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RECONSIDERING THE ORIGIN OF THE SCYTHED CHARIOT

Abstract: This article challenges the current scholarly consensus that the scythed chariot was developed by the Persians for use against Greek hoplites. Closer examination of the historical record reveals that the scythed chariot was a specialized device deployed only under specific battlefield conditions and used against all types of infantry and cavalry. Reviewing the information provided by Xenophon's Cyropaedia and Ctesias' Persica in the context of the evolution of chariotry in the ancient Near East, I argue that the most plausible origin for the scythed chariot is in the Neo-Assyrian period.

Introduction

In a 2004 article in *Historia*, Alexander Nefiodkin put forward a new thesis concerning the development and purpose of the scythed chariot.[1] He challenged previous theories on this subject, which had placed the chariot's origin in a variety of regions such as Canaan, Assyria, and India.[2] Instead, Nefiodkin argued that scythed chariots were developed under Artaxerxes I (465–424 B. C. E.), from 467–458 B. C. E., a time when the Persians were preparing for an invasion of Egypt. More specifically, he suggested that the chariots were designed with the hoplites of Egypt's Athenian allies in mind. Since hoplite armies had previously bested the Persians at Marathon, Plataea, Mycale, and Eurymedon, a new weapon to defeat the Greek phalanx was needed.

Nefiodkin's position quickly gained widespread acceptance. His article was republished verbatim in Wheeler's 2007 volume, *The Armies of Classical Greece*, and has been cited approvingly by other scholars.[3] His argument has even caused one advocate of a previous theory to change his position.[4] Yet there are significant problems with Nefiodkin's analysis and his conclusions are ultimately untenable. It is the aim of this article to address these problems and to re-examine the purpose and origin of the scythed chariot.

* I am grateful to Mark Munn, Garrett Fagan, Zoe Stamatopoulou, and the anonymous readers at *Historia*, whose comments and suggestions on various drafts of this paper improved the final product considerably. All conclusions and any remaining errors are, of course, my own.

1 Nefiodkin 2004.

2 See Nefiodkin 2004: 369–371 for summary.

3 See Nefiodkin 2007. Cawkwell 2005: 252; Waterfield 2006: 15.

4 Sekunda 2007: 348 follows Nefiodkin, whereas his previous scholarship (1992: 26, 1989: 98–99) advocated an Indian origin.

Nefiodkin's argument is largely based on three premises. First, that the *terminus post quem* for the introduction of scythed chariots is 479 B. C. E. because classical sources, especially Herodotus, do not mention their presence in the Persian Wars of 490 and 480–479 B. C. E.[5] Second, that scythed chariots were designed specifically to engage Greek heavy infantry, or hoplites, because they would have been ineffective against the light infantry and cavalry of which Near Eastern armies were exclusively composed.[6] Third, that the information Xenophon and Ctesias provide about the history of the scythed chariot – which contradicts Nefiodkin's own conclusions – is untrustworthy, since they convey it in works that are not, strictly speaking, within the genre of history.[7]

None of these premises withstands closer scrutiny. In the first section of this article, I review the historical evidence available on scythed chariots, arguing that they were not developed specifically for use against Greek hoplites. Their absence from the armies of Darius and Xerxes during the Persian Wars was not for lack of prior invention, but instead due to the unsuitability of the Greek landscape for chariot warfare. In the second section, I consider reports on the scythed chariot in Xenophon's *Cyropaedia* and Ctesias' *Persica* in the context of the evolution of chariotry in the Near East. I conclude that the surviving literary and iconographic record indicates that scythed chariots were most likely developed for warfare on the plains of Mesopotamia during the Neo-Assyrian period (9th–7th B. C. E.).

The Function and Purpose of the Scythed Chariot

In order to determine when the scythed chariot was invented, Nefiodkin argues that first "it is necessary to ascertain their functions in battle and also the enemies against whom they were used".[8] One critical element missing from his analysis, however, is consideration of the locations of specific battles in which scythed chariots do and do not participate. My research shows that the terrain on which Persian armies chose to fight was the most important factor determining whether scythed chariots were deployed.[9] Moreover, a review of the battles in which scythed chariots were used does not confirm Nefiodkin's thesis that they were intended to attack the Greek hoplite phalanx. There is little reason to think that scythed chariots did not exist prior to 479 B. C. E., or that they were invented in the mid-fifth century in order to defeat Greek heavy infantry.

5 Nefiodkin 2004: 376. The first firmly attested deployment of scythed chariots occurred in 401 B. C. E. at the Battle of Cunaxa, giving us that date as a *terminus ante quem*. However, as Xenophon reports that both sides in this battle made use of the unit, presumably the date of invention would have been in advance of this engagement.

6 Nefiodkin 2004: 372–373.

7 Nefiodkin 2004: 369–371.

8 Nefiodkin 2004: 371.

9 Littauer and Crouwel 1979: 152 emphasize that the scythed chariot was "limited in effectiveness, being restricted in its field of operation to level terrain and nearly helpless if brought to a standstill."

