *kidôn* is a sickle sword, what is the *hereb* in these verses? In the case

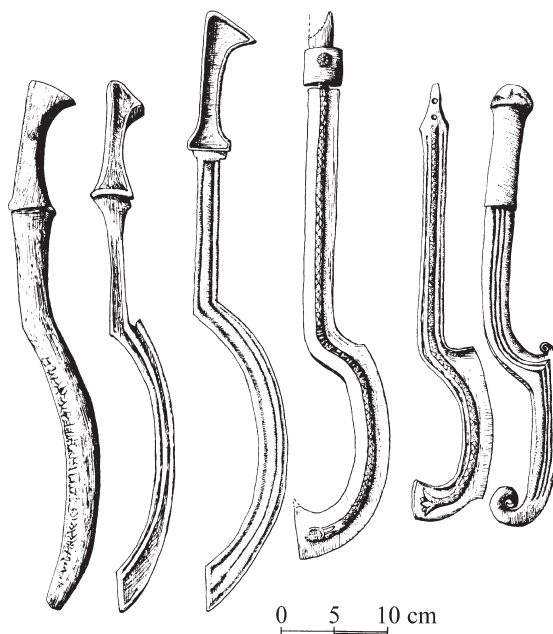


Fig. 7. Sickle swords of the Middle (right) and Late (left) Bronze Ages. Note the less angular form of the later swords. After Yadin 1968: col. 947:22–27; courtesy of the Bialik Institute.



Fig. 8. Sea Peoples warriors in the service of Ramesses III fighting against Libyans. The warriors with “feathered helmets” carry swords slung across their chests. The figure on the left clearly has two swords. After *MH* 1: pl. 19; courtesy of the Oriental Institute of the University of Chicago.

of 17:50–51, McCarter thought that *ḥereb* was a generic term for a “sword” and that, in the case of 17:45, it referred to the *kīdōn* (1980: 294). It is clear from 17:45, however, that Goliath carries both a *ḥereb* and a *kīdōn*. In other words, if the *kīdōn* is a sword, Goliath is described as bearing two such weapons.

Some help in resolving this situation may come from Medinet Habu. Sea Peoples warriors at Medinet Habu are depicted with swords slung across their chests, indicating that carrying such a weapon across the upper torso in some fashion was not an uncommon practice (fig. 8; *MH* 1: pls. 19, 34). It is especially worth noting that Sea Peoples warriors depicted with a sword slung across their chests are sometimes shown fighting simultaneously with another sword in their hand (fig. 8; *MH* 1: pl. 19). One of the swords is usually a short sword, while the other is a longer type. It might thus be that the *kīdōn* is a type of short sword, though its use by mounted warriors in Jeremiah and Job may still favor a sort of scimitar shape. Perhaps the *kīdōn* carried across Goliath’s shoulders is a conflation by the biblical author of the baldric that carried the sword, the strap of which would be across the shoulders, and the sword itself. On the other hand, while the Sea Peoples warriors at Medinet Habu carry their swords across their chests in *Iliad* 3:330–340, Paris and Menelaus are said to carry their swords across their backs, so it is also possible that Goliath’s *kīdōn* was literally between his shoulders.¹² Galling

¹² Indeed, the rest of the gear with which Paris and Menelaus equip themselves is very similar to Goliath’s armor and weaponry.

presented a cylinder seal bearing an image of the goddess Ishtar from around 700 B.C. (1966: 166, 168, fig. 17). On this seal Ishtar carries both a sickle sword (an anachronism here) and a straight sword slung across her back. Whether this reflects any sort of historical reality is problematic, though, because she also carries two crossed quivers on her back; this seems an impossibly crowded arrangement of weaponry. On the other hand, the artist clearly could conceive of a warrior equipped with two types of swords. That Goliath carries two different types of sword may thus not be a problem in the text but an actual reflection of Sea Peoples’ military tradition.

The understanding of the *kīdōn* as a sickle sword is consistent with references to its cognate in cuneiform (*katinnu*), where it is typically copper/bronze and a weapon of the god Baal, possibly Hurrian in origin (Heltzer 1989). While the author of the 1 Samuel 17 passage does not emphasize the weight of the weapon, as he does for the armor and spearhead, he does draw attention to the fact that it is made of bronze. When describing the spear, he puts special emphasis on the massive weight of the iron head of the spear. If the *kīdōn* were a javelin with a metal head, the author could have described it in a similar way, noting that its head was bronze. Its description as a *kīdōn* of bronze may suggest that the entire weapon was of bronze (or at least the most substantial and visible part of it), just as the description of the armor of bronze emphasizes its most obvious physical characteristic. If this surmise is correct, then the interpretation of the *kīdōn* as a sickle sword is strengthened, since such weapons were cast as single objects and were not composite items, as were javelins.¹³

If the *kīdōn* in the Bible is indeed a typical Near Eastern sickle sword, adopted by the Philistines after living among the Canaanites, then the *ḥereb* here may be some version of the long straight sword carried by Philistines and other Sea Peoples in late New Kingdom reliefs. In fact, in the tomb of Kenamun at Thebes (Davies 1930: pls. 20, 22) and in the tomb of Ramesses III (Champollion 1845: Plates Vol. 3, pl. 264), both short straight swords and sickle swords are depicted as part of the weaponry associated with the nobility who made up the chariot warrior class. The presence of two different swords would obviate the potential problem of drawing a sickle sword from a sheath (King 2007: 353), though it should be noted

¹³ Contra Garsiel (2009: 403–4), a javelin of solid bronze is not likely. Such weapons had a wooden shaft and metal (or stone) head.

that by the end of the Late Bronze Age, the great angularity seen in sickle swords of the Middle Bronze Age had often disappeared, and so a scabbard of some sort for the more gently curved sickle swords of that era might be possible (compare Yadin 1963: Vol. 1, 207 with 172).

The scimitar-like *kidôn* would make an excellent weapon for downward slashing from the chariot cab (Yadin 1963: Vol. 1, 233 upper), whereas the *hereb* would be better employed on foot. Pharaoh Sety I is depicted many times in his chariot with a sickle sword, even as he runs down his vanquished foes (fig. 9; *RIK* 4: pls. 4, 6, 12, 13, 31, 35, and esp. 28), and so also Ramesses III (Heinz 2001: 313, I.32). Such swords are depicted as part of the weaponry and armor dispensed to the Egyptian army prior to Ramesses III's campaign against the Sea Peoples (*MH* 1: pl. 29). Although the sickle sword seems to disappear from the arsenals of the ancient Near East soon after the end of the Bronze Age, curved swords of several types continued to be used, at least to some extent, into the latter part of the Iron Age. Such examples are known from Judah in the Lachish reliefs (Ussishkin 1982: 84–85, 105, 109; Maier 1996) and from other Assyrian depictions, as at Tell Ahmar (Thureau-Dangin and Dunand 1936: pl. 11 lower) and Nineveh (Albenda 1986: 83, pls. 97 upper, 143), and other sources (Maier 1996).¹⁴ So the existence of scimitars in Jeremiah and Job might reflect these later types of curved swords. In any event, while the sickle sword interpretation seems, on balance, to be more preferable, either type of weapon could be found among the equipment of a chariot warrior.

Goliath bears a *תַּנִּיתוּ*, a spear with a massive head, said to weigh 600 shekels, approximately 6.8 kg (17:7, 45). This is a spear not easily thrown, even by a giant. The usual weapon of the Syro-Canaanite-Mesopotamian chariot was the composite bow (Yadin 1963: Vol. 1, 192–95, 198–200, 206–7 bottom, 214–16, 233–34, 240; Vol. 2, 334–35). However, supplementary weapons were needed by the chariot crew if their vehicle was disabled, or they otherwise found themselves in close combat. Such weapons include the sickle sword (Yadin 1963: Vol. 1, 194, 233), ax (Yadin 1963: Vol. 1, 193), javelins, as noted above (Yadin 1963: Vol. 1, 234, 240; Vol. 2: 334–36), and the spear (Yadin 1963: Vol.

1: 243 top). The 1 Samuel 17 text puts great emphasis on the Philistine's spear. It is thus not surprising that the crews of the Sea Peoples chariots at Medinet Habu fight with spears (fig. 1; Yadin 1963: Vol. 2, 336). The spear was also a primary chariot weapon among the Hittites (fig. 10; Yadin 1963: Vol. 1, 238–39; Kuentz 1928: pl. 40 far right, 42 upper center), and it is also found carried by chariot-borne Mycenaean Greeks (Vermeule and Karageorghis 1982: pls. 11.1B, 11.16, 11.28; Immerwahr 1990: pl. 67).¹⁵ Goliath fights with a weapon most appropriate to a chariot warrior from the Aegean-Anatolian world of the end of the Late Bronze Age.¹⁶

The spear is also described as *וְרֵעֵן תַּנִּיתוּ כְּמַגֵּר אֲרָגִים*, usually rendered as “The shaft of his spear was like a weaver's beam” or “like a heddle rod” (Yadin 1955; Yadin 1963: Vol. 2, 354–55; Galling 1966: 158–59, 161). A variety of issues are connected with this aspect of the weapon. The first involves understanding the nature of a heddle rod spear, and the second has to do

¹⁵ This is not the place to rehash the debate over how chariots were employed in Mycenaean Greece. Here it will be noted only that before LH IIIC, some see them as used to carry mounted lancers (Greenhalgh 1980), while others follow Homer and see them as essentially battlefield taxis for noble warriors (Littauer 1972; Littauer and Crowell 1983; 1996), and some even reconstruct them as Near Eastern-style archery platforms (Drews 1993: 122–24). Much depends on the interpretation on the Kadesh reliefs of Ramesses II. In those reliefs, Hittite chariot crews (usually three-man, but also sometimes two-man) are rarely shown armed, and in those cases where they carry a weapon, it is not the bow, but almost invariably a spear, and the chariots do not have bow cases. This is unlike in the reliefs of Sety I, where Hittite chariots have two crewmen, bow cases, and the crews are bow armed. The debate centers on whether there was a change in Hittite chariot tactics and equipment between the reigns of the two pharaohs, or if Ramesses II's artists were instructed to depict the Hittites as bow-less (Drews 1993: 121–22). Even so, even Drews acknowledges that by LH IIIC, late Mycenaean rail-chariots were likely conveyances for infantry, rather than vehicles used in battle (1993: 116; also Stager 2006b: 169), and it is this latest use, closest in date to the period of the 1 Samuel 17 story, that is of most importance here. In any event, Sea Peoples warriors, even the few depicted in chariots, in the reliefs of Ramesses III are primarily depicted with spears, with a few swords as well.

¹⁶ It is also possible that the bow may have been a part of Goliath's gear, but that for the purposes of a duel, such a weapon was not considered appropriate and so was left aside. Note that the rear Sea Peoples' chariot in the Medinet Habu relief is shown with both bow case and quiver behind the wheel of the chariot (fig. 1). Whether this is because Sea Peoples' chariots were normally so equipped, or the Egyptian artist added this as a conventional piece of chariot equipment, is impossible to say because this is the only example. In 2 Sam 1:6, Saul is approached by Philistine chariots, while in 1 Sam 31:3 he is pressed hard and the archers find him. It may be that these were Philistine chariot-borne archers, though the text is just frustratingly vague enough to prevent certainty.

¹⁴ Emery (1998: 137–38) notes that no examples of sickle swords have been found in archaeological excavations. His discussion, however, leaves out the depictions of curved blades in Assyrian reliefs discussed here. If *kidôn* was used to designate a Late Bronze Age-style sickle-sword, it would make sense that it would be used for scimitar-like swords of the Iron Age as well.

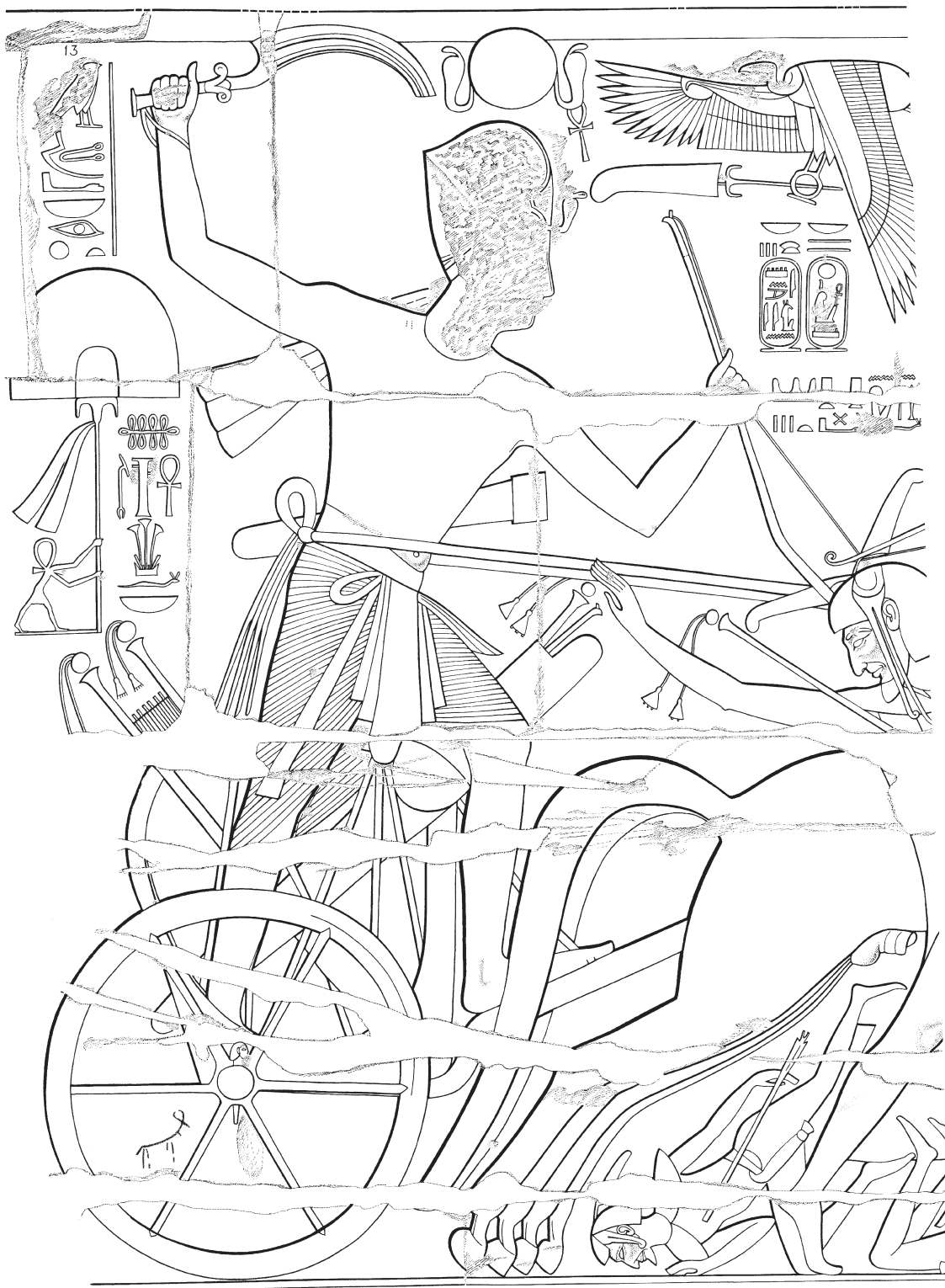


Fig. 9. Sety I brandishing his sickle sword from his chariot. Note also the two javelins with tassels in the quiver at the rear of the chariot. After *RIK* 4: pl. 28; courtesy of the Oriental Institute of the University of Chicago.