According to Classical sources, the Persians used scythed chariots on three occasions, each of which took place on flat, open terrain. At the Battle of Cunaxa in 401 B.C.E., the battlefield was a large plain bordering the Euphrates River where both armies could see each other from a distance (Xen. *Anab.* 1.8.8). In a raid against the Spartan King Agesilaus' troops in 396 B.C.E., the Persian satrap Pharnabazus attacked while the Spartans were scattered over a plain (ἐπέτυχεν αὐτοῖς ὁ Φαρνάβαζος κατὰ τὸ πεδίον ἐσπαρμένοις Xen. *Hel.* 4.1.17). Diodorus (17.53.4), Curtius (4.9.10), and Arrian (3.8.7) all agree that the terrain at the Battle of Gaugamela in 331 B.C.E. was an important factor in Darius' decision to face Alexander there. Curtius and Arrian both remark that Darius took care to clear and level the terrain in preparation for battle, and Arrian highlights the importance of this for Darius' chariots in his battle narrative: "Alexander still continued steadily his march towards his right, and was nearly clear of the ground which had been made a treadable level by the Persians. This made Darius fear that if the Macedonians reached the uneven ground his chariots would cease to be of service" (3.13.2).[10] Even the pseudo-historical Battle of Thymbrara in the *Cyropaedia*, where Xenophon tells us that Cyrus II first deployed scythed chariots, took place in a large plain near Sardis (6.2.11).[11] It seems, then, that scythed chariots were specialized units designed for use only under specific battlefield conditions.[12]

The terrain of Greece did not generally meet these conditions and was not well suited for chariots. Although the Bronze Age Mycenaean Greeks used chariots, it is unclear how and to what extent they were employed in military matters, and many have argued that they were primarily prestige vehicles.[13] Chariots are plentiful in the *Iliad*, but in what might be seen as an archaizing manner: Homer reduces them to battle-taxies, which many have interpreted to mean that the Greeks by his time had forgotten how chariots were used in the Bronze Age, namely as mobile archery platforms.[14] War chariots disappear from the historical and archaeological record soon after the collapse of the Mycenaean palace states, and in Archaic and Classical Greece chariot use was

10 Translation from P.A. Brunt, *Arrian: Anabasis of Alexander, Vol. I: Books I–IV* (Cambridge: Harvard University Press, 1976).

11 On the historical value of the Battle of Thymbrara in Xenophon's *Cyropaedia*, see Anderson 1970: 165–191. See also the discussion below.

12 Many of the later accounts of the scythed chariot also stress the importance of flat and open terrain for their effectiveness. Sulla, for example, was able to remove the threat of Mithridates' chariots by forcing battle on rough, rocky terrain near Chaeronea (App. *Mith.* 6.42), while their earlier, successful deployment occurred on a wide plain near the River Amnias (App. *Mith.* 3.18). On another occasion, Sulla's quick attack deprived his opponent's chariots the space to build up enough momentum to charge successfully, mitigating their impact on the battle (Plut. *Sulla* 18.2).

13 See Archer 2010: 57–68 for recent historiography and discussion.

14 Cotterell 2005: 117, 125–131; Snodgrass 1964: 160–163; Greenhalgh 1973: 7–18. Van Wees 2004: 158–160 argues that Homer's depiction is largely accurate, insofar as Homeric chariots are used as command vehicles rather than for direct combat. Anderson 1965 also doubts that Bronze Age Greek chariots were used as mobile archery platforms, and sees a historical parallel between British chariot tactics and those of Homer's *Iliad*.

limited to sport and ceremony.[15] The war chariot's sudden disappearance from Greece, centuries before it was supplanted by cavalry in the Near East, can be explained in part by the rocky, mountainous terrain of the peninsula, which made it poor for massed chariot maneuvers.[16]

Scythed chariots do not appear in several fourth century campaigns or battles where the terrain was similarly problematic. Their presence is not mentioned in any of the Persian invasions of Egypt during this period.[17] As Robin Archer has pointed out, the Egyptian landscape, confined largely to the narrow Nile basin and marshy Delta, is poor for chariotry, and the New Kingdom armies that utilized chariots did so almost exclusively while on campaign outside of Egypt.[18] Scythed chariots are also missing from the first two set-piece battles of Alexander's invasion of Persia. At both Granicus (334 B.C.E.) and Issus (333 B.C.E.), the Persians chose to align their forces behind riverbanks, effectively preventing scythed chariots from participating in the battles at all. Again, only at Gaugamela, where the terrain was both naturally and artificially flat, did Darius III make use of his scythed chariots.

It is noteworthy that scythed chariots are also missing from the two narratives that describe Artaxerxes I's invasion of Egypt from 459–454 B.C.E., the very campaign for which Nefiodkin argues the chariots were specifically invented to be used against the hoplites of Egypt's Athenian allies. However, such a scenario makes little sense. In addition to the aforementioned unsuitability of Egyptian terrain for chariots, both Thucydides (1.104, 109–110) and Diodorus (11.71.3–6, 74–75, 77.1–5) present the Athenian contribution as primarily seaborne. The two authors agree that Athens provided 200 triremes to the Egyptian war effort, which relied on them for control of the Nile's waterways. Although hoplites would have been included with the crews of the fleet, the vast majority of Athenian soldiers would have come from the ranks of the rowers and been equipped as light infantry.[19] In any case, Thucydides' account makes clear that the Athenians were not prepared for battle on land: once their ships were rendered useless,

15 Spence 2002: 91; Greenhalgh 1973: 19–39. Undoubtedly, the absence of strong, centralized states in post-Mycenaean Greece also contributed to the disappearance of expensive war chariots.