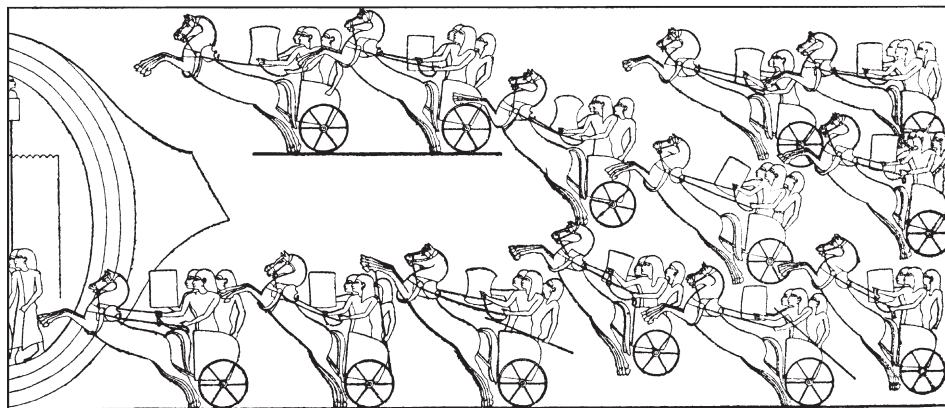


Fig. 10. Hittite three-man chariot crews at the battle of Kadesh as depicted on the reliefs of Ramesses II at the Ramessesum. Shown are two types of shields, rectangular and concave, and spears carried by the middle crew members in two of the chariots in the bottom row. After Kuentz 1928: pl. 40; courtesy of the Institut français d'archéologie orientale.

with whether this part of the description is original to this passage or is borrowed from elsewhere.

In an article devoted to explicating the nature of the heddle rod spear (or javelin), Yadin (1955) concluded that this weapon was a type of javelin thrown by a lash wound around the back part of the shaft. The free end of the lash was a loop held by two fingers on the throwing hand. When the javelin was thrown, the rotation caused by the unwinding of the lash caused the weapon to fly truer and farther, and gave it more penetrating power (Yadin 1955: 67). Galling (1966: 158–61) noted that the parallels cited by Yadin tended to be later, often much later, than the setting of the Goliath story. However, the key aspect, that some kind of loop or short length of material hung from some point of the shaft, is still valid. Javelins or short spears with loops, straps, or tassels at their butt ends are depicted as part of the standard equipment of late New Kingdom chariots (e.g., *MH* 1: pls. 9–10, 16–19, 22–24, 31–33, 35, 37–38; *RIK* 4: pls. 3–6, 9–11, 13, 27–28, 31, 33, 35), and on occasion the pharaoh is shown wielding one in hand-to-hand combat (*RIK* 4: pl. 29). A javelin such as this would not be out of place among Goliath's equipment if he were a chariot warrior.¹⁷

In the Bible, heddle rod spears are rarely mentioned, being found only in stories set in the early Davidic

era. For example, a spear of this type is found in the hand of the Egyptian warrior defeated by Benaiah in 1 Chron 11:23 (but not in its parallel in 2 Sam 23:21).

A more significant passage is 2 Sam 21:19, where Goliath, equipped with a heddle rod spear, is slain not by David, but by a certain Elhanan, one of David's warriors. How can the same Philistine champion have been killed by two different opponents? That this confusion over who fought Goliath was seen early on as a problem in the text is witnessed by the parallel account in 1 Chron 20:5, where the Philistine warrior fought by Elhanan becomes Lahmi, the brother of Goliath. Some have argued that David and Elhanan are the same person, with the latter being a birth name, and the former a throne name, or similar (Garsiel 2009: 397–99). The problem with this explanation is that no such name for David is otherwise attested. Like the three other warriors in this passage, Elhanan is to be understood as an individual distinct from David: one of his champions (Dempster 1992). Was the name Goliath taken from a tale involving Elhanan and inserted into the story about David, who originally fought an unnamed Philistine champion, or was it the other way round? Or did two traditions about the defeat of a Philistine giant originate independently at the same time, with different heroes in each account? Because Goliath's name occurs only twice in 1 Samuel 17, and David's opponent is otherwise denoted as "the Philistine," most commentators have preferred the theory that the name Goliath was inserted into a tale about David from an original tale about Elhanan (McCarter 1980: 291; A. Yadin 2004: 376–77). However, there is no a priori reason that either of the other two theories should have

¹⁷ This follows the interpretation of Galling (1966: 158–60), who sees the loops associated with the heddle rod as approximating the appearance of the tassels/ribbons seen at the butt end of the short spears/javelins found as part of standard Egyptian chariot equipment. This is contra Yadin (1955: 64–68), who sees the loop as part of a thong wrapped around the javelin and used to increase distance and accuracy when thrown.

priority over the other or be excluded from consideration. The uncertainty about the origin of Goliath's name in the 1 Samuel 17 account is important because the heddle rod spear seems to be attached to the same tradition as that name. Hence, if Goliath's name was brought into the Davidic story from some other source, it is likely that the heddle rod spear came from the same source. When considering the nature of the spear carried by Goliath, it may be best to exclude its description as a heddle rod type, though, as noted above, a javelin of this type would not be inappropriate for a chariot warrior.¹⁸

Just as Goliath's armor is at home among the gear of a chariot warrior, so too are his sickle sword (or javelin), possibly a straight sword, and his spear part of the standard weaponry of such a warrior. Indeed, that Goliath carries two swords is entirely consistent with Sea Peoples' practice.

OTHER CHARIOT-RELATED ELEMENTS

Besides his personal gear, there are two other elements in the narrative that suggest that Goliath is best understood as a chariot warrior. The first is the reference to the shield-bearer, הַשָּׂרֵי־הַמָּגָן in 17:7. This is the only time the Hebrew scriptures mention a shield-bearer (in contrast to Abimelech, Saul, Jonathan, and Joab's arms/armor-bearers in Judg 9:54, 1 Sam 14:7–17, 16:21, 31:4–6, and 2 Sam 23:37 and their parallels in 1 Chronicles; Hurowitz 2007). Neo-Assyrian kings, or their archers, are depicted behind a shield carried by a shield-bearer firing up at a besieged city (Yadin 1963: Vol. 2, 388–90, 393, 407, 409, 418–19, 424–25, 434–35, 462–63), and by late Assyrian times spear-wielding shield-bearers formed a shield wall to protect archers behind them (Yadin 1963: Vol. 2, 442–43, 450–51). These are the forerunners to the Persian *sparabara* formation, familiar from the Persian Wars of Herodotus (for the battle of Plataea, see 9:61). However, by far the most important type of shield-bearer in the Bronze and Iron Ages served as a member of a chariot crew. It was his duty to protect the warrior from archery fire. This is well attested in both Egyptian (Yadin 1963: Vol. 2, 334–37) and Assyrian art (Yadin 1963: Vol. 2: 420–21, 452), and also in texts, as, for example, when Ramesses II speaks to Mena,

his shield-bearer, in the Kadesh poem (Kitchen 1996: 9–12; Lichtheim 1976: 68, 70; Thomson 1997).

Is the *šinnāh* type of shield suitable for use in a chariot? This is a crucial issue. No text unequivocally mentions the use of the *šinnāh* in a chariot, but the גָּזֵז shield is likewise not mentioned in a certain chariot context. Some texts do mention shields in contexts that could involve chariotry or cavalry, but both types of shield are mentioned in these passages (Jer 46:3–4; Ezek 38:4).