16 Archer 2010: 74; Crouwel 2002: 101.

17 In fact, scythed chariots disappear from the historical record after 395 B.C.E. and only re-emerge in 331 B.C.E. at the Battle of Gaugamela. Yet the Persians faced Greek mercenary hoplites on a number of occasions between 395 and 331. Of course, the absence of scythed chariots in our historical accounts does not prove beyond doubt that they were absent from the battlefield. Our sources are nearly unanimous in noting their presence when they do appear, but completely silent on all other occasions (excepting the deployment by Pharnabazus in 396, a minor skirmish which is only narrated by Xenophon). Such a stark disparity indicates that the lack of chariots during this period is not the result of authorial choice, but to a real absence from the campaigns narrated.

18 Archer 2010: 74–75

19 Van Wees 2004: 62–65 estimates that each trireme carried only ten hoplites and four archers, while as many as one hundred of a trireme's 170 rowers might be called upon to serve as light infantry once the fleet put to shore. Even if some of the ships were troop transports designed to carry hoplites, the number of rowers-turned-light infantry would have been considerably higher.

the Persians quickly defeated them (1.109–110). Nefiodkin's thesis would have Artaxerxes invent scythed chariots for a campaign on disadvantageous terrain and against a foe whose main strength was its triremes and light infantry, not hoplites.

The absence of scythed chariots from the Persian Wars is thus not surprising, since they appear to have been designed for wars fought on the wide plains of Mesopotamia. The Greek countryside would have provided few opportunities for their deployment, in addition to the considerable logistical difficulties of their transport across the Aegean.[20] The lack of chariots in Persian armies at Marathon and Plataea does not,[21] then, provide a firm *terminus post quem* for their invention. There were good military reasons for the Persians to leave them at home during these campaigns, and Nefiodkin's date contradicts information provided by our earliest two sources, Xenophon and Ctesias, who place the development of scythed chariots well before the Persian Wars (about which more below).

Nefiodkin's second premise, that scythed chariots were invented to fight Greek hoplites, rests more upon assertion than it does upon evidence. He assumes that scythed chariots would have been useless against light infantry, equipped with bows or javelins, and cavalry. Rather than test such a statement against the historical record, Nefiodkin only states that light infantry "would have shot such a volume of missiles that these would have frightened both drivers and horses, and therefore the chariots would have hardly reached the foe." The chariots would have been equally ineffective against cavalry, he continues, since horsemen would have "both dispersed and shot at the chariots".[22] By process of elimination, he arrives at the conclusion that "the scythed chariots were invented just to break a close and numerous battle-array of heavy-armed infantrymen," i. e., Greek hoplites – an inference which is itself problematic.[23] In fact, none of the three

20 Evans 1993: 298–299 discusses the logistical difficulties the Persians faced in transporting their cavalry across the Aegean to Marathon in 490, and estimates that "Datis probably had no more than two hundred horse on the day of battle, and even that surmise may be too generous." Considering the cost of transporting horses, it is no wonder that chariots would have been left behind, since they undoubtedly required more logistical support than cavalry. See Xenophon's comments in the *Cyropaedia* (6.1.28) and Postgate 2000: 89–95.

21 Herodotus (6.102) describes Marathon as the best region in Attica for cavalry, but it may not have been as suitable for chariots. The plain is dry today thanks in part to a modern dam, but Pausanias (1.32.7) notes the presence of a marshy lake and river mouth in antiquity. The terrain at Plataea is perhaps even more problematic for chariotry; after an intensive local survey, Grundy: 1894: 49 wrote, "only a very small portion of it, viz., that part which lies between the ruins of Plataea itself and the River Asopus, is in any sense of the word flat country. The remainder is hilly, or, in part, mountainous; a country of narrow ridges, separated from one another by stream valleys."

22 2004: 372.

23 2004: 372–373. The heavy infantry that the chariots were designed to defeat must have been Greeks, according to Nefiodkin, because the Persians, other Iranians, Anatolians, Indians, etc. did not use heavy infantry, and "in Mesopotamia, there was no deep massed formation of heavy armed infantry like the Greek phalanx." In fact, as Fagan 2010: 86–87, 99 notes, this very type of formation appears as early as the Stele of the Vultures (2500–2460 B. C. E.), and was certainly employed by the Neo-Assyrian military (*contra* Nefiodkin's reconstruction of Neo-Assyrian infantry tactics at 372). Best 1969: 124, n. 22 and 23 points out that Xenophon identified heavy infantry in Artaxerxes' army

historically attested deployments supports the interpretation that they were intended to break the hoplite phalanx. If anything, the devices seem to be least effective when attacking heavy infantry.