One approach to resolve this issue is to examine the types of weapons employed with these two shields to see if they suggest any difference in use between them. Many occurrences of *šinnāh* are colorless expressions, often used simply in parallel to the more commonly attested *māgēn* (Jer 46:3; Ezek 23:24, 38:4, 39:9; Ps 35:2, 91:4) or as one element among a list of other war materials, and so give no clear sense of how the *šinnāh* was used. In Ezek 38:4 the *ḥereb* is used by those carrying either *šinnāh* or *māgēn*. The Chronicler often uses *šinnāh* in combination with רֶמַח (1 Chron 12:9, 12:25; 2 Chron 11:12, 14:7, 25:5), a type of spear, but also once with *ḥānīt* (1 Chron 12:35), the most common word for “spear.” Unfortunately, the difference between these two types of spears is also not clear. Many translations use “lance” for *rōmah*, and this carries with it the image of a mounted warrior, but the *rōmah* is often a weapon of the foot soldier. In LXX *rōmah* is rendered by λόγχη (“spear”), σειρομάστις (“barbed lance”), and most commonly δόρυ (“pike/spear”), but *ḥānīt* is also commonly rendered by δόρυ (e.g., 1 Sam 13:19, 21:9, 26:16; 2 Sam 1:6, 21:19, 23:7, 18). In 1 Sam 17:7, Goliath's spear is first a δόρυ and then a λόγχη! All that can be said, then, is that both types of shield could be used with either a sword or some type of spear. So, the type of weapon most often associated with the *šinnāh* does not clarify its nature.

Another approach is to look at passages that document how the *šinnāh* was used in battle. However, only in Ezek 26:8 is the military use of the *šinnāh* clearly attested. There it is used by the Babylonians against Tyre in a siege operation in which it is lifted up or raised (רָמַחְוּ). Assyrian reliefs do show large body-shields used for sheltering archers in sieges (see above), but many other types of shields are used in sieges as well, depending on the specific action. A large shield would be used to protect archers firing at defenders on the walls, but those assaulting the walls (either by breaching it or by using ladders to go over it) would need smaller, more maneuverable shields which they would “lift up” to protect themselves from

¹⁸ It might also be the case that Goliath was equipped with both a spear and a javelin and that the editor has conflated the two descriptions here.

missiles coming from above (Yadin 1963: Vol. 2, 406, 411, 418, 421–25, 448, 462). So, this passage does not help clarify the appearance of the *ṣinnāh*.

The passage that may have the most potential for suggesting some distinction between the two types of shield is 1 Kgs 10:16–17 (and the parallel account in 2 Chron 9:15–16), where Solomon is said to have fabricated 200 *ṣinnāh* shields of gold weighing 600 shekels (ca. 6.8 kg) and 300 *māgēn* shields of gold weighing 3 minas (ca. 1.7 kg; in 2 Chron 9:16 they are 300 shekels each). Of course, the weights given here may be exaggerations, or perhaps in some way symbolic. However, even if Solomon did not produce such golden shields, the biblical author did see some difference between the two types of shield. Because of the greater amount of gold used to produce a *ṣinnāh*, commentators and translators have assumed that it was a larger shield, one that might cover the entire body. Hence, some translations render *ṣinnāh* as “large shield” (e.g., *NRSV* in the 1 Kings 10 and 2 Chronicles 9 passages; Millard 1994: 286, Garsiel 2009: 401). Clearly, a shield large enough to cover the entire body would be too unwieldy to use on a chariot. On the other hand, it is difficult to imagine how a shield designed to cover the entire body—that is, the height of a human being, or more—could easily be put on display. Such shields were intended for use in sieges and were usually bent or curved over at the top (see Yadin 1963: Vol. 2, 407, 418, 424 for examples). Could such a shield be hung from a wall?

Because of this traditional interpretation of the 1 Kings 10 passage, the *māgēn* is usually understood to be a small shield, which would then seem more suitable for use by a shield-bearer on a chariot. The weight of the gold is misleading, though. Gold is the most malleable and ductile of all metals. A single gram of gold can be beaten thin enough to cover 0.6 m² (*New Encyclopaedia Britannica*, 15th ed., s.v. “gold”). For example, the dimensions given for Solomon’s temple in 1 Kgs 6:20–21 cover approximately 1500 m², including the floor. Assuming, for the sake of this example, that this was the surface area of the interior of the temple, it would take 2,500 grams, or 2.5 kg of gold, to cover this area in gold leaf. In other words, the gold of a single *ṣinnāh* could cover the interior of the temple more than twice over. Clearly, given the malleability of gold, the amount of gold said to be involved in the fabrication of these shields says little about their actual size. In fact, granting for the moment the accuracy of these weights, the gold could be some decorative element covering only part of the shield, such as

the rim, a central boss, both, or something else (for a shield with a thick boss, see Job 15:26). The round shields used by the Judaeans depicted in the Lachish reliefs have a central boss that could have been metal, with the rest being leather-covered wood (Ussishkin 1982: 73–74, 80–84, 100, 103). Just as Solomon’s ivory throne (1 Kgs 10:18) was not solid ivory, so the shields do not necessarily have to be understood as solid gold. So, even the relative amounts of gold said to have been used in these shields says nothing certain about their size. A *ṣinnāh* of solid gold might well be smaller than a *māgēn* with only a central gold boss.

Like the *ṣinnāh*, so too could the *māgēn* be used in sieges and with swords and spears. The amount of gold used in Solomon’s shields reveals nothing certain about the size of the two types of shields. There may be some other difference between the two types, other than sheer size or use in battle—such as, perhaps, shape. Shields used in the ancient Near East were rectangular, rectangular with rounded top, oval with concave sides (i.e., “Figure Eight,” “Violin,” or Dipy-lon, as it is called in Greece; Snodgrass 1967: 44–45, 19–20), and circular/oval. For example, shield-bearers in Egyptian chariots might carry the rectangular shield with rounded top, as when Ramesses II fought the Libyans, or as shown as part of the standard equipment being manufactured for a chariot (Yadin 1963: Vol. 1, 202; Vol. 2, 334–35), but they carry circular shields when fighting against the Sea Peoples (Yadin 1963: Vol. 2, 336–37). Canaanite chariot crews bear rectangular shields (fig. 4; Yadin 1963: Vol. 1, 83–84, 192–93, 216–17; *RIK* 4: pls. 11, 23). Concave-sided shields were typical of Hittite three-man chariot crews (fig. 10; Yadin 1963: Vol. 1, 84, 88, 229, 238–39), but they also used a rectangular variety (fig. 10; Yadin 1963: Vol. 1, 238–39; *RIK* 4: pl. 34). Philistine chariot crews attacked by Ramesses III carry a round shield (fig. 1; Yadin 1963: Vol. 2, 336; 1968: 958).

Even if one grants that the 1 Kgs 10:16–17 passage indicates a difference in size between the *ṣinnāh* and the *māgēn*, this may signify a difference only in this specific situation. That is, the key difference may actually be one of shape, but in this passage the audience is also informed of a difference in size. There is nothing in this passage, or any other, that proves that on another occasion a *ṣinnāh* could not be smaller than a *māgēn*.

In Classical Greece, there were also shield-bearers. For example, Onesilus, who led a rebellion of the cities of Cyprus against the Persians in 497 B.C., had a shield-bearer (Herodotus 5:111–12), as did Xenophon

(Anabasis 4.2.20). Alexander the Great's elite foot unit, the Hypaspists, were literally "shield-bearers." However, the early textual references seem to associate these shield-bearers with military leaders as personal bodyguards. There is no indication in the 1 Samuel 17 account that Goliath was such an army commander.

In the end, there is nothing inherent to what is known about the *šinnāh* type of shield that precludes its use by a chariot-borne shield-bearer. If Goliath's shield-bearer, like other aspects of his gear, is of Canaanite derivation, a rectangular shield might best fit the context.¹⁹

Galling (1966: 157–58) makes much of the reference to, and subsequent disappearance of, the shield-bearer from the narrative (1 Sam 17:7, 41); however, in reality a shield-bearer makes little sense in a man-to-man duel fought with swords or spears. A shield-bearer could not move and react to the motions of a man some distance behind him, whom he cannot see. Even if the shield-bearer could constantly position himself to block incoming blows, how could the warrior behind him strike at an opponent standing in front of the shield-bearer? The warrior would need a spear of great length to reach past his shield-bearer to strike at his adversary. The shield-bearer in 1 Samuel 17 is not mentioned because he was expected to play a part in the duel, but simply because of the close association between such personnel as members of the same chariot crew. Once the ritual taunting ends and the duel commences, the shield-bearer would have to withdraw so that the warrior could fight. Note that the text never speaks of Goliath himself using a shield. He expected the Israelites to send out a warrior equipped similarly to himself. Had Goliath known that the Israelites would send a slinger, he might have kept his

shield-bearer close at hand, until he was able to close the distance from his missile-armed opponent!