Xenophon tells us that Artaxerxes' army included 200 scythed chariots at the Battle of Cunaxa in 401 B.C.E (*Anab.* 1.7.11).[24] Here, he makes one statement that seems to suggest that these chariots were indeed intended specifically to face the Greek hoplites in Cyrus the Younger's army: "the intention, then, was that they should drive into the ranks of the Greeks (τῶν Ἑλλήνων) as they advanced with the intention of splitting the opposing line" (1.8.10).[25]

However, there are several reasons to think otherwise. First, when Xenophon tells us that the chariots were intended to strike "the Greeks", he does not distinguish the hoplites (ὁπλῖται) from the light infantry peltasts (πελτασταί), both of which were present on Cyrus' right wing. Second, it is likely that this statement refers only to those scythed chariots positioned opposite the Greeks, rather than to the entire chariot corps in Artaxerxes' army. Indeed, our other sources confirm this, since Diodorus reports that "Artaxerxes stationed before the length of his battleline scythe-bearing chariots in no small number" (14.22.7),[26] and Plutarch implies the same (*Arta.* 7.4). Third, Cyrus' army also employed twenty scythed chariots (1.7.10). If these devices were specifically intended to face Greek hoplites, it is difficult to understand why he would have bothered transporting them all the way from Sardis only to confront an enemy lacking such soldiers. Fourth, the chariots are depicted as completely – even humorously – ineffective against the Greek hoplites (1.8.20).[27] We are not told how the rest of the scythed chariots performed at Cunaxa, but it could not have been worse. Artaxerxes' right wing overwhelmed Cyrus' left, and Tissaphernes led an attack to the right of the Greek phalanx, which broke through the peltasts and Paphlagonian cavalry (1.10.7–8). Although it goes unmentioned, it is reasonable to think that scythed chariots played a role in these more successful maneuvers.

at Cunaxa, referring to "hoplites with wooden shields which reached to their feet" (ὁπλῖται σὺν ποδήρεσι ξυλίναις ἀσπίσιν) who marched, like all of the Persian troops, ἐν πλαισίῳ πλήρει (*Anab.* 1.8.9). Xenophon and the Greeks also later crossed paths with ὁπλῖται Ἀσσύριοι in service of the King (7.8.15). In all likelihood the type of Greek phalanx to which Nefiodkin refers did not appear until after the Persian Wars, and even then was not as dense as traditionally thought. Van Wees 2004: 177–197 has systematically demonstrated that the Greek armies during the Persian Wars consisted of massed formations made up of both hoplites and light infantry, and that the density of even the later classical phalanx has often been overstated.

24 The exact number was actually 150, since he later mentions that 50 did not arrive in time (1.7.12)

25 Translation from J. Dillery, *Xenophon: Anabasis* (Cambridge: Harvard University Press, 1998).

26 Translation from C.H. Oldfather, *Diodorus of Sicily, Vol. VI: Books XIV–XV.19* (Cambridge: Harvard University Press, 1954).

27 Xenophon (1.8.20) writes, "some of them plunged through the lines of their own troops, others, however, through the Greek lines, but without charioteers. And whenever the Greeks saw them coming, they would open a gap for their passage; one fellow, to be sure, was caught, like a befuddled man on a race-course, yet it was said that even he was not hurt in the least." Trans. J. Dilllery.

Likewise, in 396 B.C.E. Pharnabazus' successful scythed chariot charge in a raid against a Greek foraging party was likely performed against light infantry rather than hoplites (Xen. *Hel.* 4.1.17–19). In this encounter, Xenophon distinguishes between the στρατιῶται who come under attack and the ὁπλῖται to whom they ultimately run for protection. Although στρατιῶται is the generic Greek word for "soldiers" and could include hoplites as well as peltasts, slingers, etc., the contrast made suggests otherwise. Furthermore, the role of forager was customarily given not to hoplites, but to peltasts and other light infantry, who were more mobile and better suited to the task.[28] Xenophon reports such a division of labor in the *Anabasis*, when nearly a thousand light infantry – peltasts (πελτασταί) and spear-bearers (δορυφόροι[29]) – were cut off while foraging and plundering, and only saved by the arrival of the army's ὁπλῖται (5.2.4–10).

At Gaugamela, none of Diodorus, Arrian, or Curtius portray Darius III's scythed chariots as designed to face Alexander's heavy infantry or, again, particularly effective against it. Diodorus, in fact, expressly states that their purpose was to induce astonishment and terror (κατάπληξιν καὶ φόβον) in Alexander's ranks (17.53.1–2).[30] In his account, the chariots are not specifically directed against the heavy Macedonian phalanx, but engage both hoplites and peltasts (17.58.1–5). Whereas Diodorus does credit the chariots with some degree of success (17.58.4), Arrian portrays them as wholly ineffective against all of Alexander's troops: javelin-men, cavalry, and hypaspists (3.13.6). Curtius, meanwhile, states that the chariots inflicted heavy casualties on the Macedonian

28 The difficulty hoplites had in foraging without the protection of peltasts is illustrated by Xenophon in the *Anabasis* (6.3.4–5; 7.6.25–30). Best 1969: 73–78 makes it clear that peltasts typically formed the vanguard of any Greek army on the march.

29 This marks the only appearance of δορυφόροι or any of its variants in the *Anabasis*. In the *Hellenica*, Xenophon uses it three times (3.1.23; 4.5.8; 6.4.32), each time in reference to a bodyguard. In the *Cyropaedia*, too, the word generally has the connotation of palace or personal guardsman (7.5.68, 84; 8.3.6, 9, 15; 8.5.3). The lone occurrence where the word clearly refers to a hoplite is at *Hellenica* 4.5.8, but even here Xenophon's need to note that Agesilaus' δορυφόροι were fully equipped implies that this was not always the case (καὶ οἱ δορυφόροι τὰ ὅπλα ἔχοντες παρηκολούθουν). In the present passage, there is no implication that these δορυφόροι were bodyguards and, since they are contrasted with the ὁπλῖται, it seems reasonable to take the word in its most literal sense – these were spear-bearers who lacked the full hoplite panoply. See also Best 1969: 64–66, who concludes that the δορυφόροι in this instance were even more lightly equipped than the πελτασταί.

30 In the same passage, Darius is also said to have recognized the superiority of the Macedonian *sarissa*, or long (4–7 meters) spear, and lengthened the weapons of his own soldiers accordingly. The *μέν…δὲ* construction here might be taken to mean that the implementation of the scythed chariots was also intended specifically to deal with the Macedonian heavy infantry, but the broader context of the passage reveals otherwise (17.53.1–4). Diodorus' point seems to be that Darius has learned from his previous defeat at Issus, and accordingly made changes: first, he lengthened his soldiers' weapons in order to deal with *sarissa*; second, he introduced scythed chariots in order to induce terror throughout Alexander's army; third, he increased the size of his own army, kept it well provisioned and well armed; fourth, he chose a more suitable battleground – where, at Issus, the narrowness of the Cilician plain did not allow Darius to effectively make use of his numerical superiority, the plain at Gaugamela was far larger; finally, he spent time drilling and training his army in order to improve their discipline.

front line, almost certainly composed of light infantry skirmishers (4.15.3–4), but fared poorly against the Macedonian phalanx.[31]

None of our historical sources describes a successful scythed chariot deployment against hoplites. Instead, the only clear victory the device had appears to have been against light infantry in 396 during Pharnabazus' raid. That chariots of any kind would have trouble charging densely arrayed heavy infantry like the Greek hoplite phalanx is not surprising. Scholars and other commentators have long been aware of the difficulties horses have with charging headlong into well-ordered infantry formations, since they perceive them to be solid objects.[32] The notion that scythed chariots were specially designed to defeat and were particularly effective against Greek hoplites is not only undermined by the historical record, but also by well established knowledge of horse behavior.

In sum, Classical sources indicate that the Persians used scythed chariots against all types of enemies, but only on a specific type of terrain – flat, open – most commonly found in Mesopotamia. Each encounter also finds them used against Greeks, light infantry as well as hoplites, but this is clearly more due to the nature of our source material than historical reality. Extant Near Eastern sources do not mention or artistically depict scythed chariots, leaving us reliant upon Classical writers who mention the devices only when they come into contact with Greek soldiers. Despite the limitations of our source material, however, it is possible to conclude that scythed chariots were designed for and in response to the conditions of warfare in the ancient Near East, particularly Mesopotamia.

The Origin of the Scythed Chariot

The final problem with Nefiodkin's analysis is that it contradicts the information provided about scythed chariots by Xenophon's *Cyropaedia* and Ctesias' *Persica*. Even Nefiodkin himself is unable to explain this contradiction, acknowledging that "it remains unclear why Ctesias and Xenophon thought that scythed chariots had appeared in earlier times".[33] While there are legitimate questions concerning the historical credibility of these two

31 The first charge is reported to have been against troops who are only called *Macedones* (4.15.4); later, this front line is contrasted with the next line, which is explicitly called the phalanx: *currus, qui circa signa prima turbaverant aciem, in phalangem invecti erant* (4.15.14). During this period, heavy infantry were commonly preceded and flanked by light skirmishers. See Van Wees 2004: 64–65.

32 Archer 2010: 60 writes, "The idea that chariots would have engaged the enemy at close quarters is one that must be viewed with scepticism. Horses will not willingly charge into massed ranks of infantry, always preferring to pull up and stop just short of their lines, regardless of the intentions of their riders and handlers." Noble 1990: 62 makes the same point.

33 2004: 377.

works,[34] they are nonetheless our earliest extant sources on scythed chariots. Moreover, each author had direct interaction with Persian officials – Xenophon as a mercenary in Cyrus the Younger's rebellion, Ctesias as a doctor in the court of Artaxerxes II – and each personally witnessed or claimed to have witnessed scythed chariots in action at the Battle of Cunaxa.[35] In this section, I examine the information given by both authors more closely and find that each provides reliable evidence for the origin and purpose of the scythed chariot, particularly when considered alongside developments in Near Eastern chariotry from the ninth to seventh centuries B. C. E.

In the *Cyropaedia*, Xenophon credits Cyrus II (559–530 B. C. E.) with the invention of the scythed chariot. According to Xenophon, Cyrus improved upon the traditional chariot by making the carriage broader and taller, equipping it with more armor, and attaching blades to the wheels and the axles. Additionally, he provided armor for the horses and chariot-drivers (6.1.29–30, 2.17).

Ctesias provides comparatively less information, which survives only in the extant work of others, here Diodorus. His account does not address the invention of the scythed chariot or give a detailed description of the vehicle. Instead, he merely states that an army of the legendary King Ninus, husband of the famed queen Semiramis, employed over 10,000 scythed chariots in a campaign to Bactria (2.5.4).