The final element that may be chariot related is another rare expression in 1 Sam 17:4 and 23 where Goliath is called an *אִישׁ-הַבְּנִים*. These verses are the only instances in which this term is used in the Hebrew Bible. The expression otherwise only occurs once in a broken passage in Ugaritic (CAT 2.33:34; see below). It seems that even early on, there was uncertainty about its meaning. LXX renders it as ἀνὴρ δυνατὸς or "powerful man." By the time of the Dead Sea Scrolls, it had become a term for "infantry" in general (McCarter 1980: 290–91).

The usual English translation of this term is "champion" or the like. Commentators, lexicons, and translations all seem to derive this term from the preposition *byn* as a dual noun, understanding it literally as "the-man-of-the-in-between-two" (Driver 1913: 139; de Vaux 1971: 124; McCarter 1980: 291; Rofé 1987: 132; A. Yadin 2004: 380–81).²⁰ The question then is, "in-between-two" what? The usual understanding is that the term refers to a champion who takes his stand between two armies to engage in single combat. However, is this really what it originally meant? Since the expression occurs only here, translators and commentators have attempted to deduce its meaning from the basic sense of the underlying preposition, the context of the story, and from possible analogies in other cultures.²¹ There is, however, another possibility, based not on the context of the story, but on Philistine military custom. Most scholars are familiar with the general depictions of Sea Peoples' troops on the reliefs of Ramesses II showing the battle of Kadesh (1274 B.C.), and the reliefs of Ramesses III depicting his victories over land and sea contingents of Sea Peoples a century later (1178 B.C.). They have been republished many times. What is less well known is that these reliefs include depictions of Philistine chariots, and these chariots have three-man crews (fig. 1; *MH* 1: pl. 34; Yadin 1963: Vol. 2, 336). The exact positioning of the crew

¹⁹ Understanding Goliath's shield-bearer as one of the members of his chariot crew obviates Berginer's theory (2000: 726; Berginer and Cohen 2006: 32–34), which views the shield-bearer as a sort of seeing-eye dog for a visually impaired Goliath. Note that the understanding of cuneiform *šinnatum* as a shield is derived from its use in Hebrew *šinnāh*. On its own, *šinnatum* does not clarify the type of shield meant by *šinnāh*. Berginer also labored under the false impression that 1 Kgs 10:16–17 necessitates that a *šinnāh* is by nature larger than a *māgēn*. Although he was aware of the use of shield-bearers in sieges and in late Assyrian armies, he completely missed the use of such personnel in chariot crews. Thus, contra Berginer and Cohen (2006: 34), their evidence does not prove "beyond the shadow of a doubt that the literal meaning of 'shield bearer' is impossible for *נושא צנה* in the context of 1 Sam 17:7, 41." Nothing else in their evidence is decisive for seeing Goliath as visually impaired. Indeed, if he were a member of a chariot crew, good vision would be a major requirement.

²⁰ Garsiel (2009: 396–97) suggests that *אִישׁ-הַבְּנִים* is a play on *בֵּן* in verses 1 and 3. If the suggestion advanced here is correct, it may be that the author of the 1 Samuel 17 account created a different word play by using the preposition in conjunction with the technical term coined for the third man in the chariot.

²¹ Hoffner (1968: 224) suggested that the Hebrew term was analogous to the Hittite expression *piran huyanza*, translated as "one who runs/marches in front." Here, however, there is no real indication that the term has anything to do with the individual's position in the open ground between two armies. In fact, this Hittite expression seems more analogous to the Hebrew expression for the men who run before a king's chariot, as in 1 Sam 8:11 and 1 Kgs 1:5.

members in the Sea Peoples' chariot cabs is difficult to make out. In the Kadesh reliefs, Hittite three-man chariot crews are depicted with the driver and shield-bearer forward in the cab, while the spear-wielding warrior is set back and between the other two (fig. 10; Yadin 1963: Vol. 1, 238–39). A three-man chariot is even known from the late Mycenaean world (Hiller 1999: pl. 73.17a). This may have been the same arrangement in the Philistine three-man model, or it may be an Egyptian artistic convention to clearly depict three warriors in a small space. Be that as it may, one crew member would have to be between the other two. The typical Canaanite or Egyptian chariot, with which the Israelites were most familiar, had only a two-man crew. “The man-in-between-two” would then be a term coined by the Israelites to designate the main warrior in the less familiar type of Philistine chariot (the other two being the shield-bearer/secondary warrior and the driver).²² Moreover, if Albright (1958: 38 and n. 12) was correct in his analysis of Ugaritic *bnš bnny*, as something like “the person who is between the two of us” or “intermediary, neutral individual,” in a late Ugaritic prose text (CAT 2.33:34), then we may even have a cognate usage to Hebrew *ʾiš-habbēnayim* from the time not long before the period in which the biblical story is set.²³ It is striking indeed that the only parallel to this unique Hebrew expression, found only embedded in a story set in the 11th century, itself comes from the 12th century. This may be evidence of an early and limited period of use for this term.

As was the case with the armor and weapons, the presence of a shield-bearer and the phrase “the man-of-the-in-between-two” fit in very well with an interpretation of Goliath as a chariot warrior.

²² This is not the place for an extended discussion of the Hebrew term *šālīš*. It has been argued that this is the word for the third man in a chariot. Others, though, have argued for more general meanings, such as “officer” of men in a special kind of military unit. See the discussions in Rabin 1963: 133–34; Mastin 1979; Naʾaman 1988; Schley 1990, for various theories, explanations, and literature. In any event, except for the Hittites and Philistines, and possibly at Ugarit, three-man chariot crews do not begin to appear in the ancient Near East before the ninth century B.C., and are not common before the eighth century, so a specially coined term for a “third-man,” the *ʾiš-habbēnayim*, might well be expected in a text recalling an event from the Iron I era.

²³ Unfortunately, the expression so far occurs only once in Ugaritic, RS16.402/CTU2.33, and the understanding of it in that context is to a large part dependent on the one occurrence in Hebrew! For two examples of how it is handled, see Pardee 1984: 216, 220 n. 32, and also del Olmo Lete and Sanmartín 2003: 229. Carmignac (1955: 354–57) discusses its use at Qumran.

CONCLUSION

As Galling (1966) and others (e.g., A. Yadin 2004: 376) have recognized, the description of Goliath's armor and weaponry in 1 Sam 17:4–7 *does* appear to be a hodge-podge of elements from different cultures. However, this does *not* mean that they do not reflect a historical reality in the southern Levant in the latter part of the Iron Age I. By this time the Philistines had been inhabitants of their coastal territory for about 150 years, living within a persistent Canaanite culture itself influenced by Egypt, Mesopotamia, and Hittite Anatolia. Something of a blending of the culture of the Philistine overlords with that of their subjects is not unexpected. Indeed, such a blending is manifest soon after their arrival, in the creation of the distinctive Philistine bichrome pottery tradition, which borrowed elements from many neighboring cultures. Goliath is equipped with greaves out of the Mycenaean world, and his spear is a weapon prominently depicted among chariot-borne warriors of the Aegean-Anatolian world, including the Philistines themselves. So, too, the terminology suggestive of a three-man chariot crew fits what is known of Hittite and Philistine chariots of the beginning of the Iron Age. His scale armor, sickle sword, and shield-bearer derive from the ancient Near East. Considering again Goliath's gear and the general trajectory of the development of Philistine culture in the Iron I period, it would actually be odd if a Philistine chariot warrior of his era were completely unchanged from those depicted at Medinet Habu (Millard 2009: 339; contra Rofé 1987: 132). In fact, when one looks at the constellation of words used for his gear, often found only in this passage and/or exotic in origin, and certain other descriptive elements related to him, it makes a great deal of sense to view Goliath as a Canaanized Philistine chariot warrior equipped with just the sort of panoply that one might well expect in this region in this era. His equipment shows that he was not some common soldier dragooned from the ranks for this combat. Clearly he was an elite warrior, perhaps one of the most well equipped in the Philistine army (fitting, indeed, for the army's champion in a ritual duel), and the elite warriors of this era came from the *maryannu* chariot warrior class.²⁴