There are reasons to think that portions of each report are accurate. As I mentioned before, Xenophon witnessed scythed chariots in action. So, while he may not be accurate in crediting Cyrus II with their invention, there is cause to believe that his physical description of scythed chariots is truthful and based on first-hand experience. Additionally, the manner in which scythed chariots were used in the *Cyropaedia*'s pseudo-historical Battle of Thymbrara (7.1) fits the pattern of known historical deployments: the chariots appear in a battle which takes place on a wide plain, they are deployed all along Cyrus II's battlefront, they charge enemy light infantry, cavalry, chariots, and heavy infantry, and against the last of these they suffer the heaviest casualties (7.1.26–32).

As a member of the royal court of Artaxerxes II, Ctesias had access to traditional stories and folktales of Persia and the Near East, many of which undoubtedly contained kernels of historical truth.[36] For instance, while his account of Semiramis is imbued with myth and legend,[37] the character is based on the historical Assyrian queen Shammuramat, wife of Shamshi-Adad V (823–811 B. C. E.) and mother of Adad-nirari III (810–783 B. C. E.). Ctesias accurately reports that Semiramis/Shammuramat played an

34 For discussion and bibliography regarding Ctesias, see Llewellyn-Jones and Robson: 2010: 22–87; Stronk 2007. On this historical utility of Xenophon's *Cyropaedia*, see Anderson 1970: 165–191; Hirsch 1985: 61–97; Gera: 1993: 13–22.

35 Xenophon was a direct participant in the engagement, while Ctesias claimed to have served on the side of Artaxerxes as a physician (Xen. *Anab*. 1.8.26–27; Plut. *Arta*. 13.3–4, 14.1).

36 Stronk 2007. Hirsch 1985: 82–85 demonstrates that Xenophon used Ctesias as a source for Near Eastern folklore, specifically in his account of the death of Cyrus in the *Cyropaedia*.

37 Many of the legendary elements can probably be traced to Diodorus or to a third-party intermediary – perhaps Cleitarchus – whose version of Ctesias' original was then Diodorus' immediate source. See Stronk 2007: 31–33.

influential role in restoring Babylon during the reign of her son, who rebuilt much of the city and its environs after her husband had devastated the land.[38]

Even if the number 10,000 is an exaggeration, does the reference to scythed chariots in the story of Semiramis reflect historical reality?[39] In my view, it does. Although there are no textual or iconographic references to scythed chariots during the Neo-Assyrian period,[40] the century before and after the reign of Shammuramat was marked by significant developments in military technology, and it is within this context that the invention of the scythed chariot seems most plausible.

In the time of Shammuramat the Neo-Assyrian military was in the midst of replacing its traditional chariot corps with more efficient and flexible cavalry units.[41] As cavalry usurped the role of the traditional Assyrian chariot on the battlefield,[42] the Assyrian chariot itself underwent a technological and tactical repurposing, becoming wider,

38 Kuhrt 490–491, 576–578. While Diodorus reports that Semiramis founded Babylon, this is likely an inaccurate rendering of Ctesias' original text. Other fragments based on Ctesias' account report only this more limited restoration of Babylon. The first (F1c), by an anonymous author, records that Semiramis merely "fortified Babylon with baked bricks and asphalt and built the temple of Belus." In the second, Eusebius (F1g) writes that "she built a wall around Babylon, the nature and build of which has already been described by many – Ctesias, Zenon, Herodotus…" Translation from L. Llewellyn-Jones and J. Robson 2010. Herodotus 1.184 similarly credits her with improving the city's flood defenses.

39 From the way it is worded in Diodorus' account, the statement does not seem to be a later adaptation, but to come directly from Ctesias: "Once the army had assembled from all around they were counted, as Ctesias has recorded in his histories. There were 1,700,000 foot soldiers, 210,000 cavalry, and a little under 10,600 scythe-bearing chariots" (2.5.4). Trans. L. Llewellyn-Jones and J. Robson.

40 It is crucial to note that there are no textual or iconographic references to scythed chariots from any period in ancient Near East, including the Achaemenid. Only Greek sources mention the devices, and only then when they come into contact with Greek armies campaigning in the Near East. Any discussion of the period in which scythed chariots originated is therefore necessarily speculative and reliant upon indirect and contextual data.

41 The evolution from chariotry to cavalry began in the 10th century, when Assyrian armies faced enemies to their north and east, where the mountainous terrain prohibited effective chariot maneuvers. In response to these conditions, the Assyrians experimented with pairs of horsemen operating in the manner of charioteers but without chariot cars, as seen on the reliefs from the time of Assur-nasir-pal II (883–859 B.C.E.) and Shalmaneser III (858–824 B.C.E.). This arrangement better suited the mountainous landscape, since unencumbered horses are able to operate in much rougher terrain than chariots. By the time of Tiglath-pileser III (745–727 B.C.E.), it appears that individual Assyrian cavalrymen performed both the function of driver and bowman, even if they may have continued to operate in pairs. Under Sargon II (722–705 B.C.E.), cavalry units make up the royal bodyguard, and among them only the king himself rode in his chariot. While chariots remained a part of the Neo-Assyrian military during this period, their proportion to cavalry appears to have been greatly reduced. See Archer 2010: 66–79; Postgate 2000: 99; Noble 1990; Reade 1972: 103.

42 The traditional Assyrian chariot functioned much like Bronze Age chariotry throughout the ancient world, as a lightly armored mobile archery platform. Utilizing their speed and ranged missiles, chariots protected allied infantry, harassed enemy infantry using hit and run maneuvers, and, once battle was joined, were used to break wavering enemy lines and pursue fleeing troops. See Archer 2010: 57–66 for summary and bibliography.

heavier, and equipped with more armor. This newer form of the chariot occupied a different role on the battlefield, one which closely corresponds to that played by scythed chariots in later historical accounts.[43]

Several scholars have argued that the heavier chariots could not have functioned effectively in direct combat, and must have been retained merely for ceremonial, prestige, hunting, or command purposes.[44] Yet the evidence does not support this interpretation. As Dalley and Winter note, the heavier chariots appear first in Levantine armies fighting against Assyria;[45] it seems unlikely that the Assyrians adopted their opponents' heavy war chariots for ceremonial or hunting purposes alone. Sargon's direct incorporation of Samaria's chariot division into the Assyrian army underlines this point,[46] as does the fervor with which Tiglath-pileser and his successors pursued the acquisition from Egypt of the larger, Kushite yoke-trained horses required for pulling these heavier chariots.[47] Above all, reliefs from Ashurbanipal's (669–627 B.C.E.) reign indicate that heavy chariots were deployed in direct combat: they are depicted in the thick of the action against Elamites at the Battle of Til-Tuba (ca. 663–653 B.C.E.), and against Arabs in a later campaign (ca. 645–635 B.C.E.).[48]

Some have suggested that the shift to heavy chariots marks a shift in Assyrian battle tactics, with chariots being used for quickly transporting heavy infantry into battle, so that, according to Davide Nadali, "they can fight from the rear [of the chariot] and from an elevated position…or dismount and act as foot soldiers".[49] Indeed, the Ashurbanipal reliefs show the Assyrian heavy chariots being used in this manner. At Til-Tuba, one

43 Tallis 2005: 215 suggests exactly this, although he places the introduction of scythed chariots themselves in the Achaemenid period: "It seems more likely that the rapid evolution of the cavalry resulted in Near Eastern military chariots abandoning a multi-purpose role to concentrate on their strengths in an area to which the inherently more flexible cavalry were as yet poorly suited, namely as a close-combat 'threat' weapon."

44 Archer 2010: 77 writes that light chariots may have continued to be used as battlefield units, but heavy chariots may have been "solely prestige units, taking pride of place on the Assyrian reliefs simply because they looked more impressive than standard chariots." Likewise, Postgate 2000: 97–98 argues that their military function was as a vehicle for commanders on the battlefield, and that they did not engage in direct combat. Noble 1990: 67–68 suggests that, from the time of Sennacherib onward, chariots were maintained only for the purposes of prestige, ceremony, and hunting.

45 Dalley 1985: 39–40; Winter 1976: 52, n. 108, who writes that, "just as the chariot with an eight-spoked wheel appeared earlier in North Syria than in Assyria, the four-passenger vehicle may well have been developed first in Syria and subsequently adopted in Assyria."

46 Dalley 1985: 38–42.

47 As Dalley 1985: 43–47 notes, the Assyrians acquired most of their cavalry horses from Urartu, where the horses were bred smaller, and highly prized the larger, chariot-trained horses imported from Kush via Egypt and the Levant.

48 See, for example, Fagan 2010: Figs. 12, 16.

49 Nadali 2010: 135. See also Tallis 2005: 215–216 and Malbran-Labat 1982: 61, who refers to these later chariots as "infanterie montée". In this respect, they function similarly to the chariots Caesar faced on his expedition to Britain, according to Anderson 1965: 350. Littauer and Crouwel 1979: 132, however, see them as "little more than convenient firing platforms for archers."

relief depicts a heavy chariot in the midst of the enemy, with fallen soldiers being trod underneath the chariot, which carries four armed soldiers: a driver, a bowman, and two shield-bearers.[50] Reliefs from Ashurbanipal's campaign against the Arabs show similarly equipped chariots running down camel-riders and trampling enemy infantry.[51] Far from being purely ceremonial in purpose, heavier Assyrian chariotry appears to have been designed for closer, more direct combat than its lightweight skirmishing predecessor. This tactical and functional shift closely matches that of the change from light chariots to scythed chariots in the *Cyropaedia*, which were, according to Xenophon, constructed "with the intention of hurling the chariots into the midst of the enemy" (*Cyr*. 6.1.30).[52]

Structurally, the late Neo-Assyrian heavy chariot also fits the description provided by Xenophon. He tells us that scythed chariots had stronger wheels and longer axles, higher carriages which rose to the driver's elbows, and occupants covered in mail (6.1.29–30, 2.17). These are, for the most part, exactly the changes we see in Assyrian chariotry; compare the chariots from the Northwest Palace at Nimrud (ca. 865–860 B.C.E.) to one from the North Palace at Nineveh (ca. 645–635 B.C.E.).[53] The later chariot has stronger wheels, shown by the fact that the wheels have 8 spokes, a larger carriage, and a turret which rises up much higher – close to the elbow of the archer, if his arms were not raised. Based on the perspective, there is no way to tell if it is broader, although the chariot is large enough to carry four soldiers. The horses in the later chariot wear more armor than those in the earlier, and the later riders are covered in mail and two carry large, round shields.[54] The other seventh century chariots discussed above are configured in the same way as the one from the North Palace at Nineveh.[55]