²⁴ On the Indo-Aryan origin of the term *maryannu*, its use in the Hurrian kingdom of Mitanni, its spread from there throughout the ancient Near East, and the special role of these chariot warriors, see the works of Albright 1930–1931; O'Callaghan 1950–1951; Rainey 1965: 19–21; Reviv 1972. The Egyptians so valued these warriors that they took them prisoner in battle. Such actions are recorded

Do Goliath's helmet, greaves, scale armor, spear, scimitar, sword, and shield-bearer occur in other contexts, some of them of the late Iron Age? Yes. How-

for Tuthmose III and Amenhotep II (Pritchard 1969: 237, 245–46); Ramesses III expressly lists them among the contingents used in his battle against the Sea Peoples (Pritchard: 1969: 262). Whether a Canaanized Philistine chariot-borne warrior of the late Iron I period typically fought from his chariot (as was the norm in the ancient Near East), or dismounted to fight, as seems to be the case in LH IIIc contexts and in the *Iliad*, remains uncertain.

ever, each piece of equipment carried by Goliath, his shield-bearer, and his enigmatic designation as “the-man-of-the-between-the-two,” have parallels among chariot warriors of the end of the Late Bronze Age and Early Iron Age in the Aegean-Levantine world, and this seems more than fortuitous. In other words, while the story of David and Goliath may have been edited late, the description of Goliath himself preserves very well indeed a memory of a chariot-borne warrior of a bygone era.

ACKNOWLEDGMENTS

This article is dedicated to the memory of my former professor, colleague, and friend Victor R. Gold of Pacific Lutheran Theological Seminary in Berkeley, California, who passed away in September 2008. Victor was fond of saying that he was W. F. Albright's last Ph.D. student, and it is my hope that the present article combines all the best qualities of Albright's approach to the Bible: weaving together data from its text and the ancient versions, with other relevant evidence from ancient Near Eastern texts, art, and archaeological remains from Syria-Palestine. This is a much expanded version of a paper given at the 2009 annual meeting of the American Schools of Oriental Research. Early drafts of this paper were reviewed by a number of colleagues, who

provided helpful feedback, suggestions on how to improve content, and recommendations on additional bibliography. I would like to thank Aren Maier, Lauren Monore, Gary Rendsburg, David Powers, and Lawrence Stager for their assistance in this regard. Thanks also to S. Rebecca Martin for help with certain aspects of the Greek, and to Mark Smith for answers to some questions on Ugaritic. Additional thanks are due to the two anonymous reviewers of this paper, who pointed out areas that needed some additional work, fine-tuning, and clarification. Final thanks to the ancmcd Yahoo discussion group (especially Duncan Head and Jim Webster) for useful feedback. Any remaining problems or errors in the text are the author's responsibility alone.

REFERENCES

- Albenda, P.
1986 *The Palace of Sargon, King of Assyria: Monumental Wall Reliefs at Dur-Sharrukin, from Original Drawings Made at the Time of Their Discovery in 1843–1844 by Botta and Flandin*. Paris: Editions Recherche sur les civilisations.
- Albright, W. F.
1930– Mitannian Maryannu, “Chariot Warriors,” and the Canaanite and Egyptian Equivalents. *Archiv für Orientforschung* 6: 217–21.
1958 Specimens of Late Ugaritic Prose. *Bulletin of the American Schools of Oriental Research* 150: 36–38.
- Beal, R. H.
1986 The Organization of the Hittite Military. 2 vols. Ph.D. dissertation, University of Chicago.
- Berginer, V. M.
2000 Neurological Aspects of the David-Goliath Battle: Restriction in the Giant's Visual Field. *Israel Medical Association Journal* 2: 725–27.
- Berginer, V. M., and Cohen, C.
2006 The Nature of Goliath's Visual Disorder and the Actual Role of His Personal Bodyguard: אֲשֵׁר הִצַּנְנָה (1 Sam 17:7, 41). *Ancient Near Eastern Studies* 43: 27–44.
- Bowra, C. M.
1961 EYKNHMIΔΕΣ ΑΗΑΙΟΙ. *Mnemosyne* 14: 97–110.
- Brown, J. P.
1971 Peace Symbolism in Ancient Military Vocabulary. *Vetus Testamentum* 21: 1–23.
- CAD S
1984 *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*, Vol. 15: S. Chicago: Oriental Institute of the University of Chicago.
- Carmignac, J.
1955 Precisions apportées au vocabulaire de l'Hebreu biblique par la guerre des fils de lumière contre les fils de tenebres. *Vetus Testamentum* 5: 345–65.

- CAT = Dietrich, M.; Loretz, O.; and Sanmartín, J., eds.
 1995 *The Cuneiform Alphabetic Texts from Ugarit, Ras Ibn Hani, and Other Places*. 2nd ed. Abhandlungen zur Literatur Alt-Syrien-Palästinas und Mesopotamiens 8. Münster: Ugarit-Verlag.
- Catling, H. W.
 1964 *Cypriot Bronzework in the Mycenaean World*. Oxford: Clarendon.
 1970 A Bronze Plate from a Scale-Corslet found at Mycenae. *Archäologische Anzeiger* 85: 441–49.
- Champollion, J.-F.
 1835–1845 *Monuments de l’Égypte et de la Nubie, d’après les dessins exécutés sur les lieux sous la direction de Champollion-le-jeune, et les descriptions autographes qu’il en a rédigées*. 4 vols. Paris: Didot.
- Crouwel, J. H.
 1981 *Chariots and Other Means of Land Transport in Bronze Age Greece*. Allard Pierson Series 3. Amsterdam: Allard Pierson Museum.
- Davies, N. de G.
 1930 *The Tomb of Ken-Amūn at Thebes*. 2 vols. Publications of the Metropolitan Museum of Art Egyptian Expedition 5. New York: Metropolitan Museum of Art.
- Deem, A.
 1978 “. . . And the Stone Sank Into His Forehead”: A Short Note on 1 Samuel XVII 49. *Vetus Testamentum* 28: 349–51.
- Dempster, S. G.
 1992 Elhanan. Pp. 455–56 in *Anchor Bible Dictionary*, Vol. 2, ed. D. N. Freedman. New York: Doubleday.
- Dezső, T.
 2001 *Near Eastern Helmets of the Iron Age*. BAR International Series 992. Oxford: Hedges.
 2002 Scale Armour of the 2nd Millennium B.C. Pp. 195–216 in *A Tribute to Excellence: Studies Offered in Honor of Erno Gaál, Ulrich Luft, László Török*, ed. T. A. Bács. *Studia Aegyptiaca* 17. Budapest: Universit  E tv s Lorand de Budapest.
 2004 Panzer. *Reallexikon der Assyriologie* 10: 319–23. Berlin: de Gruyter.
- Dothan, T.
 1982 *The Philistines and Their Material Culture*. Jerusalem: Israel Exploration Society.
 1993 A Double-headed Bronze Linchpin from Tel Mique/Ekron. *Eretz-Israel* 24 (Abraham Malamat Volume): 62–67 (Hebrew), *233–*34 (English summary).
- Dothan, T., and Drenka, A. S.
 2009 Linchpins Revisited. Pp. 97–101 in *Exploring the Longue Dur e: Essays in Honor of Lawrence E. Stager*, ed. J. D. Schloen. Winona Lake, IN: Eisenbrauns.
- Drews, R.
 1993 *The End of the Bronze Age: Changes in Warfare and the Catastrophe ca. 1200 B.C.* Princeton: Princeton University.
- Driver, S. R.
 1913 *Notes on the Hebrew Text and Topography of the Books of Samuel: With an Introduction on Hebrew Palaeography and the Ancient Versions and Facsimiles of Inscriptions and Maps*. 2nd rev. and enl. ed. Oxford: Clarendon.
- Ellenbogen, M.
 1962 *Foreign Words in the Old Testament: Their Origin and Etymology*. London: Luzac.
- Emery, A. C.
 1998 Weapons of the Israelite Monarchy: A Catalogue with Its Linguistic and Cross-Cultural Implications. Ph.D. dissertation, Harvard University.
- Finkelstein, I.
 2002 The Philistines in the Bible: A Late-Monarchic Perspective. *Journal for the Study of the Old Testament* 27: 131–67.
- Galling, K.
 1966 Goliath und seine R stung. *Supplements to Vetus Testamentum* 15: 150–69.
- Garsiel, M.
 2009 The Valley of Elah Battle and the Duel of David with Goliath: Between History and Artistic Theological Historiography. Pp. 391–426 in *Homeland and Exile: Biblical and Ancient Near Eastern Studies in Honour of Buxenay Oded*, ed. G. Galil, M. Geller, and A. Millard. *Supplements to Vetus Testamentum* 130. Leiden: Brill.
- Greenhalgh, P.
 1980 The Dendra Charioteer. *Antiquity* 54: 201–5.
- Hanson, V. D.
 2000 *The Western Way of War: Infantry Battle in Classical Greece*. Berkeley: University of California.
- Heinz, S. C.
 2001 *Die Feldzugsdarstellungen des Neuen Reiches: Eine Bildanalyse*. Denkschriften der Gesamtakademie 18; Untersuchungen der Zweigstelle Kairo des  sterreichischen Arch ologischen Institutes 17. Vienna:  sterreichische Akademie der Wissenschaften.
- Heltzer, M.
 1989 Akkadian *katinnu* and Hebrew *k d n*, “sword.” *Journal of Cuneiform Studies* 41: 65–68.
- Hiller, S.
 1999 Scenes of Warfare and Combat in the Arts of the Aegean Late Bronze Age: Reflections on Typology and Development. *Aegaeum* 19: 319–30.
- Hoffner, H.
 1968 A Hittite Analogue to the David and Goliath Contest of Champions. *The Catholic Biblical Quarterly* 30: 220–25.

- Hulit, T. D.
2002 Late Bronze Age Scale Armour in the Near East: An Experimental Investigation of Materials, Construction, and Effectiveness, with a Consideration of Socio-economic Implications. Ph.D. dissertation, University of Durham.
- Hurowitz, V. A.
2007 The Biblical Arms Bearer (נושא כלים). Pp. 344–49 in “Up to the Gates of Ekron”: *Essays on the Archaeology and History of the Eastern Mediterranean in Honor of Seymour Gitin*, ed. S. W. Crawford, A. Ben-Tor, J. P. Dessel, W. G. Dever, A. Mazar, and J. Aviram. Jerusalem: Israel Exploration Society.
- Immerwahr, S. A.
1990 *Aegean Painting in the Bronze Age*. University Park: Pennsylvania State University.
- Isser, S.
2003 *The Sword of Goliath: David in Heroic Literature*. Studies in Biblical Literature 6. Atlanta: Society of Biblical Literature.
- Kendall, T.
1974 Warfare and Military Matters in the Nuzi Tablets. Ph.D. dissertation. Brandeis University.
1981 *Gurpisu ša awēli: The Helmets of the Warriors at Nuzi*. Pp. 210–31 in *Studies on the Civilization and Culture of Nuzi and the Hurrians: In Honor of Ernest R. Lacheman*, Vol. 1, ed. M. A. Morrison and D. I. Owen. Winona Lake, IN: Eisenbrauns.
- King, P. J.
2007 David Defeats Goliath. Pp. 350–57 in “Up to the Gates of Ekron”: *Essays on the Archaeology and History of the Eastern Mediterranean in Honor of Seymour Gitin*, ed. S. W. Crawford, A. Ben-Tor, J. P. Dessel, W. G. Dever, A. Mazar, and J. Aviram. Jerusalem: Israel Exploration Society.
- King, P. J., and Stager, L. E.
2001 *Life in Biblical Israel*. Louisville: Westminster John Knox.
- Kitchen, K. A.
1996 *Rameside Inscriptions: Translated & Annotated: Translations*, Vol. 2: *Rameses II, Royal Inscriptions*. Oxford: Blackwell.
- Koehler, L., and Baumgartner, W.
2001 *The Hebrew and Aramaic Lexicon of the Old Testament*. Trans. from German. 2 vols. Leiden: Brill.
- Kuentz, C.
1928 *La bataille de Qadech: Les textes (“Poème de Pentaour” et “Bulletin de Qadech”) et les bas-reliefs*. Mémoires publiés par les membres de l’Institut français d’archéologie orientale du Caire 55/2–3. Cairo: Institut français d’archéologie orientale.
- Lepsius, C. R., ed.
1849–1856 *Denkmaeler aus Aegypten und Aethiopen*. 12 vols. Berlin: Nicolai.
- Lichtheim, M.
1976 *Ancient Egyptian Literature: A Book of Readings*, Vol. 2: *The New Kingdom*. Berkeley: University of California.
- Littauer, M. A.
1972 The Military Use of the Chariot in the Aegean in the Late Bronze Age. *American Journal of Archaeology* 76: 145–57.
- Littauer, M. A., and Crowell, J. H.
1983 Chariots in Late Bronze Age Greece. *Antiquity* 57: 187–92.
1996 Robert Drews and the Role of Chariots in Bronze Age Greece. *Oxford Journal of Archaeology* 15: 297–303.
- Lorimer, H. L.
1950 *Homer and the Monuments*. London: Macmillan.
- Luce, J. V.
1975 *Homer and the Heroic Age*. New York: Harper & Row.
- Maier, A.
1996 The “Judahite” Swords from the “Lachish” Reliefs of Sennacherib. *Eretz-Israel* 25 (Joseph Aviram Volume): 210–14 (Hebrew), 96* (English summary).
- Mallowan, M. E. L.
1966 *Nimrud and Its Remains*, Vol. 2. London: Collins.
- Maran, J.
2004 The Spreading of Objects and Ideas in the Late Bronze Age Eastern Mediterranean: Two Case Examples from the Argolid of the 13th and 12th Centuries B.C. *Bulletin of the American Schools of Oriental Research*, 336: 11–30.
- Mastin, B. A.
1979 Was the Šāliš the Third Man in the Chariot? Pp. 125–54 in *Studies in the Historical Books of the Old Testament*, ed. J. A. Emerton. Supplements to *Vetus Testamentum* 30: 310–20.
- Mazar, A.
2005 The Debate over the Chronology of the Iron Age in the Southern Levant: Its History, the Current Situation, and a Suggested Resolution. Pp. 15–30 in *The Bible and Radiocarbon Dating: Archaeology, Text and Science*, ed. T. E. Levy and T. Higham. London: Equinox.
- McCarter, P. K., Jr.
1980 *I Samuel: A New Translation*. Anchor Bible 8. Garden City: Doubleday.
- MH 1 = The Epigraphic Survey
1930 *Medinet Habu*, Vol. 1: *Earlier Historical Records of Ramses III*. Oriental Institute Publications 8. Chicago: University of Chicago.