Chariots outside Assyria during this period appear to undergo a similar evolution. For example, a Neo-Hittite stone relief from Sakçagözü (ca. 750 B.C.E.) shows heavily armored horses and charioteers, riding into battle equipped with bows and spears.[56] The chariot carriage does not appear as large as in Assyrian models, but the wheels are reinforced with eight spokes. Likewise, terracotta models from the Levant (7th B.C.E.)

50 Fagan 2010: Fig. 16.

51 Fagan 2010: Fig. 14; Nadali 2010 Figs. 17–19.

52 Translation from W. Miller, *Xenophon, Vol. VI: Cyropaedia Books V–VIII* (Cambridge: Harvard University Press, 1914).

53 Fagan 2010: Figs. 1–2.

54 Scurlock 1997: 491–492 notes that later riders wore "more practical, waist-length scale metal jackets" while earlier chariot occupants had "leather halberks with ankle-length leather coats sewn with rows of bronze or iron scales," although the degree of armament for later riders is obscured by the higher carriage of late chariots. Debating whether or not these later riders were "more" or "less" armored is a subjective exercise: it is true that earlier riders likely had more of their own body covered by armor; but it is also true that later riders had, at least, scaled upper-body armor, rode in more heavily armored carriages, and carried shields.

55 See fn. 48. For full discussion of the technological changes in chariotry during this period, see Littauer and Crouwel 1979: 101–110.

56 Littauer and Crouwel 1979: Fig. 58.

depict chariots with even less mobility than late Assyrian types.[57] According to Littauer and Crouwel, "equipped with twin draught poles and drawn by four horses which were under either a single four-horse yoke or two two-horse yokes, they could have moved swiftly only in a straight line" – exactly the degree of mobility required by later Persian scythed chariots.[58]

Of course, none of these chariots exhibit blades, the most distinctive feature of scythed chariots. Still, they had all of the other accoutrements – strong wheels, high turrets, armored carriages, horses, and riders – and seem, at least by the seventh century, to have acquired a tactical role similar to that of the scythed chariot. It is at least plausible, if not likely given the testimony of Ctesias and Xenophon, that the Assyrians or one of their contemporaries in the Near East took the final, relatively minor technological step of attaching blades to the axles and wheels of their heavy chariots.

Conclusion

The thesis that the Persians developed scythed chariots in response to several defeats at the hands of Greek hoplites in the early fifth century does not withstand closer scrutiny. Classical sources indicate that these chariots were highly specialized units, designed for deployment on a specific type of terrain – flat, open – that is characteristic of Mesopotamia, but not of Greece, which explains their absence from the Persian campaigns to Greece. Historically, scythed chariots appear to have been used against all types of infantry and cavalry. They do not seem to have had more success against Greek heavy infantry than other units, and, in fact, the limited reports available suggest the opposite.

In the end, the weight of the evidence favors an origin for the scythed chariots in the Neo-Assyrian rather than the Persian period.[59] On the one hand, chariots continued to be deployed in military contexts throughout the Neo-Assyrian period, and during this time their technology and tactical function underwent a significant evolution. This evolution closely matches the changes to chariots that Xenophon describes in the *Cyropaedia*, and takes place at a time when Ctesias says that the Assyrians had scythed chariots. On the other hand, by the time of the Persian conquest under Cyrus II, chariots had been almost completely replaced by cavalry on the battlefield. Apart from their infrequent

57 See, for example, the terracotta chariot model from Marathus (Amrit) in Littauer and Crouwel 1979: Fig. 60.

58 1979: 132.

59 The brief Neo-Babylonian period (626–539 B. C. E.) between these two is also a possibility, but the sparse evidentiary record makes further exploration difficult. In the Babylonian temples archives, there are references to chariot lands from the Neo-Babylonian period into the Achaemenid period. See MacGinnis 2010: 498–499; Nefiodkin 2004: 374–376 documents the difficulties in using these tablets as evidence for scythed chariots.

and specialized deployments of scythed chariots, the Persians appear only to have used chariots in ceremonial processions or as royal transportation vehicles.[60]

Scythed chariots in the Persian period seem, then, to be survivals from a previous era. Cavalry performed the same function in battle as the traditional war chariot, only better, but it could not replicate the highly specialized function of the more heavily armored scythed chariot. While the traditional war chariot was eventually replaced by cavalry, the Persians retained the scythed chariot for battles fought on level, open terrain, and they deployed them against all types of soldiers, not only Greeks, and not only hoplites.

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60 See Tallis 2005: 212, 215–216; Littauer and Crouwel 1979: 152–154. According to Herodotus, some of Persia's eastern allies employed traditional chariots in Xerxes' army in 480–479 (7.86, 184). However, Herodotus never mentions these being used in battle.

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