- Millard, A.
 1994 King Solomon's Shields. Pp. 286–95 in *Scripture and Other Artifacts: Essays on the Bible and Archaeology in Honor of Philip J. King*, ed. M. D. Coogan, J. C. Exum, and L. E. Stager. Louisville: Westminster John Knox.
 2009 The Armor of Goliath. Pp. 337–43 in *Exploring the Longue Durée: Essays in Honor of Lawrence E. Stager*, ed. J. D. Schloen. Winona Lake, IN: Eisenbrauns.
- Molin, G.
 1956 What is a Kidon? *Journal of Semitic Studies* 1: 334–37.
- Moran, W. L., ed. and trans.
 1992 *The Amarna Letters*. Baltimore: Johns Hopkins University.
- Na'aman, N.
 1988 The List of David's Officers (*šālīšīm*). *Vetus Testamentum* 38: 71–79.
- O'Callaghan, R.
 1950– New Light on the Maryannu as "Chariot-Warrior." *Jahrbuch für kleinasiatische Forschung* 1: 309–24.
 1951
- Olmo Lete, G. del, and Sanmartín, J.
 2003 *A Dictionary of the Ugaritic Language in the Alphabetic Tradition*. 2 vols. Trans. W. G. E. Watson, from Spanish. Handbuch der Orientalistik, 1. Abteilung, Nahe und der Mittlere Osten 67. Leiden: Brill.
- Oppenheim, A. L.
 1950 Review of *Business Documents of the New-Babylonian Period*, by H. H. Figulla. *Journal of Cuneiform Studies* 4: 188–95.
- Palache, J. L.
 1959 *Semantic Notes on the Hebrew Lexicon*. Trans. and ed. R. J. Z. Werblowsky, from Dutch. Leiden: Brill.
- Papadopoulos, T. J.
 1979 *Mycenaean Achaea*. Studies in Mediterranean Archaeology 55. 2 vols. Göteborg: Åström.
 1999 Warrior-Graves in Achaean Mycenaean Cemeteries. *Aegaeum* 19: 267–74.
- Pardee, D.
 1984 Ugaritic. *Archiv für Orientforschung* 31: 211–30.
- Pritchard, J. B., ed.
 1969 *Ancient Near Eastern Texts Relating to the Old Testament*. 3rd ed. with Supplement. Princeton: Princeton University.
- Rabin, C.
 1963 Hittite Words in Hebrew. *Orientalia* N. S. 32: 113–39.
- Rainey, A. F.
 1965 The Military Personnel of Ugarit. *Journal of Near Eastern Studies* 24: 17–27.
- Reviv, R.
 1972 Some Comments on the Maryannu. *Israel Exploration Journal* 22: 218–28.
- RIK 4 = The Epigraphic Survey
 1986 *Reliefs and Inscriptions at Karnak*, Vol. 4: *The Battle Reliefs of Sety I*. Oriental Institute Publications 107. Chicago: Oriental Institute of the University of Chicago.
- Rofé, A.
 1987 The Battle of David and Goliath: Folklore, Theology, Eschatology. Pp. 117–51 in *Judaic Perspectives on Ancient Israel*, ed. J. Neusner, B. A. Levine, and E. S. Frerichs. Philadelphia: Fortress.
- Sapir, E.
 1937 Hebrew "Helmet," a Loanword, and Its Bearing on Indo-European Phonology. *Journal of the American Oriental Society* 57: 73–77.
- Schley, D. G.
 1990 The *šālīšīm*: Officers or Special Three-Man Squads? *Vetus Testamentum* 40: 321–26.
- Singer, I.
 1994 Egyptians, Canaanites, and Philistines in the Period of the Emergence of Israel. Pp. 282–338 in *From Nomadism to Monarchy: Archaeological and Historical Aspects of Early Israel*, ed. I. Finkelstein and N. Na'aman. Jerusalem: Israel Exploration Society.
- Snodgrass, A.
 1967 *Arms and Armour of the Greeks*. Ithaca: Cornell University.
- Speiser, E. A.
 1950 On Some Articles of Armour and Their Names. *Journal of the American Oriental Society* 70: 47–49.
- Stager, L. E.
 1995 The Impact of the Sea Peoples in Canaan (1185–1050 BCE). Pp. 332–48 in *The Archaeology of Society in the Holy Land*, ed. T. E. Levy. New York: Facts on File.
 1998 Forging an Identity: The Emergence of Ancient Israel. Pp. 123–75 in *The Oxford History of the Biblical World*, ed. M. D. Coogan. New York: Oxford University.
 2006a Biblical Philistines: A Hellenistic Literary Creation? Pp. 375–384 in "I Will Speak the Riddles of Ancient Times": *Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of His Sixtieth Birthday*, Vol. 1, ed. A. M. Maier and P. de Miroschedji. Winona Lake, IN: Eisenbrauns.
 2006b Chariot Fittings from Philistine Ashkelon. Pp. 169–76 in *Confronting the Past: Archaeological and Historical Essays on Ancient Israel in Honor of William G. Dever*, ed. S. Gitin,

- J. E. Wright, and J. P. Dessel. Winona Lake, IN: Eisenbrauns.
- Stillman, N., and Tallis, N.
1984 *Armies of the Ancient Near East, 3000 BC to 539 BC: Organisation, Tactics, Dress and Equipment*. Wiltshire: Wargames Research Group.
- Szemerényi, O.
1974 The Origins of the Greek Lexicon: Ex Oriente Lux. *Journal of Hellenic Studies* 94: 144–57.
- Thomson, J. K.
1997 A Shield Bearer and Warrior of Ramesside Times. *Journal of Egyptian Archaeology* 83: 218–22.
- Thureau-Dangin, F., and Dunand, M.
1936 *Til-Barsib*. 2 vols. Bibliothèque archéologique et historique 23. Paris: Geuthner.
- Tischler, J.
1983 *Hethitisches etymologisches Glossar*, Vol. 1: a–k. Innsbrucker Beiträge zur Sprachwissenschaft 20. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Uchitel, A.
1988 Charioteers of Knossos. *Minos* 23: 47–58.
- Ussishkin, D.
1982 *The Conquest of Lachish by Sennacherib*. Publications of the Institute of Archaeology 6. Tel Aviv: Institute of Archaeology, Tel Aviv University.
- Vaux, R. de
1971 Single Combat in the Old Testament. Pp. 122–35 in *The Bible and the Ancient Near East*. Trans. D. McHugh, from French. London: Darton, Longman & Todd.
- Ventzke, W.
1986 Der Schuppenpanzer von Kāmid el-Lōz. Pp. 161–82 in *Bericht über die Ergebnisse der Ausgrabungen in Kāmid el-Lōz in den Jahren 1977 bis 1981*, ed. R. Hachmann. Saarbrücker Beiträge zur Altertumskunde 36. Bonn: Habelt.
- Verdelis, N. M.
1977 The Metal Finds. Pp. 28–65 in *The Cuirass Tomb and Other Finds at Dendra*. Part 1: *The Chamber Tombs*, by P. Åström. Studies in Mediterranean Archaeology 4:1. Göteborg: Åström.
- Vermeule, E., and Karageorghis, V.
1982 *Mycenaean Pictorial Vase Painting*. Cambridge, MA: Harvard University.
- Williams, P. J.
1998 כִּידוֹן *Semantics of Ancient Hebrew Database (SAHD)*. <http://www.divinity.cam.ac.uk/CARTS/SAHD/kidonUNI.pdf> (accessed 1 January 2010).
- Yadin, A.
2004 Goliath's Armor and Israelite Collective Memory. *Vetus Testamentum* 54: 373–95.
- Yadin, Y.
1955 Goliath's Javelin and the מַנּוֹר אֲרִיגִים. *Palestine Exploration Quarterly* 86: 58–69.
1963 *The Art of Warfare in Biblical Lands in the Light of Archaeological Study*. 2 vols. Trans. M. Pearlman, from Hebrew. New York: McGraw-Hill.
1968 Armor, Arms. Cols. 931–76 in *Entsiklopedyah Mikra'it*, Vol. 5. Jerusalem: Mosad Byalik (Hebrew).